INTER-AMERICAN DEVELOPMENT BANK

Revitalizing the JAMAICAN ECONOMY

Policies for Sustained Growth

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Revitalizing the Jamaican Economy
Policies for Sustained Growth

Inter-American Development Bank

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Foreword

Jamaica today faces major development challenges that include issues of macroeconomic management, the aftermath of an overwhelming financial sector crisis, social sector problems such as high levels of violent crime, and frequent natural disasters. Although the country has confronted these challenges with significant policy and institutional reforms, economic performance has fallen short of expectations in recent decades. *Revitalizing the Jamaican Economy: Policies for Sustained Growth* aims to improve our understanding of the constraints to social and economic development in Jamaica. It also proposes practical solutions to overcome some of those problems.

The activities leading to publication of this book represent an example of the important nonfinancial engagement between the Inter-American Development Bank (IDB) and its borrowing member countries. That positive interaction is aimed at contributing to the design of appropriate development strategies. Out of the analysis presented here emerges valuable lessons of interest not only in Jamaica, but also for anyone trying to understand the hurdles to achieving sustained development.

This book is a collection of studies commissioned by the IDB to inform the dialogue and development strategy in Jamaica. We were assisted in this exercise by a group of consultants who combine high levels of academic training with outstanding records of public service and practical experience. Experts and stakeholders at workshops at IDB headquarters in Washington, D.C. and in Kingston, Jamaica carefully reviewed early chapter drafts.

The studies could not have been completed successfully without cooperation on many levels. The Jamaican government, through the Ministry of Finance and Planning and the Planning Institute of Jamaica, provided access and facilitated the consultants' research activities. In addition, private and public sector agencies, trade unions and other key groups provided the consultants with solid cooperation and access to information. Moreover, experts and stakeholders made valuable comments on the studies and participated in the workshops. Thanks go also to IDB staff, including Karen Astudillo, Carla Moore and other members of Regional Operations Department 3, working under the guidance of Neville Beharie and Liliana

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Ciro De Falco, Manager
IDB Regional Operations Department 3

Acronyms and Abbreviations

BOJ	Bank of Jamaica
BOP	Balance of Payments
BOT	Build, Operate and Transfer
CARICOM	Caribbean Community
CC	Commercial Court
CFAA	Country Financial Accountability Assessment
CIT	Corporate Income Tax
COSH	Certificates of Security Holdings
CPI	Consumer Price Index
CSME	CARICOM Single Market and Economy
C&WJ	Cable & Wireless Jamaica Limited
ESAP	Economic and Social Assistance Program
EU	European Union
FAA	Financial Administration and Audit
FCA	Fair Competition Act
FIFO	First In First Out
FINSAC	Financial Sector Adjustment Company
FIS	Financial Institutions Services Limited
FOB	Free On Board
FSC	Financial Services Commission
FSP	Food Stamp Program
FSRP	Financial Sector Reform Program
FTAA	Free Trade Area of the Americas
FTC	Fair Trading Commission
GCT	General Consumption Tax
GDP	Gross Domestic Product
GNP	Gross National Product
GOJ	Government of Jamaica
GSAT	Grade Six Achievement Test
IDB	Inter-American Development Bank
IMF	International Monetary Fund
IRR	Internal Rate of Return
ITC	Investment Tax Credit
JADEP	Jamaica Drugs for the Elderly Program

JDIC	Jamaica Deposit Insurance Corporation
JPS	Jamaica Public Service Company
JSIF	Jamaica Social Investment Fund
KMA	Kingston Metropolitan Area
KRC	Kingston Restoration Company
LAC	Latin America and the Caribbean
LIFO	Last In First Out
LRS	Local Registered Stocks
MEH	Ministry of Environment and Housing
MOFP	Ministry of Finance and Planning
MOH	Ministry of Health
MOLSS	Ministry of Labor and Social Security
NCB	National Commercial Bank
NCCD	Non-communicable Chronic Diseases
NHT	National Housing Trust
NIBJ	National Investment Bank of Jamaica
NIS	National Insurance Scheme
NRCA	National Resource Conservation Authority
NTA	National Training Agency
NWC	National Water Commission
NYS	National Youth Service
OECD	Organisation for Economic Co-operation and Development
OUR	Office of Utilities Regulation
PIOJ	Planning Institute of Jamaica
PIT	Personal Income Tax
PPP	Public Private Partnership
PRIDE	Program for Integrated Development Enterprise
REER	Real Effective Exchange Rate
RHA	Regional Health Authorities
ROSE	Reform of Secondary Education
RPC	Regulatory Policy Council
RUCP	Real Unit Costs of Production
RULC	Real Unit Labor Costs
SCT	Special Consumption Tax
SESP	Social and Economic Support Programme
SFP	School Feeding Program
SLC	Survey of Living Conditions

SMP	Staff Monitored Program
SSN	Social Safety Net
STATIN	Statistical Institute of Jamaica
STV	Subscriber Television
TCP	Technical Cooperation Program
TOJ	Telecommunications of Jamaica
UDC	Urban Development Commission
USAID	United States Agency for International Development
UWI	The University of the West Indies
VAT	Value Added Tax
WTO	World Trade Organization

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Introduction

DESMOND THOMAS

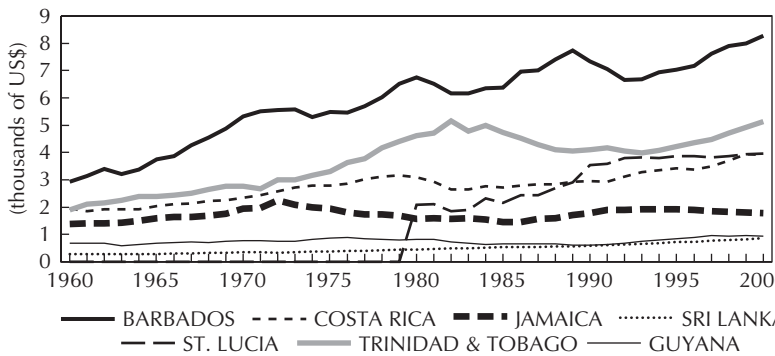
While Jamaican economy and society have evolved significantly over the last three decades, failure to realize the country's undoubted development potential remains a source of concern. The sense of lost opportunity and social distress has grown more acute since the 1990s, with economic stagnation and debt problems occurring against the backdrop of a buoyant international economy. In the 1960s, growth in the country's gross domestic product (GDP) averaged 5% annually (varying from 3 to 12%), boosted by expansion of the bauxite and alumina industry and tourism. Substantial lowering of this growth trend, beginning in the 1970s, resulted in stagnation with respect to average living standards. By 2001, per-capita income was still at the 1978 level, substantially lower than it had been in 1970.

Potential Unfulfilled

Since the 1960s, Jamaica has witnessed little change in per-capita income, while that of comparable countries has improved (see Figure below). High unemployment, severe poverty, and a deteriorating social environment, characterized by a high incidence of violent crime, have added urgency to the ongoing concerns associated with volatile economic performance.

FIGURE

Per-capita GDP Trends, 1960–2000



In the 1970s and 1980s, major price fluctuations of bauxite and alumina, sugar, and other commodity exports, as well as oil price shocks, affected Jamaica's economy. This period was followed by high GDP growth rates in the late 1980s, raising prospects for sustained economic improvement. Production and export of apparel products expanded phenomenally during the 1980s, only to decline rapidly in the 1990s. Concurrently, the financial sector experienced a boom period—asset growth averaged 47% during 1990–1994—followed by a bust a year later, when the financial-sector crisis hit. At the same time, Jamaica benefited from several debt-relief initiatives, which reduced its severe burden of high external debt.

A significant qualitative shift in Jamaica's production structure—from goods to services—has occurred over the past several decades. This shift has resulted from slow growth—and even contraction—of production of agricultural and manufacturing goods, while services, led by tourism and financial services in the early 1990s, have expanded steadily. The value-added contribution of agriculture has declined from 10% in the 1960s to a current level of 6%. The decline has been more marked in export than domestic agriculture, raising questions about international competitiveness. On the policy side, the last two decades have witnessed the implementation of significant economic reforms, notably income tax reform and introduction of a value-added tax (known as the General Consumption Tax or GCT), as well as liberalization of the foreign exchange market and financial sector.

Despite these changes, sustained economic growth has remained an elusive goal. Real GDP growth averaged 0.3% and -0.9% during 1992–2000 and 1996–1999, respectively, and per-capita income declined at an annual rate of 1% over the decade. Export performance has remained generally flat, not providing the boost required in the context of a highly open economy. In part, this has been due to unfavorable commodity price trends. This poor performance has represented considerable lost opportunity as Jamaica failed to capitalize on the generally buoyant conditions in the U.S., its main trading partner, and the world at large.

Taking an Institutional Approach

In recent years, Jamaica's economic experience has been the subject of numerous studies (see, for example, Bourne 1980; Harrigan 1991; Le Franc 1994; Marston 1995; Michalopoulos, Mohammed, and Weintraub 1986; Robinson 1994; Sharpley 1984; Thomas 1999). However, the financial-sector crisis and its economic aftermath, as well as the recurrence of serious macroeconomic instability in the form of escalating public debt and high fiscal deficits, have rekindled the need for further analysis and review of the country's economic situation.

As part of its ongoing development assistance in Jamaica, the Inter-American Development Bank (IDB) commissioned a set of five studies that aimed to determine how to achieve the conditions for sustained growth and build on the macroeconomic and structural reforms already introduced. To achieve added value with respect to the substantial literature on the subject, the IDB organized its topic selection on the basis of a number of key institutional areas linked to economic management and performance. In this way, it was expected that the studies would identify concrete areas of institutional reform that would improve the conditions for growth.

The institutional areas selected for study were fiscal and budgetary (Artana and Navajas 2003), monetary and exchange (Zahler 2003), financial-sector management and supervision (Naranjo and Osambela 2003), and privatization and industry regulation (Paredes 2003). Inevitably, the work incorporated a study of the social sector—the fundamental context for economic activity—which had previously been prepared within the Bank. Finally, the inescapable dimension of productivity and competitiveness—which lies at

the heart of efforts to achieve sustained growth—was added (Downes 2003). The issues tackled by these authors form the ensuing five chapters of this book. In introducing the reader to the rest of the book, this chapter aims not to summarize the insights of the chapters, but to stimulate interest through a survey of the salient issues.

Poverty and the Social Challenge

Clearly, the obstacles to Jamaica's economic advancement encompass major social-development issues. The central importance of the social dimension is underscored by significant problems of poverty, violent crime, at-risk youth, education, and health services. In recent years, constraints on the availability of Government resources for social-sector spending have added to the challenges.

Poverty Alleviation

At the core of Jamaica's social problems are poverty and the institutional framework for addressing it. Indeed, the effort to alleviate poverty is central to achieving sustained growth in the country. Consequently, economic development must take a "pro-poor" approach, concentrating on generating jobs, incomes, and access to social development in ways that favorably affect the living standards and opportunities of the poor. Although the incidence of poverty is predominantly rural in Jamaica, urban poverty is also severe, attracting much attention because of its conspicuousness in proximity with areas of evident affluence. The social distress of poverty is aggravated by a high degree of inequality, with respect to income, wealth, and access to social amenities and economic opportunity. These issues are the focus of chapter 6, which explores some of Jamaica's key social-sector challenges (Handa 2001).

A major paradox of recent Jamaican experience has been the sharp reduction in poverty indicators during the 1990s. The percentage of people living in households whose per-capita consumption is below the poverty line fell from a peak of 45% in 1991 to 16% in 1998.[1] This is particularly surprising, given the low performance of output growth and the stagnation of

[1] Prior to the 1991 rate spike, Jamaica's poverty rate averaged about 30%.

per-capita income during the same period. Probing the underlying causes of this phenomenon is crucial to grasping the characteristics of the Jamaican economy and, in turn, recommending improvements.

In chapters 4 and 6, respectively, Downes and Handa touch on this question within the contexts of growth and social development, citing possible explanations, including rising real wages, increasing remittances from abroad, and the role of the informal sector as a refuge for the poor. Handa focuses on the role of social safety nets, emphasizing the need to rationalize existing programs and improve targeting mechanisms.

Education

It is recognized that Jamaica has made significant strides in education since its independence, having achieved nearly universal coverage with respect to primary education and major advances in secondary education.[2] Today's major concerns involve the quality of education. This problem arises in Downes' analysis within the context of inadequate training to support economic growth, while Handa explores the links between education and poverty, revealing that the level of education is having a declining effect as a means to escape from poverty. In the broader context of training to meet the needs of economic development, it is observed that significant gaps can be found in the sphere of post-secondary training.

Health

Jamaica has attained high health standards, as reflected by such indicators as life expectancy.[3] However, the country's health strategy is in need of adjustment, in light of demographic and epidemiological transitions that are shifting the burden of disease and emphasizing chronic diseases.[4] In addition, the threat posed by HIV/AIDS must be met. All this is occurring within a context of tight restraints on the availability of resources for health because of fiscal constraints.

[2] In 1995, 11 years of schooling was expected for both males and females (see World Bank 2000).
[3] In 1997, life expectancy was 72 for males and 77 for females (see World Bank 2000).
[4] The percentage of the Jamaicans with access to sanitation fell from 91% in 1982 to 74% in 1995 (see World Bank 2000).

Violent Crime

A prevalent feature of the Jamaican social context is violent crime. Jamaica has one of the world's highest violent-crime and homicide rates (World Bank 2003). Ironically, the country's rate of total recorded crimes is below average because rates of property crimes, robberies, and other non-violent crimes are relatively low.

Jamaica's high rate of violent crime—linked to issues of poverty, inequality, and unemployment—represents a major obstacle to economic growth and development for many reasons. First, it deters both foreign and domestic investment. Second, it erodes human-capital development by encouraging the migration of skilled labor and discouraging the return of migrants, causing loss of personnel inputs due to injury and disrupting school and community activities. Third, it diverts public resources from other uses, including both health and education. For example, Government of Jamaica (GOJ) spending on security forces in recent years has grown substantially faster than other forms of social expenditure. Fourth, it imposes additional costs on businesses, which must provide needed security. Fifth, it leads to loss of both labor output (due to reduced hours of operation and downtime) and input (due to injury and death).

Macroeconomic Instability

Throughout the past two decades, Jamaican policymakers have contended with the twin objectives of stimulating development and attempting to establish stable conditions of macroeconomic management. In chapters 1–3, respectively, Artana and Navajas, Zahler, and Naranjo and Osambela examine the institutional frameworks for the management of economic stabilization, while providing conditions for growth from various angles. The country has coped with ongoing external instability, reflected in nearly two decades of insufficient, net international reserves leading up to the early 1990s. Lack of reserves has constrained the GOJ's ability to maneuver, reinforcing its preoccupation with short-term policymaking. In addition, the country has suffered regular bouts with exchange-rate instability and strangling external debt. Although the GOJ experimented with a panoply of exchange-rate regimes and mechanisms in the 1970s and 1980s, weak macroeconomic fundamentals prevented it from achieving the goal of stable exchange rates.

In the 1990s, inflation reduction was vigorously pursued using tight monetary and fiscal policy, resulting in the achievement of fiscal surpluses in the early 1990s and single-digit inflation after 1996. This process was accompanied by a large accumulation of international reserves. However, these gains were made at the expense of high real-interest rates and a stagnant economy. Moreover, it has been argued that the severity of this policy helped precipitate the financial crisis that emerged in the mid-1990s (Chen-Young 1998). As the decade wore on, the shock of the financial-sector crisis resulted in a return to large fiscal deficits, unsustainable debt (the ratio of public debt to GDP reached 155% in 2003), and high real-interest rates.

Financial-sector Crisis

The most far-reaching economic development of the 1990s was the financial-sector crisis that surfaced in 1996. As Naranjo and Osambela discuss in chapter 3, this event erupted against the backdrop of earlier sector liberalization, causing the sector to expand phenomenally in terms of numbers of institutions and asset values. However, this expansion outpaced the development of an adequate supervisory framework. Increased competition by this glut of institutions encouraged aggressive risk-taking, neglect of prudent restraints, maturity and currency mismatches of asset and liability structures, connected party lending above recommended levels, and other inadvisable practices. In addition, opportunities for regulatory arbitrage and tax advantages encouraged the formation of conglomerates for which the supervisory institutional set-up was not geared. Finally, overall economic stagnation and high interest rates contributed to a deteriorating portfolio and eventual vicious cycle. As the situation worsened, the conglomerates became channels for a widening crisis.

A significant conclusion emerging from the studies is the relative soundness of the institutional framework for fiscal and monetary policy. In chapter 1, Artana and Navajas show that, in comparative studies of budgetary institutions in countries across Latin America and the Caribbean, Jamaica consistently scored among the highest based on accepted criteria for sound fiscal structures. Arguably, this strength has played a role as the Government has managed to squeeze double-digit primary surpluses out of the system to help meet its interest obligations, which have risen to astronomical

levels.[5] The strength of the Central Government fiscal system is offset, however, by inadequate budgetary oversight of public enterprises in terms of their freedom to incur debt. In contrast to the budgetary institutions, the tax system is significantly flawed; while it can generate a relatively high quantity of revenue, it does so in ways that are inconsistent with efficient resource allocation for economic growth.

The financial-sector crisis has helped to spotlight sector management and supervisory issues, thereby creating a momentum for significant change. Many of the weaknesses that surfaced within the framework for supervision of financial institutions have been remedied in subsequent sector rehabilitation and reform. A major step in this regard has been establishment of the Financial Services Commission (FSC) to supervise insurance and securities operations, while bank supervision has also been strengthened. However, a major conundrum remains: Despite the institutional strengths of its budgetary system, Jamaica has experienced a history of high deficits for most of the last three decades. Indeed, these strengths have not prevented adverse fiscal outcomes; rather, they have permitted the GOJ to function with a certain degree of credibility despite those outcomes.

Like the budgetary institutional framework, Jamaica's monetary institutional framework is, for the most part, coherent and sound. Although the Cabinet, through the Minister of Finance, is the ultimate authority, the Bank of Jamaica (BOJ) is responsible for the day-to-day operation of monetary and exchange-rate policy within a relatively sound legislative framework. The institutional framework underwent major reform in 1990–1991, with the lifting of foreign-exchange controls, adoption of a relatively more flexible exchange-rate mechanism, and abandonment of credit controls.

Despite this progress, Zahler, in chapter 2, identifies various measures that could improve the efficacy of monetary and exchange-rate policies, while, at the same time, allowing them to contribute more directly to economic growth and sustained macroeconomic equilibrium overall. These include granting the BOJ greater independence and shifting the current monetary regime to one of inflation targeting. Such institutional and policy changes would catalyze reduction of interest rates, a necessary condition for

[5] The term *primary surplus* refers to the difference between a government's total revenue and total expenditure exclusive of interest payments. As such, it represents the amount of remaining resources after payment of wages and spending on capital and recurrent programs available for paying interest on government debt.

accelerating investment. At stake is whether the BOJ is ready to defend the currency whenever it comes under pressure.

With respect to debt management, the main challenge is the enormous size of public debt and debt burden as a claim on fiscal revenue. To achieve long-term sustainability, a reasonable target is to halve the debt-to-GDP ratio from its present level of more than 150%. Achieving this in a reasonable amount of time calls for reduction of the absolute size of the debt, which, in turn, will inevitably require a monumental effort of high primary surpluses over the next few years. At the same time, a major requirement for making the situation manageable is interest-rate reduction.

Productivity and Competitiveness

International competitiveness and productivity are central to the search for factors leading to sustained growth and development. The need to ensure improved competitiveness and productivity is made more urgent, given Jamaica's involvement in imminent trade-liberalizing arrangements, including the World Trade Organization (WTO), Free Trade Area of the Americas (FTAA), EU-ACP Cotonou Agreement, and CARICOM Single Market and Economy (CSME). With the likely implementation of the FTAA and CSME within the next few years, Jamaica faces an international economic environment in dynamic change, which raises the challenge of enhancing its international competitiveness.

In chapter 4, Downes surveys the factors underlying low growth, focusing on: 1) macroeconomic instability; 2) human resource management and development issues, including the emigration of skilled personnel and low skills and educational levels among workers; 3) poor industrial relations between workers and management; 4) outdated technologies and equipment; 5) lack of social consensus on development policy; 6) bureaucratic impediments; 7) high utility costs and inefficient mass transit; and 8) prevalence of violent crime, giving rise to an insecure business environment and high security costs.

A major puzzle presented by the Jamaican growth experience is the high ratio of investment to GDP—typically about 28%—which has been observed even when GDP and productivity growth have been sluggish. Indeed, Jamaica's investment ratio has been well above the average across countries. That it rose during the 1980s and 1990s is particularly remarkable, given the

economic slowdown of this period and prevailing high interest rates. Adding to the mystery is the question of where these investment resources are going, given the noted prevalence of outdated technology.[6] Understanding this phenomenon is critical to finding a solution for low output growth and productivity. While unable to give definite reasons, Downes points to the measurement error connected with the large informal sector as a possible explanation. This is consistent with arguments advanced by the World Bank (2003), suggesting that Jamaican output may be underestimated.

Transparency, Accountability, and the Business Environment

The chapter authors also consider factors that, although less concrete than those mentioned above, are no less fundamental to sustained, long-term development. These include transparency and accountability in conducting business in the country. To a certain extent, these aspects reflect the sometimes unwritten "rules of the game" in the ways that economic management and business enterprise are conducted. Accountability and transparency are relevant across the board, and are addressed as significant factors, especially with regard to monetary and exchange management (chapter 2), financial system supervision (chapter 3), and privatization and regulation (chapter 5).

In chapter 5, they come into play in the analysis of negotiating privatizations and the regulatory framework governing business enterprise. A specific limitation in the Jamaican case is negotiating privatization of major public enterprises where only one or a few companies have a serious interest. Notwithstanding this problem, The GOJ has completed many privatizations, shifting the emphasis to the need for strengthened regulation. In this regard, another relevant issue for Jamaica is negotiating privatization before having an adequate regulatory framework in place; this sets the stage for post-performance lobbying and negotiation, which, in turn, undermine appropriate regulation. This analysis underscores the importance of establishing the regulatory framework prior to privatization in order to achieve an acceptable balance of the interests of all involved parties.

Another issue relevant to the business environment is the need for greater compliance with formal regulatory institutions. Jamaica's large informal

[6] Construction activity has been consistently high but does not provide a complete explanation of the high investment ratios.

sector, estimated at 40–45% of measured GDP, underscores pervasive noncompliance, which undermines macroeconomic stability and overall economic progress (IDB 2002). Finally, the chapter authors call for more autonomy of regulatory bodies, including bank and non-bank financial supervision and business-regulatory bodies (e.g., Office of Utilities Regulation and Fair Trading Commission).

Conclusion

Taking an institutional approach to analyzing Jamaica's economic growth experience has produced mixed results. Although the budgetary framework is relatively sound, the tax system and oversight of public enterprises contain major flaws. Supervision of financial institutions has been substantially strengthened by rehabilitation and reform following the financial-sector crisis, but that process is ongoing. Arguments calling for the consolidation of banking and non-banking supervision and greater autonomy, transparency, and dissemination of information are persuasive.

The analysis reveals interesting paradoxes, which underscore the complexity of the Jamaican situation. Persistently poor fiscal performance and public-debt accumulation raise doubts about the high marks certain studies have awarded Jamaican budgetary institutions. The sharp decline in the poverty rate during the 1990s is hard to explain, occurring at a time of stagnating aggregate income and declining per-capita income. This paradox brings into focus the role of the informal sector, remittances, and rising real wages as underlying factors. The high investment-to-GDP ratio also appears contradictory within the context of low output growth, high interest rates, and the repeated observation that growth is hampered by outdated machinery and technology.

Recommendations

Based on these analyses, significant factors emerge as major considerations that should be addressed to promote sustained, long-term growth. Among these are the need for:

- ***Social consensus on economic and social policy.*** A social contract is needed among the major social partners to indicate commitments to

sharing the burdens of adjustment and provide a framework for economic and social policy.

- ***Fiscal prudence.*** A high primary surplus will be an inevitable feature of attempts to achieve macroeconomic stability, given the need to achieve a large reduction in the debt-to-GDP ratio.
- ***Uniform investment incentives.*** Jamaica's tax system should be reformed to achieve more uniform investment incentives to encourage better resource allocation, equity, and compliance.
- ***Reduced interest rates.*** This measure should be assigned highest priority; it calls for institutional and monetary regime changes, which would greatly help to minimize both eventual exchange-rate depreciation and slightly higher, transitory inflation.
- ***Reduced violent crime*** to achieve an improved investment climate and social stability.
- ***Improved educational quality*** of primary and secondary schools and strengthened education and training to meet industry requirements.
- ***Strengthened regulatory institutions*** to foster acceptable business practices and consumer protection.
- ***Greater transparency and accountability*** in both the Government and private sector.
- ***Better industrial relations.***
- ***Better compliance behavior*** with regard to formal institutions and regulations.

The chapter authors do not attempt to address the current problem of the high debt ratio—a severe setback for the economy—because the focus is on sustained, long-term growth. An immediate stock adjustment may be an unavoidable requirement in dealing with the high debt. Assuming, however, that an adequate adjustment is made, long-term sustainability requires maintaining high primary surpluses for some time. Although the authors acknowledge the importance of the external environment, these studies are concerned primarily with national-policy options; they do not specifically address the external situation in the form of terms-of-trade shocks and imminent changes to preferential arrangements to which Jamaica has been accustomed. That said, it is clear that parallel efforts are needed with regard to trade negotiations and modernization of trade arrangements.

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1

Fiscal Policy Challenge

DANIEL ARTANA AND FERNANDO NAVAJAS*

Despite its poor growth performance during the 1990s, Jamaica has managed to reduce its inflation rate to single digits and regularly service an enormous public debt that exceeds 150% of the country's gross domestic product (GDP).[1] Such large indebtedness has resulted, in part, from the financial crisis of the mid-1990s, which led the Government of Jamaica (GOJ) to change its policy mix to achieve a primary surplus of about 10% of GDP—an unprecedented action that drew regional and global attention to the requirements for sustainability. The country's tight monetary policies and high public debt have pressured real interest rates, requiring enormous primary surpluses to reduce the ratio of debt to GDP. As a result, Jamaica is trapped by low growth; debt overhang; and a politically costly, high primary surplus.

Over the past three years, the country has undergone a substantial switch in its macro-policy mix, having decided to pursue a strategy to reduce its large debt and resume economic growth. The aftermath of severe financial crisis, rooted in unsustainable policies, shows how failures in a country's

* The authors acknowledge the comments of Anthony Boote, Delisle Worrell, and other IDB and IMF officials who participated in the 2002 conference, Toward Sustained Growth in Jamaica, held at the IDB.

[1] As of 2003.

financial-sector governance can create enormous public-sector liabilities in an otherwise manageable fiscal-policy environment.

In this chapter, these authors focus on three fiscal-policy issues at the crux of Jamaica's financial challenge. At the same time, they consider the country's institutional framework to avert past policy mistakes that resulted in shocks for the public-sector balance sheet. The next section explores the nature and design of Jamaica's budgetary institutions. The authors ask the key question: Are flaws in the institutional framework that governs Jamaica's fiscal policies putting the country's fiscal path at risk? They then consider the requirements of a tax system that does not distort resource allocation and that complements a growth strategy. Finally, they discuss debt-sustainability and management issues within a comprehensive fiscal-policy assessment and in relation to public expenditures, primary surpluses, and potential debt expansion.

Overview: Institutions and Outcomes

Over the past 15 years, analysis of what determines fiscal outcomes has focused increasingly on the political and institutional framework within which fiscal policies are decided. Both analytical and empirical studies, as well as policy-oriented evaluations of many countries, have established a firm relationship between fiscal institutions, budgetary procedures, and fiscal outcomes (IMF 2001b; Poterba and von Hagen 1999).

The analysis has characterized the incentive problems inherent in weak institutional settings. Decentralized decision-making, without appropriate rules or procedures, creates incentives for overspending and deficit bias. Within this "common-pool" setting,[2] individuals or actors perceive the full benefit of their actions, while common property dilutes the costs among all participants. This asymmetry, when translated into fiscal policy, implies that the absence of rules or coordinated procedures create a bias toward spending through decentralized decisions that do not fully internalize the costs, leading to inefficient fiscal outcomes. Thus, the common-pool approach has general implications for how institutions and outcomes are characterized. Both institutional and procedural arrangements are needed to constrain or eliminate such incentives. Explicit fiscal rules or budgetary procedures that

[2] The term *common pool* is borrowed from the literature on competitive or multidirectional externalities that exhaust natural resources.

lead participants in the budgeting process to internalize the costs of budget deficits will result in more efficient fiscal outcomes.

Key Institutional Characteristics

Several dimensions of the analysis—fragmentation, centralization, and transparency—have been used to characterize the nature of fiscal institutions. Fragmentation occurs when the budgeting process involves many actors and when decision-making distributes power among them. Centralizing the budget process involves institutional provisions conducive or equivalent to partially or fully internalizing costs. Transparency refers to budget procedures that provide clear information on all aspects of fiscal policy.

These three, interrelated concepts have served to initially characterize fiscal policy (Poterba and von Hagen 1999; Alesina and Perotti 1999; Kontopoulos and Perotti 1999). At one extreme, a too fragmented and unconstrained decision-making process will lead to deficit bias. One correction to this problem is a move toward centralization. This can be achieved by:

- Limiting the number of actors in the decision-making process,
- Centralizing budgetary authority with a responsible party or fiscal entrepreneur, or
- Implementing decision-making rules or cooperative budget procedures among relevant participants.

While the first two approaches are obvious, the third accepts the need for decentralized expenditure, but constrains decision-making through rules or procedures. Though associated with a move toward centralization, these rules or procedures involve explicit targets, which may be preferable when transparency considerations are introduced.

Transparency becomes a critical aspect when centralization is considered in fiscal policy. Alesina and Perotti (1999) recognize three strategies to increase transparency: legal, legislative, and non-governmental or private party. In the fragmentation context, transparency is less of an issue. That is, budget procedures can be fully transparent and yet be heavily biased toward deficits since the fundamental problem is related more to incentives than information (non-transparent procedures can compound incentive problems in extremely fragmented environments). However, the demand for transparency is greater within the context of centralized decision-making. Transparency extends

beyond full release or availability of information to the general public and participants in or evaluators of the policymaking process. Budgets that include numerous special accounts and that fail to consolidate all fiscal or public-sector activities into a single bottom-line measure are not transparent per se. Thus, within transparency assessments, it has been customary to include the scope for hidden liabilities and the borrowing autonomy of other public agencies.

Institutional Indexes

Several studies have focused on these issues in practice (Poterba and von Hagen 1999). They can be divided into cross-country assessments of fiscal outcomes that are explained by variables selected to approximate fiscal institutions and case studies that focus in detail on specific issues in particular countries. Earlier studies that examined the relationship between fiscal institutions and outcomes have developed summary institutional indexes to explain fiscal performance measured as deficits or debt accumulation. For the European Union (EU), von Hagen (1991, 1992) and von Hagen and Harden (1995) found that a comprehensive index of budgetary institutions had a significant effect on deficits and debt ratios.

The Inter-American Development Bank (IDB) extended this methodology to Latin America and the Caribbean (LAC). Alesina et al. (1996) developed an index of budgetary institutions in 20 countries of the LAC region during 1980–1992 and related primary deficits or surpluses to the index.[3] Stein, Talvi, and Grisanti (1998) evaluated the interaction between electoral systems, bud-

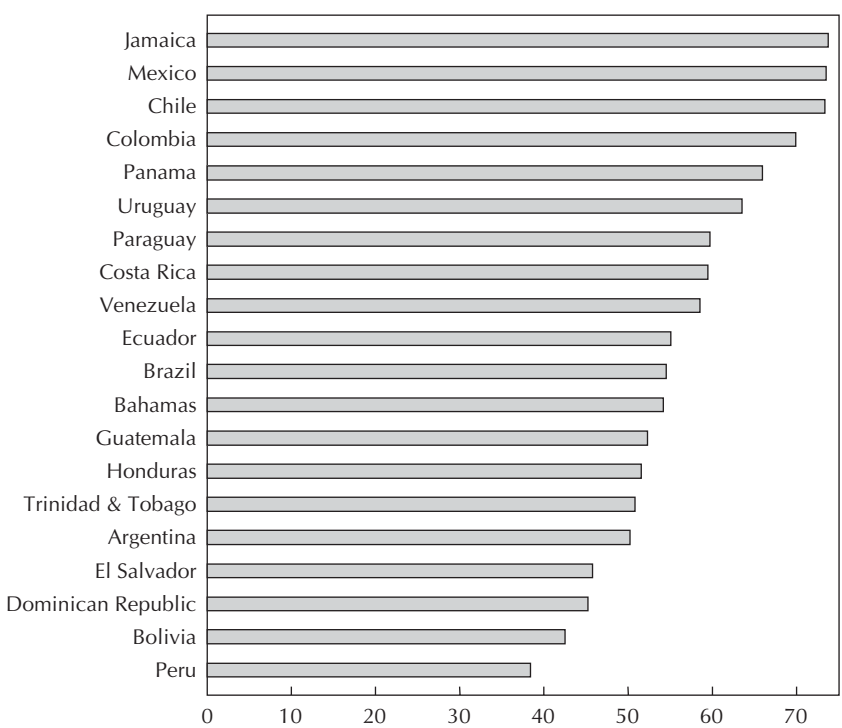
[3] The index was built from data obtained from a questionnaire (consisting of 10 questions) completed by budget authorities. Responses were ranked from 0 to 10, according to a separation between collegial (fragmented) and hierarchical (centralized) budget procedures (Table 1-1). The first three questions related to constraints on the budget deficit (constitutional constraints, importance of a previously approved macroeconomic program, and degree of borrowing autonomy, respectively). The fourth question related to the degree to which institutions are hierarchical or collegial during the budget preparation stage. The fifth and sixth questions reflected the relative power of the Government and legislature during budget discussions (legal constraints on congressional authority to amend a budget proposal and options available to the Government when Congress rejects the budget, respectively). The seventh question dealt with budget amendments and initiative or supervisory command. The eighth question asked whether the Government could cut spending after the budget is passed (the interpretation is that both extremes—"at discretion" and "no"—indicate weak budgetary institutions, while rules [such as dependency on revenue performance] are better). The last two questions considered transparency (whether the Central Government's control over its budget can be undermined by public-agency behavior, particularly in relation to debt guarantees and the borrowing limits in agencies or local government).

getary institutions (using the index for 1990–1995), and outcomes of fiscal policies that surpassed previous attempts to consider the relationship between public debt and GDP (or fiscal revenues), as well as the degree of pro-cyclicality of fiscal policy and government size. Both studies reinforce the idea that fiscal institutions matter for fiscal performance, even though the method has problems regarding the assumed substitutability among index components, capture of country specificities, and—in the case of Alesina et al. (1996)—use of primary deficit or surplus that neglects debt-ratio dynamics.

Out of the 20 countries considered in the index of budgetary institutions, Jamaica ranked first in the Alesina et al. study and second in the Stein, Talvi, and Grisanti study, indicating the country's comparative institutional strength in the region (Figure 1-1). In the latter study, electoral and political

FIGURE 1-1

Index of Budgetary Institutions (average, 1980–1992)



Source: Alesina et al. (1996)

variables (e.g., number of effective parties or percentage of congressional seats) contributed to fiscal performance. While Jamaica fit well in the regression line explaining budget surplus from the index, it was an outlier in the regression line explaining public debt-revenue ratio, showing higher indebtedness than that predicted by the index. Table 1-1 shows the ques-

TABLE 1-1

Jamaica's Performance (from a Budgetary Questionnaire)

Question No.	Variable	Range of Grade	Grade	Performance Ranking (out of 20 countries)
1	Constitutional constraints on the fiscal deficit	0–5	5.00	1
2	Macroeconomic program as a prerequisite for submission to Congress	0–10	10.00	1
3	Government borrowing authority	0–10	6.66	7
4	Authority of Minister of Finance relative to spending ministers in budgetary matters	0–10	10.00	1
5	Legal constraints on congressional authority to amend the Government's proposed budget	0–10	5.00	11
6	Options available to the Government when Congress rejects or fails to pass its proposed budget	2–10	10.00	1
7	Flexibility to change budget approval	0–10	7.50	2
8	Government's ability to cut spending unilaterally after Congress passes the budget	0–10	10.00	1
9	Whether Government assumes debt originally incurred by other public entities	0–6.66	3.33	8
10	Borrowing autonomy of state and local governments and public enterprises	0–10	6.25	4
Total		2–91.66	73.74	1

Source: Alesina et al. (1996)

tionnaire structure for the index of budgetary institutions and summarizes Jamaica's performance.

Evidence for developed countries is broader in both types of studies, pointing to the importance of centralization through the role of the executive branch and use of rules. For example, Kontopoulos and Perotti (1999) studied the relation between political factors, procedural factors, and ideology in member countries of the Organisation for Economic Co-operation and Development (OECD). They considered fragmentation of the budgetary process, measured by the number of participants involved in the deliberation that ultimately determined the budget. They found this dimension, together with political factors and ideology (such as orientation of the party in power), an important determinant of outcomes.

Many studies have stressed the importance of a fiscal coordinator or entrepreneur. For example, Hallerberg and von Hagen (1999) studied in detail the interaction of electoral systems, cabinet negotiations, and budget performance for current EU members during 1980–1994. They found that two important mechanisms—delegation of decision-making powers to a strong finance minister and explicit commitment to fiscal targets—contributed decisively to reduction of fiscal deficits.

Explicit Rules: A Necessary but Insufficient Condition?

Numerous subnational governments in large federal states have assessed fiscal institutions vis-à-vis fiscal outcomes. Poterba (1994, 1996), for example, considered the effects of explicit rules, such as balanced-budget rules and restrictions on debt issuance in U.S. states. He found that changes in budgeting rules and broadly-defined fiscal institutions influence fiscal outcomes. Bohn and Inman (1996), also using U.S.-states data, found that the most effective rules for fiscal outcomes are constitutional (as opposed to statutory) requirements that apply to end-of-year balance, rather than ex-ante budget requirements that are enforced by an independent supreme court.

Regarding the effects of fiscal institutions on borrowing cost, Poterba and Reuben (1999) found that states with tighter anti-deficit rules and restrictions on debt issuance have a lower capital cost. Bayoumi and Eichengreen (1995) tested the effects of tax and expenditure limits, finding a decline of nearly 50 basis points in the cost of capital. Finally, U.S.-states data has been used to obtain results that could reveal the likely negative effects of balanced-budget

rules on the stabilization of output fluctuations. The data support the intuitive answer that balanced budgets are most effective for subnational governments since they do not interact with business cycles (Bayoumi and Eichengreen 1995; Alesina and Bayoumi 1996).

Other case studies have drawn attention to various fiscal procedures and simplification difficulties in cross-country comparisons. For example, de Haan, Moessen, and Volkerink (1999) studied budget procedures in several European countries, considering detailed data and environments where fiscal policy is conducted. They looked specifically at the link between procedures that lead to budget formulation, approval, and implementation and fiscal-policy outcomes. They found that budgetary institutions are multidimensional, making it difficult to determine which budget procedure has the greatest effect on policy outcomes. However, their results suggest that the position of the finance minister in the budgeting process and the presence (or absence) of bidding constraints are highly significant in determining the level of budget deficits.

While the general implications of the common-pool approach are clear enough regarding the requirement to solve incentives and coordination failures among participants, the question remains: Are explicit rules that restrict outcomes or procedural design of the budget process (that reallocate authority and facilitate agreement) the best way to improve fiscal performance? Recent studies indicate that this question has not been answered for either alternative.

The preference for explicit (constitutional or statutory) fiscal rules (such as balanced-budget controls, debt restrictions, and expenditure limits) is based on the view that constitutional design or political transaction costs make procedural rules difficult to design and enforce. However, recent studies, such as those of Kennedy and Robbins (2001), have argued that rules per se are not a necessary condition for sound fiscal outcomes since they can be attained in contexts without explicit fiscal rules. They provide evidence from many developed countries to consider the performance achieved under fiscal rules; they use the case of Canada as an example of fiscal consolidation without explicit federal rules.[4] According to their view, the

[4] In fact, Canada has balanced-budget rules and expenditure limits at the subnational level, even though the Federal Government shouldered the brunt of fiscal-consolidation efforts during the 1990s. Throughout this chapter, it is important to distinguish between national-level discussions and arguments and those aimed at subnational levels and fiscal federalism.

real test for rules—recessions—has not occurred in certain cases (such as the U.S.) or has given rise to reversals (such as Japan). They do not mean that rules are not useful; rather, they question the view that rules are sufficient for implementing sound fiscal outcomes.

Institutional design may be equally effective if the scope for improvements in this dimension is provided. In any case, the distinction between explicit rules and procedural design is not a debate over centralization (since both approaches imply solving a coordination failure) and does not challenge the evidence in favor of a strong executive role. The relevant question is not whether to choose explicit rules or procedures; rather, it is whether countries with given institutions and budget procedures can improve fiscal outcomes by introducing explicit rules. For many, the answer is yes.

Other Lessons for Sustainable Outcomes

Effective institutional design of the budget process to reduce spending and deficit bias should promote a comprehensive view of the costs and benefits of public policy. If centralization is followed, objectives of the department or ministry in charge should be general and not concerned with partial objectives or sectors. If centralization relies heavily on common agreements, the key is to agree early in the budget process, and mechanisms to enforce agreement or cooperation should be effective (including punishment for violations, limits on parliamentary amendments, and a strong monitoring position of the treasury in budget implementation to prevent other participants from reneging). In addition, evaluation of fiscal institutions should take note of the richness of budgetary institutions by looking at the entire institutional environment and budget process rather than focusing on whether particular rules exist. As implied previously, there is an intimate connection between fiscal institutions (such as design of the budget process) and other dimensions of the country's constitution (such as position of the executive relative to the legislature or type of electoral law). Budgetary institutions that work in a particular constitutional context may fail in others because of incentive or coordination failures.

Many years of aggregate and detailed studies of fiscal-policy performance show that sustainable fiscal outcomes depend on the quality of fiscal institutions to solve incentive problems related to overspending, weak revenue collection, and deficit and debt bias. Centralization, along with a transparent

budgeting process, is crucial to improving and sustaining fiscal outcomes. Thus, any evaluation of fiscal institutions in countries where fiscal performance is under stress (i.e., fiscal consolidation is needed) or needs sustaining should first look at this dimension within a general assessment of constitutional design and political and policy procedures.

Beyond this general guidance, there is an open debate on the effectiveness of explicit rules that attempt to constrain outcomes versus the design of procedures that constrain decisions. Rules may be preferable when procedures cannot be constrained; conversely, procedural or institutional design may be required when rules cannot be enforced. In any case, the dichotomy between rules and procedures should not be exaggerated; instead, the two aspects should be viewed within a broader context of fiscal and policy institutions and the country's specific fiscal problems and outcomes.[5]

Evaluating Jamaica's Institutional Framework

Jamaica is a parliamentary democracy, based on common law, whereby the executive branch is an extension of parliamentary representation formed by the party or coalition in power (Box 1-1).

BOX 1-1. Jamaica's Government at a Glance

Following years of British colonial rule, Jamaica finally gained independence in 1962, remaining a member of the Commonwealth. The island nation established a constitutional parliamentary democracy based on the UK model. Its government consists of three branches: executive, legislative, and judicial. The executive branch includes a Governor General (the British monarch's representative in Jamaica), Prime Minister, and Cabinet. The Governor General's role is largely ceremonial, while executive power is vested in the Cabinet, led by the Prime Minister. The country's legislature, a bicameral Parliament, includes a 21-member Senate and 60-seat House of Representatives. The judicial branch, modeled after the UK system, includes a Court of Appeals (the highest appellate court in Jamaica) and courts of original jurisdiction.

[5] Previous summary and comparative assessments of Jamaica's budgetary institutions show the country as having one of the strongest institutional settings in the LAC region. The only warning signals were the questions of budget amendments and debt constraints originating outside the Central Government.

In this sense, the constitutional framework constrains certain budgetary procedures in order to obey parliamentary rule. However, this does not diminish the critical role played by the executive branch. On the contrary, Jamaica's legal details and budgetary procedures demonstrate strong executive leadership and, in practice, a top-down budgetary procedure that prevails over any seemingly bottom-up elements. Within this context, the executive's ability to constrain expenditures through cash limits has produced an astonishing level of primary balance since 1999, based on a constitutional mandate to put debt service ahead of other expenditures. A separate question is whether this strategy is sustainable, particularly in the medium term and under various political configurations. In short, can the normal working of the public sector be based on explicit and constrained mechanisms (explicit laws or alternative institutions) that will produce desirable and sustainable fiscal outcomes under different shocks?

Legislation

In Jamaica, the main pieces of fiscal-institution legislation are the country's Constitution and the Financial Administration and Audit (FAA) Act. Other acts (Loans Act, Approved Organizations Act, and Public Bodies Act), though less fundamental to determining fiscal policies, complete the institutional framework. Jamaica lacks explicit fiscal rules, in the form of fiscal responsibility laws, that constrain deficits or debt, even though other constitutional and institutional provisions strongly promote centralization and constrain fiscal outcomes; this framework can easily accommodate additional explicit rules, if considered.

Chapter VIII (Finance) of Jamaica's Constitution has nine sections. Five of these have direct implications for fiscal institutional design, as follows:

- Section 114. Establishes the creation of a Consolidated Fund and prepares for centralized control of fiscal policy.
- Section 115. Gives the executive branch, represented by the Ministry of Finance and Planning (MOFP), responsibility for budget preparation and establishment of cash limits according to an initial and general plan; at the same time, it separates and requires estimates from statutory (mandatory and in the first line of disbursements) and non-statutory expenditures.

- Section 116. Deals with authorization of expenditures, through an Appropriation Bill instrument, giving the House of Representatives sole power to authorize appropriation resources for non-statutory expenditures. At the same time, section (4) defines statutory expenditures and states that interest on debt falls into this category. This determines much of the fiscal process in Jamaica, since debt interest currently represents a high percentage of expenditures.
- Section 117. Deals with the authorization or release of funds from the Consolidated Fund through issuing warrants that fall under exclusive control of the MOFP.
- Section 118. Authorizes the creation, by law, of contingency funds that fall under MOFP management. (Even though Jamaica has no explicit fiscal rules, in the authors' opinion, this instrument can be viewed as a potential legal platform for the establishment of explicit fiscal rules, such as a fiscal stabilization fund or a contingent fund that insulates the economy from external shocks.)

The FAA establishes the legal framework for managing funds appropriated by the House of Representatives. This management is strictly the responsibility of the MOFP, which also has legal power to amend the FAA, with approval of the Cabinet. Thus, the FAA is the operating extension to sections of the Constitution that reinforces the centralized control of fiscal policy in Jamaica. Sections 3-8 deal with management of consolidated fund accounts. Section 9 is devoted to the issuance of warrants, establishing full MOFP control. Finally, Section 13 deals with establishing contingency funds.

Budget Cycle

The MOFP is central to the budget cycle, whose stages are as follows (World Bank 2001):[6]

- Formulation,
- Allocation of expenditures,
- Budget authorization,
- Implementation, and
- Monitoring.

[6] Jamaica's fiscal year runs from April through March.

Formulation starts (usually in September of the previous year) from a macroeconomic framework with policy targets and priorities for sectoral allocations. From this blueprint, the MOFP issues a budget call to ministries and departments, subject to the payment of statutory expenditures (where public-debt service is the major item, from Section 116 of the Constitution) and expenditure ceilings established for given priorities on a historical basis. Ministries and departments are given about two months to reply to this budget call. Separately, public entities submit their proposals through a corporate plan, and public enterprises observe parameters for their expenses at this stage.

Allocation of expenditures separates recurrent and capital expenditures, which are subject to various allocation criteria. In practice, allocation is constrained by statutory obligations on debt service with macroeconomic policy considerations, resulting in effective ceilings. Recurrent expenditures (where interest, wages, and operating expenses or programs are major items) are determined by commitments to statutory expenses (debt service) and expenditure ceilings based on current macroeconomic policy and Government priorities. Capital-expenditure allocation depends on projections for the public-sector investment program, counterpart multilateral funding, and project commitments under way.

Budget authorization starts with a discussion period (after receiving submissions from ministries and departments) within the MOFP (budget division and other divisions and agencies) and with other ministries. This discussion results in a detailed draft budget, along with an evaluation and recommendations, which is submitted to the Cabinet. After approval, the budget is then submitted to Congress (in March), where the Standing Finance Committee studies it. The Minister of Finance opens the debate and the resulting Appropriation Bill, which authorizes expenditures, is discussed and approved over a two-to-four-month period within the fiscal year (FY). Meanwhile, a carry-on budget that operates like an advance for ongoing activities is put in place. The public-enterprises budget is not debated because the enterprises are self-financed.

The World Bank (2001) noticed the delay in estimating budgets for public enterprises and suggested a partial coverage and follow-up by the MOFP because of lack of human resources. In fact, the budget memorandum does not report on non-Central Government accounts, which reduces the visibility of public-sector operations and performance. Furthermore, because the

public-enterprises budget is self-financed, it may not act as an effective budget constraint if the Central Government can be made responsible for debt or other hidden liabilities that give rise to write-offs. As noted above, Jamaica scores significantly lower (compared to other dimensions of budget institutions) when constraints on debt and borrowing autonomy are considered. On the other hand, in recent years, Jamaica's debt accumulation has been explained by "off-budgetary" processes that originated during the financial crisis.

Issuing amendments during the budget-authorization stage has been a concern for budgetary institutions. It has been detected as a weakness (along with debt restrictions) whenever a survey question has been posed regarding restrictions on amendment contents. Nevertheless, the absence of hard restrictions results from Jamaica's being a parliamentary democracy and the rule of Congress; therefore, it should not be considered a necessary handicap.

Implementation restrictions exist for making revisions (known as "virements"), in that they require MOFP approval. Within this context, the survey on budgetary institutions reviewed above ranked Jamaica highly in terms of flexibility to change budget approval and executive ability to cut spending unilaterally after passage of the budget.

Monitoring of the budget process is overseen by the MOFP. The Ministry's budget division (which has participated since the formulation stage) interacts with ministries and departments that oversee budgets. Cash management and investment programs are thoroughly monitored. Within this post-approval process, the release of funds, through the so-called warrant system, constitutes a key element of centralized control of the budgetary process. As stated in Section 117 of the Constitution, no expenditure can be made without the MOFP issuing a warrant. This has two major consequences for the budgeting process. First, it contributes to the Consolidated Fund management, guaranteeing a correspondence between revenue flows and expenditures. Second, it involves several steps and ensures financial management, in accordance with the FAA, that reinforces control of expenditures. The post-approval process is completed with the General Auditor and Parliament's Public Accounts Committee.

Evaluating the Budget Process

The World Bank recently conducted a Country Financial Accountability Assessment (CFAA) for Jamaica (World Bank 2001), and hired KPMG, a

consulting firm, to advise the GOJ on addressing its budgetary problems. Both assessments focused on formal and actual processes and procedures, rather than on fiscal-policy aspects of the budgetary institutions, pointing to the existence of a well-grounded budget process that nevertheless needs some adjustments.

The CFAA observed a gap between formal procedures and current practices. These mainly included cash management (unused funds, lack of transparency, and over-reliance on manual procedures), effect of a tight warrant system on cash management and flow of expenditures from ministries and agencies (effects on capital expenditures and uncertainty of cash-flow streams), and separation or lack of direct correspondence between corporate plans (provided by public entities) and the budgeting process, in terms of information and monitoring. The CFAA recommendation that the MOFP consider moving toward greater centralization in cash management received a negative response from the GOJ, which did not wish to over-centralize cash management at a time when it was pursuing decentralization and improved efficiency and accountability.[7]

The findings and recommendations of the 1999 KPMG study contain other strategic aspects that extend beyond formal budgetary procedures.[8] Its report stated that a significant amount of recurrent expenditure, classified as capital expenditure, distorts the reality of expenditure patterns and undermines macroeconomic planning and capital-expenditure programming. It called for creating public-expenditure units to oversee the budgeting process and the setting up of policy and coordination units. (These proposed changes imply a divisional reorganization; however, the advantages of such a move are unclear.) Other recommendations included focusing more on prioritization (including targets and performance indicators), reformulating the budget format, changing the timing of the budget call and

[7] The CFAA recommended tighter, more centralized cash management by placing all accounts (in one or more banks) under direct control of the Treasury. (This implies closing all accounts of spending agencies and redirecting all expenditure transaction flows through the Accountant General's Office [AGO] or sub-offices, with the spending agencies issuing previously authorized expenditure transactions to the AGO and sending the payment order to the nearest bank for direct payment.) The CFAA also recommended regulating and enforcing cash-balance maintenance and implementing information-technology modules or systems. Moreover, it called for greater transparency of the MOFP in its cash-management decisions and cash allocations.

[8] The authors could not obtain a copy of the KPMG report and have not been informed of the GOJ's response to its contents.

deadline for submissions, revising the overall legal and regulatory framework, and reviewing definitions for recurrent and capital expenditures.

Strengths and Weaknesses: Summing Up

Review of existing legislation related to Jamaica's fiscal institutions corroborates the findings of previous comparative studies on LAC budgetary institutions: Jamaica's institutional framework is sound. Its constitutional provisions work effectively to create an environment favorable to fiscal control by making debt service mandatory and assigning the MOFP a central role. Details on the budgeting process, collected from recent evaluations, also support this assessment. Although interesting findings and useful recommendations have stressed the role of cash management and strategic design aspects of the budgeting process, these are relatively marginal improvements; they do not involve major designs that affect fiscal outcomes since they do not necessarily involve institutional improvements that tackle the fundamental problems of incentives for controlling expenditures and deficits (or generating primary surplus) within efficiently run, public-sector activities.

Nevertheless, other aspects, which fall into two major categories, deserve mentioning: 1) improving accountability and transparency and 2) exploring new ways to improve existing institutional arrangements to cope with sudden or unexpected performance reversals.

From an accountability and transparency perspective (as understood by comparative fiscal-institutional studies) the major weakness in Jamaica's budgetary process is that public-sector enterprises and other fiscal operations that fall outside the Central Government do not permit an easy consolidation of public accounts to assess fiscal performance. Given that public entities are not integrated into the budget process in the way that ministries and agencies are and that information contained in non-Central Government accounts cannot be obtained from the budget memorandum, a case can be made for extending the hard-budget institutional constraint to the rest of the public sector. This issue should be assessed through a careful design analysis, encompassing regulatory reform of public services that does not conflict with efficiency objectives of decentralization and distant relationships. The next steps, which recent multilateral-agency evaluations have also stressed, are to make budget executions consistent with approved budgets and improvements in formal budgetary procedures.

Tax System Design

Jamaica's tax revenues (measured as a percentage of GDP) have increased from about 23% in FYs 1996–1997 and 1997–1998 to about 25% in the following three years to 26.5% in 2002–2003 (Table 1-2).[9] This improved performance—an encouraging fact in a highly indebted economy—has resulted from higher excises and greater taxation of income and profits. Personal-income taxation is well designed, with a flat marginal rate and progressivity introduced at a uniform level of exemption.

Nonetheless, Jamaica's tax system, like those of other emerging economies (Box 1-2), can be improved substantially. For example, several GCT rates and exemptions cannot be explained for equity reasons. Similarly, the Corporation Income Tax (CIT) has generous investment incentives embedded in it. Such favorable treatment of capital income, combined with labor taxes, is difficult to justify in an economy with 15% unemployment.

Jamaica's tax system includes i) a 15% GCT (i.e., investment is excluded from the tax base); ii) a 33.33% capital-gains tax and a flat 25% tax on individual income, with a minimum exemption level; iii) excise taxes and import duties equivalent to consumption taxes; iv) labor-income taxes; and v) property, stamp, and other taxes that are non-critical revenue sources. As Table 1-2 shows, tax revenue accounts for about 26% of GDP, 40% of which is obtained from income and property taxes. Personal Income Tax (PIT) yields about 5% of GDP, which increases to 6% if the Education Tax (which falls on labor income) is included.[10] GCT collection figures distinguish between the collections from domestic sources and imports.[11] Over the last five years, total GCT revenue has fallen from nearly 8% of GDP to about 6.5%. Special excises on cigarettes, alcoholic beverages, and petroleum products have increased from less than 1% of GDP to about 2.5%. Customs duty (a tax on consumption) accounts for more than 2.5% of GDP.

[9] It should be noted that tax reform occurred in April 2003.

[10] The IMF classifies the Education Tax as a tax on production because it is a contribution that employers must calculate on their wage bill. In an open economy like Jamaica, however, the burden of this tax falls on workers; thus, it would be better analyzed as a proportional tax on labor income.

[11] Since the GCT paid at Customs can be deducted from the tax on domestic sales and exports tax-free, it would be better to combine the figures and analyze the GCT as a tax on consumption.

TABLE 1-2

Jamaica's Central-Government Revenue and Grants (% of GDP)

Revenue or Grant Type	1996–1997	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003 (budgeted)
Total Revenue and Grants	26.40	25.37	26.60	29.99	30.03	27.59	29.18
1. Tax Revenue	23.10	22.62	24.04	25.08	25.88	24.36	26.56
Income and profits	9.06	8.90	9.28	9.70	10.54	9.55	10.86
Bauxite/alumina	0.02	0.07	0.15	0.01	0.13	0.19	n.a.
Other companies	2.59	2.56	2.04	2.30	2.14	1.61	n.a.
PAYE	4.98	5.03	5.39	4.70	4.91	5.09	n.a.
Other individuals	0.26	0.28	0.30	0.39	0.25	n.a.	n.a.
Dividend tax	0.20	0.14	0.27	0.28	0.28	n.a.	n.a.
Interest tax	1.00	0.82	1.12	2.03	2.83	2.28	n.a.
Property tax	0.17	0.00	0.00	0.00	0.00	0.00	n.a.
Production/consumption	7.17	7.03	7.53	7.63	7.93	7.68	8.14
SCT	0.63	0.84	1.20	1.07	1.59	n.a.	n.a.
Motor vehicle licenses	0.17	0.09	0.27	0.24	0.22	n.a.	n.a.
Other licenses	0.02	0.03	0.02	0.02	0.01	n.a.	n.a.

(*continued*)

TABLE 1-2

Jamaica's Central-Government Revenue and Grants (% of GDP) (*Continued*)

2002–2003 Revenue or Grant Type	1996–1997	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	(budgeted)
Betting, gaming, & lottery	0.10	0.11	0.13	0.15	0.15	n.a.	n.a.
Education tax	1.11	1.19	1.21	1.17	1.14	n.a.	n.a.
Contractors levy	0.09	0.09	0.08	0.07	0.08	n.a.	n.a.
GCT (domestic)	4.04	3.88	3.79	4.02	3.88	3.70	4.08
Local stamp duty	0.99	0.80	0.84	0.89	0.86	n.a.	n.a.
International trade	6.70	6.69	7.23	7.75	7.41	7.13	7.56
Customs duty	2.50	2.55	2.55	2.44	2.53	n.a.	n.a.
Stamp duty	0.23	0.27	0.26	0.25	0.22	n.a.	n.a.
Travel tax	0.38	0.36	0.54	0.59	0.59	n.a.	n.a.
GCT (imports)	3.58	3.50	3.23	2.71	2.85	n.a.	n.a.
SCT (imports)	0.00	0.00	0.66	1.76	1.23	n.a.	n.a.
2. Bauxite Levy	1.17	1.10	1.00	0.86	0.82	0.61	0.65
3. Nontax Revenue	1.39	1.18	1.11	1.74	2.31	1.33	1.47
4. Capital Revenue	0.30	0.19	0.22	2.00	0.50	0.76	0.31
5. Grants	0.44	0.28	0.23	0.31	0.52	0.53	0.19
Total GCT	7.63	7.39	7.02	6.73	6.73	n.a.	n.a.
Total SCT	0.63	0.84	1.86	2.83	2.82	n.a.	n.a.
GDP estimate	238,962	261,877	278,591	302,850	336,387	371,803	402,058

Sources: IMF (2001b); Salomon Smith Barney and UBS Warburg (2002)

BOX 1-2. Emerging- and Developed-economy Tax Systems: Key Contrasts

The tax systems of emerging economies differ from those of developed countries in key ways:

- Total tax revenues expressed as a fraction of GDP are usually lower,
- Share of consumption taxes in total tax revenues is larger, and
- Income taxes comprise a lower percentage of GDP than the standard for OECD countries.

Several reasons—with implications for policy recommendations—account for these differences:

1. Since government size tends to increase with GDP per capita, emerging economies require lower revenues than do developed countries. Moreover, the inflationary tax, usually an important source of total revenue, is not registered in tax-revenue statistics. Recent stabilization attempts have stressed somewhat the need to raise non-inflationary tax revenue.
2. Compared to developed countries, emerging economies tend to have a more skewed income distribution, higher informality in the labor market, and weaker tax administration. Therefore, the income tax base is lower. A smaller fraction of the population pays income tax,* many individuals pay little or no tax, and evasion of income-tax, versus consumption taxes, is higher (the CGT, like the VAT, has cross-checks built into it).
3. In many developing countries, foreign savings are vital (either because remittances from citizens living abroad are high or because of high capital inflows during most of the 1990s). Therefore, the consumption-tax base is relatively large compared to countries that are net exporters of capital. In extreme cases, consumption approaches 100% of GDP.

*This is sometimes explained by high exemption levels in taxing personal income. For example, during the 1940s, the U.S. had high tax-exempt levels; the Internal Revenue Service collected personal income tax amounting to about 2% of GDP, a percentage similar to that observed in many emerging economies today.
Source: Artana, López Murphy, and Navajas (2003)

Income Tax

Jamaica's income tax, as established by the 1954 Law and amended until 2001, is characterized as follows:[12]

- Profits of most business activities in Jamaica are taxed at a 33.33% rate,[13] while individual income is taxed at a flat rate of 25%, with a minimum

[12] Based on a summary prepared by the IMF and GOJ.
[13] Builders are subject to a 30% rate and life insurance companies to a reduced rate of 7.5%.

tax-exempt level of one per capita GDP. The tax base for both the PIT and CIT includes worldwide income of Jamaican citizens and firms. However, income derived by foreign firms whose capital originates in countries that have tax treaties with Jamaica pay the tax fixed in the respective treaty.

- Withholding at the 33.33% rate applies to dividends, royalties, management fees, and branch remittances, while a 15–33.33% rate applies to interest. The 15% rate on interest applies to certain payers (including banks, building companies, and capital-market dealers), which are later taxed at the CIT rate (meaning that interest income is taxed at the same rate as any other income). Individual taxpayers must report dividends but receive a credit (i.e., dividends are taxed at the PIT rate). Unlike the U.S. tax-code rules, there is no double taxation of dividends and no tax on capital gains.
- Firms can deduct all payments on interest. This creates a tax bias in favor of debt financing that is not fully compensated at the individual level because exemptions on interest are accrued from foreign-currency deposits and life insurance companies if the deposit is maintained for a minimum of three years. Other interest payments are subject to a 25% withholding rate.
- There is no correction for inflation. Therefore, firms can deduct nominal interest paid and annually depreciate a fraction of the historical cost of capital. However, certain activities have tax incentives. For example, investments in the free-trade zone are exempt from income tax indefinitely, while investments in hotels and certain agricultural activities may enjoy a tax holiday of 5–15 years. Special depreciation schemes include a partial expensing (initial allowance) of 20% of the investment, with normal depreciation for the remaining 80% of the historical cost of the asset.[14] A more favorable, special capital allowance, designed for the purchase of machinery in basic industry (part of manufacturing and construction), may be depreciated over two years. However, the most important tax break is an investment tax credit (ranging from 20% [for basic industry] to 40% [for the sugar industry] of the cost of the capital good [known as "investment allowance"]). This is an enormous benefit because all of the historical cost of the asset can be depreciated normally.

[14] Expensing allows firms to deduct automatically a fraction or the total amount invested. When expensing is 100%, the CIT becomes a tax on consumption because capital income (like labor income and any other firm expense) is deducted from the tax base.

Capital Allocation Distortions

Jamaica's tax code has several flaws with regard to income taxation. For example, it creates differences in the marginal productivity of capital among economic activities, and it favors debt-financed (over equity-financed) investments by allowing the opportunity cost of capital to be fully deducted. As individuals are not fully taxed on the interest accrued on their savings, it follows that debt-financed investments are taxed at a lower rate than equity-financed ones.

When inflation occurs, by law, firms may deduct the nominal interest paid on their debt, but can only deduct the nominal depreciation on their assets. It can be proved that firms receive a tax break when inflation occurs (Atkinson and Stiglitz 1980). One can assume that, for one peso of marginal investment in a no-tax world, the firm will invest if the value of the marginal productivity of capital equals its real opportunity cost and the real value of depreciation. Thus (assuming that the depreciation pattern is exponential):

$$(1)\quad PFk = (i - M) + d(1 + M)$$

where

PFk = value of the marginal product of capital,
i = nominal interest rate,
M = inflation rate, and
d = economic depreciation rate.

An income tax usually taxes the value of the marginal productivity of capital, but allows for certain expenditures. Therefore, the investment decision at the margin will be:

$$(2)\quad PFk = (i - M) + d(1 + M) + \{t/(1 - t)\}\{i - M - I + d(1 + M) - D\}$$

where

I = interest rate deduction allowed by the tax code,
t = income tax rate, and
D = depreciation deduction allowed by the tax code.

For debt-financed projects, the Jamaican tax code allows for the nominal deduction of interest and depreciation for income tax purposes. Equation (2) then becomes:

$$(3)\quad PFk = (i - M) + d(1 + M) + \{t/(1 - t)\}\{M(D - 1)\}$$

M (D − 1) is negative because 0 < D < 1; thus, it follows that, under the Jamaican tax code, debt-financed investment is subsidized when inflation is positive.

For equity-financed investments, Equation (3) becomes:

$$(4)\quad PFk = (i - M)/(1 - t) + d(1 + M) + tDM/(1 - t)$$

It follows that equity-financed investment is taxed more heavily when inflation is positive because depreciation can only be deducted from the tax base, based on the historical value of the asset. Therefore, positive inflation augments the debt-financing bias.[15]

Neutrality is achieved if real interest rates and depreciation can be deducted; at the same time, interest on savings is taxed and dividends are tax exempt at the individual level.

However, Jamaica's tax code allows for more subsidies on the cost of capital. Certain exempt activities pay no income tax and some sectors have an investment tax credit (ITC) of 20% or 40%. The ITC is a generous tax break that reduces the purchasing cost of the asset to 60% or 80% of the cost faced by other firms, but allows firms to depreciate 100% of the asset's value. The ITC is highly inefficient because it makes projects that may have negative social rates of return and that favor short-lived assets (because the benefit can be maximized if the firm repeats the investment) profitable from a private-sector perspective (Harberger 1980). The ITC granted by the Jamaica Tax Law requires the following changes in the above equations:

$$(5)\quad PFk = (i - M) + d(1 + M) + \{t/(1 - t)\}\{M(D - 1)\} - \{a(i - M + d(1 + M) + ti\}/(1 - t)$$

for debt-financed projects, where "a" equals the ITC, and

$$(6)\quad PFk = (i - M)/(1 - t) + d(1 + M) + tDM/(1 - t) - \{a(i - M + d(1 + M)\}/(1 - t)$$

[15] With zero inflation, the cost of debt-financed capital is expressed as (i - M) + d(1 + M) and equity-financed projects are expressed as (i - M)/(1 - t) + d(1 + M). That is, if the opportunity cost of capital is 10% in real terms and the tax rate is 33.33%, an equity-financed project requires a 15% IRR to pay the investor the tax and yield or opportunity cost (both debt- and equity-financed projects must generate enough revenue to offset the economic decline in asset value). This bias at the firm level can be undone at the individual level if dividends are not taxed and families pay the income tax on interest they receive from their savings. The U.S. Tax Code, for example, maintains the bias because dividends that firms distribute are again taxed at the individual level.

TABLE 1-3

Annual Rate (%) of Before-tax Real Rate of Return, by Project Type*

	Projected Inflation Rate (%)					
	Debt-financed			Equity-financed		
Tax Item	**0**	**5**	**10**	**0**	**5**	**10**
Typical tax code						
No investment tax breaks and no indexation	10.0	7.8	5.5	15.0	15.2	15.5
No investment tax breaks and indexation	10.0	10.0	10.0	15.0	15.0	15.0
Jamaica						
General tax code						
Initial investment allowance (20%)	9.1	6.7	4.2	14.0	14.2	14.4
Accelerated depreciation (2 yrs) for new machinery	5.8	3.6	1.4	10.2	10.3	10.5
Exempt activities (hotels and free-trade areas)	10.0	10.0	10.0	10.0	10.0	10.0
Tax credit						
20% (building and machinery in some manufacturing and construction)	3.0	–1.4	–5.8	9.0	7.6	4.2
40% (buildings and machinery in agriculture and chips)	–4.0	–10.5	–17.1	1.0	–3.0	–7.1

*Assumptions: The opportunity cost of capital in real terms is 10%, and economic depreciation of the asset is 10% per year.

for equity-financed projects. It is evident from expressions (5) and (6) that the last term is negative, and its size may be large enough for the private rate of return required for the project to be negative.

Table 1-3 summarizes the before-tax (and net of depreciation) real rates of return for equity- and debt-financed projects.[16] In a country with a typical tax code, when there is no inflation and the opportunity cost of capital is 10%, a debt-financed project requires a 10% internal rate of return (IRR)

[16] In all cases, the rates of return are expressed as net of the depreciation allowance.

if there are no tax breaks; however, if the project is equity-financed, investors will demand a 15% return in order to obtain, net of taxes, the opportunity cost of their funds. Therefore, debt-financed projects are favored. When inflation is positive, the bias toward debt-financing grows. For example, an annual inflation rate of 5% will increase the before-tax IRR to 15.2% for equity-financed projects, while it would reduce the IRR for debt-financed investments to 7.8%. As Table 1-3 shows, indexation will restore the initial imbalance. Jamaica's tax code attempts to offset the penalty that inflation impinges on equity-financed projects by allowing a partial expensing of investment through the initial capital allowance of 20%; however, as this allowance is also available for debt-financed projects, the IRR is reduced to low values (6.7% if inflation is 5% and only 4.2% if inflation is 10%).

Certain sectors receive a higher break on new machinery bought after 1994. The IRR for equity-financed investment is reduced to about 10%, while debt-financed investment requires an IRR as low as 1.4%. Table 1-3 shows that the ITC allows projects with a negative social IRR to profit the private sector. For example, for debt-financed projects in the sugar industry, if inflation is 10%, an investment with a negative social rate of return of 17% per year may yield investors a 10% positive return simply because the Government is a silent partner that covers 40% of the investment cost and receives no share of the profits.[17]

The implied allocation of capital is highly inefficient. In sectors without subsidies, an equity-financed investment will demand that productivity be high enough to yield IRRs in the range of 14%; in other sectors, productivity could be so low as to generate negative IRRs.

Investment tax incentives are usually unfair because the owners of the promoted firms, who belong to the highest income quintiles, benefit from them. Moreover, they create a fiscal loss that either pressures the deficit or requires higher taxes elsewhere. So the question is: What benefits do tax incentives offer a society? Advocates usually point to increased employment and rate of growth. However, empirical evidence does not support this conclusion. For example, U.S.-state studies with various investment-incentive policies and EC studies on regional tax breaks suggest that economic and

[17] The –17% IRR is calculated on an investment value of 100, while the 10% is derived from the same cash flow but includes an initial cost of 60, given that the investor gets a tax offset of 40.

employment growth are not higher because of tax breaks. In fact, evidence points in the opposite direction because tax incentives:

- Are usually biased toward capital-intensive activities or encourage adoption of a higher capital-to-labor ratio. This results from a reduction in capital cost in relation to the cost of labor.
- Encourage inefficient allocation of capital, which negatively affects resource allocation and short-term economic growth.
- Carry a fiscal burden financed by higher taxes on other activities that may be more efficient.

From this analysis, it follows that the GOJ should:

- Collect information on the fiscal cost of tax incentives to estimate the fiscal burden precisely and regularly include this information in the annual budget.
- Conduct a social-benefits cost analysis of tax incentives to determine the IRR's effectiveness for certain projects.
- Study the possibility of allowing the deduction of depreciation charges, based on the indexed cost of capital and the deduction of only the real interest rate paid on business debt.
- Abolish the investment tax credit, which is highly inefficient and costly.
- Implement partial expensing (if some type of investment tax incentive is maintained), like the initial investment allowance, noting that, if deductions of interest and depreciation are calculated in real terms, a 20% expensing reduces the IRRs proportionately (Table 1-3).
- Eliminate the bias toward debt financing if all interest accrued to families is subject to the income tax or if families are fully exempt and the Government does not allow the deduction of interest from the firms' tax base.[18]

Inventory Valuation

According to a description of recent changes in Jamaica's tax system, the income tax permits the first in first out (FIFO) method for inventory valua-

[18] Although the U.S. Treasury discussed this alternative in the early 1990s, it will face strong opposition from private firms. Given that Jamaica's tax code has a 33.33% withholding on interest payments, the system is less exposed to back-to-back loans that artificially reduce the tax base. Hence, full taxation of interest at the individual level is a preferable alternative.

tion. In inflationary contexts, using the FIFO method to estimate the cost of goods that a company sells leads to taxation of nominal profits because the accepted cost for tax purposes is lower than the replacement cost of inputs used to obtain the final product. Other methods better approximate the cost of goods sold. For example, last in first out (LIFO) implies taxation of nominal profits, but at a lower rate than under FIFO. The cost-of-replacement method ensures the taxation of real profits, but the tax agencies of low-inflation countries do not generally accept it.[19] It is recommended that the GOJ evaluate the possibility of giving firms the option to use LIFO or FIFO, but restrict changing methods to a minimum number of years.

Transfer Pricing

Most other developing countries have recently adopted transfer-pricing rules to reduce the risk of an artificial reduction in the tax base. Although having some rules is reasonable (well-known models are available for adoption), transfer pricing requires the training of tax-agency officials in focusing the auditing process on those sectors or transactions where transfer pricing may be an issue.

In the case of financial transactions, some OECD countries restrict the interest payments that can be deducted from foreign loans. Some European countries and the U.S. authorize interest deduction from the tax base only if a loan does not exceed 150% of the firm's equity (known as "thin-capitalization" rules). In the LAC region, certain governments, including those of Argentina and Mexico, have introduced a minimum income tax equal to 1–2% of the firm's asset value. In certain developed countries, minimum income taxes attempt to ensure minimum government revenue.[20]

Taxes on assets have been highly controversial because firms must pay taxes, even in years when they lose money. This is not a solid argument because a project must be evaluated during several years; if the income and asset taxes are integrated (one being a prepayment of the other), a sound system of carrying losses forward largely solves the problem.

[19] Given a choice of methods, many firms select FIFO, perhaps because the book value looks higher (although this assumes a veil of ignorance among shareholders); a better explanation is that LIFO is clearly preferable when firms hold higher-than-normal inventories.

[20] In the U.S., the Alternative Minimum Tax forces firms and individuals to pay a lower rate on a restricted tax base so as to limit the tax break of any taxpayer (the administration has recently proposed abolishing this tax). Other examples include Switzerland and Canada, whose minimum taxes are based on the value of assets or equity.

However, when capital markets are not well developed and firms face difficulties in financing their losses, the pressure to eliminate the tax on assets often finds support among politicians. One alternative is to introduce thin-capitalization and transfer-pricing rules, including their higher administrative costs.

Capital Gains

In Jamaica, capital gains are not taxed, except in cases where assets are sold before they are fully depreciated. Many other countries also exempt capital gains from taxation. Still others opt for taxing them at a low rate. Such decisions involve several trade-offs. First, the tax rates between normal profits and capital gains ease tax arbitrage movements that reduce revenues. This argument applies the same statutory rate to all gains. However, capital gains for the purchase of shares have usually been taxed indirectly, with the CIT at the firm level. If a government decides to tax capital gains, only real capital gains should be taxed. However, this creates a bias against high-risk investments because, for auditing purposes, capital losses generally cannot be deducted against ordinary income or former capital gains. Moreover, as it is difficult to tax capital gains on an accrual basis (at least from many assets), their taxation creates a bias toward deferring sale of the asset because a lower tax in present-value terms will be paid under realization of the gain.

Rate Structure

Unlike most countries, Jamaica has a progressive PIT, but with a flat marginal rate of 25%. The average rate for any taxpayer clearly increases with income because of the minimum exempt level (approximately equal to one per capita GDP).

This well-defined system is simpler than those with progressive tax rates, and the minimum exemption is higher than those observed in developed countries (e.g., about 50% of per capita GDP in the U.S.). However, for a developing economy like Jamaica, such a percentage is reasonable. In fact, most LAC countries have minimum exempt levels that are a higher fraction of their per-capita GDP.

Deductions from the tax base are restricted. Their ceiling, as a fraction of taxable income, helps to reduce the administrative burden of dealing with decisions to foster determined taxpayer expenses (such as charity).

Savings in pension funds are tax exempt (to a limit)—a common feature in many countries. In developing countries, the usual rationale for exemption is to increase domestic savings.

Jamaica distinguishes between the CIT rate (33.33% for most activities) and the marginal PIT rate (25%). The potential for excessive taxation of dividends is resolved at the individual level by giving the taxpayers credit for the full amount of taxes that the company paid on their behalf; however, this carries a financial cost because, unlike other sources of revenue, dividends are pre-taxed at a higher rate than the marginal rate of the individual. This issue, though a minor one, has no easy solution.

Labor Taxes

Labor income must make social-security contributions, and certain payroll taxes are earmarked for special purposes. For social-security contributions, one must evaluate whether they are true taxes. If workers are receiving benefits that, at the margin, compensate them for the additional taxes paid, social-security contributions are better analyzed as forced insurance programs or savings. For payroll taxes, the benefits have no clear relationship to the taxes paid by each employee or employer and are better understood as taxes on labor income. Table 1-4 summarizes the rates on labor income.

TABLE 1-4

Tax Rates on Jamaica's Labor Income

	Tax Contribution			
Taxpayer Type	**Social Security**	**Housing Fund**	**Training Fund**	**Education**
Employee	2.5% up to J$20,833 per month	2%, reimbursable at 7% interest		2%
Employer	2.5%	3%, reimbursable at 7% interest	3%	3%
Self-employed Individual	5%	3%, reimbursable at 7% interest		2%
Others*	J$10 per week			40¢ per week

*Defense and domestic workers (social security) and domestic workers (education).

It is beyond the scope of this chapter to analyze Jamaica's social security system in-depth; however, the tax rates are relatively small. To the extent that benefits are related to wages earned and years of contributions, such contributions are better analyzed as mandatory savings, rather than as taxes. If the pay-as-you-go system is reformed into a fully-funded scheme, this will also hold true.

For payroll taxes, there is no clear relationship between employee and employer payments.[21] For example, National Housing Trust contributions are reimbursable after eight years (or fully upon retirement) for the employee and after 26 years for the employer. However, as the interest rate is lower than the market rate, there is an implicit tax. If the market rate is 15% per year, the taxes (measured in present value) are 0.8% for the employee and 2.5% for the employer; at a 20% interest rate, they increase to 1% and 2.85%, respectively.

The HEART tax, which finances a training program to develop employment opportunities, is clearly a tax for trainees because the probability of receiving a benefit has no connection with the amounts paid by each worker. This is also true for the Education tax.

Therefore, excluding social-security contributions, Jamaica has a tax wedge of 12% (relatively low compared with other countries). However, taxing labor in a country with such high unemployment is a poor decision. On the one hand, it negatively affects more labor-intensive activities, which, in turn, have a greater effect on consumer prices because of the higher share of labor involved in the total cost of production. On the other hand, it encourages firms in all activities to use labor-saving technologies. This bias is reinforced by the investment tax incentives analyzed above. Paradoxically, in a high unemployment environment, the tax code penalizes the use of labor by introducing special taxes and, at the same time, subsidizes the use of capital through generous tax breaks.

Moreover, labor taxes are an unsound policy when informality pervades the labor market. In formal activities, labor productivity must be at least 12% higher than in competing informal activities to offset the difference in labor cost that evasion creates. Allocating labor to more efficient activities

[21] In small, open economies like Jamaica, the burden of labor taxation likely falls on workers because capital mobility makes it impossible to shift the burden to capital owners, and tradable sectors have no room to transfer part or all of their higher costs to buyers in the rest of the world.

would be encouraged if Government revenues were obtained from consumption taxes, which tend to fall more evenly between formal and informal workers.[22]

Consumption Taxes

General Consumption Tax

The GCT is a value added tax (VAT) on goods and services at a general rate of 15%. It is generally acknowledged that a uniform-rate VAT is the best way to tax consumption. In theory, a more efficient, indirect taxation can be obtained by following the Ramsey Rule; however, in practice, this rule has severe problems.[23]

Unlike a well-structured VAT, the GCT has various flaws, the most significant of which are described below:

The tax rate is not uniform. While the general rate is 15%, it is reduced to 12.5% for certain construction inputs (cement, concrete, cement blocks, steel bars, and certain steel wire). The zero-tax rate—the correct solution for exports to allow for the recovery of the tax paid during the previous production stages—is extended to several foodstuffs, health products, printed matter, certain agricultural equipment, international freight, miscellaneous items (e.g., sports equipment and energy-saving devices), and inputs exempt from the customs duties of those goods produced under special tax regimes (e.g., hotels, bauxite, industrial incentive act, free-trade zone, petroleum act,

[22] If the wealth effect on owners is excluded, a tax on wage income is equivalent to a consumption tax.

[23] Use of the optimum, indirect-taxation rules may justify higher taxes on certain goods (e.g., those with inelastic demands). These do not advocate this rule as a way to design consumption taxes for both theoretical and practical reasons. First, it requires much data on direct and cross elasticities of demand, which is largely unavailable in emerging economies. Second, it encourages lobbying activities to prove that one good deserves a lower taxation because of efficiency reasons (this argument is similar to that used to advocate uniform import tariffs, which do not ensure equally effective protection for all activities but are an effective instrument to deter lobbying activities). Third, it usually concludes that goods with inelastic demand should be taxed more heavily, and these goods usually comprise a larger fraction of poor families' expenditures. Fourth, a multiple-rate tax system is more difficult to administer. Fifth, tax evasion usually increases with higher rates. Sixth, it assumes that the government will act as a monopolist that can discriminate. One should recall that the optimum indirect-tax rule is a response to the inability to use lump-sum taxes for its negative distributional effect and the lack of information to extract consumer surpluses in a non-distortional way. See Alm (1996) and Harberger (1994).

motion picture, and factory construction).[24] Moreover, Jamaica has relatively more exempt activities than do other countries.[25] In addition to education, financial and insurance services, cultural activities, and transport, there are exemptions on food items, wooden coffins, ice, construction items, toiletries, and certain medical services. Clearly, relative consumer prices are affected by the special treatment granted under the tax code. Vehicles are variously taxed at rates of 0-177%. Consumers of certain goods and services pay a price equal to 1.15 of the net tax price (for certain construction items, they pay 1.125; for zero-rated goods, 1; and for exempt activities, 1–1.15, depending on the shared cost of taxed inputs of the exempt product).[26] Users of vehicles pay a wide range of relative prices, depending on such factors as engine horsepower or seating capacity.

Disparate rates, even for products that may be close substitutes, create more inefficient resource allocation. Moreover the administrative cost of control is enormous, given that the tax agency has to check that goods from the same firm that are taxed at 15% are not disguised as goods taxed at lower rates.

Tax treatments differ within consumer activities and by final user. Regarding activities, not all health and food products are taxed at zero rates; certain fruits and vegetables are exempt while others are taxed (extreme examples are exemptions granted to "baking flour packaged in quantities of not less than 45.359 kilograms" or crackers precisely defined to qualify for exemption). Regarding final users, Government agencies pay zero GCT rates. Motor vehicles used by members of Parliament, school principals, medical practitioners, nurses, public health officers, and traveling officers are taxed at zero rates. Moreover, those vehicles that increase protection for certain users are taxed differently (e.g., Range Rover, Jeep, Pathfinder, and Trooper for agricultural users are taxed at a 20.51% rate, while other trucks are taxed at higher rates).[27] The negative consequences of these rules are that

[24] To the extent that the zero-tax rate is restricted to the inputs of these sectors, there is only a financial gain for the firm because it avoids GCT payment at Customs; however, the tax is finally collected when the firm must pay its tax duty because there is no fiscal credit to deduct from the fiscal debit that originated in its sales.

[25] Exempt activities are not taxed, but are affected as a cost charged by suppliers.

[26] For certain goods, special treatment may be justified for reasons of efficiency (e.g., education, which is an investment in human capital, not a consumption good) or equity (e.g., foods of special importance in the consumption basket of poor families [though better instruments can handle this problem]). Clearly, the number of special cases in Jamaica's GCT far exceeds these usual ones.

certain goods benefit from higher protection from imports or from differential treatment compared to their close substitutes. In addition, the potential for fraud increases by granting exemptions to certain individuals who can resell their purchased goods at a higher price.

Tax breaks on foodstuffs and health-care items—even those in the consumption basket of poorer families—create a fiscal loss because, for most goods in the economy, the largest share of total sales is bought by medium- and high-income families.[28] A better solution is uniform taxes and compensation of poorer families with special programs (in the form of cash subsidies, negative income taxes, or workfare programs).

Petroleum products are exempt from the GCT, and are taxed under the Special Consumption Tax (SCT). Although their imported inputs are subject to zero rates, other inputs pay the GCT, which creates a cost for refineries.

To sum up, multiple special tax treatments carry an enormous fiscal cost, which forces the GOJ to raise other taxes to comply with its revenue targets. Special tax treatments also negatively affect resource allocation because tax rates differ. The GOJ should revamp the GCT, converting it to a uniform VAT with few exemptions. Public-expenditure programs would better address the needs of certain sectors or the poor if a political decision were made to subsidize them. These programs would increase the GCT share in total tax revenue. In addition, they would tax consumption more uniformly and heavily, thereby favoring domestic savings.

Special Consumption Tax

Like the special excises of most countries, Jamaica's SCT applies to the manufacture or import of alcoholic beverages, as well as tobacco and petroleum products. The few exemptions include diesel oil to generate electricity and for Defense Force use. Justification for applying the SCT to these goods is based on the following arguments (OEF and FIEL 1998):

Efficiency reasons. The theory of optimal taxation concludes that goods with low price elasticity of demand should be taxed more heavily because departures from the efficient outcome are minimized (i.e., for a given price

[27] Car dealers pay a lower rate than final users, which gives the dealers special protection.

[28] The positive income elasticity of goods and wide differences in family income explain why the poor consume only a small fraction of sales.

increase, the reduction in quantities is not important). Moreover, to the extent that consumption of these goods creates negative health externalities or sound alternatives to finance public investments (e.g., taxes on fuels as a substitute for tolls), a second argument supports extraordinary taxes.

However, the relevant price elasticities of demand are higher than expected. What matters for public policy is long-term elasticity. In Argentina, for example, alcoholic beverages are price elastic and cigarettes have a long-term price elasticity of 0.6. Moreover, when the change in consumer price is caused by a change in taxes, the quantity response is higher. The reason is simple: higher taxes also encourage illegal activities (e.g., smuggling or round tripping); as a result, the reduction in legal sales is larger than what one observes when a higher net of tax price causes the price increase. The long-term elasticity of legal sales to the tax rate is 0.8, one-third higher than the traditional price elasticity of demand (Ahumada, Artana, and Navajas 2000).

With regard to externalities, there is no estimate for emerging markets. However, the most reliable estimate for the U.S. shows that the negative externality (e.g., damage to third parties caused by smoking cigarettes) may be valued at about US$ 0.30 per pack; UK estimates for diesel fuel are about US$ 0.20 per gallon (Gravelle and Zimmerman 1994).

Equity. Cigarette taxes are usually regressive. In Argentina, they are the most regressive (FIEL 1998).

Practical issues. High taxes on cigarettes, fuels, and alcoholic beverages encourage smuggling and round tripping. Evidence from Canada and the UK suggests that improved control has not been effective in solving the problem. Only when tax rates were reduced did illegal activities cease. However, in countries where tax evasion has been rampant, it is unclear whether it pays to reduce excises if lost government revenue must be recouped by raising other tax rates.

A second issue is that governments must choose between specific-tax and ad-valorem rates. International evidence shows that most developed countries use specific excises on fuels and alcoholic beverages, with more variation in the case of cigarettes.[29] In highly inflationary contexts and for reasons of

[29] Specific excises are a lump sum usually fixed per unit of good sold in the market; ad-valorem excises are a percentage of the sales price.

equity, ad-valorem rates are better than specific rates (to the extent that poorer individuals consume large quantities of low-quality brands). However, more efficient instruments are available for dealing with equity objectives.

Ad-valorem taxes penalize improvements in the quality of the good taxed because each time the net of tax price increases, the consumer price increases in a higher proportion (the multiplier effect). Because these taxes subsidize the use of marketing strategies based on the reduction of prices, the government becomes a silent partner in sharing the cost of the lower price. Thus, ad-valorem taxes favor price wars. Specific taxes can better deal with the problem of externalities because they can better target the input that creates the health hazard (e.g., a tax based on nicotine content).

International experience suggests that specific taxes on cigarettes encourage quality. Since high-quality products can support relatively high tax rates, specific taxes can generate more government revenue than can ad-valorem taxes. For example, the UK and France are similar in terms of population, per-capita GDP, and cigarette consumption; however, in the UK, where specific taxes are relatively more important, prices and government revenue are much higher than in France (OEF and FIEL 1998).

In sum, for theoretical and practical reasons, specific excises are better than ad-valorem excises; however, they may need periodic adjusting in inflationary contexts, which usually create political problems that may reduce the effective tax rate measured in real terms. General ad-valorem taxes, like the VATs, should be maintained for cigarettes, fuels, and beverage industries, in the way that other sectors are taxed. However, the arguments in favor of specific excises are not valid for general indirect taxes. It is not possible to design a uniform, lump-sum VAT; even if one could, it would be inefficient because relative prices would be distorted in an ad-hoc way. For additional indirect taxes (excises), efficiency objectives are better achieved through specific taxes to meet the government's objective of increasing the relative price of the good that creates negative externalities.

Excises. Jamaica's SCT on petroleum products and cigarettes has both specific-tax and ad-valorem components, while the tax on alcoholic beverages is only ad-valorem. Overall taxation of gasoline is slightly higher than the tax on automotive diesel oil; however, Jamaica has avoided the wide disparity in relative product prices, which has pervaded other emerging economies. The specific-tax component is relatively small, and the consumer price in the first

quarter of 2001 was about US$ 2.05 per gallon of premium gasoline and US$ 1.85 per gallon of diesel oil. These prices were about 20% higher than the U.S. street price, but much lower than in Europe.

The ad-valorem tax rate on alcoholic beverages is calculated on the basis of alcohol content: 14.5% for alcohol content below 31.5%, 16.1% for content of 31.5–57.1%, and 24.3% for content above 57.1%. Beer is taxed at a 15.9% rate when alcohol content is below 6% and 10% otherwise, while wines are taxed at a 14% rate. Thus, unlike the rate structures of other countries, Jamaica is biased against beer and wine, favoring beverages with higher alcohol content. This is perhaps an indirect way of protecting local beverage producers through taxation of their substitutes.

Fiscal Performance and Public-debt Sustainability

Several reasons suggest that emerging markets should follow a more cautious approach than developed countries with their fiscal policies. First, the growth rates in developing countries are more volatile because supply-side shocks reduce—sometimes dramatically—potential economic output. These shocks can be driven by a drastic drop in the trade in goods or services (such as economies heavily dependent on tourism) or in the real interest rates of economies that rely on external savings.

What makes these shocks significant is that the possibility of substitution between traded and non-traded goods is not always as large as it should be; this is sometimes caused by the semi-open nature of economies in which a high protection rate transforms naturally tradable sectors into non-tradable ones or ones that have low tradability outside borders. In open economies, the effects of a shock disperse differently from what is the norm. If exports have a large natural-resource component, are concentrated in a few sectors, or depend on regional (quasi-domestic) markets, then the required (market-clearing) change in relative prices is large because the elasticity of exports supply is usually small.

Second, what level of public debt and fiscal deficit can an economy sustain? Under the Maastricht Treaty, European countries agreed that the debt ceiling should be 60% of GDP and that the deficit could not increase above 3% of GDP. This Treaty (unlike most fiscal-regulation and responsibility laws) refers to the interest rate on public bonds and its spread with that of more stable countries (the rate must be lower than 150 basis points mea-

sured in domestic currency). This concept, similar to the country-risk premium concept for emerging economies, is significant since it includes private information for the evaluation of public policy and reveals the degree of consistency of fiscal plans. Moreover, the price of public spending, which in the end is no more than a bundle of investment projects, has the same interest rate of debt issues, which finance public-sector activities.

When a country is running a current-account deficit, it is advisable to achieve a fiscal surplus. The rule of avoiding twin deficits, in turn, creates a worthy effect that additional capital inflows should be balanced automatically with a lower interest rate. If these inflows continue, debt management should complete the arsenal of stabilizing measures by changing the composition toward domestic debt when the capital flows revert.

This discussion leads to an agenda based on the following:

- Current and capital expenditures should be based on an institutional framework that establishes stringent debt targets and balanced budgets, according to the projected growth trend (adjusted by a correction reflecting external conditions derived from terms of trade and capital inflows).
- In practice, this will be affected by the degree of economic openness and the history and nature of fiscal institutions; more open economies with exports based more on elastic supplies are more skilled at adjusting to facilitate macroeconomic corrections, which complement the proposed counter-cyclical policy.
- The importance and significance of these rules will be accentuated if the monetary (exchange-rate) regime is rigid, in which case fiscal policy must follow a path consistent with the economic numeraire.[30]

Evaluating Jamaica's Performance

Jamaica is a relatively open economy, but its export performance has been far from impressive. Since 1997, export of goods, which accounts for about 18% of GDP, has declined (in US$) almost every year. (Imports comprise 37% of GDP, while tourism [net] accounts for 13%.) Bauxite and alumina account for 50% of exported goods. North American Free Trade Agreement (NAFTA) countries account for about 50% of this trade and 80% of tourism.

[30] Monetary common denominator (e.g., foreign currency).

Thus, Jamaica depends heavily on either 1) evolution of the U.S. economy for tourist arrivals and the free on board (FOB) price of exports and imports or 2) price of alumina (which also depends on the U.S. economy because virtually all exports of this product go to a U.S.-based plant).[31]

Remittances from citizens living abroad have increased from 20% of imports in 1997 to 27% in 2001; alone, they usually double the current account deficit. Remittances in other countries have not been subject to wide fluctuations, at least compared with portfolio flows.

Despite the fiscal efforts of the GOJ, the country has lived most of the past five years under twin deficits (fiscal and external). Traditionally, fiscal deficits have been higher than capital expenditures. After the Government absorbed the costs of restructuring the banking industry, the public debt grew to 133% of GDP.

Table 1-5 summarizes public-sector operations, according to IMF classification and basic information provided by the MOFP (IMF 2001b). Data is expressed in current Jamaican dollars, as a percentage of GDP, and in current U.S. dollars. (Data is expressed in U.S. dollars because of the relevance for a small open economy of evaluating the level of public expenditures in terms of the currency of reference.) Oscillations come from real exchange rate appreciations, which, in turn, reflect expansion in non-traded expenditures where public-sector primary expenditures play a major role. Also included is information on nominal and real exchange rates (obtained from the Bank of Jamaica [BOJ]), an index of export prices, and a measure of public-debt variation (MOFP 2002b).

Table 1-5 data shows that:

- Fiscal deficits in Jamaica soared during the late 1990s, following the increase in public-sector liabilities associated with the financial crisis. Progress toward equilibrium has been made in recent years, particularly since 1999–2001, when Jamaica achieved a double-digit, public-sector primary surplus as a percentage of GDP. The switch in the Central Government primary surplus between the deficit peaks of 1997–1998 and 2000–2001 is close to 7% of GDP and is explained by higher tax and non-tax revenues and lower primary expenditures.

[31] When analyzing the 1990s, one should recall that, unlike other countries closely related to the U.S. economy, Jamaica could not profit from the high U.S. growth rate.

- In recent years, tax revenues have increased as a percentage of GDP and significantly in terms of U.S. dollars. Growth in revenues and grants to about 30% of GDP represents an increase of less than 1% of GDP, compared with the average values of the early 1990s, while in U.S. dollars the increase is about 90%. Tax revenues decreased in 2001–2002 after the economic shocks suffered in the second quarter, and recovery is projected under the current budget.
- Primary Central-Government expenditures have increased by all measures (Jamaican dollars, U.S. dollars, and as a percentage of GDP), compared to the first half of the 1990s. More recently, however, they have fallen in terms of U.S. dollars and as a percentage of GDP. As Figure 1-2 shows, primary expenditures in U.S. dollars increased dramatically from 1994–1995 to 1997–1998, rising again in 2001–2002. Figure 1-3 shows primary expenditures in U.S. dollars deflated by an export price index to account for the number of traded goods and the country's income potential.
- The pattern for wages and salaries, which have been growing in U.S. dollars, differs from other recurrent expenditures (classified as programs) and capital expenditures, which have been declining. In recent years, capital expenditures have adjusted downward in U.S. dollars and as a percentage of GDP, reflecting the adjustment in primary expenditures since 1998–1999. The increase in primary expenditures in U.S. dollars during 2001–2002 resulted from wages and other recurrent, program expenditures.
- In recent years, interest expenditures have been the most dynamic budget item, reflecting the debt burden and corresponding debt service. In the early 1990s, interest represented about 33% of expenditures, growing to more than 40% in recent years. With the exception of 1997–1998, interest expenditures have remained above wages and salaries; the gap is now about 18%, equivalent to what was observed in the early 1990s.
- Debt statistics can provide a crude approximation of the implicit public-sector balance measured "below the line," although the time allocation of the deficits is imperfect when debt is registered. Table 1-6, which compares debt variation with the public-sector balance, shows some correspondence from 1996–1997 through 1999–2000. At the same time, the resolution of financial liabilities shows an increase in debt variation registered in the last two years.

TABLE 1-5

Jamaica: Summary of Public-sector Operations

Operational Item	1990–1995 (average) J$ (mill)	% GDP	US$ (mill)	1996–1997 J$ (mill)	% GDP	US$ (mill)
Central govt. balance	3,041.9	3.1	124.9	–14,966.1	(6.3)	–421.5
Revenues and grants	30,844.6	29.3	1,229.4	63,085.6	26.4	1,776.6
Tax	27,655.6	25.9	1,092.4	57,988.9	24.3	1,633.1
Nontax	2,350.8	2.4	99.9	4,037.0	1.7	113.7
Grants	838.1	0.9	37.1	1,059.7	0.4	29.8
Expenditures	27,802.7	26.2	1,104.5	78,051.7	32.7	2,198.1
Wages and salaries	7,996.5	7.6	320.7	24,043.3	10.1	677.1
Interest	9,467.0	8.8	373.1	27,280.4	11.4	768.3
Other expenditures (programs)	5,652.6	5.4	225.1	12,901.5	5.4	363.3
Capital expenditures	4,920.3	4.6	192.2	13,498.0	5.6	380.1
Statistical discrepancy	–233.7	(0.1)	–6.6	328.5	0.1	9.3
Rest public-sector balance	...	...	...	2,251.0	0.9	63.4
Operating balance of public enterprises	...	...	...	679.0	0.3	19.1
FIS/FINSAC balance	...	...	...	–700.0	(0.3)	–19.7
BOJ operating profit/loss	...	...	...	2,272.0	1.0	64.0
Total public-sector balance	...	...	...	–10,946.0	(4.6)	–308.3
External financing	...	...	...	–2,137.0	(0.9)	–60.2
Domestic financing	...	...	...	13,084.0	5.5	368.5
Banking system	...	...	...	–2,866.0	(1.2)	–80.7
Others	...	...	...	15,950.0	6.7	449.2
Central govt. primary balance	...	11.9	...	14,083.0	5.9	396.6
Public-sector primary balance	...	...	...	16,365.0	6.8	460.9
Central govt. primary expenditure	18,335.7	17.4	731.4	50,771.3	21.2	1,429.8
Export price index	...	...	672.1	...	...	1,068.7
Exchange rate per US$	...	...	24.1	...	...	35.5
Real exchange rate, base 1995 = 100	...	...	109.3	...	...	80.1
Export price index, base 1990 = 100	...	...	109.5	...	...	133.8

Sources: IMF (2001a), MOFP (2001, 2002 a,b), BOJ (exchange rate data)

	1997–1998			1998–1999		
	J$ (mill)	% GDP	US$ (mill)	J$ (mill)	% GDP	US$ (mill)
	–19,962.3	(7.6)	–558.5	–19,171.1	(6.9)	–520.9
	66,425.8	25.4	1,858.5	74,096.2	26.6	2,013.2
	62,096.6	23.7	1,737.4	69,757.0	25.0	1,895.3
	3,604.6	1.4	100.9	3,686.9	1.3	100.2
	724.6	0.3	20.3	652.3	0.2	17.7
	86,388.1	33.0	2,417.1	93,267.3	33.5	2534.1
	29,065.6	11.1	813.2	31,913.2	11.5	867.1
	24,563.7	9.4	687.3	34,588.9	12.4	939.8
	18,483.9	7.1	517.2	18,240.8	6.5	495.6
	13,128.0	5.0	367.3	7,503.2	2.7	203.9
	1,147.0	0.4	32.1	1,021.1	0.4	27.7
	–4224.0	(1.6)	–118.2	–11,194.0	(4.0)	–304.1
	2,134.0	0.8	59.7	3,494.0	1.3	94.9
	–5,562.0	(2.1)	–155.6	–14,590.0	(5.2)	–396.4
	–797.0	(0.3)	–22.3	–98.0	(0.0)	–2.7
	–24,187.0	(9.2)	–676.7	–30,365.0	(10.9)	–825.0
	2,770.0	1.1	77.5	–2,227.0	(0.8)	–60.5
	21,417.0	8.2	599.2	32,595.0	11.7	885.6
	48,626.0	18.6	1,360.5	23,455.0	8.4	637.3
	–27,209.0	(10.4)	–761.3	9,138.0	3.3	248.3
	4,601.0	1.8	128.7	15,418.0	5.5	418.9
	3,229.0	1.2	90.3	19,384.0	7.0	526.7
	61,824.4	23.6	1,729.8	58,678.44	21.1	1,594.3
	...	...	1,335.0	...	...	1,331.5
	...	...	35.7	...	...	36.8
	...	...	73.0	...	...	68.0
	...	...	129.6	...	...	119.7

TABLE 1-5

Jamaica: Summary of Public-sector Operations

Operational Item	1999–2000 J$ (mill)	% GDP	US% (mill)
Central govt. balance	–12,575.3	(4.2)	–313.6
Revenues and grants	90,828.3	30.0	2,265.3
Tax	78,567.2	25.9	1,959.5
Nontax	11,326.3	3.7	282.5
Grants	934.8	0.3	23.3
Expenditures	103,403.6	34.1	2,578.9
Wages and salaries	31,895.0	10.5	795.5
Interest	41,784.0	13.8	1,042.1
Other expenditures (programs)	19,487.3	6.4	486.0
Capital expenditures	9,146.8	3.0	228.1
Statistical discrepancy	1,090.5	0.4	27.2
Rest public-sector balance	–9,196.0	(3.0)	–229.4
Operating balance of public enterprises	3,283.0	1.1	81.9
FIS/FINSAC balance	–13,391.0	(4.4)	–334.0
BOJ operating profit/loss	912.0	0.3	22.7
Total public-sector balance	–21,771.0	(7.2)	–543.0
External financing	–3,523.0	(1.2)	–87.9
Domestic financing	25,295.0	8.4	630.9
Banking system	8,590.0	2.8	214.2
Others	16,705.0	5.5	416.6
Central govt. primary balance	29,208.7	9.6	728.5
Public-sector primary balance	32,491.0	10.7	810.3
Central govt. primary expenditure	61,619.6	20.3	1,536.8
Export price index	...	...	1,395.4
Exchange rate per US$	...	...	40.1
Real exchange rate, base 1995 = 100	...	...	71.6
Export price index, base 1990 = 100	...	...	110.1

Sources: IMF (2001a), MOFP (2001, 2002 a,b), BOJ (exchange rate data)

2000–2001			2001–2002 (prov)		
J$ (mill)	% GDP	US$ (mill)	J$ (mill)	% GDP	US% (mill)
–3,172.0	(0.9)	–72.2	–21,203.3	(5.7)	–456.2
101,021.1	30.0	2,297.9	102,588.2	27.6	2,207.3
89,827.0	26.7	2,043.3	92,820.5	25.0	1,997.1
9,457.0	2.8	215.1	7,793.0	2.1	167.7
1,737.1	0.5	39.5	1,974.7	0.5	42.5
104,193.1	31.0	2,370.0	123,791.5	33.3	2,663.5
35,163.8	10.5	799.9	42,588.2	11.5	916.3
42,920.3	12.8	976.3	51,010.3	13.7	1,097.5
17,696.6	5.3	402.5	20,066.5	5.4	431.7
9,344.7	2.8	212.6	10,126.4	2.7	217.9
–932.2	(0.3)	–21.2			
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
...	...	...	...	...	...
39,784.3	11.8	904.1	29,807.0	8.0	641.3
...	...	...	...	...	...
61,272.8	18.2	1,393.8	72,781.2	19.6	1,565.9
...	...	1,221.0	...	...	...
...	...	44.0	...	...	46.5
...	...	77.1	...	...	74.7
...	...	114.1	...	...	...

FIGURE 1-2

Central-Government Primary Expenditure (in US$ millions)

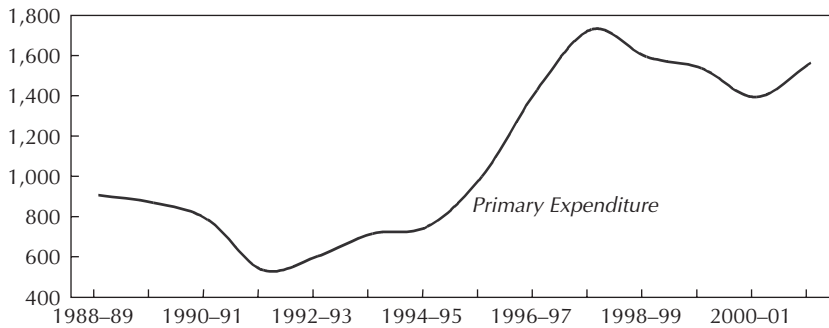
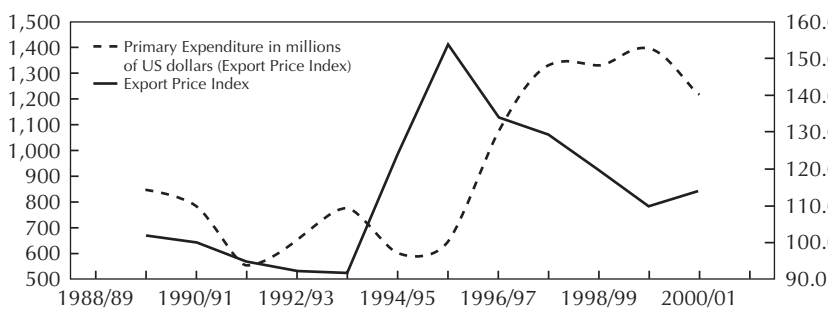


FIGURE 1-3

Central-Government Primary Expenditure, Deflated by the Export Price Index (in US$ millions)



Public Debt Sustainability

In 2002, Jamaica's public debt was 133% GDP, more than five times the country's annual tax revenues. The public debt grew to absorb the cost of the banking crisis (about 36% of GDP is explained by the fiscal cost of restructuring the financial system). Compared to 26 other emerging economies, Jamaica's public debt is the highest as a percentage of GDP and the fifth highest as a percentage of tax revenue (Table 1-7).

Over the last decade, the composition of Jamaica's public debt has changed. Domestic debt (issued in Jamaican or U.S. dollars) has grown

TABLE 1-6

Jamaica: Debt Variation and Public-sector Balance

Debt or Balance	1990–95	1996–97	1997–98	1998–99	1999–00	2000–01	2001–02
Total debt (J$ mill)	130,025	196,364	219,215	262,303	308,688	380,641	494,887
Debt variation	29,606	2,521	22,851	43,088	46,385	71,953	114,246
Total debt (US$ mill)	5,571	5,530	6,133	7,127	7,699	8,658	10,648
Debt variation	(162)	261	603	993	572	960	1,990
Public-sector balance (US% mill)		(145)	(103.5)	(421.5)	(558.50)		

Source: MOFP (2002b)

TABLE 1-7

Public Debt in 27 Emerging Economies

Country[1]	Debt[2]	
	Debt (% GDP)	Debt (% tax revenue)
Jamaica	133	530
Argentina (2002)[3]	120	873
Philippines	109	849
Indonesia	103	696
Israel	94	244
Bulgaria	82	213
South Africa	75	304
Brazil	75	251
Turkey	65	211
Argentina (2001)[3]	64	305
Thailand	60	425
Hungary	54	144
Russia	54	318
India	51	861
Colombia	45	340
Chile	42	203
Taiwan	42	288
Peru	40	326
Malaysia	36	251
Poland	35	177
Venezuela	34	387
Argentina (1992)[3]	33	155
Korea	29	161
China	28	244
Mexico	28	262
Czech Republic	20	78
Hong Kong	0	0

Note: With the exception of Jamaica and Argentina, all country figures are for 2000 or 2001.
[1]The 27 countries are those listed by Goldman Sachs.
[2]Public debt and tax revenues include the figures for subnational governments in federal countries.
[3]Three dates are given for Argentina to illustrate the large change in public-debt value after abandoning the convertibility law.
Sources: Goldman Sachs and own estimates (Argentina and Jamaica)

TABLE 1-8

Structure of Jamaica's Public Debt, March 2002

Debt Type	Share Total Debt (%)	% GDP	Avg. Interest Rate (%)
External	39.4	52.4	7 (US$)
Bilateral	10.1	13.4	4
Multilateral	10.6	14.1	6.5
Commercial	2.9	3.9	10.5
Bonds	15.9	21.1	11.5
Domestic	60.6	80.6	15 (J$)
Issued in US$	9.1	12.1	11 (plus depreciation)
Issued in J$	51.5	68.5	14.3 (J$)
Total	100.0	133	9.5 (US$ equiv.)

from 26% to 61% of the total public debt, and concessional debt (from both bilateral and multilateral sources) has declined from 62% of total debt in FY 1990 to 21% in FY 2001. This can be explained by the growing access to capital markets and the issuance of bonds to compensate the costs of the financial crisis. About 15% of the stock of domestic debt has been issued in foreign currency at interest rates similar to those paid on bonds issued abroad in voluntary capital markets (10–11% in U.S. dollars in March 2002); the remaining 85% has been issued in local currency at interest rates that follow the rate on treasury bills (14.30% annual yield in March 2002). Table 1-8 shows the composition of the public debt as of March 31 2002, including an estimate of the average interest rate paid on each type of debt.

In assessing public-debt sustainability, it is easy to estimate the primary surplus needed to maintain the public debt to GDP ratio constant over time. However, the public debt will need to be reduced as a fraction of the size of the economy over time because of 1) high concessional debt from bilateral and multilateral sources (running at 28% of the country's GDP)[32] and 2) high commercial debt compared to other emerging countries (running at 105% of GDP). The first assumption leads to higher interest payments in the steady state if concessional debt is replaced by debt issued at market rates or

[32] The term *concessional* refers to debt issued at favorable rates for Jamaica, compared to rates paid in external and domestic bonds.

to a higher fiscal effort if it must be repaid. The second assumption obviously implies a stronger fiscal effort.

Edwards (2002) has developed a framework for calculating, using various assumptions, the fiscal effort needed in a high-debt economy, with regard to demand for public bonds from both concessional and market sources. To maintain a constant debt-to-GDP ratio, the required primary surplus is corrected to include several alternatives regarding the behavior of multilateral and bilateral financing and that of debt issued in the market. In the most optimistic scenario, where the ratio of public debt in a high-debt economy can be maintained indefinitely, the required primary surplus, as a percentage of the GDP, is:[33]

$$(1)\ ps = [d/(1 + g + p^*)]\ [rc\ dc + r\ dd - (g + p^*)] - (g + p)\ b$$

where

ps = primary surplus (% GDP)
d = total public debt (% GDP)
g = real growth rate
p* = international inflation rate
rc = concessional interest rate (US$)
dc = concessional debt (% total public debt)
r = market interest rate (US$)
dd = commercial debt (% total public debt)
p = domestic inflation rate
b = monetary base (% GDP)

Obviously, dc + dd = 1; for simplicity, it is assumed that all debt has been issued in foreign currency.

The required primary surplus is reduced to account for the optimal inflation tax and seignorage (g + p) b.[34] It increases as the difference grows between the weighted average interest rate and the growth of nominal GDP (both measured in foreign currency).

However, in countries like Jamaica, which have a large exposure to the bilateral and multilateral community (representing 28% of Jamaica's GDP),

[33] Edwards derives equations for the steady state required for primary surplus (similar to Equation 1) and the dynamics from year 1 until it is reached.

[34] The term *seignorage* is defined as the difference between the value of money and the cost of its production.

concessional debt may need to be lowered.[35] If one assumes that the concessional debt is maintained constant in nominal dollars, growth in nominal GDP will cause the ratio of concessional debt to GDP to reach zero over the long term. Therefore, Equation (1) becomes:

$$(2)\ ps = [d/(1 + g + p^*)]\ [r\ dd - (g + p^*)] - (g + p)\ b$$

Table 1-9 simulates the primary surplus required in both cases, which assume than commercial debt can be maintained at 105% of GDP. It follows that one point more of GDP growth reduces the required primary surplus in the steady state by about 1.5% of GDP, while a reduction of 100 basis points in the market interest rate for the Jamaican Treasury (in US$) requires a primary surplus about 1.25% of GDP lower.[36, 37]

From Table 1-9, one might conclude that the primary surplus of about 10% of GDP achieved by the GOJ at the end of the 1990s exceeds what is necessary to achieve long-term fiscal sustainability, even under conservative assumptions of the evolution of real growth and market interest rates for the Jamaican Treasury. However, this conclusion would be wrong for two reasons. First, it is unreasonable to assume that Jamaica can maintain a long-term ratio of public debt to GDP as high as the simulations in Table 1-9 imply. If the country wishes to achieve higher growth, the perception of public-debt overhang must be eradicated completely.[38] Second, one needs to consider additional factors

[35] As a member of the Commonwealth, Jamaica may have greater access than other emerging economies to concessional and commercial debt. Nonetheless, its debt ratios are high. The simulation presented in Table 1-9 is flexible enough to allow the reader to discover the primary surplus needed to achieve any desired debt-to-GDP ratio.

[36] Interest rates are given in nominal U.S. dollars. The simulation assumes 2.5% inflation. Therefore, the real interest rates implicit in Table 1-9 are 6.5%, 8.5%, and 10.5%, which cover a wide range of possible outcomes in a high-debt economy.

[37] A 100 basis-point change in the concessional interest rate does not significantly affect the required primary surplus. A 1% change in the international inflation rate is equivalent to the effect of a 1% change in real growth rate. A domestic inflation higher than 5% will not yield additional revenue because the maximum inflation tax and seignorage are usually maximized at this rate. See Edwards (2002).

[38] Jamaica has been able to tap debt markets with bonds issued at 12% interest that were trading at IRRs of 10–11% in March 2002. One could quickly conclude that, at those rates, debt can be renewed indefinitely. However, Government rates are tax free. An equivalent rate for the private sector in equity-financed projects would be about 16.5% or 11/(1-CIT rate). Such high rates may help explain the low growth observed in Jamaica over the past two decades. Moreover, the interest rate on public bonds does not match the Maastricht criteria for interest-rate spreads (150 bbp over the lowest rate of member countries), which, for Jamaica, would be about half the interest rate in domestic currency that was paid by the Treasury in March 2002.

TABLE 1-9

Long-term Primary Surplus Required (% GDP)*

	(g) Growth Rate (real GDP)		
(r) Commercial Interest Rate in US$	**1**	**2**	**3**
Case 1: dc is constant; steady state d = 133% of GDP.			
9	5.52	4.09	2.68
11	7.55	6.10	4.67
13	9.58	8.11	6.67
Case 2: Concessional debt is constant in nominal US$; steady state dc = 0 and dd = 133% of GDP.			
9	6.47	5.03	3.61
11	9.04	7.57	6.13
13	11.61	10.12	8.65

Assumptions: dc = 28%, dd = 105%, p = 2.5%, rc = 5.5%, p = 5%. and b = 10% of GDP.

to achieve the required steady state of primary surplus. These include self-insurance for contingencies (e.g., natural disasters, to which the region is vulnerable)[39] and the financial cost of pension reform, given that easy market access to finance the transition with debt is not assured.[40]

Table 1-10 shows the evolution of the public debt and primary surplus for selected years if both the concessional and commercial debts are constant in nominal U.S. dollars. In this case, growth in the nominal GDP reduces the debt ratio to 53% of GDP. That lower rate requires a much lower primary surplus in the steady state (2% of GDP), given the higher fiscal effort of the first years, which allows a substantial reduction in the public debt (both concessional and commercial).[41] To reiterate, fiscal self-insurance for

[39] Self-insurance amounts to about 0.5% annually if one assumes that natural disasters require an extra fiscal effort of 5% of GDP every 10 years.

[40] Pension reform that moves from a pay-as-you-go system to a capitalization scheme will only create a financing problem for the Government, to the extent that it is balanced in actuarial terms (a higher deficit today leads to a lower debt tomorrow). However, this requires perfect capital markets. To the degree that they do not exist, the GOJ may face problems in obtaining financing, as Argentina's experience in the late 1990s demonstrates.

[41] The figures in Table 1-10 make the same assumptions that required a 6.10% primary surplus in Table 1-9: real growth of 2%, international inflation of 2.5%, and commercial interest rate of 11%.

TABLE 1-10

Simulations for Primary Surplus and Public Debt (% of GDP)*

Year	Primary Surplus	Concessional Debt	Commercial Debt	Total Public Debt
2002	9.9	28	105	133
2003	12.4	26.8	100.5	127.3
2008	9.8	21.5	80.6	102.1
2013	7.7	17.3	64.7	82.0
2018	6.1	13.8	51.9	65.8
2023	4.7	11.1	41.7	52.8
Steady state	2.0	11.1	41.7	52.8

Assumptions: g + p = 4.5%, rc = 5.5%, r = 11%, and seignorage = 0.7% of GDP. Both concessional and commercial debts are constant in nominal dollars for all years.

natural disasters and a large fraction of the transition cost of a potential pension reform must be added to these figures.[42]

At issue is the political possibility of maintaining double-digit primary surpluses. The early 1990s discipline of achieving high primary surpluses was broken amid the ensuing financial crisis. The debt-sustainability simulation suggests that Jamaica's public sector is over-indebted. This creates problems for growth because private investors must compete with the GOJ for scarce funds, and they realize that they are exposed to tax increases to close the fiscal gap in a less conflictive way.

The above exercise demonstrates that traditional simulations of public-debt sustainability can be considered for countries that must maintain the ratio of public debt to GDP constant. Unfortunately, this is not the case in Jamaica. The need to gradually reduce the public-debt ratio must be considered when a country's economic policy is designed. Obviously, the final target of primary surplus for any particular year depends on many variables; however, policymakers should bear in mind that they should always be biased toward a prudent fiscal policy.

This suggestion is reinforced when the maturity of the public debt is analyzed. The GOJ has been able to extend the maturity of both external

[42] Convergence to a lower primary surplus may be faster, given that one should expect lower commercial interest rates as the public-debt burden is reduced substantially.

TABLE 1-11

Maturity Profile of the Public Debt (% of GDP)

Component	% of GDP	< 1 yr.	1–5 yrs.	6–10 yrs.	> 10 yrs.
Domestic	80.60	9.67	42.72	14.51	13.70
External	52.40	2.62	12.05	17.82	19.91
Total	133.00	12.29	54.77	32.32	33.61
Average amortization		12.29	13.69	6.46	

and domestic debt; however, when the debt size is taken into account, the financing needs for amortization of the principal alone are substantial. Moreover, one must add the interest component for each year. Table 1-11 shows that the average annual-amortization need is about 12.3% of GDP in the first year, growing to nearly 13.7% in the subsequent four years.

Together with interest payments of a similar amount, the ex-ante financing needs of the GOJ are about 25% per year during the next five-year period, a high percentage for an emerging economy. Again, this calls for a substantial primary surplus.

Pathways to Improvement: Summary of Recommendations

Evaluating Jamaica's fiscal institutions and outcomes reveals an obvious tension between strong fiscal institutions and rocketing deficits and debt accumulation generated from hidden liabilities outside formal budget allocations that take the form of fiscal-liability shocks. To avoid future fiscal surprises, these authors recommend the following:

- **Explicit fiscal rules** that insulate fiscal outcomes from surprises. Making the case for designing explicit rules for fiscal consolidation may be unclear if existing institutions are generating sound results; however, introducing explicit rules makes fiscal results more sustainable and protects against adverse shocks. Fiscal responsibility laws that set the path of fiscal deficits and public debt are the main areas to consider.
- **Contingency funds** to cushion external shocks or absorb the impact of fiscal surprises. Such funds need to be designed since Jamaica's problems

are related more to surprises generated from hidden liabilities than from cyclical stabilization. The funds can be incorporated, with appropriate adaptations, into existing fiscal institutions since both the Constitution of Jamaica and the FAA recognize their existence and can accommodate their redesign.

- **Accrual accounting** should be integrated into the budgetary process as it allows for a correct treatment of hidden liabilities, making fiscal outcomes more predictable and, therefore, controllable. Multilateral institutions have recognized the need for accrual accounting to improve transparency and to move toward a commitment-based, accounting system (World Bank 2001).

Despite recent increases in tax revenue—an encouraging fact in an indebted economy—Jamaica's tax system is flawed. In the case of the GCT, several tax rates and exemptions cannot be explained for equity reasons. The result is a distortion of the relative prices of goods and services. Loopholes in the VAT likely involve substantial fiscal cost; however, the GOJ does not estimate this cost. It is also likely that a large proportion of this fiscal cost benefits medium- and high-income families. The same conclusion can be drawn from the generous investment incentives embedded in the CIT. The GOJ's favorable tax treatment of capital income, together with labor taxes, is difficult to justify in an economy with a 15% unemployment rate. In addition, special excises on alcoholic beverages are distorted.

Jamaica's tax system can be improved substantially by:

- Including estimates of the fiscal cost of tax loopholes and investment incentives in the budget and determining their effect on income distribution.
- Abolishing the investment tax credit (known as investment allowance) and accelerated depreciation. If the GOJ wishes to maintain investment incentives, a partial expensing of investment (such as the initial allowance) is a better alternative.
- Taxing all interest income that families earn.
- Moving toward a uniform VAT with few exceptions and introducing special subsidies for the poor to compensate for the higher prices of foodstuffs and other goods that a generalized VAT creates.
- Taxing alcoholic beverages in proportion to their alcoholic content, eliminating bias toward certain beverages.

The financial crisis of the mid-1990s reversed an earlier trend to reduce Jamaica's public debt. Large debt, in turn, has introduced uncertainty in tax rates because the GOJ may be tempted to increase taxes to improve its primary fiscal position. Because 50% of Jamaica's public debt is issued in foreign currency, the public-debt burden increases when macroeconomic reasons demand a weaker real exchange rate. Jamaica's amortization profile for the next five years averages about 13% of GDP. Together with an interest burden of 12% of GDP, this creates a debt-service requirement of 25% of GDP or 100% of tax revenue—a relatively high percentage for a developing country—creating a liquidity risk.

These authors recommend that Jamaica take the following steps to address its debt issues:

- Reduce public debt as a fraction of GDP;
- Gradually reduce exposure to multilateral and bilateral sources, which accounts for 27% of GDP; and
- Establish a fund to self-finance the GOJ burden when natural disasters occur.

Concluding Remarks

The above recommendations suggest that Jamaica will need double-digit primary surpluses in the coming years. Escaping from the country's debt trap will require lower interest rates and higher growth. Neither objective can be achieved without effort. As mentioned earlier, structural reforms are key to moving toward these objectives. Fiscal policy may help to achieve higher growth by reducing the burden of public debt and real interest rates, improving investment allocation through a better tax system, and reducing macroeconomic volatility through prudent Government expenditures.

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2

Toward Sustainable Monetary and Exchange Policies

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The economic effects of Jamaica's 1995–1996 financial crisis have strongly influenced the country's monetary and exchange-rate policies. Since that time, the Government of Jamaica (GOJ) has made controlling inflation and, more recently, maintaining single-digit inflation, its primary macroeconomic objective. To this end, it has adopted a restrictive monetary policy, combined with an attempt to stabilize the nominal exchange rate.

While these policies have succeeded in reducing inflation, they have contributed, either directly or indirectly, to generating high interest rates, which have, in turn, hindered investment, growth, and external competitiveness; amplified the Central Bank's "quasi-fiscal" losses; and complicated reduction of the Government's debt burden. Considering the country's recent economic developments and major reforms, this author proposes changes to monetary and exchange-rate policies that aim to restore economic growth while sustaining overall macroeconomic equilibrium.

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Macroeconomic Overview

Despite the successes of the late 1980s, the Jamaican economy has had enormous difficulty achieving stable growth of gross domestic product (GDP) and low inflation. Over the last 25 years, average output growth has been dismal, and total measured output, in real terms, has remained flat. The 1990s were characterized by stagnant economic growth, followed by contractions in economic activity. Only in 2000 and 2001 did growth resume, but at rates averaging less than 1.5% per year. In 2002, GDP growth was less than 0.5%. Conversely, inflation fell significantly during the 1990s, and, since 1997, has remained at single-digit levels, despite external price shocks and exchange-rate adjustments (Figure 2-1).

A major cause of Jamaica's 1995–1996 crisis was a financial-sector liberalization policy that failed to take the necessary precautions to establish an adequate regulatory and supervisory framework. Confronted with a weak banking system, combined with an increased pace of currency devaluation and re-acceleration of inflation, which reached 30% by late 1995, the GOJ made inflation reduction its primary economic objective (Table 2-1).

Implementation of a tight monetary policy led to a sharp increase in real interest rates (shifting from –30 to +30%); combined with a recession, this

FIGURE 2-1

GDP Growth Relative to Inflation, 1989–2001

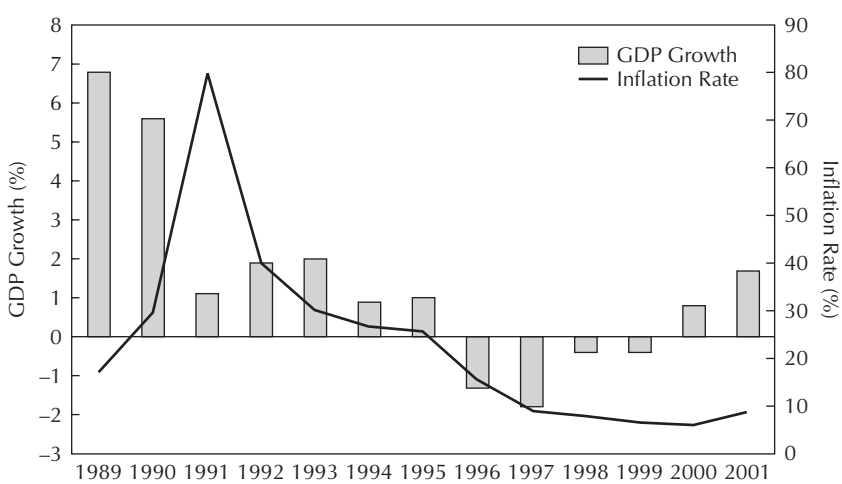

TABLE 2-1

Selected Macroeconomic Indicators

Indicator (%)	Year					
	1996	1997	1998	1999	2000	2001
Real GDP (annual change)	–1.3	–1.8	–0.4	–0.4	0.8	1.7
Inflation rate (end of period)	15.8	9.2	7.9	6.8	6.1	8.7
Unemployment rate	16.0	16.5	15.5	15.7	15.5	14.8
Current account*	–3.8	–5.6	–3.4	–2.8	–3.7	–8.3
Gross domestic investment*	30.1	30.3	27.2	25.6	26.8	27.3
Gross national savings*	28.7	24.2	23.8	21.6	22.7	22.0
External savings*	1.4	6.1	3.4	4.0	4.1	5.3
Private consumption*	68.0	67.0	65.9	67.5	68.0	66.9
Public consumption*	13.8	16.0	17.4	16.9	16.3	14.6
Public-sector primary balance*	6.8	1.3	7.1	11.0	12.6	11.0
Public-sector balance*	–5.7	–10.0	–11.5	–7.5	–5.6	–3.5

*% of GDP

drastically affected the banking system's liquidity and, shortly thereafter, its solvency.

Like many other financial crises, Jamaica's mid-1990s crisis revealed a substantial, "contingent" fiscal deficit hidden within a fragile financial system. The GOJ decided to rescue the entire system by keeping institutions open and insuring all depositors, life insurance policyholders, and pensioners. Replacing non-performing loans with Government-backed securities in intervened institutions largely contained the financial crisis. However, that strategy reversed the broad downward trend of public-sector debt, which had started in 1991. Although external debt to GDP continued to decline, domestic debt rose sharply. Gross fiscal support to the intervened financial institutions amounted to about 40% of GDP. The consequent jump in public debt, within the context of a tight monetary policy and associated high interest rates, created severely adverse, Government debt dynamics, which remains the country's main macroeconomic problem (Table 2-2).

Jamaica's economic authorities attempted to stabilize the nominal exchange rate in order to drastically reduce inflation from nearly 30% in the first quarter of 1996 to single-digit rates the next year. That policy, combined

TABLE 2-2

Public-sector Balance and Financing

Entity	FY 1996–1997	1997–1998	1998–1999	1999–2000	2000–2001
In millions of Jamaican $					
Balance					
Central Government	–14,966.0	–19,892.2	–18,912.0	–12,575.2	–3,171.7
Other public sector	2,251.0	–4,225.0	–11,194.0	–9,196.0	–14,192.0
Public enterprise	679.0	2,134.0	3,494.0	3,283.0	2,888.0
FIS/FINSAC[1]	–700.0	–5,562.0	–14,590.0	–13,391.0	–15,441.0
BOJ	2,272.0	–797.0	–98.0	912.0	–1,639.0
Overall public sector	–12,715.0	–24,117.2	–30,106.0	–21,771.2	–17,363.7
Financing					
Foreign	–369.0	2,700.2	–2,487.0	–3,523.8	12,057.7
Domestic	13,084.0	21,417.0	32,593.0	25,295.0	5,306.0
Banking system	–2,866.0	48,626.0	23,455.0	8,590.0	14,189.0
Other[2]	15,950.0	–27,209.0	9,138.0	16,705.0	–8,883.0
As % of GDP					
Balance					
Central Government	–6.7	–8.2	–7.2	–4.3	–1.0
Other public sector	1.0	–1.8	–4.3	–3.2	–4.6
Overall public sector	–5.7	–10.0	–11.5	–7.5	–5.6
Expenditures					
Total	35.0	35.8	35.5	35.6	33.6
Current	28.8	29.9	32.2	32.2	30.9
Interest payments	12.2	10.2	13.1	14.4	13.8
Capital and net lending	5.0	5.0	2.6	2.9	2.8

Note: FIS = Financial Institutions Services Limited, FINSAC = Financial Sector Adjustment Company, BOJ = Bank of Jamaica
[1]Excluding capitalized interest owed the public sector
[2]Including divestment proceeds

with a persistently high, fiscal-sector deficit, further increased already high, real interest rates; at the same time, external competitiveness eroded, and Government debt escalated. Consequently, the Jamaican economy performed poorly during the late-1990s; between 1996 and 1999, contraction of the formal economy translated into real GDP falling by nearly 1% per year, on average.

To improve this situation, Jamaican authorities undertook a Staff Monitored Program (SMP) with the International Monetary Fund (IMF) in June 2000. The SMP's broad macroeconomic objectives were to:

- Maintain the single-digit inflation rates achieved over the previous five years (to about 4% annually),
- Accelerate economic growth (to at least 3% per year),
- Achieve a sustainable fiscal surplus, and
- Maintain a sustainable external position by increasing the stock of net international reserves (Table 2-3).

Authorities understood that reducing domestic interest rates and improving the adverse debt dynamics associated with the heavy debt burden were central to achieving these objectives. The SMP was considered an essential tool for lending credibility to Government policies and monitoring the country's economic and financial performance over fiscal years (FYs) 2000–2001 and 2001–2002. In addition, the international financial institutions provided Jamaica US$ 255 million to support financial-sector reforms.

During 2000, Jamaica's economy grew 0.7%, reversing a four-year negative GDP growth cycle, while inflation fell from 6.8% in December 1999 to 6.1% in December 2000, subsequently climbing to 8.8% by late 2001 (Figure 2-1). As of September 2001, all of the SMP's quantitative targets had been met, with the economy growing at an annual rate of 3%. However, major shocks of 2001—violent outbreaks in a section of Kingston, terrorist attacks on the U.S., and large-scale flooding associated with Hurricane Michelle—together with the global economic slowdown, affected the country's economic performance, with GDP growth declining to 1.7% that year.

Even though per-capita GDP has remained at about US$ 2,850 over the last six years, the Government's social-safety-net programs, emigration, and remittances from abroad, as well as the country's significant informal sector, have helped to maintain living standards. However, over the past two years, unemployment has remained at around 15% (only about 1.5% less than in late 1997). Conversely, during 1997–2001, recorded investment averaged 27.4% of GDP (a surprisingly high percentage, given that period's high interest rates and low economic growth), and gross national savings averaged 22.9%. In recent years, the traditionally large, unreported Jamaican informal sector appears to have grown.

TABLE 2-3

Balance of Payments (in millions of US $)

Item	Calendar Year 1998	1999	2000	2001
CURRENT ACCOUNT	–255.8	–211.4	–288.6	–650.0
Goods balance	–1,096.7	–1,186.5	–1,353.5	–1,580.0
Exports	1,613.4	1,499.1	1,554.6	1,451.6
Imports	2,710.1	2,685.6	2,908.1	3,031.6
Services balance	509.9	655.4	594.0	546.4
Transportation	–269.6	–233.6	–247.1	–260.4
Travel	998.9	1,052.4	1,123.9	1,073.2
Other	–219.4	–163.4	–282.8	–266.4
Income	–304.0	–332.5	–349.9	–488.7
Employee compensation	70.2	70.3	67.4	78.8
Investment	–374.2	–402.8	–417.3	–567.5
Current transfers	635.0	652.2	820.8	872.3
Official	45.7	45.8	147.9	62.9
Private	589.3	606.4	672.9	809.4
CAPITAL AND FINANCIAL ACCOUNT	255.8	211.4	288.6	650.0
Capital account	15.5	13.1	2.2	–12.4
Capital transfers	15.5	13.1	2.2	–12.4
Official	4.2	4.1	15.6	3.5
Private	11.3	9.0	–13.4	–15.9
Financial account	240.3	198.3	286.4	662.4
Other official investment	–41.3	–331.4	383.7	653.4
Other private investment (including errors and omissions)	323.1	397.9	422.0	880.3
Reserves	–41.5	131.8	–519.3	–871.3
Nominal GDP	7,491.2	7,678.2	7,818.8	7,834.5
Current account (% of GDP)	–3.4	–2.8	–3.7	–8.3
Exports (% of GDP)	21.5	19.5	19.9	18.5
Net international reserves	579.4	446.3	970.0	1,835.6

Source: BOJ

Fiscal Policy

From the mid-1980s to the mid-1990s, the GOJ progressed considerably in stabilizing fiscal accounts. However, overall public-sector deficit reached critically high levels, increasing to more than 11% of GDP during FY 1998–1999, mainly because of large interest payments on Government-

backed securities associated with the financial-sector bailout. Similarly, the Central Government balance shifted from a 0.2% of GDP average surplus during 1991–1997 to a deficit of about 8% of GDP in FY 1997–1998. The enormous burden of public-sector interest payments, resulting from both the adverse debt dynamic and high interest rates, averaged more than 18% of GDP over the last three years, more than offsetting the high levels of primary surplus registered over the same period. The ratio of total public debt to GDP systematically climbed to nearly 116% by the end of FY 2000.

During FY 2000–2001, public-sector primary surplus reached 12.6% of GDP (an extremely high percentage); this was achieved through rigorously controlling expenditures and maintaining social-safety-net expenditures in real terms. However, during the latter months of that year, the fiscal situation deteriorated, owing partly to increased spending on security, tourism promotion, and flood relief, as well as lower revenues resulting from a decline in economic activity. At the end of 2001, the GOJ sought to contain an increasing fiscal deficit to a new target of 4.1% of GDP (revised upwards from the original target of 2.8% set for FY 2001–2002). Similarly, the Central Government's primary surplus target was reduced to about 10% of GDP.

External Equilibrium

Jamaica's high current-account deficits have grown, although the overall balance of payments registered increasing surpluses during the last two years. In 2001, the current-account deficit was estimated to have increased to about 8% of GDP (up from 3.7% in 2000), owing to a sharp decline in tourism revenues through March 2002. Reduction in exports largely explains the deterioration. For example, total exports as a percentage of GDP fell from 24.4% in FY 1996–1997 to 18.5% in FY 2000–2001. Conversely, net international reserves increased systematically during the late 1990s, based on direct investment inflows, multilateral support, and official borrowing. By the end of 2001, they totaled US$ 1.8 billion, equivalent to slightly more than eight months of goods imports and 23% of GDP.

Price Stability

Jamaica has had long inflationary history. Over the past several decades, high inflation rates have varied. During 1973–1980, annual inflation averaged

21.8%, falling to 15.2% during the 1980s. Subsequently, the country experienced severe inflation, which averaged nearly 40% per year during the first half of the 1990s. Since the mid-1990s, Jamaican authorities have exhibited a strong commitment to price stability. Continued adherence to tight monetary targets, which moderates aggregate demand and exchange-rate volatility, has rapidly reduced inflation to single digits, despite external price shocks and exchange-rate adjustments.

Under the Bank of Jamaica (BOJ) Act of 1960, the BOJ sought to influence the volume and conditions of credit supply to promote the fullest expansion of production, trade, and employment consistent with maintaining monetary stability and external currency value. Following the severe inflation of the early 1990s (which averaged nearly 40% per year), Jamaican authorities decided to focus economic policy on curbing inflation. Within this restrictive context, open-market operations geared toward influencing the level of money supply, interest rates, credit, and ultimately price and exchange-rate stability, have figured prominently.

Since 1996, policies have aimed to 1) align domestic inflation with that of Jamaica's major trading partners and 2) ensure relative stability of the nominal exchange rate to secure longer-term monetary stability. Thus, the BOJ's monetary actions have aimed to affect monetary and financial conditions to achieve price stability, thereby facilitating sustainable growth in real output and generating employment.

The BOJ's anti-inflationary policy, particularly its tight monetary policy, combined with its exchange-rate policy aimed at stabilizing the nominal exchange rate, has succeeded in reducing inflation and maintaining it at single-digit levels. Jamaican authorities have improved the instruments and operational indicators used to implement the policies. Although they follow no clear-cut analytical model, both the monetary and exchange rate-policies have been adequately designed and applied toward lowering inflation. Furthermore, the BOJ maintains a good relationship with market participants.

Despite this progress, the policies have also had negative side effects: extremely low GDP growth, increasing quasi-fiscal losses of the Central Bank, erosion of external competitiveness, high current-account deficits of the balance of payments, and slowed reduction in public debt. Nonetheless, the success achieved in reducing inflation demonstrates the potential for enhancing policy effectiveness.

Monetary Policy: Targets and Tools

Understanding that base money changes translate into domestic prices, either through changes in the money supply or exchange rate, the BOJ adheres to strict monitoring of the monetary base. Since the mid-1990s, it has focused on changes in the monetary base as the intermediate target of its monetary policy goal of inflation control. Evolution of this focus relies increasingly on the open market.[1]

The BOJ targets the monetary base to grow at about the same rate as projected nominal income.[2] The extent of open-market operations is then gauged, based on such predictors as the desired change in official international reserves and net credit to the public sector and financial institutions. In short, the BOJ has advocated that the appropriate use of monetary policy tools ensures that money and credit will grow at a pace that allows economic activity to expand at a sustainable rate without creating excessive price increases.

While the BOJ has not announced explicit exchange-rate targets, it has acted to minimize exchange-rate fluctuations and, especially, to stabilize the trend value of the nominal exchange rate. A target for the level of BOJ net international reserves was also announced. Within this context, and given the country's open capital account, the short-term monetary policy focus has, at times, shifted to the level of interest rates as a way to influence the direction of capital flows. Once determined, the base money target for the fiscal year is usually not altered, but the volume of open-market operations is adapted to respond to unexpected deviations in the BOJ's credit to the public sector or to banks and its net international reserves.

The process of formulating policy begins at the financial program stage, which outlines and defines the main economic variables, including inflation, money supply, and base money expansion consistent with these parameters.[3]

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[1] The monetary base, considered the appropriate target amenable to BOJ control, is usually affected by BOJ intervention in the foreign exchange market, which requires compensation through open-market (mainly repo and reverse repo) operations.

[2] The effectiveness of this approach to implementing monetary policy depends on the stability of Jamaica's money demand, an increasingly rare condition in modern economies. Moreover, information on monetary aggregates in Jamaica does not show a high correlation between the monetary base and M1, which could question the effectiveness of the current monetary policy regime.

[3] The financial program is broken down (annually, quarterly, monthly, weekly, and daily) to monitor certain variables, particularly the monetary base, the heart of the transmission process. In addition, the Central Bank's balance sheet, generated daily, is analyzed thoroughly in the process of base money management.

The Minister of Finance decides on the projected inflation rate, which is incorporated into the budget process and sector plans (Figure 2-2).

As the anchor of monetary policy is the control of base money, interest rates tend to move more frequently than in a monetary policy regime anchored, for example, to an inflation target. However, the BOJ also has a "signal interest rate," applicable to its 30-day reverse repo, which provides a benchmark for the pricing of all open-market instruments (BOJ yield curve) negotiated between the BOJ and Primary Dealers. Moreover, the BOJ occasionally acts directly on the long-term interest rate. For example, in late 2001, the Bank raised rates on all but its 30-day instrument, including increases of 410 and 400 basis points on the premium of its 9-month and 12-month instruments, respectively (BOJ 2001).

The main instrument for liquidity control is open-market operations, whereby domestic-currency debt instruments are used to balance out the level of money and credit in the system. To improve functioning of open-market operations, a new arrangement was introduced in 1994 between the BOJ and financial market intermediaries, Primary Dealers, to enhance the conduct and efficiency of monetary policy (Table 2-4). Since 1995, the BOJ has used this policy tool increasingly to monitor liquidity levels in the banking system. Until recently, open-market operations relied primarily on use of the BOJ's holdings of Central Government treasury bills; however, in 2001, after exhausting its holdings of marketable Government securities, the BOJ began to use its own Certificates of Security Holdings (COSH).

Together with outright sales and purchase of GOJ or BOJ securities, the BOJ, like most modern central banks, engages in two types of agreements: 1) repurchases (repos) and 2) reverse repurchases (reverse repos). Repos, used to inject liquidity into the financial system, involve a contract whereby the BOJ purchases a security from a primary dealer, who agrees to repurchase the same security at a predetermined price (specified rate) at an agreed upon future date (they are provided almost exclusively to commercial banks). Reverse repos, used to tighten liquidity, involve a contract whereby the BOJ sells a security and agrees to buy it back at a specified rate at an agreed upon future date (they are provided mainly to commercial banks and other primary dealers).

Moreover, for the purpose of monetary control, the BOJ has used the reserve requirement, the portion of deposit liabilities that financial institutions

FIGURE 2-2

Steps in Conducting Open-market Operations

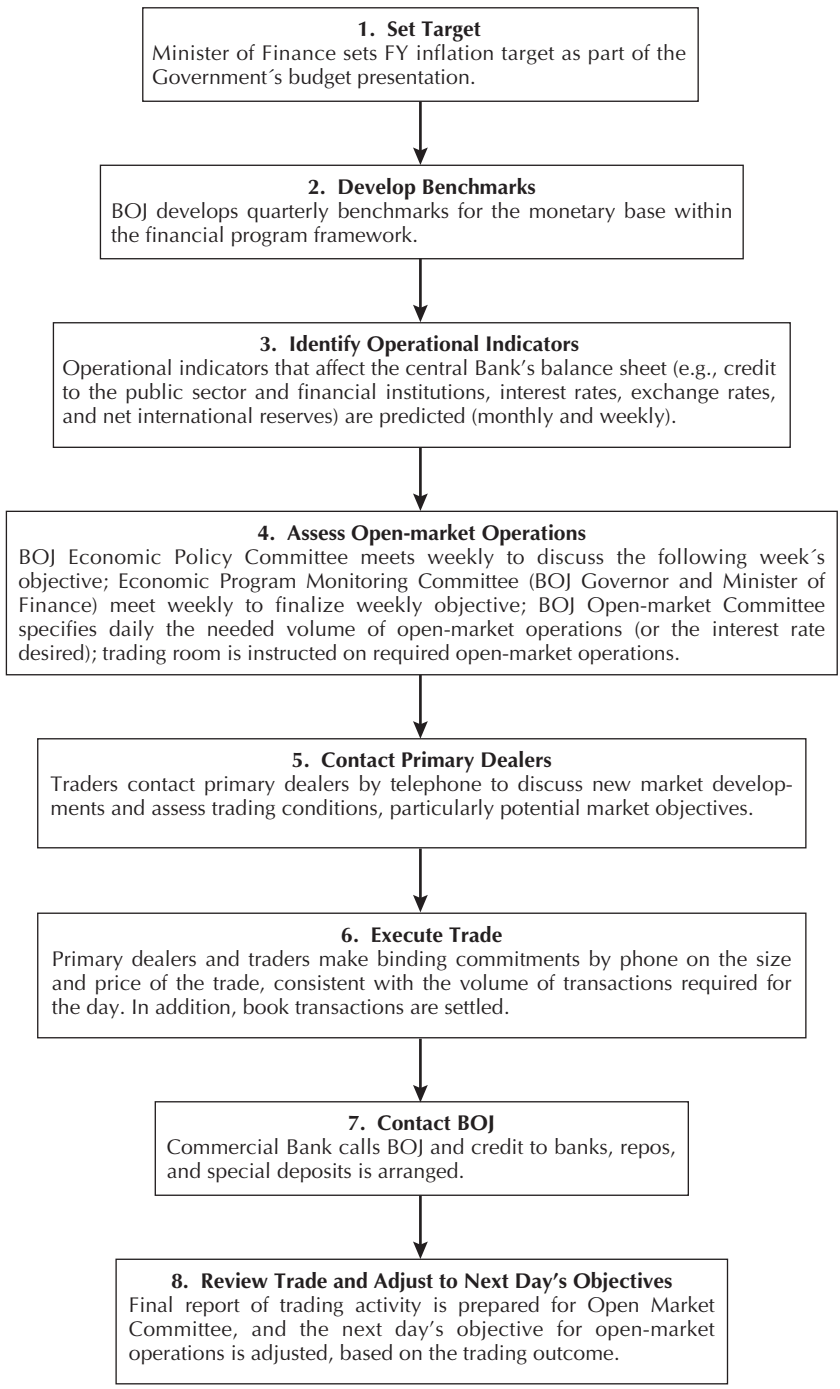


TABLE 2-4

Main Changes in Monetary Policy Instruments

	Instrument Type	
Period	**Nonmarket-based**	**Market-based**
1962–1979	• Minimum savings deposit rate of 3.5% increased to 6%. • 15% Liquid Assets Ratio (LAR) for bank increased to 29.5%. • Voluntary liquidity-support scheme introduced. • Selective credit controls introduced.	
1980–1984	• Savings deposit rates increased to 13%. • Cash Reserve Requirement (CRR) of 5% increased to 14%. • Liquidity-support scheme abolished. • LAR for banks increased to 44%; introduced for near banks at 10% and increased to 15%. • 12% ceiling on credit growth to private sector. • Installment credit guidelines introduced.	
1985–1989	• Savings deposit rate increased to 18%. • CRR for banks increased to 19%; introduced for near banks at 1% and increased to 4.5%. • LAR for banks reduced to 20%; reduced to 4.5% for near banks. • Credit by banks and near banks frozen at late-1989 level. • BOJ paid interest on a proportion of CRR.	• Financial-sector reform program initiated in 1985 designed to switch reliance from direct to indirect instrument. • Introduction of auction for Certificates of Deposit (CDs) issued by the BOJ.
1990–1994	• Savings rate deregulated. • CRR for banks increased to 25% and to 17% for near banks.	• Reversal of financial sector reform program (1989–1991) re-initiated in late 1991.

(*continued*)

TABLE 2-4

Main Changes in Monetary Policy Instruments (*Continued*)

	Instrument Type	
Period	**Nonmarket-based**	**Market-based**
	• Interest paid on a proportion of CRR. • LAR for banks increased to 50% and to 17% for near banks. • 20% foreign-currency CRR introduced for banks increased 22%, and 40% for foreign currency LAR. • Credit ceilings removed. • Installment-credit guidelines removed.	• Primary dealer system introduced for conducting open-market operations, with primary dealers acting as intermediaries.
1995–1998	• CRR and LAR for building societies introduced, varying from 1% to 11%. • LAR for bank reduced to 47% and increased to 35% for near banks. • Foreign currency CRR for banks reduced to 20% and established for near banks at 17%, together with a foreign currency LAR of 35%.	• Interest-bearing special deposits at the BOJ to supplement Government securities to open-market operations.
1999–2001	• Dual CRR of 1% and 9% for building societies, with respect to local- and foreign-currency liabilities. • Dual LAR of 5% and 27% for building societies, with respect to local- and foreign-currency liabilities. • CRR for banks, with respect to local- and foreign-currency liabilities reduced from 10% to 9%. • Bank's LAR with respect to local- and foreign-currency liabilities reduced from 28% to 27%.	• BOJ added CDs to the instrument used in the conduct of open-market operations. • Primary dealers and commercial banks now able to purchase CDs directly from the BOJ.

must retain either as liquid assets or on deposit at the BOJ (Table 2-5). Reserve requirement influences the level of currency in circulation and the availability of lending funds. The reserve ratio includes both cash and non-cash components. Even though the reserve-requirement ratios have been reduced in recent years, they remain high; they constitute a tax on the banking system, thereby contributing to the large spread between commercial bank loans and deposit rates. Attempts to evade the reserve requirement have led

TABLE 2-5

Monetary Aggregates

		Base Money		M1		M2	
Year	Qtr.	J$mmn.	% ann. change	J$mmn.	% ann. change	J$mmn.	% ann. change
1996	Mar	25.6	22.5	21.3	26.0	71.5	28.8
	June	25.7	17.9	21.4	20.2	71.9	20.2
	Sept	25.9	14.1	23.6	27.6	75.4	15.1
	Dec	29.8	11.2	28.5	22.8	84.3	14.5
1997	Mar	29.5	15.2	25.7	20.7	86.7	21.3
	June	30.9	20.2	25.4	18.7	88.6	23.2
	Sept	31.1	20.1	25.1	6.4	90.5	20.0
	Dec	34.2	14.8	28.6	0.4	95.6	13.4
1998	Mar	32.3	9.5	25.8	0.4	92.9	7.2
	June	32.9	6.5	27.8	9.4	96.5	8.9
	Sept	32.5	4.5	30.1	19.9	100.1	10.6
	Dec	33.5	–2.0	30.3	5.9	102.6	7.3
1999	Mar	33.5	3.7	30.3	17.4	103.6	11.5
	June	32.2	–2.2	32.0	15.1	107.9	11.8
	Sept	32.0	–1.6	35.7	18.6	117.3	17.2
	Dec	37.5	11.9	40.6	34.0	122.2	19.1
2000	Mar	31.0	–7.3	37.3	23.1	122.9	18.6
	June	31.0	–3.8	37.8	18.1	125.4	16.2
	Sept	30.4	–4.9	35.9	0.6	128.0	9.1
	Dec	35.0	–6.8	38.1	–6.2	133.0	8.8
2001	Mar	31.0	–0.1	37.0	–0.8	133.8	8.9
	June	31.1	0.5	38.0	0.5	135.7	8.2
	Sept	30.4	0.0	41.6	15.9	141.6	10.6
	Dec	35.0	0.1				

to the offering of credit facilities outside of the traditional loans that commercial and near banks (merchant banks, trust companies, and finance houses) offer.[4]

Other monetary-policy instruments, including rediscounting facilities, were discontinued in 1989. Consistent with financial liberalization and deregulation, the BOJ has not used credit controls since January 1991, and the Bank Rate (interest rate at which the BOJ lends to commercial banks in its capacity as lender of last resort) has not been used since 1985. However, a discount rate is charged for overdrafts on commercial bank accounts (Table 2-6).

In practice, the BOJ takes pragmatic actions to affect the monetary base by adjusting the volume of money-market instruments traded or the interest rates offered on its short- and long-term securities. It also trades directly in the foreign-exchange market; for example, in the last quarter of 2001, it sold foreign exchange to augment supply of U.S. dollars (BOJ 2001). In addition, although the BOJ has succeeded in recent years in lowering inflation and stabilizing the nominal exchange rate—achieving two objectives using only one instrument (ultimately base money changes)—this policy cannot be maintained permanently.

Given the short time span since the major financial crisis of the mid-1990s, relatively high country-risk premium and high expectations of devaluation contained capital inflows until 1997, thus helping to avoid excessive appreciation of the Jamaican currency. To achieve the same end, the BOJ has, since 1998 (especially in 2001 and 2002) incurred significant losses (about 2% of GDP), mainly because of the open-market operations required to sterilize a significant increase in international reserves. Conversely, the market has learned that the BOJ attempts to maintain orderly conditions in the foreign-exchange market. With the help of sufficient international reserves, through relatively minor interventions in the foreign-exchange market, sometimes coupled with temporary increases in the interest rate, the BOJ can prevent any significant currency depreciation (BOJ 2001).

[4] This has been significantly reduced as cash-requirement ratios have begun to decrease. The current ratio of 9% is not a significant incentive for this practice.

TABLE 2-6

Selected Interest Rates (% per year)

	Commercial Bank						Central Govt.	Central Bank
	Deposit Rates							
Quarter	Savings Deposits	Time Deposit (3–6 mos.)	Time Deposit (6–12 mos.)	Weighted Average	Overall A/W Rates	Lending Rates 2/	Treasury Bills 3/	Reserve Repos 30 days
1996 March	15.0–22.0	19.0–43.0	18.0–44.0	26.1	7.86	39.7	34.28	43.5
1997 March	10.3–19.0	8.0–17.5	8.0–16.5	15.5	7.83	33.0	16.61	18.0
1998 March	10.3–15.0	12.0–30.0	12.0–25.0	17.0	7.75	32.1	24.56	29.0
1999 March	7.0–15.0	10.5–18.8	9.5–18.8	14.6	7.51	29.7	17.81*	20.8
2000 March	10.0–13.5	11.0–17.5	11.5–16.5	13.0	6.59	24.3	16.48	17.3
2001 March	8.0–11.5	10.0–17.0	10.0–16.8	12.13	7.16	21.49	15.57	15.5
2000								
Jan.	10.0–13.35	11.0–17.5	11.5–16.5	13.4	6.43	25.2	18.63	18.4
Feb.	10.0–13.5	11.0–17.5	11.5–16.5	13.2	6.18	24.8	18.71	18.4
March	10.0–13.5	11.0–17.5	11.5–16.5	13.0	6.59	24.3	16.48	17.5
April	8.0–13.5	10.0–17.5	10.0–16.5	13.0	6.58	24.4	16.16	17.3
May	8.0–12.5	10.0–17.5	10.0–16.5	12.9	6.71	23.8	16.21	17.0
June	8.0–12.5	10.0–17.5	10.0–16.5	12.7	6.64	23.5	16.06	17.0
July	8.0–12.5	10.0–17.4	10.0–16.4	12.6	6.64	22.8	15.95	16.8
Aug.	8.0–12.5	10.0–17.4	10.0–16.4	12.6	6.76	22.7	15.70	16.5
Sept.	8.0–12.5	10.0–17.1	10.0–17.1	12.6	6.64	22.2	15.78	16.5
Oct.	8.0–12.1	10.0–17.1	10.0–17.6	12.4	6.84	22.1	**	16.5

(*continued*)

TABLE 2-6

Selected Interest Rates (% per year) (*Continued*)

	Commercial Bank						Central Govt.	Central Bank
	Deposit Rates							
Quarter	Savings Deposits	Time Deposit (3–6 mos.)	Time Deposit (6–12 mos.)	Weighted Average	Overall A/W Rates	Lending Rates 2/	Treasury Bills 3/	Reserve Repos 30 days
Nov.	8.0–12.1	10.0–17.1	10.0–17.6	12.2	6.69	22.2	15.91	16.5
Dec.	8.0–12.1	10.0–17.1	10.0–17.6	12.2	6.82	22.1	18.32	16.5
2001								
Jan.	8.0–12.1	10.0–17.5	10.0–17.6	12.4	6.95	22.1	17.7	16.5
Feb.	8.0–12.1	10.0–17.5	10.0–17.6	12.38	6.92	22.07	16.75	16.45
March	8.0–11.5	10.0–17.0	10.0–16.8	12.13	7.16	21.49	15.57	15.5
April	8.0–11.5	10.0–17.0	9.5–16.75	11.75	6.93	21.47	15.25	15.5
May	8.0–11.5	9.50–17.0	9.0–15.0	11.33	6.45	21.41	14.35	14.75
June	8.0–11.5	8.75–17.0	8.75–15.0	11.11	6.36	20.86	14.99	14.25
July	7.5–11.5	8.75–17.0	8.75–16.0	11.07		20.00	15.37	14.25
Aug.	7.5–10.5	8.75–17.0	8.75–15.0	10.87		19.76	14.85	14.25
Sept.	7.5–10.5	8.75–17.0	8.75–15.0	10.52		19.41	14.04	14.25
Oct.	7.5–10.5	7.75–15.0	7.75–15.0	10.49		19.57	14.06	14.25
Nov.	7.5–10.5	7.75–15.0	7.75–15.0	10.26		19.53	16.37	14.25
Dec.	7.5–10.5	7.75–15.0	7.75–15.0	10.13		19.50	15.70	14.25
2002								
Jan.	7.5–10.5	7.75–15.0	7.75–15.0	10.17		19.49		
Feb.	7.5–10.0	7.75–15.0	7.75–15.0					

*1-year bill
**No treasury bill issued

Exchange-rate Policy

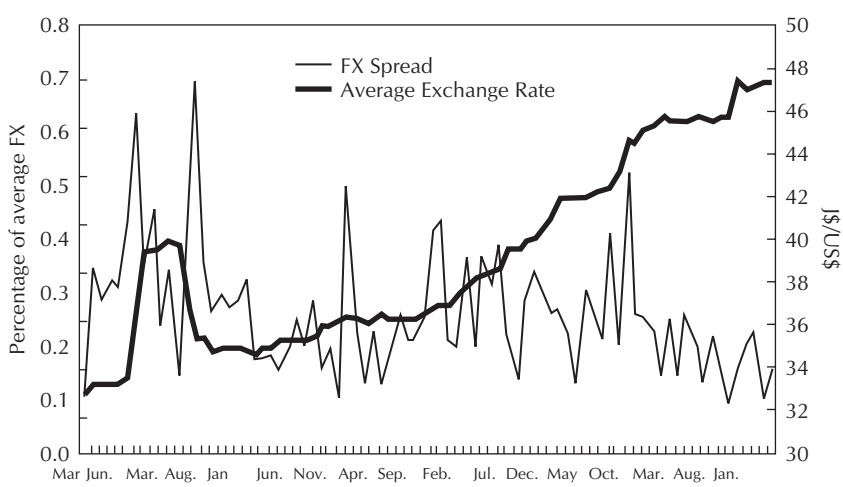
Jamaica's exchange-rate policy is anti-inflationary. It is not designed to achieve external equilibrium—the current account of the balance of payments does not matter—and no attempt is made to achieve or maintain a certain level or range for the real exchange rate (Figure 2-3).

The BOJ closely monitors the nominal exchange rate, since it is convinced of a high pass-through from exchange-rate changes to the domestic price level. Therefore, although Jamaica has a formal floating, exchange-rate regime, in practice, it is a "dirty" floating system, whereby the BOJ intervenes strongly in the foreign-exchange market whenever necessary to avoid direct (costs or mark up) or indirect (expectations) currency movements that could jeopardize the price stabilization policy.

Jamaican authorities have explained that the BOJ's monetary policy is aimed primarily at meeting the annual inflation objective, taking account of exchange-rate stability. Consistent with this objective, the BOJ seeks to maintain a stable exchange rate so that any depreciation or appreciation is gradual. Within this framework, open-market operations are conducted regularly, with daily transactions. While the base money target guides open-market

FIGURE 2-3

Evolution of Jamaica's Foreign-exchange Rate, 1994–2002



operations, conditions in the foreign-exchange market heavily influence day-to-day dynamics. The BOJ's determination to assure exchange-rate stability dominates short-term policy decisions even more so. The intermediate target of base money is modified only if it is incoherent with the time path of nominal income; thus, relatively few changes occur in the programmed open-market operations.

The country's foreign-exchange market has undergone substantial liberalization since 1990, with the elimination of exchange controls in 1991–1992 and few restrictions on payments for current and capital transactions. In 1992, the Exchange Control Act was repealed, and the BOJ Act developed the institutional framework by establishing guidelines that would prevail in the inter-bank foreign-exchange market, including the licensing of foreign-exchange dealers and transaction regulations. Further measures, introduced in 1994, broadened the foreign-exchange market and improved its efficiency and transparency.

Subsequently, a greater variety and number of formal market players, together with substantial increases in the volume of foreign-exchange traded, have eased access to foreign exchange.

The foreign-exchange market's institutional framework comprises three main groups: authorized dealers, traders (*cambios*), and exchange bureaus (*bureaux de change*). Each group conducts specific types of transactions. Authorized dealers include all commercial banks, merchant banks, and trust companies associated with merchant banks; they are responsible for buying and selling transactions, taking deposits, and making loans. Traders are permitted only to buy and sell foreign exchange. The transactions of authorized dealers and traders are not limited in size, and the BOJ supervises and monitors both groups. Exchange bureaus, institutions created to facilitate transactions in the hotel sector, exchange currency for their guests. However, individual transactions are limited to US$ 10,000 or its equivalent in other currencies. Authorized dealers and traders are currently required to sell 5% and 10%, respectively, of their daily purchases of foreign exchange to the BOJ, which constitutes Jamaica's main foreign-exchange control measure.

The BOJ monitors and participates in the market and collects and disseminates market information. As stability of the nominal exchange rate is one of the BOJ's main objectives, it acts to influence conditions through market interventions in order to moderate exchange-rate adjustments that result from short-term disturbances. However, the BOJ is inclined to allow

adjustments to occur through the market mechanism when fundamental economic changes are detected.

Even though all market participants are legally permitted to set prices and recognize that the exchange rate is generally determined in a competitive market, some consider that the BOJ's strong market intervention creates certain frictions that reduce market efficiency. Agents are particularly aware of the BOJ's reaction function; consequently, agents' mere expectation of the Bank's market intervention can affect their current and future market behavior, sometimes preventing prices from adjusting according to changes that would merit such an evolution.

BOJ interventions usually occur through authorized dealers and traders because these are the key market players. For this reason, transactions with these institutions have an immediate effect on liquidity conditions and the reported exchange rate. To keep abreast of emerging trends, the BOJ monitors intra-day and end-of-day electronic and telephone returns. When it perceives tightness in the market, it sells foreign exchange to minimize exchange-rate variability. The BOJ's purchase of foreign exchange is usually limited to the daily surrender requirement, as mentioned above. Beyond that, it buys foreign exchange from the market to prevent sharp revaluation of the Jamaican dollar. The rates at which the BOJ intervenes in selling foreign currency are usually slightly below market rates because the aim is to provide liquidity and avoid sending a strong pricing signal.

Policy Analysis and Perspective

Faced with financial crisis and the enormous buildup in public debt that resulted, Jamaica's economic authorities have succeeded in lowering the rate of inflation to single digits over the past five years, thereby gaining credibility in their commitment to price stabilization. To this end, the BOJ has performed well in its design, implementation, and operation of monetary and exchange-rate policies. It has not only carried out its responsibilities; it has also made key improvements in creating the necessary conditions to execute policy, notably the development of needed assessment tools and instruments to support policy formulation and planning.

It is generally understood that the Central Bank's anti-inflation policy must avoid generating major imbalances in other key areas of the economy (Harris 1999; Zahler 1998). For example, reduced inflation must not be

achieved at the expense of sharp increases in unemployment, idle capacity, and buildup of fiscal debt; imbalances in financial markets; or untenable deterioration in external accounts.

Certain crucial aspects of Jamaica's overall macroeconomic equilibrium have not benefited from its current monetary and exchange-rate policy strategy.[5] Moreover, these policies have not fostered economic growth. Institutional, analytical and operational aspects of policies must be improved for Jamaicans to advance toward a more dynamic economy and sustainable macroeconomic framework.

Public-sector Debt

While the Government's rescue of the country's financial system in the mid-1990s averted widespread loss of confidence and major capital outflow, as well as improved supervision and prudent regulation of the banking system, its strategy also imposed challenges that still must be addressed. For example, the significant increase in public-sector debt came at a high fiscal cost. It has constrained the design and implementation of efficient monetary and exchange-rate policies, becoming Jamaica's principal macroeconomic problem (Table 2-7).

The heavy burden of public-sector debt reflects Jamaica's legacy of inflation and subsequent financial crisis that characterized the early and mid-1990s. Despite more recent efforts to generate enormous primary surpluses, high fiscal-sector deficits, together with adoption of a restrictive monetary policy designed to curb inflation, have resulted in a period of declining, yet persistently high, real interest rates (Table 2-8).

Consequently, the focus of macroeconomic policy should be lowering Government debt levels and real interest rates. Public-sector debt dynamics continue to be subject to potential downside risk, and high interest rates continue to deter increased economic activity, employment, and growth, as well as improved public-sector debt dynamics (Table 2-9). In addition to the tight monetary policy, high public-sector financing requirements have pushed up interest rates further. In turn, this has weakened fiscal accounts since debt service dominates all other aspects of fiscal policy, accounting for more than 60% of total expenditures.

[5] Recent experiences of Mexico (1994), Brazil (1999 and 2002), and Argentina (2000) show that low inflation was achieved in an unsustainable way.

TABLE 2-7

Jamaica's Total Public Debt and Macroeconomic Variables, 1995–2001 (in millions)

	FY					
Debt Stock or Indicator	**1995–1996**	**1996–1997**	**1997–1998**	**1998–1999**	**1999–2000**	**2000–2001[1]**
Debt stock						
External (US$)	3,402.51	3,170.32	3,223.08	3,215.76	3,164.81	3,620.40
Internal (J$)	57,675.00	85,180.80	101,540.30	139,203.68	175,322.74	215,084.05
Total (J$)	193,843.45	196,363.92	219,214.95	262,302.97	308,687.83	380,463.92
Indicator						
GDP[2] (J$)	167,274.80	222,747.00	241,271.00	262,177.00	289,413.00	327,725.80
National debt (% of GDP)	115.88	88.16	90.86	100.05	106.66	116.09

[1]Provisional
[2]At current prices on an FY basis (*source:* Debt Management Unit)

TABLE 2-8

Jamaica's Domestic Debt and Indicators, 1995–2001 (in millions of Jamaican $)

	FY					
Debt Item or Indicator	**1995–1996**	**1996–1997**	**1997–1998**	**1998–1999**	**1999–2000**	**2000–2001**
Domestic Debt (end of period)	57,675.00	85,180.80	101,540.30	139,203.68	175,322.74	215,084.05
LRS	40,215.40	61,587.00	75,873.20	105,121.41	126,009.26	159,734.78
Treasury Bills	9,655.00	11,016.20	11,650.00	10,450.00	9,550.00	6,950.00
Loans	4,957.70	4,566.00	3,088.50	5,758.83	3,253.04	3,291.38
Other	2,846.90	8,011.60	10,928.60	17,873.44	36,510.44	45,107.89
Debt Service (current)	17,962.39	35,958.00	40,615.90	48,306.00	74,750.90	82,646.50
Interest	12,457.60	21,370.00	18,918.40	28,540.00	35,436.69	34,306.00
Amortization	5,504.79	14,588.00	21,697.50	19,766.00	39,314.21	48,340.50
Total Revenue	58,502.50	63,085.50	66,425.80	73,439.80	90,570.40	108,437.50
Tax	50,262.60	55,191.30	59,224.30	66,970.30	76,025.90	87,071.60
Non-tax	8,239.90	7,894.20	7,201.50	6,469.50	14,544.50	21,365.90
(Grants portion)	1,180.80	1,059.70	724.60	652.30	723.20	1,737.10
Total Expenditures	60,274.59	92,639.50	108,085.70	112,770.10	142,506.81	166,883.60
Recurrent	44,441.70	64,225.10	72,113.20	84,743.00	93,793.20	95,780.70
Amortization	5,504.79	14,588.00	21,697.50	19,766.00	39,314.21	61,758.30
Capital	7,908.00	11,156.00	12,118.90	6,900.40	8,078.20	8,545.30
Other[1]	2,420.10	2,670.40	2,156.10	1,360.70	1,321.20	799.30

(*continued*)

TABLE 2-8

Jamaica's Domestic Debt and Indicators, 1995–2001 (in millions of Jamaican $) (*Continued*)

	FY					
Debt Item or Indicator	**1995–1996**	**1996–1997**	**1997–1998**	**1998–1999**	**1999–2000**	**2000–2001**
Macroeconomic Variable						
GDP[2]	167,274.80	222,747.00	241,271.00	262,177.00	289,413.00	327,725.80
Domestic Debt (% GDP)	34.48	38.24	42.09	53.10	60.58	65.63
LRS (% Domestic Debt)	69.73	72.30	74.72	75.52	71.87	74.27
T-bills (% Domestic Debt)	16.74	12.93	11.47	7.51	5.45	3.23
Debt Service (% Total Rev)	30.70	57.00	61.14	65.78	82.53	76.22
Debt Service (% Total Exp)	29.80	38.81	37.58	42.84	52.45	49.52
Interest Payment (%Total Rev)	21.29	33.87	28.48	38.86	39.13	31.64
Interest Payment (%Tax Rev)	24.79	38.72	31.94	42.62	46.61	39.40
Interest Payment (%Recur Exp)	28.03	33.27	26.23	33.68	37.78	35.82
Interest Payment (%Total Exp)	20.67	23.07	17.50	25.31	24.87	20.56
Amortization (%Total Rev)	9.41	23.12	32.66	26.91	43.41	44.58
Amortization (%Total Exp)	9.13	15.75	20.07	17.53	27.59	28.97

[1]Other expenses include IMF # 1 A/C, as well as unallocated and prior-year expenses.
[2]Estimated at current prices, on an FY basis (source: Debt Management Unit, FPMU).

TABLE 2-9

Jamaica's External Medium- and Long-term Public Debt and Indicators (in millions of US$)

Debt or Indicator	1995–1996	1996–1997	1997–1998	1998–1999	1999–2000	2000–2001
External Debt (end of period)	3,402.51	3,170.32	3,223.08	3,215.76	3,164.81	3,620.40
Multilateral	1,201.06	1,065.97	1,128.68	1,060.81	1,021.46	1,102.90
IMF	–193.66	(134.75)	–106.07	–93.87	–75.61	–52.10
Bilateral	1,813.27	1,713.70	1,461.43	1,420.02	1,325.84	1,176.10
Private Creditors						
Commercial Banks	297.05	280.73	283.16	155.05	136.67	120.80
Other	91.13	62.41	49.81	29.88	36.72	205.00
Bonds	—	47.51	300.00	550.00	644.12	1,015.60
Debt						
Service (Accruals)	623.63	545.00	505.70	612.87	601.31	520.46
Service (Actuals)	573.61	545.00	505.70	612.87	601.31	520.46
Interest	186.02	188.21	182.99	182.48	184.66	209.23
Amortization	387.59	356.79	322.71	430.39	416.65	311.23
Exchange Rate						
Average	36.8	35.9	35.9	36.8	40.5	45.7
End-of-period	40.0	35.1	36.5	38.3	42.1	45.7
Macroeconomic Variable						
GDP	5,613.74	6,659.07	7,181.40	7,426.46	7,311.89	7,171.24
XGS	3,165.50	3,137.50	3,180.30	3,351.50	4,627.90	4,982.80
External Debt (%GDP)	60.61	47.61	44.88	43.30	43.28	50.48
External Debt (%XGS)	107.49	101.05	101.35	95.95	68.39	72.66
Multilateral (%Total Debt)	35.30	33.62	35.02	32.99	32.28	30.46
Debt Service (%XGS) (Accruals)	19.70	17.37	15.90	18.29	12.99	10.45
Debt Service (%XGS) (Actuals)	18.12	17.37	15.90	18.29	12.99	10.45
Interest Payments (%XGS)	5.88	6.00	5.75	5.44	3.99	4.20

*XGS = export of goods and services
Sources: CS-DRMS Report 500, Statistical Institute of Jamaica, BOJ Debt Management Unit

In short, despite an extremely high primary surplus of more than 12% of GDP, debt service turns the fiscal balance into a deficit. Therefore, it is critical to outline a debt strategy to reduce public debt-servicing costs.

In addition to such a strategy, economic authorities should consider interest-rate reduction of highest priority since this would both reduce public-debt servicing costs and facilitate real depreciation in the domestic currency;[6] moreover, it would make financing available to promote higher investment and growth.[7] To date, the public sector has absorbed virtually all BOJ issuance, crowding out private-sector initiatives that could foster economic growth; that is, the high financing requirements of the public sector have increased the private-sector cost of accessing the funds, thereby reducing expected returns on investment projects.

From Devaluation to Inflation

BOJ authorities are reluctant to reduce interest rates more aggressively, mainly because of the perceived effect on currency depreciation, and ultimately inflation. Based on Jamaica's economic structure, there is a perception of a significant pass-through from nominal devaluation to inflation.[8] Although no consensus has been reached on the conditions that lead to a low pass-through from devaluation to inflation, recent experience and analysis suggest that macroeconomic variables are more important than the microeconomic factors (such as market structure or demand elasticities) referred to in the traditional literature. Goldfajn and Werlang (2000) found that the main determinants of the extent of the pass-through are the cyclical state of the economy, initial over- or under-valuation of the exchange rate, initial inflation rate, and degree of economic openness. Taylor (2000)

[6] However, care should be taken regarding the eventual effect of currency depreciation on the cost of servicing public debt and on the eventual increase in the overall debt-to-GDP ratio caused by the effects of depreciation on foreign denominated or indexed (to the foreign currency) stock of public debt.

[7] What is proposed is a more flexible, but sustainable, monetary policy that discards any solution based on high inflation and fiscal-deficit monetization. Within this context, the restructuring of public debt is a necessary condition for fostering a credible and sustainable monetary policy.

[8] However, recent country experiences with devaluation suggest that the pass-through to inflation has diminished, especially when economies, such as Jamaica, are not growing at their full potential. Such was the case in Mexico in 1995, most of East Asia in 1997–1998 (especially Thailand), Russia in 1998, followed by Brazil and Chile in 1999. Burstein, Eichenbaum, and Rebelo (2002), who studied the behavior of inflation after large devaluations in nine countries, found a low pass-through from devaluation to consumer prices.

provides evidence that observed declines in the pass-through to aggregate prices results from a low inflationary environment.

Similarly, various recent studies have found empirical support that relates and constrains the exchange rate pass-through to prices with monetary policy behavior and the inflationary environment. For example, Choudhri and Hakura (2001) explored a model that emphasizes the role of price inertia and expectations, based on a large data set that included 71 countries; they found strong evidence that the relation between the pass-through and average inflation rate is positive and significant across these countries (the lower or higher the inflation rate, the lower or higher the pass-through). By exploring the influence of other macroeconomic variables on the pass-through, they found that the average inflation rate dominates those variables in explaining cross-regime variations in the pass-through. In Jamaica's case, annual inflation averaged 18.1% during 1979–2000. Its exchange rate pass-through was estimated at 0.17 for the first period, 0.33 for the (accumulated) second period, and close to 0.5 for the period overall. These results suggest a low pass-through, given that the country's current inflation rate is less than half of that considered in the study.

Conclusions of recent studies also suggest that the pass-through depends positively on the level of economic activity (i.e., negatively on the output gap). In fact, international evidence shows that a low exchange rate pass-through has been observed in Chile, New Zealand, Brazil, and Australia, where substantial depreciation occurred after 1997 without having a proportional effect on inflation. In the case of Chile, García and Restrepo (2001) demonstrate that a negative output gap tends to compensate the inflationary effects of depreciation since the exchange rate pass-through depends positively on economic activity. In this case, a fraction of the depreciation is not passed on prices in the short term, explaining the low pass-through in recent years. Had there not been a negative gap after 1997, the exchange-rate effect on inflation would have been significantly higher. However, according to this study, once the output gap disappears, the pass-through approaches 100%.

A recent study on a small open, heavily dollarized economy, with widespread asset substitution and some indexing of prices to the exchange rate, such as Croatia, concludes that the exchange rate pass-through has been low after stabilization (Billmeier and Bonato 2002). The study also suggests that the estimated pass-through can be smaller than predicted because of strategic

pricing in foreign markets, while confirming the importance of expectations in the transmission from exchange-rate changes to inflation.

These findings are particularly relevant for Jamaica, as it currently experiences low inflation and its economic activity in recent years has been contracting, resulting in a significant output gap. Both considerations tend to restrain the exchange rate pass-through to inflation; low capacity utilization and the sluggish demand will slow the transmission of exchange-rate depreciation to final prices.[9]

However, even if Jamaica had a low pass-through effect as the result of more flexibility given to the exchange rate, special attention should be given to the soundness of the financial system. Special focus should be on the way regulators consider the currency match between bank assets and liabilities. Many countries make the common mistake of failing to analyze the characteristics of economic agents indebted in foreign currency to the banking system. Regulators may feel comfortable that there is an accounting balance between bank assets and liabilities denominated in foreign currency, but they may be missing the crucial point: the risk run by bank debtors of a change in the exchange rate. For example, if bank loans in foreign currency are concentrated among debtors whose income originates in the non-tradable sector and currency depreciation occurs, then the value of those loans should be downgraded or provisions should be increased since the debt-service capacity of those debtors is impaired. Thus, although banks' assets are matched with liabilities in terms of foreign currency, debtors may face difficulties absorbing exchange-rate fluctuations. In sum, an exchange-rate change could increase the risk of financial instability, even if the economy is highly dollarized. Banks should therefore be required to analyze their exposure to exchange-rate changes and increase provisioning in those circumstances where an alteration in that rate is likely to have negative consequences.

Toward Inflation Targeting

An important policy implication of the above-mentioned findings is the interdependence of the exchange rate pass-through and the prevailing mone-

[9] The extent to which the exchange rate affects final prices through its effect on imported goods also depends on such factors as the degree of economic openness and eventual, initial exchange-rate misalignment.

tary policy regime. Indeed, the increasing adoption of monetary policy regimes based on inflation targeting has contributed to reducing the pass-through. Adoption of that regime should be considered, given the BOJ's positive record in reducing inflation to single digits and the credibility it has gained through its commitment to price stabilization.

In Jamaica's current macroeconomic environment, inflation targeting, by reducing the pass-through, would permit more flexibility in interest-rate reduction (Brash 1999). As in many other countries, inflation targeting in Jamaica would not be an easy or immediate task. It would require taking steps prior to and during implementation of this monetary regime. The potential to move efficiently toward inflation targeting is closely related to the monetary authority's capacity to build credibility regarding its level of compromise with inflation objectives and its ability to manage the appropriate policy instruments.

The BOJ's well-earned credibility can only be enhanced by achieving a sustainable macroeconomic scenario, in which public-debt restructuring plays a vital role. As mentioned above, the large public-debt service imposes substantial restrictions on the management of monetary and exchange-rate policies. The negative dynamics of the public debt limits the capacity to implement an adequate monetary policy (higher liquidity is channeled toward a stronger currency to hedge the uncertainty that high public debt creates for the domestic economy). A restructuring of that debt would prevent interest-rate reductions from being translated into the foreign-exchange market, translating them instead into the domestic economy.

If policy allows the restructuring of public-debt maturities so that they can be financed through increased fiscal revenues (especially if they originated in higher economic growth, without putting at risk a massive loss of reserves or an accelerated devaluation of the local currency), it will be possible to formulate a coherent monetary policy whose objective is price stability, while, at the same time, accommodating economic growth. In sum, the most effective way in which the BOJ's monetary policy can sustainably enhance its credibility, and thereby recover the ability to manage its policy instruments effectively, is by restructuring the public debt.

Related Measures

As the monetary authority gains credibility over time, other measures, in addition to restructuring fiscal debt, should be taken. These include promoting

a flexible exchange-rate policy, enhancing a transparent monetary policy, and strengthening the financial system.

A flexible exchange-rate policy should be promoted as pressure on the foreign-exchange market is reduced. This would help the BOJ to concentrate on its main goal—curbing inflation—without falling into a policy dilemma. Indeed, it is a complex task to maintain low inflation rates, while aiming to stabilize the exchange rate, without accumulating substantial quasi-fiscal losses through sterilization operations. Thus, moving toward greater exchange-rate flexibility contributes to gaining control and enforcing the effectiveness of monetary instruments while increasing the authorities' credibility.

However, exchange-rate movements—both levels and fluctuations—still should be considered in setting monetary policy; even if exchange-rate objectives are subordinated to the inflation objective, monetary policy may need to soften exchange-rate movements, especially in the transition to a fully operative, inflation-targeting regime. These interventions, as well as changes in the interest-rate policy intended to influence the exchange rate, need to be clearly stated, with the understanding that they will aim only to balance the effects of temporary shocks.

Transparency of monetary policy must also be enhanced to build accountability and credibility of monetary authorities. This may be achieved by informing the public about the monetary policy framework. In particular, the inflation target and any changes to it should be made public immediately. Monetary policy reports and the publication of monetary-policy, decision-making minutes are helpful tools in encouraging transparency.

In addition, the financial system needs further strengthening. It should be reasonably solvent, liquid, and stable so that monetary policy can concentrate on the design of low-inflation targets, as well as on appropriate implementation of its instruments, to achieve its goal efficiently. A healthy financial system grants more freedom of action to monetary policy as it reduces the probability that weaknesses in the financial-market infrastructure could hinder appropriate implementation. This requires ongoing updating and improvement of banking regulation and supervision, as well as development of new financial instruments, since globalization and dollarization impose new challenges to supervisors, while an increasing variety of financial-market products enables monetary policy to be implemented using market-based instruments.

Conditions for Implementing Inflation Targeting

Adopting a formal, inflation-targeting framework has become an increasingly popular monetary regime among the central banks of both industrialized countries and emerging economies. New Zealand first adopted the regime in 1989, followed by the UK, Canada, Brazil, and Chile. As of mid-2002, 20 countries had adopted a quantitative inflation objective as the nominal anchor of their monetary policies.

Inflation targeting relies on a strong fiscal position and contributes to sound macroeconomic stability. It requires medium-term consistency in the formulation of monetary, fiscal, and exchange-rate policies. In particular, projecting fiscal accounts in terms of a medium-term budget, coherent with inflation targets, helps not only to formulate a medium-term monetary policy; it also enhances Government credibility in its anti-inflationary commitment. In short, inflation targeting must be an official objective of a country's government, established through clear, formal procedures.

Although there is no single prescription on how to implement inflation targeting, initial conditions to support the regime must be established, as follows (Carare et al. 2002):

- First, the Central Bank must have an explicit mandate to achieve price stability and sufficient discretion and autonomy to set its monetary instruments accordingly. This condition aims to increase the Central Bank's operational independence in its conduct of monetary policy committed to attaining the inflation target and adopting it as the economy's only—or at least dominant—nominal anchor.
- Second, a set of conditions must be established to ensure that the inflation target is not subordinated to other objectives. In particular, monetary policy should not be dominated by fiscal priorities. This requires that a government raise its funding from taxes and, if necessary, financial markets; at the same time, it should have only limited access (hopefully a prohibition) to Central Bank credit.
- Third, appropriate tools must be developed to implement monetary policy in support of inflation targeting. The Central Bank should be in a position to influence inflation through its policy instruments; moreover, it should have a solid understanding of the transmission mechanism between monetary policy actions and inflation. This condition emphasizes the need for technical capability to model and forecast inflation and react accordingly.

Although Jamaica satisfies certain conditions, if it is to implement an inflation-targeting regime, it should engage in further development, improvement, and formalization of macroeconomic policymaking institutions and instruments.

Bank of Jamaica Independence

Independent of the monetary regime adopted, the effectiveness of Jamaica's monetary and exchange-rate policies can be improved by strengthening BOJ independence. It is well known that, during the last 15 years, many countries have decided that their central banks should become independent, based on the stability and long-term view that emerges from monetary and exchange-rate policies that are more independent of political cycles. A higher degree of autonomy should strengthen the monetary authority's credibility, which translates into greater policy efficiency and increased probability of successfully fulfilling the Central Bank's objectives. Such efficiency is enhanced by establishing appropriate mechanisms for the coordination and exchange of information between the Central Bank and Government authorities.

Central Bank independence has at least two potential models. One empowers the Central Bank to decide on 1) the specific target of monetary policy within a fairly general objective specified in the legislation and 2) the monetary policy instrument designed to achieve that objective.

A second model empowers the Central Bank to set the monetary policy instrument; however, the objective is defined by or in agreement with the Government, and the Central Bank is accountable for delivering it. Known as "instrument independence," this model was formally adopted in 1989 by New Zealand, followed by Australia, Canada, and the UK. The BOJ Act is also based on it. The model has considerable merit: it both enhances the democratic legitimacy of the Central Bank's role and helps in coordinating monetary and fiscal policy. The target must be closely linked to the statutory objective of monetary policy and should not be open to unilateral review.

Fundamental to any model of Central Bank independence is the Bank's freedom to set the stance of monetary policy in pursuit of its target and refuse to provide the Government credit. In addition, the Bank's senior management must be assured a substantial (but not absolute) measure of tenure security; appropriate coordination must exist between the Central Bank and the Government; and structures and procedures must be designed

to ensure that the Central Bank is ultimately accountable. All of these aspects of independence are vital to building the confidence of financial markets in the countries that have implemented them.

In the case of Jamaica, some steps have been taken in that direction. Since the establishment and constitution of the BOJ Act in 1960, various amendments have been introduced to improve and modernize it, as well as to grant the BOJ greater autonomy in its operations. Of particular importance is the BOJ Amendment Act of 1997, which incorporated legislative elements of other Central Banks that have become independent. However, this Amendment Act has not yet been approved. Even if it had been, certain articles and elucidation could still be improved to provide the BOJ the necessary tools to become effectively independent and better formulate and implement monetary and exchange-rate policy.

In this respect, BOJ legislation needs revising in at least three major aspects: 1) freedom to refuse to provide credit to the GOJ, 2) coordination between the BOJ and the GOJ, and 3) BOJ accountability.

Freedom of Credit Refusal

Although the GOJ has not been profligate recently and the BOJ has kept a tight rein on the money supply, it is critical (from an institutional perspective and with a view toward the mid- and long-term) that the BOJ be free of any obligation to provide the Government credit. This is especially relevant in Jamaica, given the country's enormous public debt. If it had such an obligation, the BOJ would not be able to effectively control domestic liquidity and therefore inflation.

BOJ independence would allow the Bank to have a stronger voice on fiscal indebtedness and its implications for interest-rate levels. Furthermore, the increase in BOJ quasi-fiscal losses would be addressed in a simpler, more transparent way; if they originated in excess Government spending, they would be required to be appropriately accounted for in the fiscal budget and not hidden in the BOJ balance sheet.

Under the BOJ Amendment Act of 1997, the Bank may make temporary advances to the Government in cases of emergency and subject to Parliamentary approval. At the same time, the Amendment Act would limit the Bank's power to purchase Government issued or guaranteed securities. These recommendations are certainly welcome, although some improvements are still required.

BOJ advances to the Central Government are constrained by legislation to a maximum of 30% of the Government's estimated revenue for a particular financial year, which must be paid within three months after the financial year. The BOJ is also limited in its acquisition of primary-market securities issued or guaranteed by the Government to 40% of the Government's estimated expenditure in the financial year of acquisition. Under the BOJ Amendment Act of 1997, the maximum limit of the advance is reduced to 5% of the Government's revenue for the immediately preceding financial year. In addition, the limit to the BOJ's acquisition of primary-market securities that are Government issued or guaranteed are reduced to 3% of the Government's expenditure in the immediately preceding financial year.

Although these limit reductions are welcome, BOJ purchases of Government securities in the secondary market currently have no limits. An adequate regulatory framework would authorize the BOJ to undertake transactions only with public or private financial institutions. Moreover, the BOJ should not be able to confer guarantees or acquire papers issued by the Government or any of its organizations or enterprises. Finally, it should not be allowed to finance, either directly or indirectly, any public expenses or Government loans.

Government-Bank Coordination

The BOJ Act of 1960 gave the Ministry of Finance power over monetary authorities under a number of circumstances, while the Amendment Act of 1997 aimed to limit that power, particularly by restricting the Ministry's authority to instruct the Bank in ways that might conflict with its ability to implement monetary-policy operations. However, some Ministry powers persist, particularly its authority to direct the BOJ on reviewing the state of credit in any sector of the economy and making recommendations for improving the credit supply or taking steps to foster the provision of credit to a sector. Such authority runs counter to the degree of autonomy the BOJ needs to strengthen its capacity to implement its policies effectively and successfully. In addition, the BOJ Act should clearly define the respective roles of the Ministry of Finance and the Central Bank regarding exchange-rate policy.

Another key issue to address is the BOJ's potential recapitalization needs (and the form of Government debt or capital transfer with which they will be met) associated with its deficit situation in cash terms. The latter is re-

lated to the handling of the 1995 financial crisis, as well as the chosen monetary and exchange-rate policies. Over the longer term, it would be desirable to clarify what sort of governance and regulations must be put in place to avoid facing a similar situation in the future.

Bank Accountability

Certain norms should be established to formalize the accountability of BOJ board members. Conditions must be imposed to enhance transparency and permit public (and market) opinion to assess BOJ performance. The Bank is required to submit, within three months of the end of each financial year, a report to the Minister of Finance on its operations during the preceding year and a copy of its audited accounts for the financial year. The Minister presents the report and accounts before Parliament, and a copy of the accounts is published in the newspaper.

The BOJ should be required to disclose information to the public on an annual basis. This would include an evaluation of the implementation of monetary and exchange-rate policies for the previous year and formulation of both policies and targets for the upcoming year.[10] Moreover, this disclosure, which should be made freely available to the public, should be regularly subjected to rigorous scrutiny by Parliament.[11]

Transparency should be promoted through timely and frequent publication of the Bank's results, as well as disclosure (minutes) of authorities' monetary policy meetings to inform the country about the progress status of Bank programs. This would promote economic policy discussion and allow for a more informed public assessment of BOJ performance.

In sum, recommendations proposed by the BOJ Amendment Act of 1997 are an important step toward establishing an appropriate regulatory framework for a more independent BOJ. However, further revision that incorporates the experiences of countries with independent central banks into BOJ legislation is needed to encourage more favorable conditions for the successful performance of monetary and exchange-rate policies.

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[10] Publication of the *Quarterly Monetary Policy Report* is a positive development, which could be improved by specifying the model(s) used by the BOJ and incorporating more information and analysis with regard to BOJ scenarios and projections.

[11] In a democracy, there is a strong case for subjecting Central Bank policies and senior management to regular parliamentary scrutiny. Parliament should be required to evaluate BOJ reports regularly, with appropriate expert assistance, and to make that evaluation public.

Analytical Issues

BOJ policy objectives should be defined more precisely. Under the BOJ Act of 1960, they should influence the volume and conditions of credit supply to promote the fullest expansion in production, trade, and employment, consistent with the maintenance of monetary stability in Jamaica and the external value of its currency. However, monetary stability is usually understood as the stability of domestic currency valued against goods and services, measured as the inverse of some price-level index; therefore, its operational target is to reduce the rate of inflation.

Stability of the currency's external value relates to a stable value of the Jamaican dollar, which is measured or reflected by the movement of its exchange rate against foreign currencies. Although related, these are separate objectives, and in many cases cannot be achieved simultaneously.

Monetary policy can be devoted to the achievement of an internal inflation rate, in which case the exchange rate will normally fluctuate; or to the maintenance of a stable exchange rate, in which case the inflation rate will tend toward the inflation rate of the countries against whose currencies the Jamaican dollar is linked. Generally, monetary policy cannot achieve both objectives, and it is inappropriate to expect the BOJ to do so. Most major Central Banks (including the U.S. Federal Reserve, European Central Bank, Bank of Japan, and the banks of New Zealand, UK, Mexico, Brazil, and Chile) are responsible for achieving a low, domestic inflation rate, and they leave the value of the exchange rate to fluctuate, at least within a certain range.

Although BOJ authorities hold strong views regarding the correlation between the two objectives, it would be desirable for the BOJ Act to uniquely and explicitly state it. This would not mean that other considerations could not be incorporated. That the BOJ attempts to pursue the two objectives—curbing inflation and stabilizing the exchange rate—using a single monetary instrument—money base control—may lead to policy dilemmas. In particular, it has led to quasi-fiscal losses, which, until recently, have not been significant because the BOJ did not need to engage in large sterilization operations. Until 2000, the monetary authorities' strategy indirectly benefited from the fact that high interest rates were mostly compensated for by country risk, which discouraged capital inflows from abroad, and therefore did not complicate the objectives of monetary policy.

However, in 2001 and 2002, owing to the Government's indebtedness abroad and the credibility that economic authorities gained, which stim-

ulated private-capital inflows, the BOJ international reserves increased significantly and required open-market operations to sterilize reserve accumulation. And the policy dilemma is starting to emerge through the implication of the BOJ's quasi-fiscal losses on the currently most pressing macroeconomic problem facing Jamaica: weak fiscal stance and high public debt (including the BOJ). If this trend continues, it will be difficult, if not impossible, to maintain single-digit inflation and stabilize the nominal exchange rate, without the BOJ accumulating substantial quasi-fiscal losses. This ultimately represents a fiscal cost, whether interest expenses appear in the Government's budget or on the BOJ balance sheet.

Operational Issues

Although the interbank money and foreign-exchange markets function relatively well, various operational issues should be considered to improve their efficiency and promote further development of both markets.

Regarding the operational procedures of monetary policy, if the BOJ wishes to modify liquidity conditions, it should concentrate on short-term instruments (specifically, its less-than-30-days signal rate), to allow the market an increasing role in determining the longer-term spectrum of its yield curve.

With regard to information transmission in the exchange-rate market, at the beginning of 2002, authorized dealers in major cities could use an electronic platform to support market making with full two-way bid and asks quotations. Another improvement, made in November 2000, is the electronic Gateways for Auctions, Trade, and Foreign Exchange Management, a system that allows for real-time reporting of foreign-exchange transactions. In the interior of the island, the system works with some limitations and is based on telephone calls, especially for traders and exchange bureaus.

If BOJ intervention sales were allocated through a competitive bidding mechanism, this would equalize the treatment of market participants, increase BOJ profits, and eliminate unintended rate-setting signals. The bulk of interventions is usually spread first among authorized dealers, putting traders at a competitive disadvantage during times of shortage. Only when this results in too large a rate gap between traders and authorized dealers does the BOJ sell to traders.

Distortions that persist in Jamaica's foreign-exchange market should be eliminated. The daily surrender requirement, although small, constrains participants' freedom to trade freely at market prices. Its abolishment would contribute to development of the foreign-exchange market and send a signal by ending all indications of foreign-exchange shortage in the economy. Similarly, because the below-market rate at which the BOJ buys foreign exchange is also a distortion, it would be preferable for the Bank to purchase foreign exchange on the open market.

A forward market for foreign exchange in Jamaica could be developed. Forward contracts provide an additional means for hedging, subject to appropriate, prudent limits on financial institutions. In addition, this instrument helps to complete the foreign-exchange market, reducing its volatility and increasing competition.

Achievements and Challenges

Since the mid-1990s financial crisis, Jamaican authorities have focused policies on aligning domestic inflation with that of the country's major trading partners and ensuring relative stability of the nominal exchange rate, which aims at providing an anchor for long-term monetary stability. The BOJ has performed particularly well in defining, implementing, and operating monetary and exchange-rate policies. Its economic assessment and projection tools have been refined; and data collection, processing, and dissemination have been enhanced. Macroeconomic programming methods, as well as analytical and operational tools used by the Bank, are professionally sound and have proven efficient in reducing inflation and maintaining it at single-digit levels.

Jamaican authorities' determination to implement the SMP has progressed significantly in terms of macroeconomic performance. For example, single-digit inflation has been maintained, significant levels of net international reserves have been achieved, and the economic authorities have simultaneously been able to reduce somewhat the fiscal deficit as a percentage of GDP. In addition, recent advances have been made in structural reforms and strengthening of the legal and regulatory framework for financial-sector supervision.

However, low GDP growth, quasi-fiscal losses of the Central Bank, high current-account deficits of the balance of payments, and slowed reduction

in public debt can be perceived, at least partially, as undesirable effects of the monetary and exchange-rate policies implemented since the mid-1990s. Furthermore, the policies are starting to show signs of inconsistency, which, given the special conditions of the Jamaican economy in the late 1990s, either did not surface strongly until recently or were ignored. Increase of the Bank's quasi-fiscal deficit is of major concern, given the already enormous public-sector debt. Similarly, current monetary and exchange-rate policies could induce strong capital inflows, with the consequent maintenance of or increase in the already high current-account deficit of the balance of payments, a situation that must be monitored closely well into the future. Moreover, slowness in reducing interest rates has postponed resumption of growth and has limited the speed of public-debt reduction.

Jamaica's major macroeconomic problem is the heavy burden of public-sector debt. Consolidation of fiscal accounts requires maintenance of high primary surplus, which implies controlling both public-sector wage settlements and other spending. In addition, tax administration should be strengthened. In this regard, much emphasis must be placed on increasing tax revenue. This means, on the one hand, better control and supervision of taxpayers to improve tax-paying compliance. On the other hand, it involves a special effort to ensure that those members of Jamaican society who engage in economic activities not captured in the formal data set do not avoid taxation. Greater supervision and further computerization of the tax system should allow for closer monitoring of informal-sector activities.

Current public-sector debt and deficit require high interest rates, which not only affect the rate of economic growth but also the effectiveness of monetary policy. High interest rates attract external capital, causing the domestic currency to appreciate or the level of international reserves to increase. While the former helps to divert pressure for greater expenditure on imports, it undermines the competitive position of the tradables sector and amplifies the current-account deficit of the balance of payments. Moreover, if policy options favor accumulation of international reserves, its sterilization increases Central Bank losses, thereby bogging down the process of reducing public (including Central Bank) debt overall.

Greater emphasis should be directed toward improving Jamaica's external-sector competitiveness. The high current-account deficit of the balance of payments and the shrinking size of the export sector suggest that the economy

has been lagging in terms of competitiveness.[12] Special consideration should be given to the fact that the already high, current-account deficit of the balance of payments would be even higher at more satisfactory rates of economic growth. In addition, tourism, one of the main sources of foreign exchange in Jamaica, is generally viewed as responsive to the real exchange rate. Moreover, the recent sharp rise in international reserves to about 25% of GDP could be a symptom of "bicycle" capital inflows in response to high interest rates with a commitment to a quasi-fixed exchange rate. Despite such considerations, there is no major concern regarding the real exchange rate in current economic policy design and implementation because, as discussed earlier, the pass-through from devaluation to prices would be significant.

Proposed Actions

Shift to inflation targeting. Within Jamaica's current context, improving the effectiveness of both monetary and exchange-rate policies requires changes in both the formulation and implementation of the country's monetary and exchange-rate regime. Given the BOJ's recent success in reducing inflation and, consequently, gaining credibility, inflation targeting is the regime that appears particularly well suited for Jamaica today.

As long as BOJ independence increases and its credibility is consolidated, shifting to an inflation-targeting regime would allow for more flexibility in the foreign-exchange market and a quicker drop in the real interest rate, without jeopardizing inflation control. That would, in turn, improve the fiscal and balance-of-payments accounts, as well as economic growth perspectives.

Inflation targeting requires that the monetary authority firmly commit to this objective and establish its diagnosis, forecasts, and policy actions in a technically sound, responsible, and publicly transparent way. Although it implies a major change in the current monetary and exchange-rate design and implementation, the BOJ is in a position to assume this task efficiently. Inflation targeting would enable the Central Bank to control its ultimate objective; take well-timed, preventive action based on all available information; and fine-tune this action in direct response to any changes or

[12] Although remittances and foreign direct-investment flows have been key sources of foreign financing in recent years, the sizeable current-account deficit is an indicator to consider with regard to competitiveness of the Jamaican economy.

movement in underlying or core inflation. The trade-off associated with focusing on the ultimate target level of inflation and dispensing with intermediate monetary-policy objectives is that the corresponding policies must have a high degree of credibility, another area in which the BOJ has performed well recently, according to market participants.

Sequence policy actions. As explained earlier, implementing an inflation-targeting regime and a more flexible monetary policy is not a simple, immediate task for Jamaican authorities. To advance in this direction, the Government and BOJ should undertake a specific sequence of economic policy actions. In particular, the dynamics of public debt is a problem that authorities must solve in advance (it could be overcome through significant debt restructuring).

As previously discussed, strengthening the BOJ's independence and focusing its objectives on control of inflation would further enhance its credibility, thereby increasing the efficiency of an inflation-targeting policy. BOJ independence would also contribute to strengthening the Bank's commitment to its target, while, at the same time, increasing the confidence of financial markets. Special care should be taken to ensure that the BOJ's balance sheet is free of accounting items directly or indirectly related to the bailing out of the Jamaican financial sector, and that international-reserve accumulation losses are appropriately considered in the fiscal budget.

One major proposed change that diverges from current practice is that the BOJ should concentrate monetary policy on short-term maturity (ideally the inter-bank interest rate) of its open-market operations, leaving the entire spectrum of longer-term interest rates more market determined than they are today. If such a scheme were adopted, the focus of BOJ analysis would have to shift from monitoring monetary aggregates, which would fluctuate more than at present, toward monitoring the more direct determinants of inflation. Contrary to current practice, interventions in the foreign-exchange market should be exceptional. Allowing for exchange-rate variability helps to deter short-term financial inflows, a potential problem in the near future, under the prevailing monetary and exchange-rate policies.

Experience shows that, under the proposed regime, a medium-term perspective on the overall situation is called for when reacting to short-term changes in individual indicators. Monetary and exchange-rate policy decisions must be based on trends across a broad range of indicators, rather than on

specific figures covering a one- or two-month period. More specifically, the BOJ's measures should neither react impulsively to indicators spanning a single month (or another specified period) nor be based on isolated figures.

Initially, the inflation target could be set within a certain range (e.g., 7% +/− 2%), and then both the midpoint and, eventually, the range could be gradually reduced. The BOJ would have to produce a forward-looking Report on Inflation, which would expose the market, in a sound technical way, to BOJ models, short- and medium-term inflationary scenarios, forecasts, and projections.

Experience shows that, when the public has confidence in the monetary authority's political commitment to its target and its technical ability to achieve it, the eventual short-term effect of certain shocks on inflation is short lived. In Jamaica, there is a good case to argue in favor of a transitory inflationary effect of lower interest rates. On the one hand, the pass-through should be much smaller than what is implicit in prevailing official apprehension. On the other hand, lower interest rates contribute to a smaller fiscal deficit and discourage short-term capital inflows. Both effects tend to reduce the rate of domestic spending and dampen inflationary pressures.

It is not necessary, or even desirable, for inflation targeting to demonstrate any spectacular achievement. On the contrary, successful experiences with lowering inflation in a stable, sustainable way indicate that the emphasis has been on persistence, systematic action, and increasing credibility in the fight against inflation. Thanks to emphasis on a consistent, gradual decline in inflation, the Central Bank continues to gain credibility; in turn, market behavior, contracts (wages and prices), and expectations increasingly incorporate the Central Bank's inflation targets into their decision-making process. In that way, the chance that strong imbalances will arise in significant markets (e.g., labor, financial, and foreign exchange) is minimized, while, at the same time, the advances already achieved in controlling inflation tend to consolidate.

Better define policy objectives. Independent of the monetary regime, the BOJ should define its policy objective more rigorously. Under normal circumstances, the Bank cannot be expected to achieve two objectives—inflation reduction and exchange-rate stability—with one policy instrument. Although authorities hold strong views regarding the correlation between the two objectives, the BOJ should state one objective in its principal Act.

International experience suggests that it be stated along the following lines: "The objective of the BOJ is to achieve and maintain stability in the general level of prices. In pursuing its price stability objective, and without derogation from the primacy of that objective, the BOJ shall implement monetary policy in a sustainable, consistent, and transparent manner, and shall take into consideration the stability of foreign payments and/or the general economic policy of the Government."

Until recently, the policy dilemma outlined here had not surfaced because the attempt to satisfy both objectives produced limited, quasi-fiscal losses since the BOJ did not need to engage in significant sterilization operations. However, in 2001 and 2002, the situation began to change. If the economy resumes growth and country risk starts to decrease, it will become increasingly complicated to maintain single-digit inflation and stabilize the exchange rate, without accumulating substantial quasi-fiscal losses through sterilization operations.

Improve policy conditions. Although important developments have occurred in monetary and foreign-exchange markets in recent years, further improvements would increase policy efficiency. Considerations include:

- Improving information transmission in the foreign-exchange market to allow for real-time reporting of foreign-exchange transactions,
- Promoting the allocation of BOJ intervention sales through a competitive bidding mechanism,
- Eliminating persistent distortions in Jamaica's foreign-exchange market (particularly the daily surrender requirement) and encouraging the BOJ to purchase foreign exchange on the open market, and
- Developing a forward-looking market for foreign exchange in Jamaica.

Other aspects indirectly related to monetary and exchange-rate policies need to be considered since they affect the needed conditions for adequate implementation and full effectiveness of these policies. For example, stagnation of private-sector investment does not respond solely to high real interest rates or to exchange-rate developments. Jamaica has failed to provide an appropriate security environment to promote business and investment. Factors related to the lack of security drastically increase the costs associated with any new project, as significant resources need to be allocated to finance

personal and property protection. Criminal and robbery indicators are extraordinarily high in Jamaica, and property protection can only be partially assured by investing significant resources in private security systems. Even with lower than prevailing real interest rates, the capacity to initiate promising investment projects or entrepreneurial activities is limited within this context. Improving the business climate, particularly by increasing security standards, should be a top priority for authorities. Progress needs to be made in protecting property rights, improving drug control, and prosecuting those who break the law. Entrepreneurial activities can emerge only if at least the minimum conditions of security and confidence are granted, which are an inescapable responsibility of the political authorities.

Control informal sector. Another factor that has restrained Jamaica's economic growth is the significantly large, informal sector. In fact, a large part of the labor force is dedicated to unreported activities. Members of this group not only consume health, education, and other taxpayer services without contributing their fair share; they are also involved in businesses with unfair advantages, compared to law-abiding persons and firms that comply with their tax duties and overall economic legislation. This situation may lead to the weakening of many formal businesses, thus further undermining the country's revenue base.

Jamaican authorities need to reduce the sizeable, unreported informal sector. This will not only increase tax revenues; it will also formalize activities that may benefit all of the parties involved. Authorities need to work on a scheme that promotes formalization of operations, both for emerging entrepreneurial activities and those involved in the informal sector who currently are unwilling to be incorporated into the formal economy. Reducing the costs of initiating activities, as well as easing the burden on those who have accumulated past obligations, will facilitate the process of reducing, or at least controlling, the current informal sector.

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3

From Financial Crisis to Correction

MARTIN NARANJO AND EMILIO OSAMBELA*

Over the past several decades, the structure of Jamaica's financial system has shifted from heavy foreign participation to nationalization, to privatization. Recently, the Government of Jamaica (GOJ) has committed considerable resources to taking strong regulatory actions to provide an incentive framework that minimizes the problems of adverse selection and moral hazard inherent in any financial system.

During the early 1990s, Jamaica's financial system assumed excessive risk; thereby, its vulnerability increased, resulting in the 1995 financial crisis. Five out of nine commercial banks and five insurance companies were taken over. Weak macroeconomic fundamentals, policy choices, and aggressive risk-taking together accounted for most of the crisis outcomes.

Recently, the GOJ has taken significant steps to correct the financial system's regulation and supervision. This chapter focuses on measures still needed to improve system solvency and stability in three core areas (Box 3-1):

* The authors wish to acknowledge the valuable comments of Desmond Thomas, Hunt Howell, Gina Karp, and Liliana Rojas-Suárez.

BOX 3-1. Inextricable Links: Risk Management, Financial Safety Network, and Economic Institutions

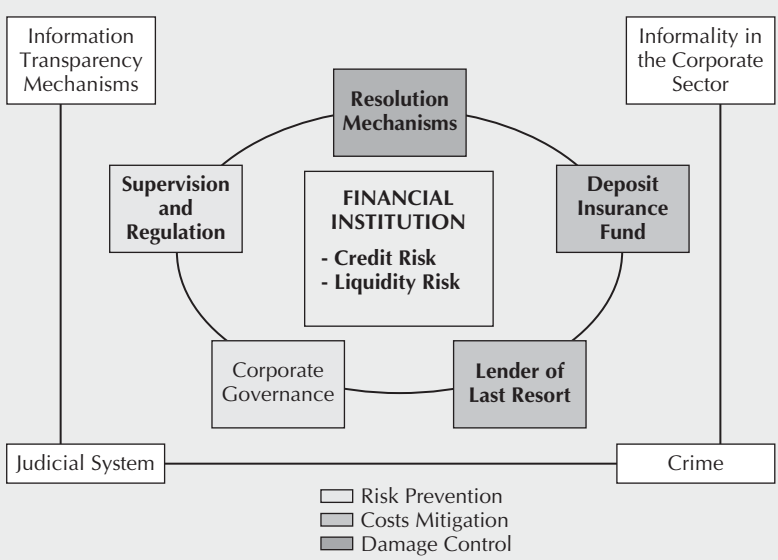
Financial institutions develop risk-management systems, whose characteristics and behavior depend heavily on the environment in which the financial institutions operate. This environment is defined by an economy's financial safety network and institutional characteristics. Thus, the risk-management system will be appropriate for financial firms if it is consistent with the economy's institutional characteristics (dispute-resolution mechanisms, crime, transparency, and informality) and financial safety network (financial supervisor, lender of last resort, deposit insurance, corporate governance, and resolution mechanisms).

For example, if exchange-rate risk is not considered in risk-management design, exchange-rate risk-taking will be considerably more aggressive, and a lender of last resort with more prudent foreign-assets management will be required.

At the same time, the financial safety network of a given economy should be consistent with that economy's other institutions. For example, in a context where the law cannot be efficiently enforced, banking supervision should promote higher private participation to encourage market discipline as an additional enforcement mechanism.

In order for Jamaica's financial system to achieve sustainability, current risk-management regulations, the country's financial safety network, and institutional characteristics of its economy must be properly aligned to provide an optimal incentive framework (see Figure below).

Risk Prevention, Cost Mitigation, and Damage Control



- Risk-management,
- Financial safety network and institutional characteristics of the economy, and
- Appropriate alignment.

Chronology of the Crisis

Prior to Jamaica's independence and during its first years as a republic, branches of foreign financial institutions dominated the country's financial system. These companies were subject to their parent companies' prudent standards and controls; therefore, the need for effective local system regulation was not apparent. Furthermore, foreign banks limited GOJ effort to introduce domestic regulations.

During the late 1960s and early 1970s, the GOJ nationalized (localized) most financial institutions; consequently, the prudent standards used earlier by foreign administrators disappeared. Implementation of a strong regulatory and supervisory structure was not a Government priority.

Road to Vulnerability

Nationalized banks were progressively privatized, starting in 1986, when 40% of the shares from the National Commercial Bank (NCB), Jamaica's leading bank, were transferred to the private sector. Five years later, the Workers Savings and Loan Bank underwent the same process. During this period, lack of supervision, regulations, and entry barriers allowed the massive entrance of financial institutions. This occurred within an environment of insufficient institutional controls, resulting in a highly volatile situation.

Economic reform included the liberalization and privatization of the financial sector. As short-term, foreign capital inflows increased, so did system vulnerability.

Likewise, the setting of expansive macroeconomic policies generated economic growth for some years, which later turned negative. In 1991, inflation reached 80%, with real growth of only 1%, which did not change until 1995. Additionally, the domestic debt issued by the GOJ to finance the deficit in 1992 was mainly absorbed by the Central Bank and commercial banks, dramatically increasing the financial system's debt levels. Within this scenario,

the GOJ liberalized interest rates and exchange rates, which previously had been heavily regulated. However, no safeguards had been established for such liberalization. In fact, all of the conditions necessary for a successful transition to market mechanisms and integration of the domestic and global economies—sustained fiscal balance, local currency stability, and prudent financial and regulatory systems aimed at preserving soundness—were far from being met.

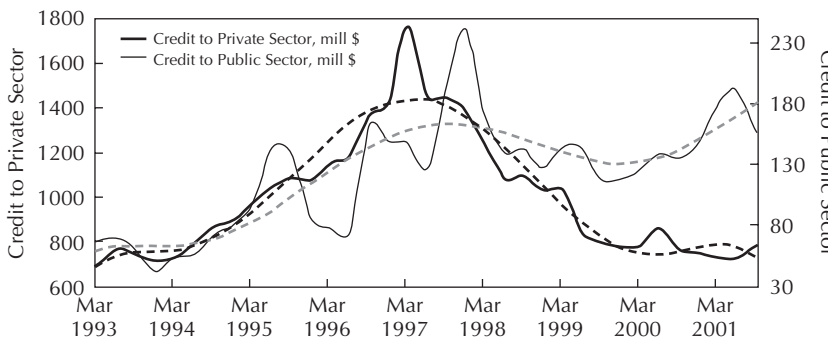
Greater competition levels encouraged financial institutions to search for profitability by assuming greater risks. Bank reserves and capital and provisions requirements were postponed in the search for a lower cost of funds. Likewise, the then current regulatory framework gave clear arbitrage opportunities to financial conglomerates and large banks with international holdings. Financial conglomerates were held to less demanding regulations and were even given tax advantages. For this reason, the number of financial conglomerates that included various types of financial institutions (e.g., commercial banks, mercantile banks, construction societies, general and life insurance companies, leasing companies, and investment funds) increased. The number of mixed conglomerates also grew, increasing with it the risk of corruption.

An unsustainable credit boom, concentrated in consumer-oriented credit, also resulted. Credit risk management and collateralization assumed scenarios that later proved too optimistic. This, in turn, generated remarkable growth in the financial system in the early 1990s. The financial sector's contribution to gross domestic product (GDP) rose from 7% in 1987 to 16% in 1994 (although it has since stabilized at an average of 12%). On the other hand, the number of financial institutions—banking entities and insurance companies—increased from 67 in 1989 to 105 in 1995. Commercial bank deposits increased from US$ 1,575 million in the early 1990s to US$ 2,670 million by the end of 1995, reaching US $3,315 million in early 1998. Commercial bank credit also expanded from US$ 690 million in 1990 to US$ 1,158 million in 1995, reaching a maximum of about US$ 2,000 million in 1997, falling again to US$ 939 million in 2001 (Figure 3-1).

Concurrently, many insurance companies were expanding. They used their long-term funding to increase their participation in banking institutions. Regulation and supervision were not in place for financial institutions to properly manage the implicit credit risk they were assuming, resulting in oversized credit growth. This stage was also characterized by increased lend-

FIGURE 3-1

Credit to Private- and Public-sector Commercial Banks (millions of US$)



Source: Statistical Digest, BOJ

ing to related parties, as well as maturity and currency mismatches, demonstrating that risk-management systems were not working properly.[1]

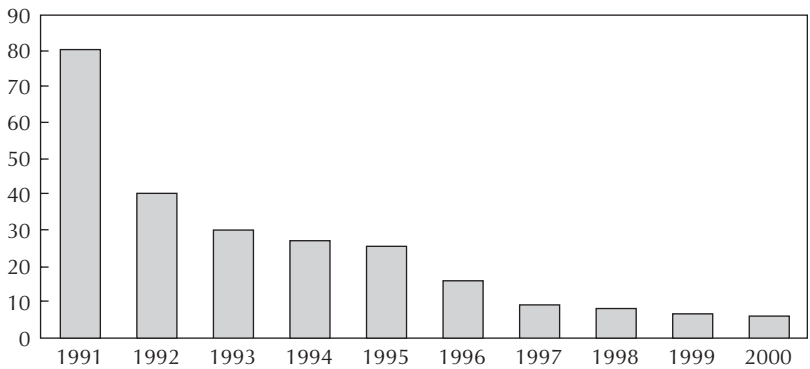
During the same period, the Central Bank used a contractive monetary policy to control high inflation levels. Even though this measure made it possible to reach this goal (see Figure 3-2), it also increased real interest rates, which adversely affected portfolio quality, investment, economic activity, and fiscal accounts. Increased interest rates also encouraged short-term capital inflows, increasing system liquidity and forcing the Central Bank to adopt a contractive monetary policy to fight this effect and control inflation. However, this encouraged interest rates to rise, creating a vicious cycle.

As mentioned above, the liquidity restriction encouraged by the monetary policy negatively affected insurance companies, which, in turn, applied two risky mechanisms to increase their profitability. First, they launched financial savings products, similar to the deposits offered by banks and other deposit-taking institutions. These short-term liabilities were used to finance long-term assets. With this mismatch, insurance companies paved the road to the crisis scenario. This liquidity problem spread to affiliated commercial banks. Second, they used early-acquired participation in financial

[1] In general, excessive growth periods are clear indicators of the absence of controls and robust predictors of financial crisis.

FIGURE 3-2

Inflation Levels (percent variation in consumer price index), 1991–2000



Source: Statistical Digest, BOJ

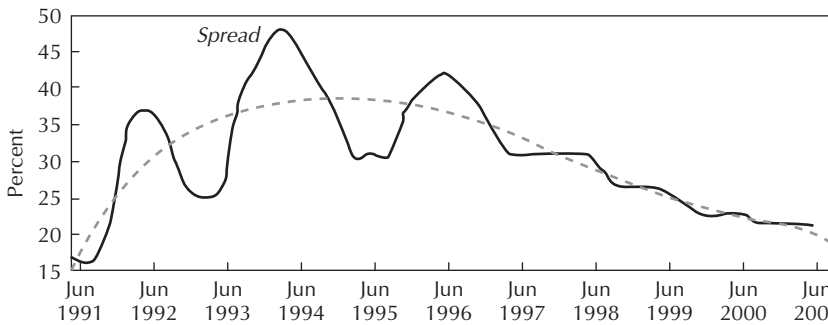
institutions to induce banks to grant them credit that exceeded related lending limits.

Interest rates derived from the Central Bank's restrictive monetary policy, combined with poor macroeconomic fundamentals, created a serious information problem in the financial system. At the outset of and during the crisis, recessionary-market dynamics reduced companies' market (and collateral) value. This, in turn, increased the information costs related to adverse-selection problems in the credit market. Under these circumstances, the interest rate paid by all companies increased; however, the amount of the increase was inversely proportional to the quality of the financial information that debtors could show; thus, the spread between the rates paid by transparent and semi-transparent companies started to increase when the crisis began. (One approach to the issue is the spread between lending and deposit rates, assuming that banks have more transparent information to offer than other companies.)

Figure 3-3 shows that this informational problem increased throughout the first half of the 1990s. The late 1990s was a period of stabilization, characterized by improving macroeconomic fundamentals, convergence of the exchange rate to a stable level (about 35J$ equivalent to 1US$), reduced inflation, and relative improvement in regulatory and financial supervision. This contributed to reducing the information costs in the credit market.

FIGURE 3-3

Spread of Interest (Lending and Deposit) Rates in Jamaica's Financial System (1991–2001)



Source: Statistical Digest, BOJ

Within this context—lax financial supervision, disproportionate granting of credit, and high-risk exposure—a deep financial crisis erupted in 1995. Poor macroeconomic fundamentals and a serious adverse-selection problem resulted in the takeover of five insurance companies and five commercial banks.

Government Response

In response to the financial crisis, the GOJ took actions to restore system stability. In July 1995, it approved US$ 76 million in liquidity aid from the Central Bank of Jamaica to the Century National Bank. In July 1996, it was necessary to change bank management, and the Financial Institutions Services (FIS) was created to solve the liquidity and solvency problems. The next year, the Financial Sector Adjustment Company (FINSAC) was created to manage failed financial institutions in three stages: 1) intervention, 2) rehabilitation and investment, and 3) privatization (divestment). The first step concluded in March 1998 when FINSAC acquired the five insurance companies and commercial banks that had been taken over during the financial crisis. Since then, significant progress has been made in the second stage, and the third stage will soon be completed.

Four out of the five banks in which intervention occurred merged in April 1999 to form the Union Bank, the sale of which has been concluded.

Regarding the fifth bank—NCB—FINSAC and its subsidiaries sold their share (75%) to AIC, Ltd. of Ontario in January 2002.

Four out of the five insurance companies have been restructured. Deposits were transferred to the Bank of Nova Scotia, and the insurance portfolio was sold to the Guardian Insurance Company of Trinidad & Tobago in August 1999. In November 2001, FINSAC sold its shares of Life of Jamaica to Barbados Mutual Life Assurance Society, a subsidiary of Life of Barbados, Ltd., representing the last insurance-company restructuring.

Likewise, in October 2000, US$ 291 million in FINSAC bonds maintained by the Bank of Jamaica (BOJ) were deducted against GOJ deposits in the Bank. The remaining US$ 296 million were converted to Local Registered Stocks (LRS), the medium-term debt instrument that the GOJ uses to acquire funds in the domestic market. FINSAC's remaining pending debt in the private sector was converted to LRS, and cash interest payments on the debt stock began in March 2001. All LRS issued by debt exchange from FINSAC are fully negotiable.

In January 2002, the GOJ signed an agreement to sell the bad-credit portfolio earlier requested by private entities. The buyer was the Jamaica Redevelopment Foundation, Inc., of Plano, Texas, a subsidiary of Beal Bank, which specializes in secondary markets for loans and debt assets. Beal Bank guarantees a punctual and full payment of the debt. In addition to the purchase value, the GOJ will obtain a percentage of what is recovered from bad credits.

Similarly, Jamaica's Parliament created the Financial Services Commission (FSC), now in full operation, as demonstrated by its regular board meetings. Its executive director and main executives—including senior directors for inspection and research (securities and insurance)—as well as its director for corporate services, were hired in November 2001. The general manager was hired in February 2002, and the senior director for pensions was expected to start work in April 2002.

In 2001, the new Insurance Law was completed (replacing that of 1970). It is fully operational, already being enforced by the General Governor of Jamaica. FSC staff successfully conducted a risk-based inspection plan in an insurance company qualified as completely appropriate by an international consultant. Additionally, the Fiduciary Act was amended to achieve consistency with the insurance legislation.

An amendment to the Securities Act is currently in progress. The FSC is authorized to settle risk-based capital standards for insurance brokers

and licensed dealers to regulate prospects standards and information management.

The Inter-American Development Bank (IDB) has directly supported this process by approving a program to reform the financial system. In September 2000, it agreed to provide sufficient resources to:

- Resolve Jamaica's financial system crisis and
- Reduce the financial system's vulnerability to future shocks.

To achieve these goals, the program established the following objectives:

- Assist in the disposition of FINSAC-accumulated assets,
- Support debt containment incurred by FINSAC at the time assets were acquired, and
- Contribute to reducing the financial system's vulnerability to future shocks by supporting prudent supervision in financial institutions (e.g., establishing intervention processes to follow during a crisis and strengthening collateral recovery and selling processes).

Most GOJ achievements relate directly to these program components.

Thus, it can be inferred that the work performed by Jamaican authorities is satisfactory and represents the first attempt—in several decades—to provide the strength and solvency required for the long-term stability of the country's financial system.

Evaluating Institutional Aspects

Information Transparency Mechanisms

Jamaica's financial system can benefit from reliable information of financial institutions and their risk exposure. Although existing regulations demand that financial institutions present their financial statements to the Central Bank, the Bank does not fully disseminate this information to the public. The only information available to the public is that included in the balance sheet of companies under Bank supervision.[2]

[2] Although this information is posted on the Central Bank's website, it is presented in a format difficult for processing purposes.

Because of this lack of information, creditors cannot adjust their portfolio decisions conveniently or punish banking institutions when they assume excessive risk. This, in turn, prevents the market from acting as an additional enforcement mechanism. Thus, Central Bank resources alone must be relied on to carry out these supervisory tasks.

Transparency of Jamaica's financial information can be much improved by:

- Organizing public information by type of risk and time frame and making it readily accessible.
- Having all institutions fully disclose their financial statements.
- Presenting information in forms that are both easy to read and process.
- Having the Central Bank periodically publish risk-based statistical reports on the state of the financial system.

The Technical Cooperation Program (TCP), designed to strengthen supervision of IDB-supported, nondeposit-ranking activity, addresses areas that include the development of policies and procedures related to prospectus and disclosure requirements. Specifically:

- Program component II. Provides guidance on and support for the development of policies, rules, and procedures governing transparency and disclosure on regulation-making; it also provides guidance on implementing enforcing actions for the insurance and securities sector and communicating these actions to the public at large.
- Program component III. Addresses the problem of prospectus and disclosure requirements. Its specific activities include 1) ongoing disclosure of prospectus requirements, procedures, and financial information; 2) advice on the system for collecting, receiving, and monitoring information; and 3) public workshops for comprehensive disclosure programs.
- Program component IV. Addresses corporate governance requirements and includes the disclosure of activities and information.

Through the TCP program, the FSC is expected to develop and enforce adequate disclosure standards for all public offerings of securities and the periodic disclosure of information for listed companies. Thus, training of officials was recommended so that they could learn about the best practices in full disclosure and accounting practices for public companies.

Another critical issue involves the absence of a credit bureau. Such information is essential to protect creditors and reduce credit risk on the basis of historic information from debtors. It is also one of the few mechanisms for assigning a default cost in credit contracts, given the problems from the judicial system in contract resolutions.

In this regard, the GOJ has prepared a draft for appropriate legislation to establish a credit bureau.[3] Nevertheless, no concrete proposal has established whether it will be a public or quasi-public entity. Likewise, the supervisor has been given the power to impose sanctions, which are needed because of inaccurate information included on financial statements and "creative accounting."

Additionally, companies could be compelled to issue subordinated debt. Even though this signal can be weak under conditions of thin or illiquid capital markets, when they are negotiated, movements in their price and quantity would indicate how a particular group of creditors qualifies the institutional situation. Moreover, publication of risk ratings by private companies could be mandatory.

Informality in the Corporate Sector

Most companies do not handle acceptable accounting registers of the operations performed. This leads to a serious information problem, which does not permit financial institutions to accurately evaluate a company's situation. Lack of appropriate signals generates obstacles to the credit-granting process and increases credit risk by making the management of adverse-selection problems more difficult.

In response, the IDB and International Monetary Fund (IMF) are currently developing a project to strengthen Jamaica's accounting and auditing professions. They rely on the support of the Institute of Chartered Accountants and the private sector to ensure that accounting practices are in accordance with international standards.

Although the project is moving in the right direction, certain steps could be taken to provide short-term results. At the same time, the GOJ could foster

[3] The credit bureau would be a useful supervisory tool and should be completely incorporated into the internal supervision of financial institutions. Thus, the process of its establishment should be accelerated.

company formalization, as well as appropriate accounting registers. Though difficult, formalization could be fostered through regular, mandatory audit.

It is also necessary to establish an incentive framework consistent with company formalization. According to the entrepreneurs interviewed for this chapter, formalization incentives are lacking, and the cost of formal operation is excessive. Those interviewed also said that they have difficulty competing with companies that operate informally. The problem of informality is also present in the securities market and is related to information disclosure. Component III of the TCP, as mentioned above, addresses the problem of prospectus and disclosure requirements. Specific activities include the establishment of prospectus-requirements standards; forms/filing procedures; types of financial information; and development of regulations and procedures, including the registration process and design of administrative and information-system structures.

Crime

Jamaica's high crime rate creates an environment of insecurity, which hinders investment, a key element in financial-services demand. High levels of crime, terrorism, and drug trafficking contribute to lower levels of investment, encouraging low levels of intermediation in the domestic financial system. At the same time, hopes of achieving long-term, sustainable growth are reduced. Within this context, investors have an incentive to move their funds abroad just when generating sustainable growth in the country is critical.

Financial crime consists mainly of securities fraud and money laundering, which distort the financial system and money market. While the Office of the Director of Public Prosecutions (DPP) has addressed such crimes, caseload volume has restrained the specialization and optimum treatment of financial cases. Thus, a Financial Crimes Unit (FCU) was created to enhance and enforce capabilities against fraud and abuse. The FCU works within a specific budget, and has already started training prospective officers.

The Jamaican authorities' initiative to tackle money-laundering problems is appropriate, given that the country is a major tourist destination and the high level of drug trafficking. Nevertheless, both prevention and formal coordination between the regulator and the judicial system are highly desirable. In addition, the private sector should play a more active role in this area.

Development of programs to prevent terrorism and drug-trafficking should be encouraged because these are the main causes of murder. In addition, police efficiency should be increased to prevent crime and improve investigative capacity. Such improvements would be more effective than increasing punishments.

Judicial System

Jamaica's judicial system, like those of many other countries throughout Latin America and the Caribbean (LAC), has protracted trials; similarly, resolutions of credit-contract conflicts are usually prolonged. In this regard, 72% of cases presented to the Court of Justice are related to murder, which delays judicial processes associated with other issues. For example, in the case of credit collateral, foreclosure could take 18–48 months. During this period, assets lose value and collateral loses its purpose.

Judges face problems of insufficient legal-investigation facilities and inadequate information systems. Capacity to solve commercial and financial cases is lacking, thereby contributing to the perception that financial crimes have a sort of impunity—an impression that must be corrected.

To address this problem, a specialized branch of the Supreme Court, known as the Commercial Court (CC), has been formed and assigned a full-time judge. A cooperation and training program has been agreed on to address FCU and CC issues as part of the TCP to train judges in commercial and financial matters. While much work remains, this step is appropriate since, to a certain extent, it solves the overload problem of the murder/crime judicial process.

Deeper reforms of the judicial system are needed to accelerate recovery-of-collateral proceedings and increase creditors' protection from debtor default. (This issue should be included in the CC.)

The legal framework does not adequately protect creditors in the financial system. This not only increases the credit risk assumed by financial institutions, but also the moral hazard of debtors. They have virtually no incentive to repay the credit previously received because they perceive that an appropriate legal system that punishes default in a timely fashion is lacking.

Improving the judicial system could have a greater effect on reducing crime than the initiative to increase penalties. Even if punishments were more severe, lack of a judicial process to enforce punishment of law offenders—today's main problem—would eliminate the possibility of reducing crime.

Analyzing the Financial Safety Network

International experience in bank-crisis resolution shows that the high direct and indirect costs involved are inconsistent with the magnitude of the factors that caused the problems. Thus, one shock can generate a financial crisis, whose resolution implies large financial costs to the country, while another similar shock may have only a moderate cost with a small economic slowdown. Thus, resolution costs do not depend solely on the magnitude of the shock that hits a banking system; they also depend on sector vulnerability and the strategy to confront it.

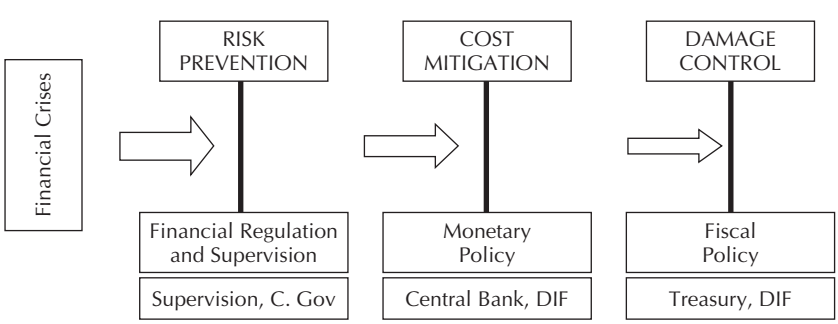
A resolution strategy should prevent and mitigate, as well as respond to, the problems. To this end, a coordinated body with clearly defined functions is required to reduce the probability of crisis, minimize the costs of confronting it, and neutralize resulting damages to the national budget and economic growth. This structure functions as a financial safety network for the market to guarantee better crisis handling. The network consists of State institutions that play different roles in various stages of a crisis (Figure 3-4).

During crisis prevention (the first stage), strict and efficient regulation policies and risk supervision should be in the hands of a bank regulator with capacity, autonomy, and supervisory power. Additionally, sound policies of corporate governance in financial institutions are essential at this stage for better risk prevention, control, and management. These mechanisms should be in place to reduce the probability of a crisis.

During cost mitigation (the second stage), the Deposit Insurance Fund must act quickly and efficiently to cover insured obligations. A solvent and

FIGURE 3-4

Stages of Crisis: Roles of the Financial Safety Network



agile fund makes it possible to reduce system uncertainty, thereby minimizing the spread of effects among banks. The Central Bank should participate in the network as lender of last resort and monetary regulator, through policy instruments that allow for fine and flexible handling of system liquidity.

During crisis development (the third stage), participation of the Treasury is important in meeting the remaining costs and designing resolution mechanisms to minimize State losses. At this stage, an appropriate damage-control policy is needed to make resolution costs explicit and consider optimal strategies under the principles of the smaller cost and concentration of shareholder losses, either through stock transfer, merger, or asset-liability transfers.

Thus, the financial safety network acts as a layered system of protections that cushions the shock effects over the banking system. As shown in Figure 3-4, the first layer corresponds to risk prevention through supervision and bank regulation. The second layer is cost mitigation through coverage of deposits and the monetary policy that manages liquidity. Finally, the third layer corresponds to damage control through a fiscal strategy of cost reductions. Weaknesses in any of the three layers cause the shocks to have deeper effects throughout the system and economy, with higher fiscal-resolution costs.

Network operation should establish resolution strategies under explicit mechanisms, with little or no margin for discretion; the principles of smaller cost and quick performance should be followed to minimize systemic risks. It is necessary to show these mechanisms to the market in a transparent way that indicates that the processes are fixed, without margin for political interference (which may imply a differentiated treatment among institutions), thereby reducing the moral hazard that motivates excessive risk-taking by financial institutions.

Risk Prevention

Corporate Governance

Weak corporate governance practices contributed to the crisis (e.g., board members often shared executive responsibilities in the same financial institution or participated as members of many other boards). The Securities Act has established the requirement of setting up audit committees and conducting review committees. The program will enhance corporate governance practices by developing:

- Regulations regarding roles and responsibilities of commission members,
- Commission procedures for audit and internal controls,
- Regulations for sound practices and corporate governance at the board level,
- Advice on conflict-of-interest policies, and
- Advice on secrecy standards.

Within the scope of the IMF project carried out to strengthen the accounting and auditing professions in Jamaica, a plan to hold workshops and seminars on corporate-governance practices has been established. The plan also includes the dissemination of more information about board responsibilities.

These authors consider that these workshops and seminars are appropriate. In general, the boards should consist mainly of non-incumbents who can dedicate sufficient time to Bank tasks, especially those regarding risk, auditing, and remuneration committees. To ensure transparency, auditors must not have any connection with the banking institution, either through consultancies or other relationships that could hinder the conclusions drawn. Prudent regulation in this regard will soon be developed comprehensively.

Financial Supervision

Autonomy

Financial supervision should concentrate on prevention to better promote the soundness, solvency, and stability of the financial system. A necessary condition to ensure this is for supervisory work to be carried out by an autonomous, independent agency exclusively dedicated to the objectives. The presence of diverse interests and multiple objectives (that could even be contradictory) would fail to achieve any of them satisfactorily.

In this regard, the Minister of Finance is empowered to override virtually all actions related to regulation and bank-supervision issues. However, the Minister is also in charge of directing other economic policies and issues. Historically, this lack of autonomy and insufficient institutional backing and enforcement capacity have been detrimental to establishing sound and prudent financial supervision in Jamaica and led to the 1995 financial crisis.

In addition to having an unnecessary political dimension, the process of issuing legal norms related to financial regulation is slowed significantly.

Given that it is necessary to go through various Ministry authorities, Central-Bank norms are delayed more than would be optimal.

Box 3-2 summarizes the powers vested in the Minister by law that these authors believe should be exercised by an independent and autonomous organization, with a budget funded directly by the financial institutions themselves, not the Central Government.

To give the supervisor more autonomy, the Financial Sector Reform Program (FSRP), addressing bank supervision issues among other initiatives to reduce financial-system vulnerability to future crises, aims to lead the BOJ to adopt the following:

- International best practices, especially those on autonomy and supervision of complex groups, according to the Basle Principles. The BOJ has received Cabinet approval to intervene and assess fines. The FSC is fully operational, with intervention powers equivalent to those of the BOJ.
- Plan to address gaps between current regulations and the Basle Core Principles. This plan, which is being carried out, represents an effort to adapt to Jamaica's economic conditions.

Progress in this area has been achieved, with the recent increase in the Supervisor's intervention capacity. For example, without the Minister's approval, s/he can assume control and temporary administration of a managed institution and issue Memoranda of Understanding (MOUs) when an institution shows signs of problems.

Although these changes are adequate, as a supplementary step, these authors suggest that the Supervisor (BOJ vice president of supervision) be appointed for longer terms that, if possible, overlap with elected terms of political authorities. Formally, the BOJ chairman is responsible for bank supervision. However, it might be appropriate to appoint another board member dedicated exclusively to heading BOJ supervision.

Accountability

To ensure that the Supervisor has the appropriate incentives to maximize the well-being of the financial system, it is necessary to integrate a higher degree of accountability into the system, providing the public sufficient information with which to periodically evaluate the Supervisor's performance. This will ensure that the Supervisor 1) possesses the skills and experience

BOX 3-2. Ministerial Duties under the Banking Act

The Minister of Finance may:

- Draw up general regulations.
- Define the scope of banking business, approve institutions, receive applications for banking licenses, authorize (and revoke approval of) use of the word "bank" in a name, vary the minimum capital requirement for a bank to obtain a license, approve a foreign government's ownership of a bank in excess of 5% of issued shares (as well as the exercise of any voting powers by such government in excess of 5%), approve agreements of transfer of bank control and grant conditional approvals (sections 20 and 21), assume temporary management, revoke the license or present a petition for closing a bank, and direct the bank regarding personnel considered inappropriate.
- Request information.
- Vary ratio of deposit liabilities and other indebtedness to capital base, grant approval and set conditions for a bank to hold fixed assets of an amount in excess of its capital base, specify that capitalized structure may be paid on a bank's shares without including expenditure to purchase goodwill, vary the percentages applicable to permissible levels of lending outlined in section 13(1)(f), extend the time for disposal of lands held in excess of fixed asset limits, determine other assets that qualify as "liquid," prescribe the percentage of liabilities that money at call or short notice will meet, and prescribe amounts and bases for calculating appropriate levels of loan-loss reserves.
- Draw up provision to extend credit in excess of statutory limits where facility is secured by cash, other borrower resources, or a guarantee approved by the BOJ; approve the form of returns for the BOJ; and extend time frame for filing return.
- Appoint a borrower company for a credit facility to qualify as "specified" and approve it.
- Restrict Supervisor from exercising powers to obtain undertakings or issuing directions or cease-and-desist orders.
- Require disposal of shares in an acquired local bank (in breach of sections 20 and 21) and apply to the Supreme Court for an order to sell or transfer specified shares.
- Notify bank in writing of intention to make vesting order and acquire powers of the directors and managers.
- Pursue transactions to restructure the bank, including sale of shares and/or subordinated debt, amalgamation of the bank, sale or assumption of liabilities, and any other transactions related to restructuring. Publish a notice in the *Gazette,* specifying completion date of such transactions.

necessary to succeed in this position and 2) fully uses his or her capacity and experience, as well as available resources.[4] If the Supervisor has sufficient autonomy, s/he will be able to set short- and medium-term, goal-oriented measures, whose success and importance will be publicly disseminated, if appropriate information mechanisms are in place.

In Jamaica's case, where the accountability framework is yet to be developed, these authors suggest that the regulation establish a system in which the Supervisor must make public regular quarterly reports on the regulations issued, measures taken, and their expected effects.

Regarding short-term measures, the Supervisor should show evidence of the success achieved during his or her term. For mid- and long-term measures, s/he should explain to the public the steps that have been achieved toward meeting the goal. Similarly, in cases where goals were not achieved, the Supervisor should let the public know why.

Consolidated Supervision

Currently, Jamaica has a differentiated structure for banking, insurance, and securities supervision. It is these authors' opinion that this structure should solve both coordination and redundant-costs problems.

Coordination costs. A high proportion of conglomerates—typically including banks, insurance companies, and other types of firms—exist within the financial system. Therefore, a consolidated approach to the banking, insurance, and securities sectors is necessary to properly supervise aggregate risk. That risk assumed by the conglomerate as a whole should be regulated and supervised.

Given the current structure, identification of this conglomerate risk implies a coordination cost among the various agencies assigned to supervise each sector (i.e., banks, insurance companies, and securities). Perhaps the current structure is insufficient to properly absorb these costs.

Redundant costs. These refer to operations-cost replication, resulting from the holding of a differentiated supervisory structure. Currently, administrative, infrastructure, and research costs are specific to each supervised sector. Therefore, consolidation of the supervision of all sectors involved implies a

[4] This issue is closely linked to information-transparency mechanisms and the Financial Supervisor's autonomy.

more efficient cost structure than the existing one. This implies that modification of the present cost structure could allow for important savings.

Currently, official supervisors coordinate activities through what is specified in an MOU and through the establishment of a Regulatory Policy Council (RPC). Their purpose is to consolidate supervision and reduce the potential spread of effects and regulatory arbitrage.

Similarly, an integrated model like the one now being used in South Africa has been proposed for supervising banking and non-banking institutions. In addition, the FSRP includes provisions to 1) enhance regulatory authority over complex groups and 2) separate deposit/lending from capital-market activities through separate subsidiaries or affiliates. Thus, the BOJ started a project aimed at developing an adequate supervisory framework for complex financial groups and conglomerates. The Bank has been authorized to supervise complex groups and has prepared a briefing, including provisions for prohibiting the mixing of industrial activities with commercial banking in the same group and requiring institutions to isolate deposit/lending activities to be carried out in a separate affiliate.

Coordination among supervisors was formalized through the RPC, which comprises the FSC, BOJ, Jamaica Deposit Insurance Corporation (JDIC), and MOF. Furthermore, supervisors have been given the power to issue MOUs to coordinate supervisory policy.

The RPC considers 1) harmonization of risk-based adequacy requirements for dual-licensed entities; 2) review of regulation and supervision of unit trusts, mutual funds, and similar products to ensure a level playing field and adequacy of investor protection; and 3) adequacy of reporting requirements respecting financial companies and development of specific rules related to transactions with financial groups, dividends, and group management and ownership.

The Supervisor can also request any type of financial information from the companies that belong to the financial conglomerate. Moreover, s/he can require the restructuring of a group of companies so that the property of the financial institution is managed directly by a holding separate from the property of other group-member companies. The legislation also allows the Supervisor to establish limits in joint-risk exposure.

These authors consider that all of the above-mentioned measures are appropriate as they aim to integrate financial supervision so that supervised agents are the economic groups and/or financial conglomerates, rather than

the individual institutions that constitute them. However, sequencing their implementation might be helpful. In this regard, we believe that the GOJ strategy implemented through its FSRP must consider the staged strategy summarized below.

- ***Introductory Stage.*** The first step is to design the regulatory framework for consolidated supervision, establishing definitions and presumptions of control and linking. At this stage, it is important to define the scope of action of consolidated supervision and the supervisor's powers to implement it, especially when firms that belong to a certain mixed-type conglomerate do not fall under the scope of the bank-supervising agency.

  Definitions and presumptions should be flexible and allow the supervisor's criteria to determine the presence or absence of control and relationship.

  Firms may be beyond the supervisor's scope if they operate outside the financial sector or abroad. Banking supervision should overcome these jurisdictional limitations through specific laws or agreements with other domestic or foreign supervisors, depending on circumstances.

  Consolidation needs for any additional license to be granted are identified. Granting of new licenses should not be allowed when the potential for efficient implementation of consolidated supervision is not guaranteed.

  Legislation should allow the banking supervisor to limit implementation of activities that might affect conglomerate security.

  From the description of activities that should be developed at this stage, it is inferred that investment in training is essential. (Internships in banking-supervision institutions with sufficient experience in consolidated supervision are recommended.)
- ***Stage 1.*** This stage (expected to last a minimum of one year) includes generation of information and the first approach to the types of risks faced. Both the internal structure of the conglomerates and the type of intra-group transactions should be known. To this end, consolidated financial statements (and possibly the support of outside auditors and private risk-rating agencies) are requested. Based on these statements and external opinions, a culture of conglomerate risks should be promoted, disclosing identification mechanisms and risk-management approaches.

It is critical to attain a thorough knowledge of the legal and administrative structure of the conglomerates and ensure that the prudent measures settled on are consistent with conglomerate composition and risks.

Typically, current identification and risk-management mechanisms are insufficient; thus, a significant part of the required effort concentrates on the design of such mechanisms—from formats and basic reports for consolidated financial statements to generating consensus on the need to view risks from a consolidated perspective.

- ***Stage 2.*** In this last stage, capital requirements and concentration limits of related lending are established on a consolidated basis. Self-regulation should be promoted, and the requirements of consolidated information, obtained in the previous phase, should be complemented and fine-tuned. The banking supervisor should control the various techniques to determine the capital adequacy of any conglomerate. Likewise, s/he should detect situations of double or multiple leverages, as well as identify the risks assumed by non-regulated entities of the conglomerates. This will allow the supervisor to establish the requirements of capital adequacy and determinate whether appropriate capital distribution exists in each conglomerate.

  On a consolidated basis, concentration limits should primarily affect financing of related lending in a way that discourages multiple leverage structures.

Approach

Currently, on- and off-site approaches (implemented by three supervisory groups within the Central Bank's Supervision Unit) are used to execute financial supervision. These approaches are not necessarily the most efficient because they focus on partitions of the process of information gathering, when the basic distinction should be the type of risk to supervise. A more appropriate approach is a financial-supervision matrix, organized by type of regulated agent (commercial bank, FIA licensee, and building society) and type of risk (credit, liquidity, exchange, and operational).

Although the classification of regulated-agent and risk types could vary (i.e., if the structure of the suggested consolidated supervision is implemented, the columns would be the mixed conglomerates, or insurance or pensions could be included), the approach would be more accurate, allowing for larger control associated with each type of risk present in each regulated agent. Within each cell, on- and off-site supervision would be integrated.

This approach would require a significant recruitment and training effort. These authors believe that on-the-job training and internships are the most efficient alternatives to achieving concrete results of this investment type.

Considering that the proposed approach is relatively complex, compared to existing ones, more emphasis could be placed initially on differentiation by regulated-agent types, followed by adding distinction (risk types). The proposed structure could be achieved within a two-year period.

Private-sector Participation

Within the context of an inefficient legal system, non-transparent information mechanisms, and little accountability, private-sector participation should be optimized to improve supervisory quality through the efficient use of market discipline. To facilitate this mechanism, regulation should require that all financial institutions conduct at least two risk evaluations implemented by private risk-rating agencies.

In addition, transparency should be added to the auditing process. Both internal and external recruiting and removal of auditors should be made with the Supervisor's prior authorization. S/he should have immediate access to the reports generated by the auditors in order to take prompt, corrective actions.

Cost Mitigation

Deposit Insurance Fund

The Deposit Insurance Fund recently designed and satisfactorily implemented the desired characteristics. Thus, it covers a small and limited amount, per depositor and institution, nearly 2.5 times the Jamaican GDP. Also, it is obligatory for all institutions that make deposits in Jamaica. Although the law allows premiums to be adjusted by risk, at the present time, a flat premium is charged to all institutions. There is also an informal target fund of 2% of insured deposits. Within this framework, 97% of deposit accounts are insured (40% if measured in terms of value). The Fund has contingent access to Treasury resources.

In the long term, the Fund should work toward an explicit target within a range high enough to cover the exit of the largest (local) bank from the market, assuming use of the most efficient exit mechanism. Thus, the fund

target cannot be separated from bank-resolution mechanisms available to the authorities.

These authors believe that the system can evolve into one in which premiums are related to the insured institution risk as soon as a private risk-rating for each institution is in place. Finally, contingent access to Treasury resources (and probably additional layers of contingent funds) should be maintained; their functions and decision-making capacity should become explicit, in the event of alternative mechanisms for bank resolution.

Lender of Last Resort

As a cost-mitigation mechanism, the function of Jamaica's Central Bank as a lender of last resort must be restricted to support short-term liquidity needs. The liquidity access provided by the Bank must be subject to interest rates above the market and supported by high-quality collateral. The fundamental premise is that Bank-provided liquidity should not be used to bail out insolvent banks. For this reason, Bank liquidity restrictions should be clearly defined in its operational procedures and regulatory frameworks. (In practice, the Bank has satisfactorily managed this condition.)

These authors recommend clearly defining cases in which the Central Bank can intervene as a lender of last resort and detailed specifications of the criteria analyzed that qualify financial institutions for Bank loans. Legislation must also provide details on short-term support conditions.

Damage Control: Resolution Mechanisms

Institution-resolution legislation is relatively well developed; a resolution matrix has even been shown to market participants to ensure that capacities of the organizations officially in charge of financial resolution at each stage of the process are known. However, it is critical that the principles of smaller cost and loss of shareholder or manager concentration enter into the mechanism, with little or no margin for discretion, in such a way that market-exit costs for financial institutions are minimized and well distributed.

According to current legislation, capitalization from FINSAC was carried out before writing off the losses of the financial institution. In this regard, all issues associated with resolution mechanisms should be guided so that any support to the institution is granted after concentrating the losses in the

group that first generated them in a way that shareholders become the first to be affected by the intervention.

One problem that these authors could not analyze was sustaining FINSAC debt in order to cover the needs of crisis resolution. It is important to know whether the amounts and currency of this debt are compatible with overall economic and fiscal projections.

A debt-management strategy was implemented, whereby a portion of FINSAC debt was withdrawn and cash payment of interest made on the remainder. This strategy implied that all debt owed to Central Government agencies would be written off, including debt owed the BOJ and amortization of a portion of remaining debt held by the private sector. The plan to cancel debt owed to Government agencies was implemented.

The next step was the Government's repurchase of a portion of FINSAC debt. Through June 2002, the GOJ made regular cash payments on the remaining FINSAC debt held by the private sector, and NCB equity was at the point of sale. All FINSAC non-performing loans were sold, except for those made to non-financial Government entities. A plan was agreed on for disposing of all properties remaining in the portfolio. Within the insurance sector, the sale of GOJ-owed ordinary shares in Life of Jamaica (LOJ) was completed.

It was decided that FINSAC debt management would be transferred gradually to the MOF as part of a debt-containment strategy.

Assessing the Risk-management System

Supervisory processes generally include on- and off-site supervision. Even though Jamaica established a Financial Stability Monitoring Committee to analyze and manage systemic risk, the country lacks a specialized risk-management system, as the sections below demonstrate.

Market

The need to develop a regulatory framework to evaluate and supervise market risks has been recognized. In fact, the TCP has included market-risk regulation and supervision in its agenda to strengthen banking supervision. The Program includes specific supervisory methods, policies and procedures, ways to implement them, and training courses.

Credit

Related lending control has improved remarkably since June 1999, when it fell to less than 10% of credits (Figure 3-5).

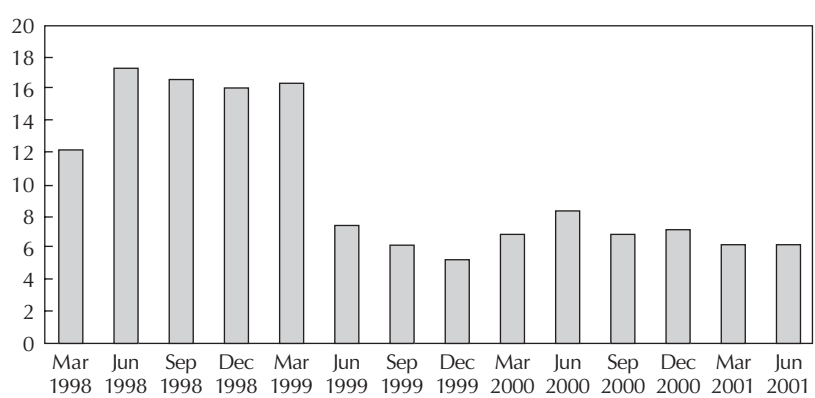
Although system coverage has also improved dramatically in recent years (Figure 3-6), it is still not optimal. According to current regulations, credit-risk provisions are made three months after coverage occurs—that is, when payment capacity becomes doubtful because of deteriorating debtor conditions. This means that provisions are applied to ongoing risks, but do not consider the expected credit risk at all times. Thus, bank provisions are static or backward looking and are therefore inferior to their optimal level since they do not consider expected future risk associated with new credits. Similarly, differentiation is not based on the currency in which credit is granted, thereby disregarding implicit exchange risk.

Moreover, Jamaica's legislation lacks explicit considerations to limit asset-liability concentration of financial institutions. In this regard, these authors suggest that actions be taken to consider the assumed total credit risk.

Regarding capital adequacy, sustained growth has been observed since June 1999 (Figure 3-7). This, in turn, has resulted in banks requiring a smaller leverage percentage (Figure 3-8), given the larger capital base and relatively stable, liability behavior. In general, the liability-level ratio has remained at about 10 times capital.

FIGURE 3-5

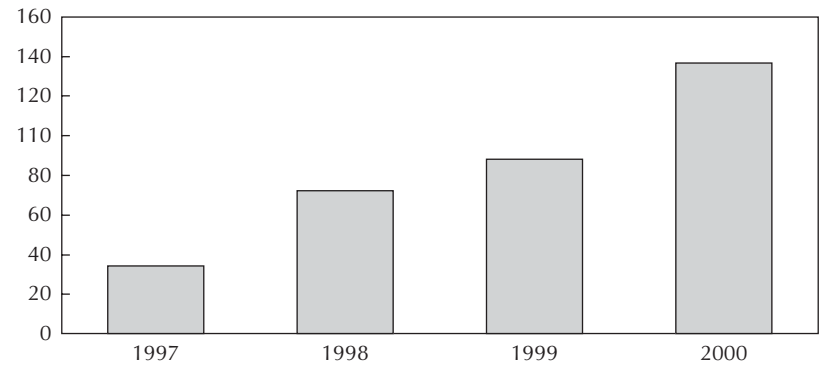
Lending and Credit Relationship (%), 1998–2001



Source: Statistical Digest, BOJ

FIGURE 3-6

Credit System Coverage (%), 1997–2000

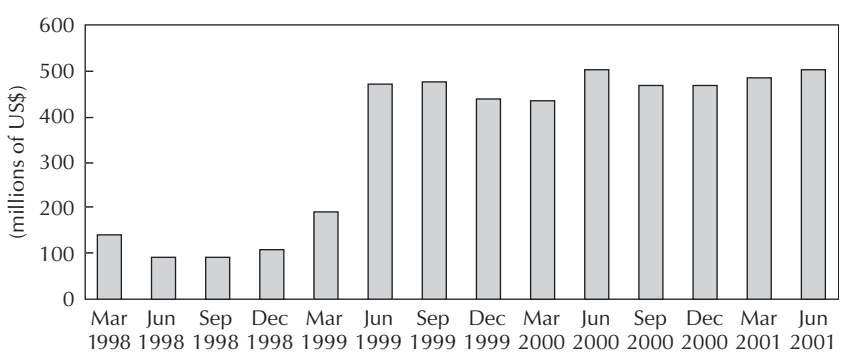


Source: Statistical Digest, BOJ

Although these authors believe that this level is acceptable, it is possible to reflect this condition explicitly at a regulatory level, using an unweighted capital-adequacy ratio (direct-leverage ratio). This could be more realistic in cases where GOJ obligations are in foreign currency or where financial-institution obligations are generated under supervised jurisdictions. In addition, capital and provisions regulations could include the risk migration that occurs when exchange risk is transferred to the corporate sector (e.g., through differentiated provisions by currency).

FIGURE 3-7

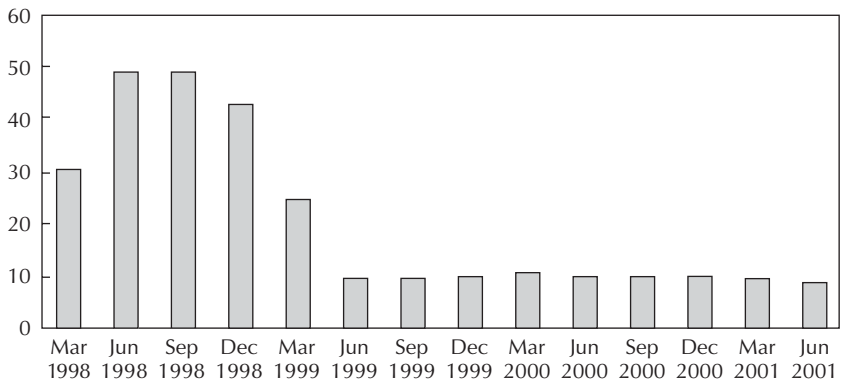
Commercial Capital, 1998–2001



Source: Statistical Digest, BOJ

FIGURE 3-8

Leverage of Commercial Banks (%), 1998–2001



Source: Statistical Digest, BOJ

These authors also believe it would be possible to consider a broader risk concept when defining the expected losses that provisions must cover in order to include other sources of expected losses, such as exchange- or interest-rate risk or risk migration.

Liquidity

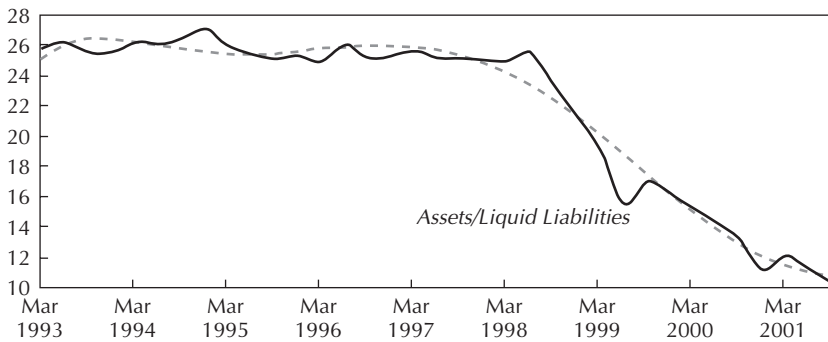
The liquidity of Jamaica's financial system has fallen progressively (Figure 3-9). In turn, depositors' unexpected withdrawals have resulted in greater vulnerability.

Even so, liquidity of excess reserves has behaved conversely, having increased during the period when the previous indicator began to decrease (Figure 3-10). This apparent contradiction shows that lack of liquidity was accompanied by uncertainty of credit-line renewal, causing financial institutions to maintain a liquidity excess regarding reserves to prevent credit-line cancellation from creditors.

Jamaica's financial supervision must confront liquidity reduction in the financial system that establishes minimum liquidity levels to prevent the system from becoming excessively vulnerable. Also, the regulation must precisely define liquid assets and volatile liabilities. These authors recommend establishing a prudent liquidity ratio that links short-term liabilities and liquid assets by currency.

FIGURE 3-9

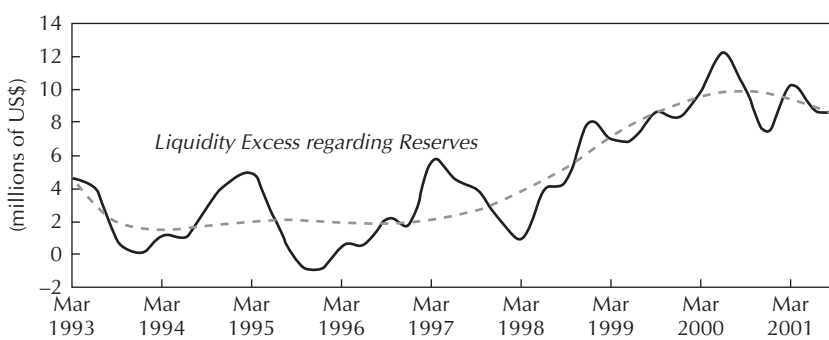
Decline in Commercial Bank Liquidity, 1993–2001



Source: Statistical Digest, BOJ

FIGURE 3-10

Excess Liquidity of Reserves, 1993–2002



Source: Statistical Digest, BOJ

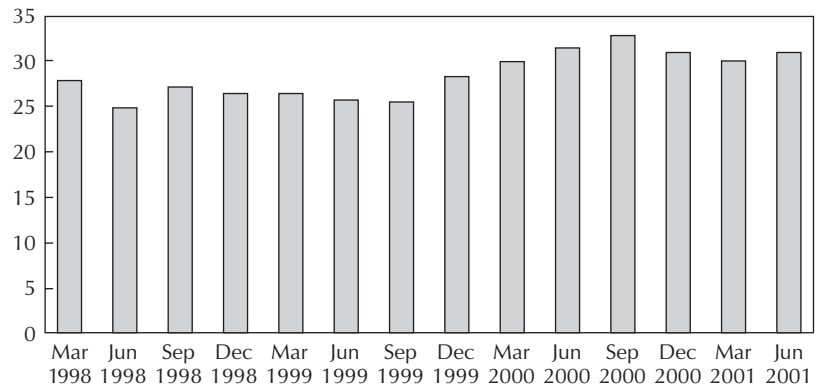
On the other hand, analysis of deposit stability by financial institutions should be encouraged (e.g., prediction of the probability of financial-institution run or stress-testing analysis). Because of the international nature of Jamaica's banking system, some such analysis must already exist.

Exchange

Current legislation lacks regulation regarding exchange-rate risk. Jamaican authorities' rationale for this omission is that loans are granted only in foreign

FIGURE 3-11

Credit Granted in Foreign Currency (%), 1998–2001



Source: Statistical Digest, BOJ

currency to exporters. This explanation is highly questionable and virtually impossible to prove. This is an alarming omission, considering the growth of new credits in foreign currency in recent years (Figure 3-11).

Actions should be taken to consider the exchange risk within current legislation at two levels. First, a symmetric limit should be imposed on the exchange position of each commercial bank, which should not exceed 100% of its capital. Second, a capital charge should be established on that same position.

Similarly, once regulation of provisions is based on debtor payment capacity rather than historical behavior only, a criterion should be introduced to check its capacity to generate foreign currency. The provision should be higher in the case of credits granted in foreign currency (or indexed to foreign currency) to clients who lack the capacity to cover the exchange risk. This point is relevant not only for improving management of exchange risk, but also liquidity risk.

Operational

Legislation regarding operational risk management is appropriate for strategic planning and internal control of the financial institution. However, more attention should be given to information system integrity and establishing clear policies to avoid financial fraud.

Recommended Actions

Excluding the last five years, Jamaica's long history reflects a financial system that has lacked appropriate regulation and prudent supervision. This lack contributed greatly to the 1995 financial crisis, which witnessed the bankruptcy of five insurance companies and five commercial banks. In recent years, however, GOJ authorities have intervened. Their reforms have succeeded, contributing to a strengthened financial system and achievement of long-term stability. Despite reform success, room for improvement remains. Outlined below are these authors' recommended actions, both those that should be taken immediately and others to be applied at a later stage.

Immediate Actions

Strengthen information transparency mechanisms. These mechanisms are vital to the development of market discipline. Efforts to strengthen the transparency and disclosure of Central Bank information to the public—easy access to timely information organized by type of risk—should continue, as should the accelerated compilation of information needed to establish a credit bureau. Legislation should demand that information on subordinated debt from financial institutions (whose secondary market price would provide a signal, though noisy at the beginning, on the real bank situation) be made available to the public.

Audit informality in the private sector. This issue represents another source of informational problems, since informality does not allow financial institutions to evaluate credit risk accurately. Mandatory auditing is suggested (initial IMF-project efforts are taking the correct approach).

Establish greater supervisory autonomy. Although the Supervisor has recently been given additional powers, it is critical to re-establish his or her autonomy at a higher scale. We recommend that a BOJ board member, other than the chairman, be appointed Bank Supervisor.

Incorporate accountability into regulations. Given this issue's importance regarding the Supervisor's capacity and experience, as well as incentives for goal achievement, accountability should be incorporated into regulations as

soon as possible. Thus, the Supervisor must maintain ongoing, transparent communication with the public on the regulations issued, measures taken, and expected and achieved results.

Incorporate lender-of-last-resort criteria into legislation. Regarding the Central Bank's function as a cost-mitigation mechanism, it is important to incorporate detailed definitions and criteria into the legislation in order to clearly define the cases in which the Bank should intervene as a lender of last resort.

Make resolution mechanisms explicit. Although mechanisms have been adequately developed, in practice, FINSAC capitalizations have been implemented before writing off the losses of financial institutions. This, in turn, has created perverse incentives for shareholders of financial institutions because the loss is shared with FINSAC before institutions fall into bankruptcy when shareholders should assume it exclusively at the outset. These authors recommend making this principle explicit in the law so that shareholders will have consistent incentives and exercise prudent risk management.

Prevent liquidity restrictions from generating system vulnerability. Since 1997, system liquidity has contracted strongly, and banks have had to enlarge their reserve excess to prevent an eventual cut in foreign-credit lines. Actions should be taken to keep excess liquidity restriction from generating excess vulnerability in the financial system. It is also necessary to ensure that regulation defines the concepts of liquid assets, short-term liabilities, and their prudent ratio. Analysis of stability of deposits should also be encouraged.

Include exchange risk in regulations. No legislation has been drafted on this issue, even though it is a significant source of risk, given the high credit levels granted in foreign currency and the hysteresis generated by high-inflation levels in the early 1990s. Therefore, exchange risk should be included in regulations.

Follow-on Actions

Coordinate regulatory and judicial systems. To prevent money laundering and other financial crimes, as well as to encourage development of anti-

terrorist and anti-drug trafficking programs, ongoing formal coordination is required between the regulatory and judicial systems.

Reform judicial system. Jamaica's judicial system lacks the funding needed to handle its enormous caseload (72% of cases involve murder). Similarly, lack of creditor protection in the legislation generates a high credit risk. Although the CC has been constituted to resolve the problem of system concentration in criminal cases, reform of the judicial system is needed to accelerate the proceedings of collateral recovery and increased creditor protection. Government efforts to train FCU staff and CC-assigned judges in financial matters contribute to system effectiveness and enforcement.

Build corporate governance. This aspect of prudent regulation should be developed further. Special attention should focus on requiring board conformation by a non-incumbent majority, risk constitution, audit and remuneration committees, and required separation of auditors and financial institutions.

Include phased consolidated supervision. The presence of conglomerates in the financial system implies the need to continue developing the structure of differentiated supervision. To this end, these authors recommend including consolidated supervision in three stages, whereby the regulated entity consists of a conglomerate of institutions.

Adopt a matrix approach to financial supervision. The current approach to financial supervision—on- and off-site supervision—is not necessarily the most efficient since it prioritizes the process of information gathering, when the basic distinction should be supervised risk. These authors suggest adopting a matrix approach, classified by regulated agent and risk type.

Encourage private-sector participation. In Jamaica's institutional context, private-sector participation in financial supervision represents a key element in achieving market discipline. Financial institutions should be legally requested to present at least two risk-ratings from private agencies, in coordination with the Financial Supervisor.

Shift Deposit Insurance Fund framework. Because the Deposit Insurance Fund has been correctly structured, it is now time to shift toward a frame-

work in which premiums are adjusted by insured institutional risk, when a private risk rating becomes mandatory for each institution. Over the longer term, a Fund target (which cannot be separated from the banking-resolution mechanisms available to authorities) and access to additional layers of contingent funding should be included.

Include credit-risk framework in legislation. The percentage of credit lending has been reduced considerably, system coverage has increased, and financial institutions have more capital, allowing them to reduce their leverage level. However, provisions are static or backward looking, and financial institutions lack regulations for concentrating assets and liabilities. Legislation should include a framework for loan-loss provisions that considers all implicit risks at the time a loan is granted. In addition, asset-liability concentration should be regulated.

Increase transparency of operational risk policies. Although risk is appropriately managed, more attention should center on information-system integrity and establishing transparent policies to avoid financial fraud.

4

Enhancing Productivity and Competitiveness

ANDREW DOWNES*

According to most macroeconomic indicators, Jamaica's economy performed poorly during the 1990s—a decade characterized by negative or low economic growth and high unemployment. After 1990, when the country achieved a 5.5% growth rate, the highest rate recorded for the decade was 2% in 1993. Negative growth rates in real gross domestic product (GDP) were recorded during 1996–1999. Unemployment remained at more than 15%. Inflation has only recently been brought under control, after having reached 77% in 1992. Controlling inflation in a low-growth economy, along with remittances from abroad, enabled Jamaicans

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to climb above the poverty line. Indeed, the number of persons below the national poverty line declined from a peak of 44.6% in 1991 to only 15.9% in 1998; however, it increased to 16.7% in 2001. Jamaica's external debt-service ratio exceeded 15% for the decade, while its trade-balance deficit grew. The value of export goods fell between 1995 and 1999, while visitor expenditures grew slowly. Meanwhile, the Government of Jamaica (GOJ) struggled to keep the fiscal deficit under 8% of GDP.

Within the context of a rapidly changing, international economic environment, Jamaica requires an integrated national economic plan to rebuild its economy and cushion it from the adverse effects of external changes. Since this small country has an open developing economy, a key focus in any national economic plan is enhancing international trade competitiveness by improving overall productivity (i.e., labor, capital, energy, and raw materials). As a member of the World Trade Organization (WTO) and party to negotiations on the Free Trade Area of the Americas (FTAA) and European Union-African, Caribbean and Pacific Agreement (EU-ACP), Jamaica will consider trade liberalization a major economic concern over the next five years. Given the dynamic economic environment of trade liberalization, the country must design measures to enhance its international trade competitiveness.

Measures of competitiveness tend to focus on either the real unit (labor) cost of production or the real effective exchange rate (REER). Underlying these two measures is the productivity of the factors of production. Productivity, in turn, is influenced by several microeconomic and macroeconomic, as well as non-economic, factors. As the IDB (2001) indicates, an economy becomes more competitive when its business environment is conducive to sustained growth of productivity and per-capita income within a global economic context. Recently, indicators of international competitiveness have been developed for countries, incorporating several economic and non-economic variables.

Economic and Business Environment: Overview

During the 1960s and early 1970s, Jamaica enjoyed relatively high rates of economic growth. Real GDP grew between 2.0 and 8.6% from 1960 to 1973. Over this period, the inflation rate was also relatively low. From 1964 to 1973, however, the balance-of-payments (BOP) current account balance

recorded an increasing deficit. Oil prices increased in 1973–1974, adversely affecting the Jamaican economy. During 1974–1980, the economy recorded negative rates of economic growth. The inflation rate increased significantly, peaking at 35% in 1980. The BOP position deteriorated, thereby creating a shortage of foreign exchange, which exacerbated the decline in real sector activity. In 1977, the GOJ sought assistance from the International Monetary Fund (IMF) to help stabilize the economy.

Introduction of Reforms

Since 1980—with assistance from the IMF, World Bank, and Inter-American Development Bank (IDB)—the GOJ has engaged in a program of macroeconomic and structural reform. The program's primary goals have been to (PIOJ 2000):

- Reduce the State's role in the economy,
- Promote export-oriented production,
- Reduce deficits in the BOP and fiscal accounts,
- Enhance economic growth,
- Eradicate poverty, and
- Reduce inequality.

With the exception of 1987, 1989, and 1990, when the bauxite and alumina, as well as financial, sectors grew significantly, growth rates since 1980 have been low or negative (Table 4-1). Real GDP per capita fell from J$ 6,351.60 in 1980 to J$ 5,876.30 in 1985, gradually rising to J$ 7,934.50 in 1993. With the negative growth rates experienced during the 1995–1999 period, real GDP per capita fell to J$ 7,336.20 in 1999. Growth improved slightly during 2000–2001, when the economy grew by an average of 1.2%.

During the 1980s, the services sector outperformed the goods sector (including agriculture, forestry, fisheries, mining and quarrying, manufacturing, construction, and installation). Main growth areas were financial institutions, real estate services, and construction and installation. The manufacturing sector grew modestly, while growth performance in the bauxite and alumina industry was erratic. Export agriculture performed poorly, while the livestock-production sub-sector performed creditably.

During the 1990s, the services sector continued to outperform the goods sector, as did the financial-services sector until the crisis of the mid-1990s. The

TABLE 4-1

Economic Indicators for Jamaica: 1980–2001

Year	Growth of Real GDP (%)	Inflation Rate (%)[1]	Unemployment Rate (%)	Fiscal Balance (% GDP)[2]	Overall BOP (US$ million)
1980	–5.7	27.3	26.8		–87.0
1981	2.6	4.6	25.6		–289.0
1982	1.2	6.5	27.9		–124.0
1983	2.3	16.7	26.9	–13.6	–362.0
1984	–0.9	31.2	25.4	–4.4	153.3
1985	–4.6	23.4	25.6	–2.8	–70.8
1986	1.7	10.4	22.3	–1.9	–78.0
1987	7.8	8.4	20.8	2.2	–299.9
1988	2.9	8.5	18.9	–6.1	78.0
1989	6.8	17.2	16.8	2.8	171.8
1990	5.6	29.8	15.7	0.2	129.5
1991	1.1	80.2	15.7	4.2	–21.3
1992	1.9	40.2	15.9	4.0	248.3
1993	2.0	30.1	16.0	3.3	109.9
1994	0.9	26.8	15.3	3.3	357.7
1995	1.0	25.6	16.9	2.1	27.0
1996	–1.3	15.8	16.3	–6.9	271.4
1997	–1.8	9.2	15.7	–8.4	–170.4
1998	–0.4	7.9	15.5	–7.6	43.4
1999	–0.4	6.8	16.0	–4.7	–136.4
2000	0.8	6.1	15.6	–1.1	518.4
2001	1.8[p]	8.7	16.0	na	na

[1]Point-to-point (dec.–dec.) rate.
[2]Excludes amortization; applies to the fiscal year.
Sources: Statistical Digest, BOJ (2002), *International Financial Statistical Yearbook* and *International Balance of Payments Statistical Yearbook,* IMF (2001), PIOJ and UNDP (2000), Alleyne (2001), and PIOJ (2000)

agriculture sector performed creditably during the early 1990s, but declined later in the decade. Domestic agriculture was the sector's best performer, while export performance was erratic throughout the decade. The manufacturing sector performed poorly, with negative growth rates recorded for most of the period. The tourism sector—hotels, restaurants, and clubs—had modest economic activity.

Despite poor growth performance, Jamaica's poverty level declined during 1989–2001. The percentage of Jamaicans living below the poverty line fell from a peak of 44.6% in 1991 to 16.8% a decade later. LeFranc and

Downes (2001) have suggested that two main factors account for a reduction in poverty in a low-growth or declining economy: 1) inflow of remittances and 2) reduction in the inflation rate. In Jamaica's case, rural poverty has been much higher than urban poverty. In 1989, for example, the percentage of rural people living below the poverty line was 40.7%, compared to 15.5% for the Kingston Metropolitan Area (KMA). In 2001, the corresponding figures were 24.1% for rural areas and 7.6% for the KMA.

Inflation and Exchange-rate Movements

During 1980–2001, Jamaica's overall inflation rate was high. With the exception of three periods (1981–1982, 1987–1988, and 1997–2001), the country experienced double-digit inflation (Table 4-1). Following a decline between 1978 and 1982, the inflation rate peaked in 1984 at 31.2% before falling again to a 1987 low of 8.4%. It rose sharply from 1989 to 1991, and has fallen gradually since 1992. The main reasons for the price fluctuations were changes in the exchange rate (i.e., devaluation or depreciation), increases in foreign prices (e.g., U.S. inflation rate), and, to a lesser extent, increases in money supply (Barnes 2000). As part of its structural adjustment programs during the study period, Jamaica was forced to adjust its exchange-rate policy on several occasions (Thomas 1999; Atkins 2000). Exchange-rate policy has included a dual system (1983), foreign-exchange auction (1984), fixed exchange rate (1989), devaluation (1984 and 1990), flexible exchange rate (1990), and removal of exchange controls (1991). The nominal exchange rate moved from J$ 1.78 (equivalent to US$ 1) in 1980 to J$ 46.09 in 2001 as a result of regular rate devaluations and depreciations. Atkins (2000) found that devaluation in the real exchange rate negatively affected output since frequent changes in the nominal rate created an environment of uncertainty.

Econometric results of McFarlane (2002) indicate that the inflationary effect of exchange-rate depreciation in Jamaica declined during the 1990s. While the 80% pass-through to the consumer price index (CPI) was completed within six months of an initial shock to the nominal exchange rate during 1990–1995, only 45% was completed six months after an initial shock in 1996–2001. Despite moderation in the pass-through, results suggest that exchange-rate movements significantly influence inflation. Furthermore, frequent changes in the exchange rate can create expectations that adversely affect the economy (e.g., capital flight or hedging).

Balance of Payments

Exchange-rate changes have been part of the policy package aimed at stabilizing Jamaica's economy. Like other small developing economies, Jamaica has experienced a structural deficit on the current account of the BOP. With the exception of 1988, 1992, and 1994, when the current account recorded a small surplus, the BOP realized a deficit during the 1980–2000 period (Table 4-2). The capital account recorded a deficit during 1980–1993 and a surplus in 1994–1999. The net inflow of capital was critical to the overall BOP position during the study period. With the exception of 1983 and 1986, the

TABLE 4-2

Jamaica's Balance of Payment, 1980–2000 (in US$ millions)

Year	Trade Balance	Current Account Balance[1]	Capital and Financial Account Balance[2]	Overall Balance[3]
1980	–76	–166	79	–87
1981	–323	–337	48	–289
1982	–442	–409	285	–124
1983	–439	–359	–3	–362
1984	–335	–315	469	153
1985	–436	–273	203	–71
1986	–248	–18	–60	–78
1987	–352	–126	426	300
1988	–357	47	31	78
1989	–590	–283	111	–172
1990	–502	–312	442	130
1991	–392	–240	219	–21
1992	–425	29	220	248
1993	–815	–184	244	110
1994	–551	82	267	358
1995	–829	–99	119	27
1996	–994	–143	405	271
1997	–1,132	–332	152	–170
1998	–1,131	–328	329	44
1999	–1,187	–211	84	–136
2000	–1,354	–275	844	518

[1]Excluding exceptional financing.
[2]Including errors and omissions, but excluding reserve assets, use of financial credit, and exceptional financing.
[3]Excluding reserve assets, use of final credit, and exceptional financing.
Source: International Balance of Payments Statistical Yearbook, IMF (1992, 2001)

combined BOP capital and financial account recorded a surplus. However, net inflow of capital could not prevent an overall BOP deficit in 1980–1983 and 1985–1986. Significant deficits were also recorded in 1989 (US$ 72 million), 1997 (US$ 170.4 million), and 1999 (US$ 136.4 million).

BOP problems were partly affected by the GOJ's fiscal position. Excluding amortization, Jamaica's fiscal balance had a deficit during 1983–1984 to 1986–1987 and 1996–1997 to 2000–2001. These two periods were characterized by negative or low rates of economic growth and BOP deficits. During 1983–1984 to 1986–1987, the fiscal deficit, as a percentage of GDP, varied between 1.9% and 13.6%; during the 1996–1997 to 2000–2001 period, the range was 1.1–8.4%.

Jamaica's poor BOP position during the late 1970s and the 1980s resulted in a significant decline in the country's net foreign assets. From 1975 to 1992, they were negative, but then rose significantly—from J$ 1.4 billion to 64 billion—over the 1993–2000 period. The country engaged in a high degree of foreign borrowing to meet its external financial obligations. The external debt-service ratio was high, but declined during the 1980s. In 1990, the ratio was 28.5%; by 2000, it had declined to 13.4%. The high level of domestic and foreign debt meant that valuable resources that could have been directed toward productive activity were diverted to servicing both internal and external debt. The ratio of external debt outstanding to the export of goods and services was 178.35% in 1990, declining to 94.7% in 2000. The ratio of external debt to GDP declined from 97.8% in 1990 to 50.3% in 2000. The ratio of internal debt to GDP declined from 32.7% in 1990 to 25.0% in 1993, subsequently climbing to 68.8% as the GOJ responded to the mid-1990s collapse of the financial sector.

Jamaica's economic difficulties during the 1980s and 1990s meant that the country had to reposition itself in the external market. Macroeconomic indicators suggested that the country had lost its competitive advantage. A small developing economy, Jamaica relies on the export of goods and services for its economic survival.[1] The data indicate that industrialized countries (U.S., Canada, and UK) were the main markets for the country's primary exports (bauxite, sugar, bananas, citrus, manufactured goods, and tourism). However, in recent years, export growth has been unsatisfactory. Negative growth rates in the value of exported goods were recorded for the

[1] Jamaica accounts for approximately 0.04% of the world's export of goods.

TABLE 4-3

Distribution and Growth of Jamaican Exports (%), by Country Type, 1980–2000

	Industrialized Countries		Developing Countries		Other	
Year	Share	Growth	Share	Growth	Share	Growth
1980	79.9	14.0	14.9	0.8	5.2	11.9
1981	78.2	–1.1	20.3	37.5	1.5	–71.0
1982	78.0	–21.4	20.7	–19.5	1.3	–33.6
1983	79.3	–9.1	18.9	–18.2	1.7	20.1
1984	81.8	11.9	12.8	–26.9	4.9	213.9
1985	78.7	–26.4	15.0	–10.3	5.0	–21.5
1986	83.1	8.3	11.6	–20.1	4.5	–8.2
1987	85.8	25.5	9.4	–1.3	4.2	12.9
1988	86.6	22.7	9.0	15.9	4.0	17.2
1989	85.2	12.1	12.2	54.7	2.2	–36.9
1990	82.0	11.1	17.6	40.4	2.2	19.0
1991	84.7	6.3	15.1	–11.5	2.0	211.3
1992	87.4	19.4	12.4	–4.7	na	10.0
1993	81.1	10.5	11.7	3.7	na	19.0
1994	86.3	6.3	13.5	17.6	na	19.0
1995	86.9	12.8	13.0	7.1	na	23.0
1996	85.5	5.8	14.4	19.7	na	18.0
1997	82.8	–7.2	17.1	13.3	na	10.0
1998	86.4	–25.7	13.5	–43.5	0.1	na
1999	87.2	–4.3	12.5	–12.2	0.2	99.1
2000	91.3	9.3	8.6	–28.2	0.1	–64.0

Source: Direction of Trade Statistics Yearbook, IMF (1987, 1991, 1992, 1997, 2001).

1997–2000 period (Table 4-3). Furthermore, since 1994, the ratio of exports to GDP has declined (Table 4-4).

Exports and Imports

Jamaica's export sector can be divided into traditional (e.g., bauxite, alumina, sugar, bananas, and coffee) and nontraditional (e.g., root crops, beverages and tobacco, apparel, and chemicals) components. Over the 1980–2001 period, the value of traditional exports fluctuated between US$ 381 million (1985) and US$ 945.4 million (1997). These traditional exports, which showed a weak upward trend, accounted for an average of 74%

TABLE 4-4

Jamaican Exports and Imports, 1980–2000

Year	Exports (US$ million)	Exports (% GDP)	Imports (US$ million)	Imports (% GDP)
1980	963	50.7	1,095	51.7
1981	974	47.0	1,473	56.5
1982	767	37.8	1,381	48.7
1983	718	33.7	1,494	41.3
1984	747	53.4	1,146	61.3
1985	566	56.1	1,111	67.6
1986	589	52.9	972	49.2
1987	706	51.5	1,238	50.5
1988	880	47.5	1,454	51.4
1989	998	46.8	1,852	57.4
1990	1,158	52.2	1,928	56.3
1991	1,105	58.6	1,823	60.5
1992	1,047	69.6	1,676	70.7
1993	1,071	59.1	2,132	68.6
1994	1,212	76.1	2,224	76.5
1995	1,427	70.4	2,818	76.8
1996	1,383	61.1	2,965	70.5
1997	1,383	54.8	3,131	65.1
1998	1,312	49.2	3,035	57.8
1999	1,240	na	2,899	na
2000	1,296	na	3,216	na

Source: International Financial Statistical Yearbook, IMF (1992, 2001)

of the total value of exported goods. Bauxite and banana exports exhibited a downward trend during the 1990s, while alumina and sugar exports moved up modestly over the period. The value of export earnings is affected by changes in export price, volume, or both. Available data on alumina prices show a high degree of volatility over the 1980–2000 period. On the London market, alumina prices varied between US$ 0.45 per pound (1982) and US$ 1.16 per pound (1988). However, alumina prices declined overall during the 1990s. Banana prices remained relatively constant throughout most of the 1980s, increased during the late 1980s, and were again constant during the 1990s. After a decline in the early 1980s, sugar prices rose generally from 1986 to 1995 in the European Union (EU). Since the mid-1990s the EU import price of sugar has fallen. While volatile prices

may have affected the value of traditional exports, these sectors faced production challenges during periods in which the value of exports were falling while export prices were rising.

As part of its export diversification program, Jamaica has been seeking markets for new products. In the agricultural sector, for example, it has targeted several vegetable and root crops for export. In 1990, the country received a structural adjustment loan to help boost productivity and competitiveness in its agricultural sector. While Jamaica is strongly competitive in citrus, it is less so with regard to various vegetable and root crops. In addition, the sector has been adversely affected by GOJ macroeconomic policies (e.g., high taxation and interest rates and an overvalued exchange rate). Although it has succeeded somewhat in penetrating the U.S. market for nontraditional agricultural products (e.g., Jamaican papaya), problems have also affected the export of vegetables and root crops, especially to the U.S. (Singh 2002).

From 1984 to 1995, Jamaica succeeded in exporting apparel to the U.S. under special agreements. Much of the production occurred in export-processing zones. With the formation of the North American Free Trade Area (NAFTA) (encompassing the U.S., Canada, and Mexico), Jamaican exports declined significantly, being unable to compete with Mexican products. Available data for the apparel industry in a set of Latin America and the Caribbean (LAC) countries indicate that Jamaica's labor cost was US $1.80 per hour in the late 1990s, compared with Mexico's US $1.08 per hour. Indeed, out of 10 LAC countries,[2] Jamaica ranked ninth (Haiti ranked first) in terms of level of labor costs in the apparel industry (Schrank 2003).

Tourism Sector

The services sector, especially tourism, has contributed significantly to Jamaica's output, generation of foreign exchange, and employment. In the tourism sector, both stopover and cruise-ship passengers have increased significantly since 1981. In that year, stopover visitors totaled 406,355; by 2001, the number had increased to 1.3 million. Cruise-ship passenger arrivals grew from 139,672 in 1981 to 840,337 in 2002. With an average length of stay of 9–11 nights (for longer-stay visitors) and an average occupancy rate of

[2] Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, and Nicaragua.

41.5–62%, Jamaica has been able to increase its foreign exchange earnings from US$ 142.8 million in 1981 to US$ 1,332.6 million in 2000. The hotel sector directly employs more than 30,000 people (about 4% of the employed labor force), while the broader tourism sector directly and indirectly accounts for an estimated 200,000 people or 20% of the employed labor force. The hotels, restaurants, and clubs sector contributed an average of 9% of constant price GDP during the 1990s.

Despite the tourism industry's significance to the Jamaican economy, problems affect sector productivity and competitiveness. Jayawardena and Crick (1999) identified weak educational background (e.g., in mathematics, English, and foreign language competency) of certain worker categories as one factor that affects quality of service and ability of the country to diversify into non-English-speaking markets. Labor laws, which increase the labor costs and shortages of certain key skills (e.g., chefs), have adversely affected the tourism sector. It is argued generally that substantial development of human resources is needed in the tourism sector to enhance productivity. However, Jayawardena and Crick note that, in the case of certain all-inclusive hotels (e.g., Sandals and SuperClubs), intensive, ongoing training programs are in place because of close and regular contact between employees and guests.

Enhancing the competitiveness of Jamaica's tourism sector requires upgrading products offered tourists, preventing tourist harassment, and engaging in intensive marketing. The tourism sector has been beset by numerous setbacks in recent years, most notably the Kingston riots, hurricanes, and the September 2001 terrorist attack in the U.S. Depreciation of the Jamaican dollar would have helped to increase tourist arrivals from the U.S., its main market.

National Industrial Policy

Much concern has been expressed over the Jamaican economy's poor export performance, especially during the 1990s. With an increasingly liberalized international market, competitiveness and profitability of the export sector—goods and services—have become vital to sustaining the country's economic development. In 1996, the GOJ launched its National Industrial Policy, giving the "export thrust"—defined in terms of growth and diversification of tradable goods and services—a central role in enhancing

growth and development. The export thrust was supported by a range of policy measures aimed at boosting local and foreign investment in key sectors. The policy package was designed to include science and technology, human resource development, fiscal and monetary policies, transportation and energy policies, and industrial policy measures. Three policy phases were envisaged: short-term (1 year), whereby a social partnership with key stakeholders would be established; medium-term (3 years), whereby the focus would be macroeconomic stability; and long-term (15 years), whereby the export thrust would come into full effect. Industrial policy instruments and targets have been built around the following industry clusters: services, services and technology, agriculture and manufacturing, and two areas of manufacturing.

Progress on national policy has been slow. The GOJ has struggled to stabilize the economy within the stipulated three-year period, while the social partnership has not developed to the level required for a national effort. The GOJ has been slow to implement the range of needed policy measures. However, concerns have arisen over the social climate created by criminal activity and the emigration of skilled labor to more developed countries. The GOJ has achieved a measure of success in easing Jamaica's difficult business environment by reducing both inflation and lending rates. It has also established export-processing zones as a first step in its export drive. The incentives offered, however, are similar to those of Jamaica's competitors (Costa Rica, Dominican Republic, Honduras, and Panama) (Harris 1997).

Jamaica offers a range of financial and fiscal incentives to enhance the export thrust of firms. These include income-tax concessions, exemption from import duties on raw materials and machinery, easing of restrictions on the movement of foreign currencies either in or out of the country, and accelerated depreciation and special-capital allowances.

Private-sector Investment

Over the past decade, the GOJ has implemented various economic reforms to create a business environment more conducive to private-sector investment. In addition to privatizing many state-owned enterprises since 1981 (Bernal and Leslie 1999), the GOJ has liberalized the international trade regime and foreign-exchange market and has actively promoted foreign

direct investment and export processing zones. It has also engaged in public-sector reform by introducing new public-management principles into its operations. These principles emphasize output, managerial autonomy, introduction of performance standards, and use of contractors. However, Bissessar (2002) notes that, like Trinidad & Tobago, Jamaica has succeeded only partially in introducing the new management system.

In 1993, the GOJ introduced the Fair Competition Act, which was designed to maintain and encourage competition in conducting trade, business, and supply of services in Jamaica to provide consumers competitive prices and product choices. The Act prohibits exclusive dealing, tied selling, market restriction, and abuse of dominant position (i.e., restrictive business practices) in the Jamaican market.

In light of these reforms, assessments of Jamaica's economic and business environment have been undertaken over the years. For example, the Heritage Foundation calculates an Index of Economic Freedom, which includes such indicators as trade, fiscal burden, government intervention, monetary policy, foreign investment, banking/finance, wages/prices, and property rights. The results indicate that, while progress toward economic freedom was made during 1995–2000, Jamaica still has a relatively high index value (i.e., lower degree of freedom), compared to Barbados and Trinidad & Tobago (Table 4-5). The data suggest that Jamaica has lost ground over the years, as signaled by its drop in the ranking of countries.

Standard and Poor's long-term, sovereign credit rating for foreign currencies suggests that Jamaica's economic performance improved slightly from December 2000 to June 2001, following measures adopted to resolve the financial-sector crisis. While the country's credit rating is lower than those of its competitors (Barbados, Costa Rica, Dominican Republic, and Trinidad & Tobago), it has improved somewhat.

A recent survey of U.S. companies that have invested or are planning to invest in Jamaica highlights various factors that affect productivity and competitiveness in Jamaica. U.S. investors have been attracted primarily by Jamaica's political stability, democratic traditions, aesthetic landscape, culture, strategic geographical location, and preferred trading arrangements with the U.S. The survey, conducted in 1998, identified major challenges for business investors: infrastructure (poor roads, inadequate mass transport for workers, traffic congestion, and highly priced telecommunications and electricity), crime and security, and poor labor relations. These results

TABLE 4-5

Index of Economic Freedom for Selected Caribbean Countries, 1995–2002

	Jamaica		Barbados		Trinidad & Tobago	
Year	Index	Rank	Index	Rank	Index	Rank
1995	2.90	(34)	–	–	–	–
2000	2.50	(37)	2.50	(37)	2.35	(31)
2002	2.90	(60)	2.30	(26)	2.45	(35)

Note: The lower the index, the greater the degree of economic freedom; a value of 5 indicates no freedom, while a value of 1 indicates full freedom; figures in brackets indicate the ranking of the countries considered in the calculation of the index.
Source: Index of Economic Freedom for Selected Caribbean Countries, Heritage Foundation

contrast with those of a 1995 survey that identified bureaucratic red tape as the major hurdle to investment in the country. Notwithstanding bureaucratic problems (e.g., obtaining approvals, permits, and customs clearance), the challenges of high labor cost relative to productivity, complexity of the land-title process, and high shipping costs from certain ports remain.

The export thrust requires an economic and business environment that supports investment (both physical and human), macroeconomic stability, and productivity and competitiveness. Thus, it is critical to understand the factors that affect competitiveness and productivity in the Jamaican economy.

Competitiveness Measurements

Competitiveness can be examined at three levels: enterprise, sector/industry, and country (Momaya and Ajitabh 1999). At the enterprise level, competitiveness reflects the ability to design, produce, and market products superior to those that competitors offer, considering price and non-price tangibles and hence to secure profitability. At the sector/industry level, it relates to the extent to which a business sector (or industry) offers growth potential and attractive investment return. Finally, at the country or national level, it refers to the extent to which a national environment is conducive or detrimental to business, thereby enhancing the capacity of the economy to improve the standard of living. In effect, competitiveness refers to the ability

of the enterprise, sector, and country to produce and sell goods and services in domestic and foreign markets at prices and quality that ensure long-term viability and sustainability. External competitiveness can be examined ex post—through revealed or actual export performance—or ex ante—through factors expected to encourage sound export performance (e.g., wages, exchange rates, and incentives).

Common Measurements

The degree of external competitiveness at the enterprise, sector/industry, and country levels can be measured in various ways. One common measurement is a country's real effective exchange rate (REER). The effective exchange rate (EER) is a country's nominal exchange rate relative to that of other countries considered competitors. A trade-weighted, average exchange rate for the country relative to other countries is used. The REER is obtained by deflating the EER by appropriate price (consumer or wholesale) or cost (labor) deflators. The degree of competitiveness can also be assessed by the relative real unit labor costs of production (RULC), the ratio of real wage rate to labor productivity. The concept can be extended to consider other elements of production costs and factors to yield the real unit costs of production (RUCP).

A second measure of competitiveness is the ratio of prices of tradable goods to those of non-tradable ones. As the prices of tradable goods increase relative to those of non-tradable goods, producers gain an incentive to increase production of tradable goods and reduce production of non-tradable ones. The ratio of the trade balance to total trade indicates a country's degree of competitiveness. This ratio varies between "plus one," which signifies that the country exports only goods and hence is strongly competitive, and "minus one," which indicates that the country imports only goods and is therefore weakly competitive. Use of the above single-index measures of competitiveness tends to mask factors underlying the concept. Enterprise-level competitiveness depends on numerous industry and macroeconomic, political, and social variables. The REER also reflects the effects of macroeconomic policies (e.g., fiscal, monetary, and credit). In recent years, various institutions have developed broader indicators of competitiveness since an economy or country is more competitive when companies operate in an environment conducive to sustained growth of productivity and per-capita income (IDB 2001).

Multi-factor Approaches

Since it has been argued that firms, rather than countries, compete with each other (Krugman 1994), the concept of competitiveness at the country or national level has been defined to reflect the quality of the environment for investment and increasing productivity within a climate of macroeconomic stability and integration into the international economy (IDB 2001). The broader approach to measuring the degree of competitiveness therefore involves multiple factors. In 2001, the World Economic Forum (WEF)[3] identified three main factors affecting competitiveness: 1) quality of macroeconomic environment, 2) quality of public institutions, and 3) technology. Using 286 variables, the Forum analyzed and ranked countries' ability to provide an environment in which enterprises can compete. These input variables were grouped into economic performance, government efficiency, business efficiency, and infrastructure. A national competitiveness balance sheet was constructed to show the strengths and weaknesses of the four factors in relation to a given country's competitors.

The IDB expanded on the Forum's work by focusing on market deficiencies of the major productive factors that limit private-sector functioning and productivity and that can be corrected through public policies (IDB 2001). These factors involve credit, human resources, infrastructure for ports, electricity and telecommunications, and new information technologies. The IDB focuses on the institutional changes needed to ease the adverse effects of these factors, especially credit and human resources. Institutional change is defined as the change in the formal and informal rules and enforcement mechanisms that shape the behavior of a society's organizations and individuals (IDB 2001). These institutions relate to the rule of law, effectiveness of the public administration system, and quality of the regulatory framework.

Applications and Results

A few studies on Jamaica's competitiveness have used the above measures and frameworks. For example, Henry (2001) uses four single-factor measures of competitiveness to assess the Jamaican situation during 1986–2000: 1) REER, 2) profitability of producing tradable goods, 3) ratio of the price of tradable goods to non-tradable ones, and 4) ratio of the trade balance to

[3] WEF Global Competitiveness Report (2001), Geneva.

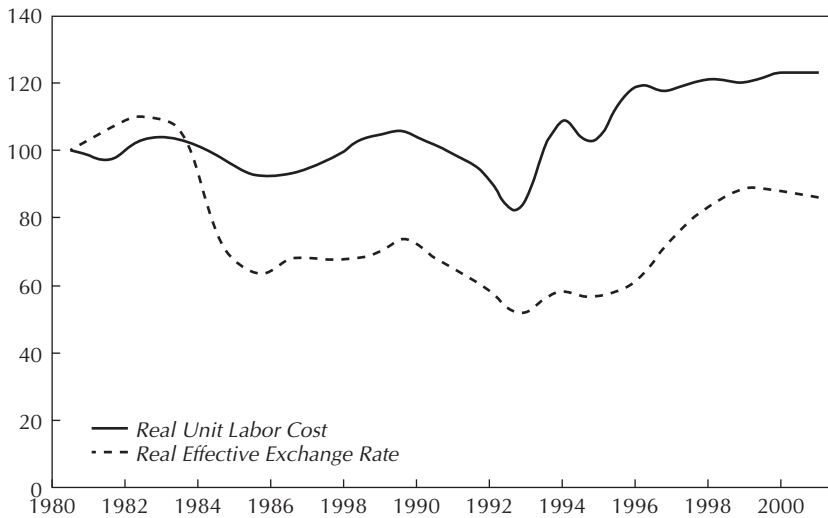
total trade. The results show a general decline in Jamaica's external competitiveness between 1986 and 2000, with a continuous loss during 1992–1998, followed by improvement since then. The general decline in external competitiveness during 1986–2000 occurred despite depreciation in the exchange rate. Henry (2001) notes that the decline was caused by increases in the costs of production, which rose faster than depreciation of the exchange rate. Given the high import dependence of the Jamaican economy, it is expected that change in the nominal exchange rate would result in domestic price increases and also wage costs via the pass-through effect. As mentioned above, this effect has moderated over the past decade. Since 1992, the GOJ has instituted changes that could have affected the degree of external competitiveness. These include liberalization of the foreign exchange market, which has resulted in depreciation of the exchange rate; removal of subsidies, price controls, and wage guidelines; and introduction of a general consumption tax (GCT). Some of these policy measures would have resulted in increased internal costs relative to the depreciation of the exchange rate.

Analysis of the REER over the 1980–2000 period indicates varying periods of appreciation (loss in competitiveness) and depreciation (gain in competitiveness). Jamaica lost competitiveness in external markets during 1980–1982, 1986–1989, and 1993–1998; while it gained in external competitiveness during 1983–1985, 1990–1992, and 1999–2000 (Figure 4-1).

The RULC index also gives the same general picture of competitiveness over the 1980–2000 period. In general, real average compensation increased over the 20-year period, which was greater than the increase in overall productivity. Data for average real-weekly wages in large establishments indicate a general upward trend over the 1986–1999 period, with a pronounced change in 1993 after the wage guidelines were lifted. A partial explanation for the loss in external competitiveness is increased labor costs relative to depreciation of the exchange rate. Increases in the commercial banks' lending rates—from an average of 16.1% in 1980 to nearly 50% in 1994—would also have resulted in a rise in the cost of doing business in Jamaica and hence a decline in external competitiveness. Key informants indicate that the rise in criminal activity has also added to operating costs—that is, security—of Jamaican enterprises. A survey of establishments indicated a general increase in all cost categories (wages/salaries and fuel energy) during 1998–2002.

FIGURE 4-1

Comparison of RULC and REER Changes (%), 1980–2000



A comparative analysis of competitiveness between Jamaica and Malaysia, using a broad set of macroeconomic and social indicators, reached the following conclusions (Ross-Brewster 1995):

- The REER was about the same for both countries in 1987 and 1994;
- Jamaica had greater instability and uncertainty in the price and nominal exchange rate;
- Overall labor productivity declined in both countries, meaning that competitiveness was not productivity-driven;
- Jamaica surpassed Malaysia in terms of social and human-development indicators; and
- Malaysia had dramatically higher rates of gross domestic savings and investment, and also encouraged an inflow of foreign investment through supportive policies and programs.

Using the standard deviation of gross private capital flows as a proportion of GNP, Jamaica exhibited a relatively high degree of volatility compared with other LAC countries during the 1980s (0.039) and the 1990s (0.024).

The arithmetic means for the region were 0.037 (1980s) and 0.028 (1990s) (Rodrik 2001).

The World Competitiveness Index (WCI) ranked Jamaica 52 out of 75 countries, using indices of the macroeconomic environment, quality of public institutions (property rights, rule of law, and corruption), and technological innovation. Within the context of the 20 LAC countries included in the WCI, Jamaica ranked 9 (after Costa Rica, Dominican Republic, Mexico, and Trinidad & Tobago). In 2002, the WCI ranked Jamaica 60 out of 80 countries, thus representing a decline in the country's overall competitiveness.[4] This statistical result is supported by responses to the survey conducted as part of this study. While 66% of respondents indicated that their enterprise competitiveness improved over the 1998–2002 period, about 50% perceived that the country's competitiveness fell. These rankings suggest that Jamaica must cultivate a business climate—particularly the macroeconomic environment—in which enterprises can become more competitive. Rodrik (2001) estimated a high level of GNP volatility in the 1980s (0.042) and 1990s (0.038), as measured by the standard deviation of annual GNP growth rates. As indicated above, while the inflation rate has fallen significantly since the mid-1990s, economic growth has not occurred, and the country has been grappling with a major debt problem.

Sector and Enterprise Studies

Numerous sector and enterprise studies have been undertaken to determine the underlying factors affecting Jamaica's external competitiveness. For example, Kurk Salmon Associates (KSA) (1997) undertook a comparative analysis of Jamaica's competitive position as an exporter of apparel products to the U.S. market. Results indicated that Jamaica was losing its competitive edge in comparison to Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Mexico, and Nicaragua. Jamaica was regarded as a high-cost option for apparel sourcing in the LAC region. Of the 10 countries studied, Jamaica was regarded as the third most expensive in terms of total assembly costs and packaging services. The study cited the following reasons for this loss in competitiveness:

[4] WEF, *Global Competitiveness Report* (2001, 2002).

- High operating costs (rental rates, labor costs, high interest rates, and utility costs);
- Additional costs associated with security arrangements for workers, premises, and shipments;
- Limited access and use of new technology and manufacturing systems; and
- Limited GOJ incentives.

It was recognized that the industry's competitiveness can be regained through greater governmental technical and marketing assistance, incentives to attract new investment and installed capacity, and workforce training. Maintaining a stable exchange regime was also considered a key factor since revaluations of the Jamaican dollar have adversely affected the industry.

Trevor Hamilton and Associates also undertook a study of Jamaica's competitiveness in the manufacturing sector, using Costa Rica and Trinidad & Tobago for comparison (THA 2000). The analysis was undertaken in economic dynamics, business environment, and operational dynamics.

In terms of economic dynamics, results showed that the manufacturing sector was more important to Jamaica than to Trinidad & Tobago, which has a large oil and petrochemical industry. Jamaica's relatively large informal sector is perceived as a major source of unfair competition, while the Government's claim on credit resources crowds out private-sector access to credit. In addition, the GOJ allocates relatively fewer resources to support the manufacturing sector. Productivity, and hence competitiveness, in Jamaica's manufacturing sector is hampered by the relatively poor level of human capital (i.e., lack of basic education). Given its relative size in the Caribbean Community (CARICOM) region, Jamaican manufacturers have not sought to exploit the CARICOM market enough; instead, they have concentrated on markets in which it is difficult to secure technical, qualitative, and price competitiveness (THA 2000).

In terms of the business environment, Jamaica had higher inflation, interest and crime rates, and lower labor productivity and economic growth than did Costa Rica and Trinidad & Tobago. The GOJ has advocated the need for a national social partnership and dialogue with the private sector and labor unions to address these problems. Several attempts have been made to establish a national social partnership or contract, but these have not been sustained. Sectoral social partnerships, in the form of a Memorandum

of Understanding (MOU), have been reached between the private sector and labor unions (e.g., in the bauxite and alumina sector).

In the area of operational dynamics, Jamaican manufacturers have recognized the need to focus on training and development, new technology, customer service, and benchmarking to enhance competitiveness. There is less reliance on traditional mechanisms for enhancing competitiveness and sustaining viability (i.e., cheap labor, high tariffs, tax concessions, and devaluation).

THA (2000) observed that many Jamaican manufacturing enterprises spread their limited resources to internally provide activities that become fixed costs, when they should be variable costs. These activities include storage, packaging, marketing, and promotion. As a percentage of total manufacturing costs, fixed costs are much higher in Jamaica than in the other countries, thereby giving Jamaican manufacturers a low propensity to compete on costs and price. As indicated in previous studies and confirmed by key informants who participated in this study, the driving forces for these high costs are high interest and utility rates, fringe benefits and social costs, and security costs.

Jamaica has experienced lower rates of productivity growth in sectors supporting the manufacturing sector (i.e., transport, construction, and finance), which have had spillover effects. Given the adversarial nature of industrial relations in Jamaica, more resources have been used for matters involving industrial relations than for other measures to enhance labor productivity (e.g., productivity gainsharing and employee development, as noted in Costa Rica and Trinidad & Tobago). Employee-incentive schemes in such countries as Barbados are designed to enhance productivity and sustain competitiveness. In effect, a major challenge for Jamaican manufacturers vis-à-vis their competitors is enhancing labor and total productivity by investing more in human capital, using new technologies, and seeking to reduce average costs of production.

Wint (1997, 2001) undertook an analysis of the factors determining the competitiveness of Jamaican enterprises, using a small set of enterprises in the banking and insurance; tourism and entertainment; retail distribution and communication; agro-processing, food, and beverage; and manufacturing and marketing sectors. He identified major competitiveness drivers, as follows: international benchmarking; focus on innovation, marketing, quality, and technology; workplace transformation and human resource

development; effective risk management; industry knowledge; and skilled corporate leadership. Wint argues that the development of internationally competitive enterprises depends on the ability to encourage entrepreneurs who can mobilize resources, manage risk, and create a passion for the business.

Harris (1995, 1997) undertook a detailed analysis of Jamaican export performance, using econometric and survey methods. In his econometric study of aggregate exports of goods and non-factor services over the 1965–1990 period for five Caribbean-Basin countries (Barbados, Costa Rica, Dominican Republic, Jamaica, and Trinidad & Tobago), he found a significant positive role for the real exchange rate (i.e., 6% real depreciation adds 1% to the growth rate of exports). Harris documents the enterprise or microeconomic issues facing Jamaican exporters. To boost their competitive advantage, several enterprises indicated that they invested in new plant and equipment, upgraded employer skills, improved product quality, forged strategic alliances with foreign companies, and enhanced the efficiency of existing machinery and equipment. In the mid-1990s, when the Harris survey was undertaken, the main factors that provided exporters with a competitive advantage were energy costs, access to Government assistance, and large-scale production.

Survey Results

The National Survey of Workplace Practices in Jamaica identified cost elements as the main factors affecting the competitive advantage of enterprises (Cowell 1999). With high inflation and tight monetary policies, high interest rates were identified as the main factor affecting competitiveness (Table 4-6). A country's social infrastructure, accessibility to capital, import duties, and skill availability were also key factors. While human-resource factors were not critical in determining competitiveness, they positively affected performance. Aptitude and worker-skill levels had a significantly positive effect on enterprise competitiveness (Table 4-7). Of the 200 respondents, 77% considered the economic environment "fairly" or "very" competitive, as a result of implementing GOJ trade-liberalization policies, suggesting that price (affected by cost elements) and quality (determined by product, workforce, and customer service) were the most critical factors for enhancing enterprise competitiveness.

Data from a survey of 46 enterprises conducted for this study indicate the main factors that have affected Jamaican competitiveness—increasing

TABLE 4-6

Effect of Selected Factors on Jamaica's Competitive Advantage

Factor	Rank	%
Interest rates	1	68.2
Infrastructure	2	42.6
Accessibility to capital	3	36.4
Import duties	4	33.3
Skill availability	5	31.8
Productivity	6	26.2
Numeracy/literacy	7	21.5
Attitude to non-managers	8	19.0
Labor relations	9	17.0
Aptitude	10	15.5

Source: Cowell (1999)

TABLE 4-7

Effect of Labor-related Factors on Competitive Advantage of Jamaican Enterprises

	Type of Effect (%)		
Factor	Negative	None	Positive
Labor relations	17.2	44.3	38.5
Productivity	26.2	33.3	40.5
Worker skill levels	18.5	28.2	53.3
Worker literacy/numeracy	21.5	38.5	40.0
Aptitude	15.5	27.8	56.7
Worker attitude	19.0	35.9	45.1
Availability of skilled employees	31.8	31.3	36.9

Source: Cowell (1999)

transaction costs and creating macro-environment uncertainty—over the 1997–2002 period (Annex I):

- *Enterprise level:* Increased production costs, amount of capital invested, staff training, customer service/on-time delivery, and reducing internal inefficiencies.

- *Sectoral level:* Product differentiation, greater market entry, and underuse of machinery and equipment.
- *Country level:* High-unit production cost, low-level productivity, inadequate Government support, bureaucratic red tape, crime and violence, and social instability.

More than 80% of survey respondents focus their operations on the domestic market, where they compete with other producers and importers. These enterprises adopted various measures to enhance their competitiveness in respective markets over the 1997–2002 period. Domestic-market initiatives included investment in new technology, cost control and management, improved products and services, and enhanced marketing. The same measures were adopted for enhancing regional-market competitiveness. Joint ventures, however, were the main initiative adopted by Jamaican enterprises to promote regional competitiveness. Cost control and aggressive marketing were used to boost competitiveness in extra-regional markets. Several export companies have been certified under the ISO-9000 system.[5] In effect, cost control and marketing were the main initiatives adopted by Jamaican enterprises over the past five years to enhance their competitiveness in the domestic and export markets. Data from respondents indicate that labor costs and raw materials/fuel were the main components of production costs. Increasing productivity of associated factors of production therefore becomes an important element in improving Jamaican enterprise competitiveness.

In sum, increasing the costs of doing business in Jamaica occasioned by high interest rates, utility rates, criminal activity, depreciation in the exchange rate, and labor costs have affected the external competitiveness of Jamaican exporters. One strategy for regaining this competitiveness is to increase the productivity of resources used by enterprises, while creating an environment of macroeconomic stability and entrepreneurship.

Productivity Growth

Productivity involves the use of resources—inputs or factors of production—to obtain the output of goods and services. Productivity is expressed as the ratio of the output of goods and services to inputs used in the production process.

[5] International Organization for Standardization.

In practice, two concepts of productivity are used: 1) labor productivity, which relates the amount of output produced relative to the labor resources used (labor hours or number of workers employed) and 2) total productivity or the output produced relative to all of the inputs used (including labor, machinery, equipment, raw materials, and energy). Productivity increases when fewer resources (inputs) are used to produce the same level of output or when the production of more and better quality output occurs using the same resources. Productivity analysis can occur at various levels: individual, departmental/unit, enterprise, sector/industry, and national. The purpose of the analysis and availability of data usually dictate the level of analysis undertaken.

As indicated above, increases in productivity are critical to a country's competitiveness in the international market. Since the productivity level in one country relative to another is the essential element in the competitiveness equation, it is important to examine the factors that affect productivity growth in one country relative to another. For example, if the RULC is used as a measure of a country's competitiveness, then, for a given exchange rate, the country's ability to improve its competitiveness depends on the growth of labor productivity in the country relative to its competitor (assuming the real wage differential does not change over time). Increases in productivity also have a dampening effect on inflation, which can enhance competitiveness through the REER (Annex II).

Productivity growth is affected by a range of factors at both the macro and micro levels. At the macro level, major factors include:

- Sectoral allocation of resources,
- Economies of scale,
- Trade orientation,
- Polices related to human resource development and research and development,
- Technological change,
- Social infrastructure,
- Regulatory environment, and
- International business and political environment.

At the micro-level, major factors include:

- Choice of incentives,
- Supervisory practices,

- Use of shift systems,
- Training schemes,
- General working conditions and relationships,
- Use of modern technology,
- Management systems, and
- Plant organization.

In a highly competitive environment, increasing productivity and quality are important to long-term profitability since firms might not be able to increase prices.

The World Bank (2000) offers three possible reasons for the coexistence of Jamaica's relatively high investment-to-GDP ratio and its relatively low level of aggregate labor productivity (Box 4-1). First, measurement error in the real GDP estimates might have arisen because of the significance of Jamaican society's informal sector. While national accounts data are obtained from established or registered enterprises, employment data are obtained from household surveys. In effect, a mismatch between output and employment data is likely. Second, resources may have been invested in areas with the highest long-term potential for returns, creating allocation inefficiencies in the capital investment process. Third, high interest rates may have crowded out sound projects with long-term net benefits.

Over the past several decades, initiatives have been undertaken to boost Jamaica's productivity and enhance its competitiveness. Since the Productivity Centre of the Jamaica Industrial Development Corporation (JIDC) was created in 1966, the GOJ has sought to establish the institutional mechanism to promote improved productivity (Hussey 2002). The approach has largely been piecemeal and unsustainable. Several ministry speeches and policy documents exhort the need to increase labor productivity to enhance the export competitiveness of Jamaican goods and services. The most recent of such initiatives involves the preparation and partial implementation of a National Industrial Policy and the proposed re-establishment of the National Productivity Centre.

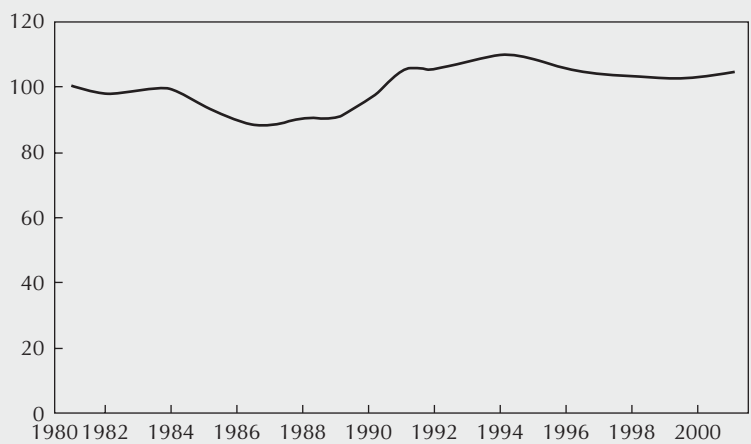
Causes of Low Productivity

Concern over the low growth in labor and total productivity has motivated researchers to examine the factors affecting the Jamaican economy's productivity. Kirton (1992), for example, cites the following factors: plant re-

BOX 4-1. The Jamaican Conundrum

Little systematic research has been undertaken on the factors affecting Jamaican productivity. Using the ratio of real GDP to the number of persons employed as a measure of aggregate productivity, the data indicate that labor productivity declined steadily during 1980–1986 (from J$ 19,487.76 in 1980 to J$ 17,187.73 in 1986), followed by a gradual increase during 1987–1993 and then a decline in 1994–1998 (see Figure below). With the upward trend in the number of persons employed, changes in labor productivity reflected the changes in real GDP over the period. During 1980–2000, the average annual growth rate in labor productivity was 2.2%; the relatively high investment-to-GDP ratio of more than 25% suggests that labor productivity should have been much higher.

Changes in Labor Productivity (%), 1980–2000



organization and layout, greater involvement of supervisors in producing ideas for improvement, appropriate production scheduling (e.g., planned downtime for maintenance and inventory stock accumulation), improved equipment maintenance, increased investment in spare parts, training in quality management, and incentive programs to reduce absenteeism.

In his analysis of Jamaica's low productivity, Shirley (1991) highlights the following issues:

- Inability of the manufacturing and, to a certain extent, services sectors to compete internationally because of ill-equipped production systems (lack of ongoing upgrading of production systems and technology).

- Lack of human resources with the technical and problem-solving skills needed to operate production systems effectively.
- Adversarial industrial relations, resulting from the sharp division between line and staff workers in the manufacturing and services enterprises, which contribute to poor worker motivation (Stone 1982; Carter 1997; Cowell 1999).
- Government protectionist policies, which shield local enterprises from external competition and maintain complacency on the part of enterprise management (enterprises are unable to engage in international benchmarking).

Ventura (1992) also highlights the lack of modern technology and investment in human-resources development as the main factors affecting Jamaica's productivity. He further notes that the educational and training system has not adequately addressed the country's science and technology needs. The country relies heavily on imported technology, which the local workforce is poorly equipped to handle.

Stone (1992) highlights various factors that can hinder implementation of Jamaica's productivity policies:

- Poor private-sector response to productivity incentives resulting from lack of confidence in an uncertain economic environment;
- Private sector's interest in quick, high returns, resulting in inappropriate investment of profits (e.g., financial-sector boom of the 1980s to 1990s relative to poor performance in the real sector of the economy);
- Deep distrust between workers and management, resulting in poor worker morale;
- Insufficient incentives to positively affect productivity;
- Deeply embedded social relationships (based on class, color, ethnicity, residential location, and education), which affect workplace culture (norms and management styles); and
- Competitive environment blocked by unequal economic power between old and new capitalists and powerful business groups who control the marketplace (entry barriers exclude potentially productive operators, while powerful enterprises engage in lobbying and rent-seeking behavior to maintain their monopolistic control).

Recent Initiatives

During the 1990s, several initiatives were undertaken to boost Jamaica's productivity. In 1991, the GOJ established a tripartite Productivity Council. Through its secretariat—the Productivity Centre within Jamaica Promotions, Ltd. (JAMPRO)—the Council mounted programs to enhance productivity in several enterprises. The productivity drive was linked to wage and salary increases and heralded the end of wage guidelines, which formed part of the country's structural adjustment program during 1975–1980 and 1987–1991. The productivity drive did not succeed—the Council met irregularly and the degree of commitment was not great—as it did in other countries, notably Barbados.

Kirton (1992) notes that technical assistance provided by the Productivity Centre boosted productivity in the apparel, furniture, and agro-industry sectors, whose enterprises employed a system of flexible specialization to enhance production efficiency. Kirton also reports that the payment-incentive schemes introduced to boost labor productivity in Jamaica lacked fairness and equity, raising the issue of distributive justice in organizations. Hussey (1991) also raised concerns about the genuineness of performance-based payment schemes. In 1992, the Government sought to promote a tax-free productivity incentive on the portion of labor income directly related to increased productivity. The measure was later abandoned because of private-sector criticism and the difficulties associated with policing these schemes (Hussey 1991).

The bauxite and alumina industry has developed an incentive program to boost that industry's productivity. In documenting the Alcan Jamaica Company (Aljam) experience, Panton (1990) argues that one way to increase worker productivity is by implementing a policy of cooperation between management, other employees, and union workers and their representatives. The Aljam productivity program involved incorporating elements of the productivity drive into the company's mission statement and developing corporate values based on productivity. Both the mission statement and the corporate values were widely discussed by company workers. Employee involvement programs, such as total quality management, occupational health and safety committees, and human relations committees were established. Training and development of workers at all levels were emphasized. The centerpiece of the Aljam program was institutionalizing the 1985

incentives program, which granted monetary and other tangible rewards to employees who made implementable suggestions to enhance workplace performance. The scheme covered such areas as production, safety, and efficient use of raw materials. Lewis (1991) reports that productivity improvements were made during the early stages of the program.

Calzado (2000) documents the case of the dairy industry, which developed a vision of total quality excellence (TQE). After being certified under the ISO-9002 system in 1995 and undertaking a restructuring exercise in 1996, when all workers were let go, the company embarked on a human resource development program to boost productivity. It included ongoing training, greater communication, teamwork, job rotation to develop multiskills, and job enrichment and linking of increased wages and salaries to employee performance.

Cowell, Crick, and Wint (2001) and Crick (2001) studied six companies in Jamaica to identify the effect that workplace transformations have had on organizational productivity and competitiveness.[6] They found that the trigger point for undertaking these transformations resulted from the process of trade liberalization and the need to improve profitability. These companies developed a plan to re-engineer and restructure their operations, which included:

- Mass redundancy of production workers;
- Worker training and development;
- Use of performance involvement in decision-making;
- Alignment of corporate culture to staffing and retention strategies (e.g., Jamaica Money Market Brokers [JMMB] concept of customer and employee relations);
- Improvement in management-worker relations; and
- Teamwork, greater information sharing, and communication.

As Crick (2001) points out, the costs of poor human-resource strategies are reflected in low productivity (even with superior wages and salaries, productivity can be low). The companies focused on improving workplace relations as a means to improve productivity and gain competitive advantage.

[6] The companies were Grace Kennedy and Company, Ltd.; Desures and Geddes; Jamaica Broilers; Dairy Industries, Ltd.; J. Wray and Nephew; and Jamaica Money Market Brokers (JMMB).

These studies reported significant improvement in productivity resulting from workplace transformations.

Human Resources Issues

Evidence collected from a survey of enterprises for this study indicates that human resource management issues—employee training, work-force quality, reduced staffing, and performance-based incentives—are the main factors affecting labor productivity. Additional factors include technological improvements and re-engineering of production processes and organizational development. Survey respondents indicated that the main factors affecting total factor productivity included macroeconomic changes (e.g., inflation, increased taxes, and devaluation or depreciation), capital investment, automation/re-tooling/technological improvements, employee training, and focused management systems. Initiatives that enterprises have implemented over the past five years to raise productivity have included:

- Training and development,
- Performance- and incentive-based payment schemes,
- Investment in new equipment and machinery, and
- Restructuring and reorganizing of work processes.

Hotel chains, including Sandals and Super Clubs, have engaged in the ongoing training of staff to maintain their competitive advantage in the tourism market. Promotion of trust and good industrial relations between workers and management has been identified as key to raising labor productivity in Jamaica (Carter 1997).

At the macro level, the GOJ has recognized the need to cultivate an environment that enhances Jamaica's productivity and hence competitiveness. It has implemented various training programs that cater to the technical needs of private enterprise. Taylor (1992), for example, has identified public programs aimed at raising productivity of the urban poor (e.g., Social and Economic Support Programme [SESP], which provides employment and training; micro-credit and social infrastructure development; technical and vocational training via the HEART/NTA; small-scale investment through the Micro Investment Development Agency [MIDA]; and industrial modernization, design, and other forms of technical assistance through JAMPRO).

The HEART/NTA has succeeded reasonably well in meeting the training needs for a wide range of enterprises (Gregory 1999). However, the low skill base of a large percentage of the Jamaican labor force stems from a poor educational background.[7] Recent information on the informatics industry (especially call centers) highlights the illiteracy problem. Managers indicate that only 1 person out of 10 passes the basic entry test needed for the industry. Furthermore, many teachers who apply for supervisory posts cannot speak properly and lack analytical skills (Box 4-2).

Bloom et al. (2001) emphasize that, in 1995, the most important factor influencing changes in per-capita income—the resulting difference between Jamaican performance and that of the comparison group of countries—was the difference in output per worker. They further state that, while Jamaica's agricultural productivity has grown slightly faster than that of the comparison group, significant lag in the services and manufacturing sectors has resulted in the loss of export competitiveness.

Growth Accounting

The World Bank (1996) estimated total productivity growth in Jamaica at –0.65% per year over the 1979–1994 period. This negative growth rate is significantly lower than that of many other developing countries, such as those in Southeast Asia, which have recorded rates of up to 3% per year (World Bank 1996). Labor (employment) growth accounted for 75% of the change in total factor productivity, while growth in capital stock accounted for 25%. While problems are usually associated with measurement of inputs, especially capital, the negative value for total productivity growth, coupled with high labor (employment) growth, suggests that the source of poor performance lies partly in the labor market.

The World Bank estimated Jamaica's total factor productivity growth at –1.07% per year over the 1960–1990 period. Bartelsman (2002) found that the country's total factor productivity growth was largely negative over the 1991–2000 period (Table 4-8). In this study, however, capital growth accounted for a significant part of output growth. Artana and Navajas (2003) observed that Jamaica's tax-incentive structure is biased toward capital. Using a growth-accounting decomposition procedure, Fajnzylber and Lederman

[7] The country has a 20% illiteracy rate, and 80% of the workforce indicates it has received no training.

BOX 4-2. Call for Educational Reform

The GOJ has been engaged in reforming the country's educational system, aimed at increasing the quantity and quality of graduates. With its poor economy and high crime rate, Jamaica has lost a significant portion of its labor force to the U.S. and Canada. Over the 1991–2000 period, emigration from Jamaica averaged more than 20,000, with a high percentage of those reporting their occupation in professional, technical, executive, managerial, and administrative categories. This loss in human resources, which is not easily replaced at the same level of proficiency, retards growth in the country's labor productivity.

(1998) found that total factor productivity increased by 0.7% during 1950–1995. They also showed that total factor productivity was higher during periods of economic reform.

The negative value for total factor productivity growth is similar to that obtained for Barbados and other countries in the LAC region over the past

TABLE 4-8

Growth Accounting for Jamaica, 1991–2000

	Period		
Accounting Item	**1991–1996**	**1996–2000**	**1991–2000**
STATIN Estimates			
Growth Type			
Output (g_y)	1.4	–0.2	0.7
Capital (g_k)	1.3	0.8	1.1
Labor (g_L)	0.8	–0.4	0.3
Total Factor Productivity (g_A)	–0.7	–0.7	–0.8
Adjusted Estimates*			
Growth Type			
Output (g_y)	3.5	0.3	2.1
Capital (g_k)	1.3	0.8	1.1
Labor (g_L)	0.8	–0.4	0.3
Total Factor Productivity (g_A)	1.4	–0.1	0.7

*Indicates adjustment to the official STATIN data to reflect imputed bank charges added to the "other service" sector.
Source: Bartelsman (2002)

three decades (Downes 2002). In their analyses of total factor productivity growth, Maddison (1987) and Oulton (1997) identified such systematic or long-term factors as changes in economic structure caused by changes in the elasticity of demand for goods and services and the differential pace of technical change between sectors; advances in technical knowledge; organizational changes; learning-by-doing effects; economies of scale; and foreign-trade effects. Such cyclical factors as labor hoarding/dishoarding and the use of capacity effects associated with slack in physical capital also affect measured total factor productivity. In certain cases, ad-hoc factors, such as oil shocks or discoveries, along with standard errors in measurement, affect productivity. Given the negative value of total productivity growth since the 1960s, it is likely that long-term or systematic factors have not positively affected productivity.

Labor Market Issues

The World Bank (1996) attributes Jamaica's low level of labor productivity, in part, to deficiencies in the educational and training system, noting that approximately 67% of new job seekers lacks any form of certification and a large percentage is illiterate. This study further notes that, of the 255 firms surveyed in the mid-1990s, a high percentage of managers perceived poor work habits as a major constraint to growth and productivity. Poor work habits and attitudes were due, in part, to three factors: 1) poor mass-transit system, making it difficult for workers to get to their jobs and resulting worker frustration; 2) widening gap between workplace managers and employees, reflecting the class division in the broader society; and 3) poor management practices (i.e., managers tend to be authoritarian).

Poor worker-management relations in Jamaica has led to many industrial disputes and work stoppages, especially from the early 1970s to the mid-1980s. Available data indicate that most work stoppages, which have negatively affected labor productivity, were caused by wage and employment conditions (Downes and Nurse 2002). Since the mid-1980s, the number of disputes and stoppages has steadily declined. The 1990s saw a gradual shift from an adversarial to a conciliatory approach to industrial relations, which may have contributed to increased labor productivity during the late 1980s and early 1990s.

The changing nature of the employed labor force may also affect Jamaica's overall labor productivity. Anderson and Witter (1994) note that, in the

1980s, new job creation occurred in the secondary formal and informal sectors, where jobs require relatively low levels of human capital, job instability is relatively high, and worker protection is lacking. Employment creation occurred in the export-processing sector (free zones), tourism, small-scale services, retail, domestic services, vending, peasant agriculture, and personal services. Many activities in these sectors are labor-intensive and exhibit low levels of productivity. An examination of the index of labor productivity by branch of activity indicates that, in the 1990s, labor productivity declined in construction; finance, real estate, and business services; wholesale and retail; and community services. The sectors that showed increased productivity were agriculture; mining; manufacturing; electricity, gas, and water; transport, storage, and communication; and hotels and restaurants (Table 4-9).

Participants at a meeting to discuss establishment of the proposed National Productivity Centre identified factors that affect Jamaican productivity, as follows:

- Distrust between managers and their employees,
- Inadequate management competence in productivity management,
- Lack of meaningful participation of workers in the decision-making process,
- Adversarial industrial relations,

TABLE 4-9

Labor Productivity Growth in Jamaica, by Sector, 1991–2000

Sector	Growth (%)
Agriculture	2.6
Mining	3.4
Manufacturing	2.7
Electricity, gas, and water	3.2
Construction	–5.5
Transport, storage, and communication	1.2
Hotels and restaurants	0.1
Wholesale and retail	–0.4
Finance, real estate, and business services	–0.4
Community services	–0.8
Government	–1.2
Total economy	**0.2**

- Lack of a clear link between effort and reward,
- Lack of adequately trained workers and managers,
- Absence of quality standards and measures,
- Outdated plants and machinery, and
- Weak infrastructure (transport, roads, and ports).

In addition, participants cited lack of information on productivity performance in Jamaica and its role in the overall development process. These conclusions suggest that human resources development, new capital investment, and education are critical to increased productivity at the enterprise and sector levels.

Policy and Institutional Recommendations

Policy Directions

The above analyses suggest that numerous factors have affected Jamaica's productivity and hence the competitiveness of its enterprises. Enhancing competitiveness can be achieved by boosting productivity of production factors (i.e., capital, labor, and managerial ability), adopting a strategic exchange policy, maintaining a stable macroeconomic environment, lowering overall production costs, and the costs of doing business in Jamaica. Since productivity growth is critical to enterprise competitiveness, a productivity-management program is needed. This would involve new capital investment, human resource development, improved management-employee relations, and appropriate incentive systems.

Review of earlier studies, interviews with key informants, and survey responses from Jamaican enterprises suggest the following policy measures to improve the country's productivity and competitiveness.

Maintain macroeconomic stability. A stable macroeconomic environment is needed to create a business environment free from uncertainty and unanticipated costs. It would include low inflation, low interest rates on loans, low exchange-rate variations, reduced debt-service ratio, and low fiscal deficit as a percentage of GDP and balance on the balance of payment (BOP).

Over the past decade, the GOJ has strived to achieve macroeconomic stability. The rate of inflation has declined significantly and the fiscal balance, as a percentage of GDP, has declined (Table 4-1). However, interest rates on

loans have remained relatively high as the GOJ adopted a tight monetary-policy stance. Jamaican enterprises have indicated that high interest rates are a main source of their inability to compete since they add to production costs (especially working capital). The average weighted commercial bank loan fell from a peak of 49% in 1993 to 19.5% in 2001, while inflation declined from a peak of 80% in 1991 to 8.7% in 2001. Greater effort is needed to lower loan rates to ease the financial cost burden of Jamaican enterprises.

The nominal exchange rate increased from J$ 8.17 (equivalent to US$ 1) in 1990 to J$ 47.40 in 2001. While depreciation of the Jamaican dollar may boost the competitiveness of certain sectors (e.g., tourism), it also increases the costs of imported goods and services in Jamaican currency units. For enterprises with a high percentage of imported inputs, production costs increase significantly. Furthermore, depreciation increases the value of foreign debt denominated in Jamaican dollars. The variability in depreciation of the nominal exchange rate creates uncertainty in the business environment and adds to transaction costs. Hence, stabilization of the exchange rate and lowering of interest rates are necessary conditions for boosting export competitiveness.

Promote human resources development. In a dynamic business environment, enterprises must stay competitive by boosting worker productivity. Surveys of Jamaican enterprises and interviews with key informants have emphasized the critical role that developing human resources plays in boosting productivity and competitiveness. The HEART/NTA has been at the forefront of technical and vocational training, having made information technology and entrepreneurship training mandatory in its programs. In addition, it has sought to inculcate a positive work attitude in its graduates, encouraging them to be more entrepreneurial. While primary education is universal in Jamaica, secondary and tertiary levels still have fundamental problems. The GOJ has introduced reforms to enhance the quality of secondary education and move toward making it universal.

Because of Jamaica's poor economic performance and high incidence of crime, skilled labor has emigrated over the years, thereby robbing the country of resources key to boosting economic productivity. Incentives must be designed to attract Jamaicans back to their country to help re-build the economy. For example, Jamaican nationals could be encouraged to set up new businesses through a fiscal-incentives scheme that would allow them

to import raw materials and capital equipment at low- or zero-import duties, provided they export a given percentage of their final product to extra-regional markets. Such a scheme would allow Jamaican businesspersons to use their expertise and marketing contacts in developed countries. At present, manufacturers can import raw materials and capital goods duty free; under the modernization program, the general consumption tax on capital goods is waived. A further incentive could involve a moratorium on corporate income tax for such business ventures.

Another problem related to Jamaican enterprises' low level of productivity is the poor quality of supervisors and general management. Although the country has several management institutions, these have failed to cultivate the managerial expertise needed to promote productivity adequately. Along with the need for management-development training is the need for greater organizational development aimed at promoting a high-performance culture characterized by transformational leadership, teamwork, planning and decision-making, communication, information sharing, and trust. Indeed, distrust has created a barrier to solid management-employee relations and employee motivation.

Link compensation to performance. Gainsharing schemes can boost organizational productivity and performance since they permit the distribution of any gains achieved from exceeding expected targets. In Barbados, such schemes have met with some success (Downes and Alleyne 1998). In Jamaica, various attempts to introduce such schemes—through profit-sharing and productivity bonus—have not been sustainable. In recent years, the bauxite industry and certain hotels have adopted gainsharing schemes. Grace Kennedy and Company, Ltd. and other enterprises have developed performance-based payment schemes, which have helped to boost worker motivation and performance.

In the case of the bauxite scheme, tax-free status has been allowed for productivity-determined bonus payments. With the establishment of the National Productivity Centre, promoting such schemes should be given a high priority since, if properly designed and managed, they also promote information sharing and trust between workers and employers.

Promote social partnerships. Social partnerships can be established between the GOJ, employers, and worker representatives. (Barbados provides a suc-

cessful model of social partnerships and consultation through dialogue.) A national-level MOU that commits all parties to the national effort is needed. Establishing properly implemented and administered social partnerships would initiate a process of dialogue, communication, and trust building, which is needed for productivity growth. Such partnerships should focus on building social capital for national development.

Renew public-sector reform. The GOJ should renew its attempt at public-sector reform to reduce transaction costs, enhance social infrastructure and services, and reduce crime. To lessen bureaucratic red tape, new operational procedures are needed for approving requests (e.g., customs, town and country planning, and coordination of ministry activities). Poor infrastructure facilities and associated services—identified as a cause of absenteeism, poor motivation, and low productivity—should be enhanced; special attention should focus on improving roads, ports, health, and education. Determined measures are needed to reduce crime, given that high security costs have eroded any competitive advantage that Jamaican enterprises may have had in the past.

Support enterprise re-tooling. Lack of innovation and development of science and technology have plagued Jamaica's agricultural and manufacturing sectors. In some cases, small- and medium-sized firms have been unable to gain access to new developments because of prohibitive costs. Making financial resources available would not only promote national innovation and technological change; it would ensure access by a wide range of enterprises. Depreciation allowances could be permitted in sectors and industries subject to rapid technological change and obsolescence. Certain large enterprises—Desnoes and Geddes (Red Stripe) and Jamaican Poultry Breeders Association—have been granted concessionary loans for re-tooling their operations and training staff; such loans can be extended to other enterprises.

Many Jamaican enterprises that have experienced severe cash-flow and debt problems, which have undermined efficiency, would benefit from debt rescheduling or recapitalization. Financial agencies would need to discuss options for easing cash-flow problems with many of these small- and medium-sized enterprises. To remain competitive, several operations would need a

cost-containment strategy. However, to reduce wastage, such containment must be complemented by measures to reduce the tax and loan-financing burdens of these enterprises.

Assist export marketing. Export-marketing policies should be formulated within the context of a liberalized trading environment. Several enterprises need technical and financial assistance in marketing their goods and services to extra-regional markets. Such marketing must be formulated within the context of a new trade policy framework that includes targeting of non-traditional markets for Jamaican products. Implementation of the proposed FTAA would give Jamaican enterprises greater access to LAC markets. Based on experience of the Jamaican papaya industry, Singh (2002) identified the following factors as critical to the successful marketing non-traditional exports:

- Selecting strategic goods and services to gain competitive advantage;
- Targeting mainstream, as well as ethnic, markets;
- Developing marketing leverage (e.g., focus on quality, uniqueness, and presentation); and
- Developing economies of scale.

Regional integration can promote productivity (IDB 2002). Creating the Caribbean Community (CARICOM) Single Market and Economy (CSME) can offer Jamaican firms the opportunity to realize such gains. The GOJ can work with enterprises in the export sector—agriculture, manufacturing, and tourism—to develop a marketing strategy that focuses on critical elements of competitiveness: quality, volume, product flow, price, and reliability. While depreciation of the Jamaican currency may yield short-term competitive advantage, such an exchange-rate policy must be complemented by supply-side policies that boost productivity of enterprises and capitalize on key elements of competitiveness. Moreover, Jamaican enterprises must engage in international benchmarking in the areas of productivity management and competitiveness. Enterprises must meet international operational standards if they are to survive a liberalized economic environment. Finally, more funds should be directed to entrepreneurial development, as well as research and development.[8]

[8] Garvey (2002) has called for a change in managerial thinking with regard to the Jamaican export market.

Role of Institutions

Jamaica's institutions—GOJ, labor unions, private-sector organizations, and international financial institutions—play a key role in promoting and facilitating the country's productivity growth and improved competitiveness. Based on enterprise survey responses and interviews with key informants, their critical roles in the process are as follows.

The **GOJ** must stabilize the economy, reduce interest rates and taxes, improve the educational and training system, reduce bureaucratic red tape, provide tax incentives, and control criminal activity (hence improving national security).

Labor unions must provide responsible leadership, educate workers to become more productive, promote linkage of wage and salary increases to improved productivity and performance, and support the establishment of social partnerships involving all parties.

Private-sector organizations should encourage sound management practices, promote greater collaboration with the GOJ and among enterprises, lobby for more incentives, promote social dialogue, and invest more in education and training. They should work with the GOJ to promote efficiency in public utilities (port, electricity, and transportation) and provide enterprises financial and technical support.

International financial institutions should provide assistance in the following key areas:[9]

- Entrepreneurial development;
- Business development;
- Product development (especially high value-added products);
- Technical, vocational, and management training;
- Promotion of links and clusters with other countries;
- Research and development in such support institutions as the JMA, JEF, Private Sector Organisation of Jamaica (PSOJ), and trade unions;
- Business plan preparation and implementation;

[9] Although many institutions—IMF, United Nations, IDB, World Bank, Caribbean Development Bank, U.S. Agency for International Development (USAID), and Department for International Development (DFID)—have invested significantly in the Jamaican economy over the past three decades, the country has underperformed. While coordination of donor technical and financial support is needed, the areas listed here, as identified by key informants for this study, require additional assistance.

- Production and operations management (plant design and layout and database development);
- Funding of new agricultural production, marketing, and management techniques; and
- Development of new organizations, such as the National Productivity Council, PSOJ, and trade union congress.

The above areas of activity would require specific project proposals for financial and technical assistance. In addition, a national effort is needed to promote productivity and competitiveness using a broader social partnership. The GOJ, as well as all employers and workers, must buy into the effort to ensure the long-term survival of the Jamaican economy.

ANNEX I

Survey Questionnaire on Productivity and Competitiveness of Jamaican Enterprises

ALL INFORMATION WILL BE HELD IN STRICT CONFIDENCE

A. Background

1. Name of enterprise
2. Start-up date of enterprise
3. Main products
4. Size of enterprise
   i. Employees (2001 or latest year)
   ii. Sales (2001 or latest year)
   iii. Assets (2001 or latest year)
5. Location of enterprise
6. Position of person completing the questionnaire

B. Factors Affecting Productivity

Definitions

In this section, the term *productivity* is defined as the relationship between the amount of output produced (goods and services) relative to the amount of inputs/resources used (e.g., labor, machinery, equipment, raw materials, and energy).

Two concepts of productivity are used:

i. ***labor productivity***—output produced relative to labor resources used (number of labor hours or number of persons) and
ii. ***total factor productivity***—output produced relative to all inputs used.

1. a. Over the past five years (1998–2002), indicate the general trend ın your enterprise, with respect to:

	Constant	Falling	Increasing
i. Labor Productivity	_____	_____	_____
ii. Total Factor Productivity	_____	_____	_____

   b. If productivity has been decreasing or increasing over the past five years, please indicate the extent of the change
   i. Labor Productivity _____ **% per year**
   ii. Total Factor Productivity _____ **% per year**

2. Identify the main factors that have affected productivity in your enterprise over the past five years (1998–2002):
   a. Labor Productivity:
      i. _____
      ii. _____
      iii. _____
      iv. _____

b. Total Factor Productivity:
   i. _____
   ii. _____
   iii. _____
   iv. _____

3. Have you introduced any measures that have enhanced productivity over the past five years (1998–2002)?
   a. Labor Productivity: Yes___ No___
      If "Yes," please specify: _____
   b. Total Factor Productivity: Yes___ No___
      If "Yes," please specify: _____
      If the answers to (a) and (b) are "No," please indicate the reason(s):
      _____
      _____

4. What can be done by the following agencies to enhance productivity in Jamaica?
   a. Government _____
   b. Trade Union Movement _____
   c. Private-sector Organizations _____
   d. Other Agencies (please specify): _____

C. Costs of Production

1. Indicate the relative contributions of the following components to total costs.

Item	**Percentage (%) Contribution to Total Costs**
Wages and salaries	_____
Other labor-related costs	_____
Raw materials	_____
Fuel and energy	_____
Interest charges	_____
Security	_____
Taxes	_____
Other elements	_____
Total	100.00

2. Indicate how the following components of costs have changed over the past five years.

Item	**Constant**	**Increase**	**Decrease**
Wages/salaries	_____	_____	_____
Other labor-related costs	_____	_____	_____
Raw materials	_____	_____	_____
Fuel and energy	_____	_____	_____
Interest charges	_____	_____	_____
Security	_____	_____	_____
Taxes	_____	_____	_____
Other elements	_____	_____	_____

D. Factors Affecting Competitiveness

Definition

Competitiveness can be defined at three levels:

i. *Company/firm*—Ability to design, produce, and/or market products superior to those offered by competitors, considering the price and non-price tangibles and hence secure profitability.

ii. *Sectoral/industry*—Extent to which a business sector (or industry) offers potential for growth and attractive return on investment.

iii. *Country*—Extent to which a national environment is conducive or detrimental to business, thereby enhancing the capacity of the economy to improve the standard of living.

1. a. Over the past five years (1998–2002), indicate the general trend in competitiveness at the following levels:

	Constant	**Falling**	**Improving**
Your enterprise	_____	_____	_____
Sector/industry	_____	_____	_____
Country	_____	_____	_____

b. If you indicated "Falling" or "Improving," can you give reasons?

_____

_____

_____

2. Identify the main factors that have affected competitiveness over the past five years:

a. Enterprise _____

_____

b. Sector/industry _____

_____

c. Country _____

_____

3. What percentage of your sales went to the following markets over the past five years)?

Market	**Percent (%)**
Domestic (Jamaican)	_____
Regional (CARICOM)	_____
Extra-regional	_____
Total	100

4. What measures have you taken over the past five years to boost competitiveness in the following markets?

a. Domestic _____

b. Regional _____

c. Extra-regional _____

5. To what extent would increasing productivity boost your enterprise's competitiveness?

0–20% _____ 20–40% _____ 40–60% _____

60–80% _____ 80–100% _____

6. What can the following agencies do to enhance competitiveness in Jamaica?
   a. Government _____
   b. Trade Union Movement _____
   c. Private-sector Organizations _____
   d. Other Agencies (please specify): _____
7. What are the main factors affecting your ability to increase your exports to:
   i. Regional (CARICOM) markets? _____
   _____
   ii. Extra-regional markets? _____
   _____
8. How long have you been exporting? To which countries?
   Years _____ Countries _____
9. Who are your main competitors?
   Local _____ Regional _____ Extra-regional _____
   In what way(s) has exporting helped your enterprise? _____
   _____
10. What views do you have regarding the enhancement of productivity and competitiveness in Jamaica? _____
   _____

THANK YOU VERY MUCH FOR YOUR KIND ASSISTANCE

ANNEX II

Wages, Labor Productivity, and Exchange Rates: Effects on International Competitiveness

Effects of changes in wages, labor productivity, and exchange rates on international competitiveness can be demonstrated through the following relationships:

Imagine two countries: A and B. Define the RULC of the two countries as the ratio of the real wage rate (w) to labor productivity (lp); that is:

i. RULCA = wA/lpA
ii. RULCB = wB/lpB

Next, define the degree of competitiveness between countries A and B as follows:

iii. comp (A/B) = Π (A/B) • RULCA/RULCB

where Π (A/B) is the nominal exchange rate between the two countries, defined as the ratio of the number of currency units of country B for a unit of country A's currency unit. A fall in comp (A/B) indicates that country A is more competitive than country B.

Substituting (i) and (ii) into (iii) and taking logs, then

iv. ln comp (A/B) = ln Π (A/B) + (ln wA – ln wB) – (ln lpA – ln lpB)

Differentiating with respect to time, the growth form of equation (iv) is given as:

v. gcomp (A/B) = g Π (A/B) + (gwA – g wB) – (g lpA – g lpB)

Equation (v) indicates that growth in export competitiveness of country A relative to country B is influenced by:

- changes in the exchange rate (i.e., decrease in the exchange rate as defined above [devaluation or depreciation]), which result in a change in the degree of export competitiveness (i.e., increased competitiveness);
- growth in relative real wages (i.e., decrease in real wages in A relative to B), which enhances export competitiveness; and
- growth in relative labor productivity (i.e., increase in labor productivity in A relative to B), which enhances export competitiveness.

If the real exchange rate (RER) is defined as the product of the nominal exchange rate times the ratio of foreign to domestic prices, then equation (v) can be adjusted to reflect this definition.

vi. $RER = \Pi\ (A/B)^* \bullet PB/PA$

where PB is the index of foreign prices and PA is the index of domestic prices. The nominal exchange rate is defined as the number of A's currency units for one of B's currency units.

The basic equation (v) becomes:

vii. $gcomp\ (A/B) = g\ \Pi\ (A/B)^* + (g.pB - g.pA) + g(wA - gwB) - (glpA - glpB)$

The second term on the right-hand side reflects a price-inflation differential between the countries, while the third term is the nominal wage-inflation differential.

Both equations (v) and (vii) indicate that an analysis of international competitiveness requires an understanding of factors affecting exchange-rate movements, inflation rate, wage increases, and labor productivity. These relationships allow the analyst to develop a simultaneous equation model that incorporates both economic and non-economic variables.

It is possible to extend the analysis to incorporate other countries (hence the use of a REER) and other production factors (hence other forms of factor productivity).

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5

Privatization and Regulatory Challenges

RICARDO PAREDES*

Over the last two decades, Jamaica has failed to sustain economic growth and development, despite the introduction of stabilization and structural reforms. During the 1990s, stabilization reforms met with some success; however, growth stagnated, with per-capita income declining at an average rate of 1% per year over the decade.

One striking issue is that all of this occurred within a context in which significant privatization measures had been taken, including that of the main power-generation company, cement industry, national airline, and financial sector (a virtually complete divestment). However, the privatization process emphasized the importance of regulatory issues—especially given the small size of the Jamaican economy—to promote transparency, accountability, and fair trading practices. All were needed to strengthen economic efficiency and competitiveness.

Two recent institutional efforts to implement the changes are the creation of the Office of Utilities Regulation (OUR) and enactment of the Fair

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Trading Commission (FTC). However, to have a sustained influence on growth and development over the medium and longer term, economic reforms require coherence. Privatization may not increase efficiency—it may even reduce it—if, in the process, new entry barriers are imposed or if regulation is not properly defined. Likewise, eliminating entry barriers in a given industry is unlikely to produce any effect if barriers remain in related essential facilities. Similarly, coherence between antitrust legislation and sectoral laws, as well as ex-ante regulation, is key to inducing investment in regulated utilities. Consequently, there is a well-recognized need to diagnose the privatization process and regulatory framework, identify bottlenecks to efficiency and the investment climate, and select appropriate mechanisms for further reform of regulatory institutions.

Regulatory Institutions and Framework

Jamaica's industrialization started in the late 1940s, with encouragement (through legislation) of the textile, cement, and manufacturing industries. Other incentives, implemented in the 1960s, favored such industries as bauxite and tourism (King 2001). At the outset, domestic protection from imported goods was relatively small, although quantitative restrictions increased threefold during the 1960s (Figueroa 1993). Notwithstanding, the Government of Jamaica (GOJ) was not directly involved in the productive activity; rather, it played the role of encourager.

Under the populist Manley administration (1972–1980), deep political changes occurred. Several market restrictions were imposed, including barriers to international trade. Moreover, the GOJ assumed a significant role in productive activities. After purchasing the largest commercial bank, it soon assumed control of Cable & Wireless (C&W) (the British telecommunications monopoly that had operated in Jamaica since telephony began), as well as the electricity and transport companies. Thus, firms across many sectors (including hotels, power, imported food, sugar, airlines, cement, and oil) became State-owned. By 1980, at the peak of Government intervention, the reach of GOJ ownership extended to some 400 productive firms, while per-capita income was 26% lower than in 1973 (King 2001).

This evolution explains, in part, the general consensus with regard to the need to increase private participation for growth, particularly in sectors considered natural monopolies and perceived as bottlenecks. The privatization

discussion has had more to do with timing (e.g., avoidance of discussion close to elections), than with deeper aspects, such as whether privatization would increase wealth or investment.

Steps Toward Privatization

The privatization process started with two small firms when the Seaga administration took office in 1981. However, one year later, the GOJ acquired an oil refinery, followed by numerous other productive assets (Stephens and Stephens 1986). By 1986, it owned more productive assets than it had five years earlier.

Forced by the structural adjustment requirements of a World Bank loan agreement, privatization began in earnest in 1986, with the sale of 51% of the National Commercial Bank. Then, in 1987–1988, the Cement Company and Cable and Wireless International were privatized. The process accelerated the following year, when a new administration took office. In 1989 alone, privatization reached 12 firms; during 1989–1996, 66 new firms, valued at nearly US$ 500 million, were divested. Even by the end of this period, however, key companies—power, water utility, international airports, seaport, and oil refinery—remained under Government control.

Natural monopolies—that is, the need to regulate private firms as opposed to direct operation of the State-owned firm—had become a major concern.[1] Simply stated, before privatization, there had been no clear official and accountable institution to regulate State-owned monopolies. The prevailing idea had been that these monopolies were self-regulated, and did not require a separate regulatory body.

Key Regulatory Institutions

It is not surprising then, that in Jamaica, as in most countries, privatization was implemented amid regulatory reform, or at least a first attempt at it. To this end, the OUR was created in 1995 through enactment of the OUR Act. In addition, the antitrust law, known as the Fair Competition Act, was enacted. Along with the FTC, institutions were created to implement the law;

[1] Recently, the road-infrastructure privatization debate has focused on allowing the private sector to build new roads versus privatizing existing ones.

however, they played a limited role in setting the regulatory framework for the newly privatized firms. Establishing the regulatory framework concurrent with the privatization process left little time to evaluate most regulations.

This, in part, explains the controversy about the quality of the regulatory framework and the role of new institutions in the process. Certain firms (e.g., water utility, airports, and ports) remain in strategically positioned activities under GOJ control, and some analysts argue that the lack of appropriate regulation is a good reason to postpone the process. Another frequently cited reason to delay privatization involves the negative effects on the poorest segments of the Jamaican population. Although evidence of the pervasive effects of privatization on the poor is weak (Estache, Wodon, and Foster 2002; Paredes 2003), the concern has remained, at least as a political restraint.

The sections that follow analyze the roles of the two regulatory institutions mentioned above, which are key to the development of any economy dependent on private-sector initiative.

Office of Utilities Regulation

The OUR plays two critical roles directly related to the functioning of regulated sectors:

- Processing and evaluating licensing applications to operate and
- Defining appropriate regulations.

That OUR plays the role of granting licenses to operate utilities shows that the concept of protecting natural monopolies from entry remains in Jamaica. In principle, one could lead all interested firms toward entry, subject to objective conditions (e.g., technical compatibility and security), without having to limit or force them to apply for permission. The prevailing idea that natural monopolies require legal barriers to entry to allow them to take advantage of their economies of scale, scope, or density (i.e., sub-additivity of the cost function) should no longer be an issue. Today, it is increasingly accepted that protecting natural monopolies will necessarily demand tougher regulatory activity and ultimately greater discretion and costs than those saved with a protected monopoly.

Because OUR's stated objectives with regard to regulation are often vague, it must ensure that consumers enjoy an acceptable quality of service at reasonable cost. Moreover, it must establish and maintain transparent, consis-

tent, and objective rules for regulating utilities (electricity, telecommunications, water supply, and sewerage sectors) and public transport (road, rail, and ferry). In this regard, OUR must determine standards (e.g., health and environmental protection) and supervise their application. Contrary to what the OUR Act states,[2] the law should clearly define the way in which fares are set.

Thus, OUR objectives state that it must balance consumers' capacity to pay and provide firms a reasonable rate of return. It must also impose fines and penalties, which contribute to its financing.

Consistent with the sectors under OUR supervision, regulated services (since 1995) include supply and distribution of electricity and water, provision of sewerage services and accessories, and provision of public transport (road, rail, and ferry).

Clearly, OUR plays a vital role in providing certainty in key sectors. However, in the case of Jamaica, this issue is especially critical. First, OUR is responsible for both creating regulations and supervising their operation. This increases incentives to lobby for exceptions and obtain special regulations, creates incentives to soften regulation, and reduces the capacity of independent sources to evaluate the Office. Second, OUR is not separate from the Central Government, which emphasizes the aforementioned problems.[3]

Fair Competition Act

A typical argument against privatization is that it will hurt consumers. This could involve not only natural monopolies, but also those firms that operate under limited competition. The issue is not regulation for these types of monopolies, but lack of adequate protection against monopolistic abuses. Thus, in response to the wave of privatization and as a force to modernize Jamaican institutions, the Fair Competition Act (consisting of the Antitrust and Consumer Advertising Acts) was established in 1993.[4]

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[2] The OUR Act states the following: "The Office may, either of its own notion or upon application made by an approved organization . . . or by any person, by order published in the *Gazette,* prescribe the rates or fares to be charged by an approved organization in respect to its utility services."

[3] The Governor General, upon recommendation of the Prime Minister, appoints the OUR Director for a fixed term (3–7 years, with eligibility for reappointment); however, the Director can be removed upon recommendation of the Prime Minister.

[4] Perhaps less significant is Consumer Affairs Protection, which proscribes misleading advertising; nonfulfillment of promises, warranties, guarantees, and other obligations made to customers; sales above advertised prices; and bait-and-switch tactics by merchants who advertise a sale even though they do not possess reasonable quantities of the goods advertised.

Modeled after the New Zealand Act, the Fair Competition Act aims to encourage competition, ensure that all legitimate business enterprises have an equal opportunity to participate in the economy, and provide consumers with better products and services at the lowest possible prices. While important to the privatization process, the law is only one determinant of institutional performance. Thus, most antitrust laws share the same principles, and their performance depends more heavily on other characteristics—scope of the law and degree of autonomy and power of the institutions in charge of its implementation.

To implement the law, the Act created the FTC; in charge of deciding cases, the FTC consists of as many as five commissioners (appointed by the Minister of Industry, Commerce, and Technology) and a staff (lawyers, economists, researchers, administrative officers, and support persons) headed by an executive director.

Purpose and Unlawful Conduct

Most antitrust laws poorly define their purpose and unlawful conduct; thus, uncertainty can be reduced only through well-construed jurisprudence. Such vagueness is a problem in Jamaica, as in many other countries with a new law.

Jamaican law approaches this issue by defining various types of illegal conduct per se; while providing a necessary degree of certainty—at least theoretically—this approach also reduces flexibility. Although certain articles may suggest that the law defines an enormous number of conducts under such a category, this is not true. A given conduct can be exempted from punishment in many ways.

The Act and FTC documents contain general statements that prohibit 1) agreements containing provisions that aim to (or are likely to) substantially reduce market competition and 2) abuse of dominant position (defined as an impediment to prevent development of effective market competition). Compliance with such general statements is not difficult. However, the FTC documents also give examples of the types of agreements that may be prohibited.[5]

[5] Included are agreements that fix prices or otherwise alter trading conditions; limit or control production, markets, technical development, or investment; share markets or sources of supply; affect bid tenders, thereby positioning certain parties at a competitive disadvantage; and terminate contracts subject to acceptance by the other parties of supplementary obligations, which by nature or according to commercial usage have no connection with the subject of such contracts.

In the spirit of flexibility, the FTC law states that a dominant firm may be found abusive of its position if it restricts entry to, prevents or deters competitive conduct of, or removes any person from that or any other market; directly or indirectly imposes unfair purchase or selling prices or other anti-competitive practices; is biased against consumers through limiting the production of goods or services; or subjects finalization of agreements to acceptance by other parties of supplementary obligations, which by nature or according to commercial usage have no connection with the subject of such agreements. In addition, Section 33 of the Act prohibits exclusive dealing or market restriction when engaged in by a major market supplier of goods or when it is widespread and likely to impede entry into or expansion of a market enterprise; impede introduction of goods into or expansion of sale of goods in the market; or otherwise have an exclusionary market effect. Other anti-competitive practices prohibited under the Act are resale price maintenance, tied selling, price fixing, collusion and cartels, and bid rigging.

Despite the variety of examples, most types of conduct are not ruled out per se. Furthermore, the Act exempts from prohibition those agreements that satisfy certain criteria for practices that fall under Sections 17, 20, and 33 only. Thus, an agreement would not be prohibited under Section 17 if it contributes to the improved production or distribution of goods and services or the promotion of technical or economic progress, while allowing consumers a fair share of the resulting benefit; imposes on the enterprise involved only those restrictions that are indispensable to the attainment of the aforementioned objectives; or does not afford such enterprises the possibility of eliminating competition with respect to a substantial portion of the goods or services concerned. Likewise, exemptions apply to practices that fall under Section 20 that may otherwise be considered an abuse of dominance. In addition, an enterprise would not be considered abusive of dominant position if it is shown that it is enforcing its right under any copyright, patent, registered design, or trademark. Finally, exclusive dealing and market restriction would not be prohibited under Section 33 if engaged in only for a reasonable period of time to facilitate entry of a new supplier or new goods into a market.

Autonomy

Given the exceptions provided in the law, most antitrust cases are conceived of under the rule of reason; that is, they must be evaluated based on their own merit. This, however, imposes higher requirements of competence and

autonomy onto decision-making institutions to act independent of lobbyists and other political groups.

The FTC Act and Commission documents provide general guidelines regarding the conditions under which a given conduct could be unlawful. Similarly, certain procedures and courses of action have been established and disclosed through the FTC website. However, a major problem regarding the legal certainty and jurisprudence created under it is that the FTC is absolutely dependent on the Government; this is especially critical, given its budget of only J$ 30 million per year. The Prime Minister designates members, and there are no explicit criteria for choosing among candidates. Although evidence to date shows that highly qualified members have been integrated into the Commission, the problem of autonomy remains, which is an unhealthy indicator for future judiciary certainty.

The Act empowers the FTC to investigate conduct and determine whether any enterprise is engaged in practices that are in contravention of the Act. Such investigations may be self-initiated by the FTC or in response to a complaint. The FTC can obtain information, summon and examine witnesses, call for and examine documents, and administer oaths. Any person who obstructs an FTC investigation, by any means, can be fined or imprisoned for two-to-five years. For certain conducts and arrangements (under Sections 20 and 33), the Commission may also force a firm to take actions to overcome any anti-competitive effects resulting from them. In the event that the individual or firm disobeys and does not correct a practice, the Act provides for the FTC, as well as businesses and private individuals injured by the practice, to take Supreme Court action against that individual or firm. This Court may impose a pecuniary penalty of up to $1 million (in the case of an individual) and $5 million (in the case of a firm). However, the main deterrent to firms has been the private right of action.

Scope and Evidence

In practice, antitrust work has been remotely related to consumer-affairs work, which in many countries creates loopholes and pervasive incentives regarding the scope of the law. For example, a regulated sector (e.g., telecommunications) could argue that it is regulated differently from a legal body because it is a monopoly; thus, antitrust can in no way interfere with it. Likewise, a patent owner could argue that the patent, which is a monopoly right, was granted through a different law so that the antitrust analysis can

in no way interfere with its activity. These arguments are outdated, having been superseded by new developments that now make it advisable to clearly state that antitrust legislation should not be discarded in all cases. In other words, antitrust problems may exist independent of whether a firm is regulated or owns a patent.

However, the most important problem concerning scope is not technical, but political. Exceptions lead to further exemptions that ultimately will depend on lobbying, not technical considerations. Although the Act declares that it applies to all persons and businesses operating in Jamaica, it also considers activities outside its jurisprudence, such as trade unions involved in collective bargaining; required activities under international treaties; agreements related to the use of any copyright, patent, or trademark; and professional associations that develop standards needed to protect the public. More important, the law explicitly allows the Prime Minister, subject to affirmative resolution, to exempt sectors. This has led to a situation where the coffee industry and the electricity company are excluded from antitrust legislation. The security sector is also exempt because the law does not recognize securities as goods or services since they are explicitly named in the body of the law. Based on this argument, one judge dismissed an action against the stock exchange, ruling that, if a given activity is exempt, then all of the services associated with that activity should be exempt.

Thus, it is not surprising that Jamaica has had so little antitrust activity. To change the situation, however, a formal problem must be addressed. For most types of conduct, the law only mentions the FTC and does not explicitly separate investigative powers (hearings and findings) associated with FTC staff from judicial ones. Under the Jamaican legal system, this separation is absolutely necessary, as any outcome from the Commission could be alleged on constitutional grounds, undermining the entire legal body.

Regulated Sectors

Electricity

As an island country, Jamaica has difficulty interconnecting its electricity system with a gas pipeline; thus, its electricity sector depends heavily on oil imports and its inefficient refinery. Although analysis is being conducted to allow the introduction of gas turbines, this would require conversion of other

industries and thus would be difficult to achieve. Although this would reduce dependency on the local oil refinery, the small size of the Jamaican economy leaves little scope for efficient competition in generation, not to mention transmission and distribution, which remain natural monopolies. That is, the regulatory framework will continue to be key to sector development.

Overview of Sector Reform

In 1990, Jamaica initiated electricity-sector reform. Six years later, the first attempt was made to privatize the Jamaica Public Service Company, (JPS),[6] when capacity was 679 megawatts (MW). However, no regulatory framework existed (i.e., there was no defined or proven institutional setting), and the attempt failed.[7] Meanwhile, demand for electricity was growing, with reserve margins having fallen to 9% by the year 2000. Increased reduction in margins produced more frequent blackouts, giving new impetus to the decision to privatize the firm. Finally, in 2001, JPS was privatized and vertically integrated into generation, transmission, and distribution sectors; however, controversies arose over how the firm had been divested. The situation deteriorated and, in 2002, with peak demand at about 430 MW, two generation units with a 669-MW capacity left the system. More recently, Energy Resource, Inc. (a U.S. company) and Jamaica Broilers started a 15.9-MW co-generation venture, whereby JPS received 76% of their energy, with the balance going to Jamaica Broilers' poultry-processing facility.

The National Investment Bank of Jamaica (NIBJ), which implemented the privatization process, negotiated directly with interested investors. As a result, the price was negotiated without open bids. Negotiations concluded with the Mirant Corporation buying 80% of shares for US$ 201 million, less than what had been offered in the previously failed process.[8] The contract

[6] JPS and the Rural Electricity Company are Jamaica's two electricity companies. Licensed to operate throughout the country, JPS is by far the most relevant from both a privatization and regulatory perspective.

[7] OUR was assigned the task of defining the regulatory framework during the privatization process; thus, it is not surprising that the process was not viewed as transparent and that only a few firms expressed interest in participating (IBRD 2000).

[8] The main objection to this process, as expected, was that lack of competitive bidding may have reduced the price obtained for JPS. While this issue is important from a political perspective, it is minor from an efficiency standpoint or from that of privatization as a way to promote sectoral growth. This author believes that the major problem was that the negotiated price was set concurrent with (or even prior to) earlier negotiations regarding the regulation that would govern the sector.

consisted of a 20-year license, granting a monopoly right for the first three years and including an increase in tariffs.[9] Meanwhile, critical aspects of electricity regulation were left open for future determination.

Because tariff increases occurred within a context in which prices had been frozen for some time, little investment was induced. Therefore, it is theoretically correct that a price increase should have occurred initially. However, if lack of investment were behind such pricing, efficient regulatory consistency would have required that the tariff profile, over time, recognize the higher investment that tariffs and further regulation should have induced. In short, after a price increase and other regulations that should have reduced capacity shortages and low margins, tariffs should have fallen.

Path to Electricity Privatization: Pricing Profile

As in most pre-privatization events, the initial price was either too high at a pure monopoly level (P1) or, due to lack of investment (ac1), below p2, creating blackouts. As a public firm, JPS was not investing to increase the planned size from ac1. It should be expected that privatization and its consistent regulatory framework would create the conditions to solve the problem, if not an optimal regulatory situation (P*, Q*), then at least a reduction in inefficiencies created by the lack of investment. Figure 5-1 illustrates this realistic regulatory move, which increases production from Q1 to Q3 (it is understood that the best possible situation is Q*). This move requires either a pricing program that starts at P2, recognizing the lack of capacity at the time of privatization, but which then moves to P*, or at least to the realistic P3 level.

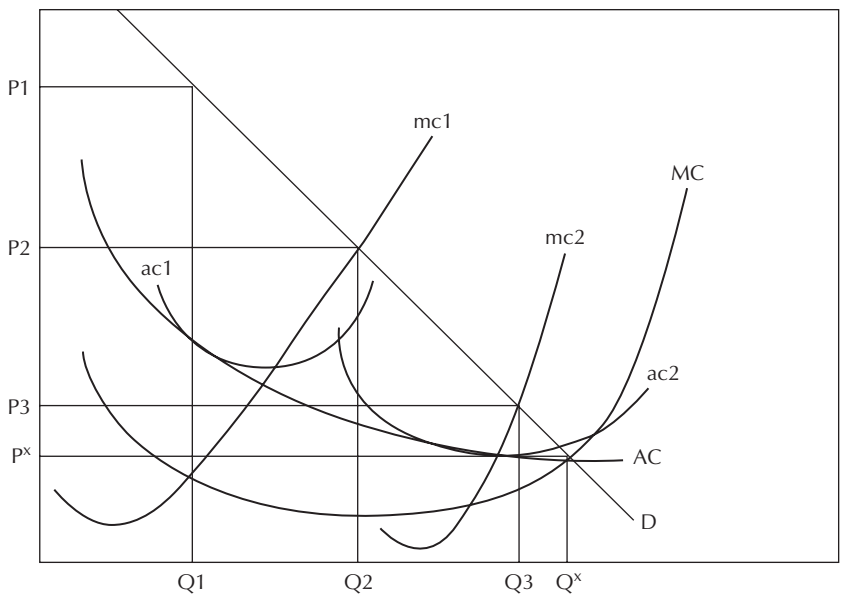
This path allows one to understand why certain successful privatization events started with price increases;[10] over time—through mandatory investment or a well-known price profile—they ended by reducing prices. Given that none of these issues has been addressed thus far in the Jamaican electricity sector accounts for the major concern over its privatization performance.

[9] The level of tariffs has been much debated. Lecaros (2002) suggests that prices were initially high; they failed to meet the expectations that emerged when privatization occurred, whose performance was expected to lead to a price reduction. In any event, the US$ 0.10 in production costs and 20% return on equity suggest that recognized tariffs were comparatively high.

[10] As distinguished from *relevant price,* which should include other relevant costs, including blackout costs.

FIGURE 5-1

Realistic Move in Regulation, Increasing Production from Q1 to Q3



Thus, an adequate pricing profile would have required a set of regulatory conditions that was missing from the license. (Indeed, the license was incomplete, containing aspects that can easily be criticized.) In 2001, OUR reported that the Office, which was in charge of drafting the JPS license, agreed with the Government on the contract, which considered the following:

- During the first three years, the JPS would have the exclusive right to add new generating capacity and could do so without competitive bids.
- Beginning in April 2004, a competitive process would be initiated, based on a least-cost expansion plan and in which the JPS could participate; OUR would be in charge of evaluating bids.
- JPS would submit its long-term, expansion-planning procedures to OUR, and the appropriate minister would approve the investment plan, upon recommendation of OUR.
- Price caps would be used to set price adjustments.

- OUR would approve generation dispatch rules.
- JPS would be required to formulate standards of service, subject to OUR approval.

Regulatory issues, still pending at the time of privatization, needed to be resolved to induce further investment. In addition to those concerning granting a monopoly over a long period—which may explain an initial lack of investment but is not necessarily important over the long term—the most significant issues concern future regulations. Thus, lack of dispatch regulations, transmission pricing as an independent stage, and distribution pricing make entry of a competing firm impossible at any relevant stage. Under such conditions, a bidding process would only appear competitive.

Until entry conditions are met, it is key that the regulated firm refrain from playing a role in industry regulation. For setting tariffs, OUR should consider a least-cost expansion plan that is independent of the plans of industry firms.

Access Rules and Pricing Parameters

Modifying the JPS license would not increase efficiency or promote long-term investment in Jamaica. Rather, the first critical step is to formulate access rules and prices at all stages throughout the sector. Unlike other analysts, this author does not view JPS participation in the open bidding process as a problem, particularly because an integrated firm could take advantage of economies of scale and scope. However, it will be impossible to attract new investors if access rules (particularly dispatch rules) and transmission prices are poorly defined. Calling for open bids to increase generating capacity will bring the entire regulatory system into question. Until that happens, it is important that JPS not be the one to define the least-cost expansion plan because the firm's incentives are inconsistent with efficiency and consumer interest. Rather, the regulatory institution, OUR, should determine investment plans.

In 2004, tariff rules should be rewritten, based on JPS's real costs. As loosely considered thus far, the process of applying rules to define relevant price-setting parameters (e.g., determining capital cost) will induce renegotiation, lobbying, and discretion. Furthermore, as Lecaros (2002) has pointed out, the negotiating process may put OUR at considerable institutional risk. Thus, it is advisable to set a return on equity of about 8%, and allow free entry, subject to mandatory interconnection for capacities over a given size.

Water

The National Water Commission (NWC) is the sector's main institution responsible for Jamaican water and sewerage operations.[11] The NWC handles water production and urban sewerage collection, treatment, and disposal. Currently, OUR is responsible for setting tariffs at a level that allows the NWC to fully recover efficient cost levels (including both capital and operating costs). However, the Ministry of Water and Housing (2002) has stated that, in setting tariffs, OUR will take into account exceptional circumstances that dictate the need for additional funding for systems improvement and rehabilitation.

The NWC has grown rapidly, having doubled water-supply coverage during 1984–1998. Sales, however, have diminished due to high, and presumably increasing, levels of unaccounted for water. Conversely, sewerage system coverage has remained low. Only 24% of households are connected, while most people are served by individual sanitation systems. Economic restrictions have resulted in deteriorating maintenance and increased pollution of fresh and coastal waters. The water system as a whole is antiquated and in need of repair and expansion. In drought years, water lock-offs are usually scheduled during certain hours of the day.

A 1999 sectoral diagnosis of the Ministry of Water and Housing (2002) describes the current situation and prospects for the future. This diagnosis encourages the use of freshwater and the efficient, equitable, and sustainable treatment and disposal of wastewater. As regards policy implementation, it proposes a cost-recovery mechanism to ensure that the direct beneficiary pays and that service supply is maintained. It also identifies the need to increase efficiency in providing water services by reducing system leaks and unaccounted for water.

The consensus is that the GOJ cannot continue to fund water-supply and sewerage expansion as it has done in the past. Privatization is expected to improve efficiency by meeting these objectives. The Ministry of Water and Housing has a stated criterion for allowing private participation arrangements, which should be considered in the eventual contract. It includes improved efficiency, technical and managerial expertise to achieve productivity

[11] Smaller private suppliers include Four Rivers Development, Runaway Bay Water Company, Rio Bueno Water Company, selected bauxite companies, and private firms.

improvements, and the injection of large-scale investment. It also emphasizes the importance of insulating the sector from short-term political intervention and limits opportunities for powerful interest groups to intervene.

In Jamaica, as in most countries, there is disagreement over privatization of the water sector. In addition to the criticism that has emerged from recent experience of other privatized sectors, there are several reasons—in addition to having few international operators—for such resistance:

Because the price of potable water is much lower than its marginal cost, privatization would result in increased prices, particularly if tariffs take treatment into account. Even if no explicit tariff increases occur and despite recent improvements, bill reduction will remain a major issue for the Jamaican water sector, resulting in increased cost of water for many households—an understandably unpopular idea.

The NWC owns enormous parcels of land, which are necessary for obtaining water from watersheds and forests; their inappropriate use would have severe implications for sustainability.

Institutional overlap in regulating the sector complicates the process by requiring reconciliation of objectives.

If privatization is to meet the clear need to induce investment and increase service, then the above-mentioned issues must be addressed before initiating the process.

Prices

Under the NWC Act, the Minister of Water and Housing is responsible for setting rates; thus, OUR should advise the Minister on rate-setting issues. It is clearly recommended and expected that OUR play a supervisory, rather than a normative, role and be designated as the sole rate-setting institution for private-sector suppliers, following clear guidelines.

A key principle of the proposed regulatory framework is that it applies equally to all water-service providers, regardless of whether they are private- or public-sector entities. However, it also states that implementation of the framework recognizes the historical importance of the NWC. Like the electricity sector, it would be detrimental for the NWC, once privatized, to retain regulatory capabilities.

Thus, OUR should be considered the regulatory authority, following the proposed model in the Telecommunications Act. OUR should develop standards for providing consumers water production, distribution, and sewerage

collection services and, based on these costs, set appropriate tariffs. Obviously, standards, requirements, and investment should be determined before privatization is initiated.

Independent of the need to set tariffs that allow complete financing of the firm, it is necessary to establish a clear mechanism to treat the issues of water, sewerage, and rural-supply schemes. The GOJ's goal to induce private-sector participation may not succeed if it continues on with current and projected tools, particularly with regard to rural water-supply and sewerage services.

The following three mechanisms are available to address this issue:

- Increase efficiency by further reducing the related issue of unaccounted for water,
- Introduce a more efficient tariff structure, and
- Introduce a mechanism to address the coverage and sanitation issue that an efficient tariff structure may create.

An efficient tariff structure must consider the cost of providing water to various users at different times. It should first recognize that the cost of pumping water into hilly and other geographically remote areas is higher than pumping it into plains areas. It should also consider the composition of fixed and variable costs.

The OUR has mandated that the NWC reduce the amount of unaccounted for water, but it has failed to do so, possibly because of lack of interest and associated political pressures. While it is not entirely true that reducing unaccounted for water will cause social problems, it is vital to making tariff increases politically viable and creating a program aimed at the country's poorest citizens. In the absence of a system to identify the poorest in Jamaican society, one viable alternative is to create a subsidy system for low-consumption bills.

Institutional Overlap

The Water Resource Act establishes the Water Resource Authority as the regulatory body in charge of allocating, conserving, and managing Jamaica's water resources. The Authority may exercise planning functions related to the Master Plan and Water Control Plan. The Act establishes that a license is required for use of water or constructing mechanisms to extract and use

water. Discharge of effluents requires a planning permit (under the Town and Country Planning Act and the Natural Resource Conservation Authority [NRCA] Act).

Enacted in 1991, the NRCA Act aims at caring for the Jamaican environment. It empowers bodies to set qualitative standards for the discharge of wastewater and the setting of water quality standards. The NWC is responsible for all of the country's major water-supply systems, although the Parish Councils operate smaller systems, rainwater catchments, and wayside tanks. The Caribbean Engineering Corporation, Ltd. was created in 1983 to implement the Yallahs Pipeline Project and various subsequent projects. Under the 1995 Water Resources Act (the norm governing water resources), the NRCA is responsible for the oversight of natural resources, including water.

The NWC and National Irrigation Commission manage domestic and irrigation water supply. The former is responsible for development and management of potable water and sewerage systems, while the latter is in charge of the irrigation system. Other agencies also play a role in sectoral development (e.g., Ministry of Local Government's role in developing rural systems).

The 1995 OUR Act states that the Office must receive and process all license applications for utility services and make recommendations to the Minister. It has the responsibility to safeguard consumer interest with respect to the quality of services provided by the utility and set standards to measure quality and performance.

No relevant law covers the issue of domestic wastewater systems. The Ministry of Health is responsible for system design, but the NRCA does not approve it for implementation. Given the lack of regulations on sewerage and trade-effluent standards, this task must be addressed.

A 2002 GOJ diagnosis characterized the legal framework as a number of statutes that govern without coordination between them. As a result, administrative powers overlap and conflicts often arise over competing claims by various agencies on the use of available water sources. In short, policies and practices have inherent inconsistencies (McCalla 2002).

To avoid institutional overlap and its ramifications for investment, the Minister of Water has suggested designating OUR as the sole regulatory body to handle the licensing of all industry participants. This author supports that idea, provided that any project having an eventual environmental impact be cleared by the appropriate institution in charge of that matter.

Monopoly Regulation vs. "Yardstick Competition"

The GOJ development plan considers that NWC will continue as the main provider of potable water and sewerage services in Jamaica. The existence of licenses suggests that the concept of protecting the natural monopoly will be applied in this sector. Thus, new service providers will be restricted to prescribed development areas. Like the electricity sector, they will protect the monopoly rather than depend on economies of scale for effective regulation. However, unlike the electricity sector, where economies of coordination emerge in an integrated firm, such economies are not necessarily present in this case. Consequently, one should evaluate whether it is advisable to spin off the NWC into a number of regional firms, which facilitates future regulation through comparing firms (i.e., yardstick competition).

Similarly, the development plan considers encouraging private-sector participation through Build-Own-Operate-Transfer (BOOT), joint ventures, and other appropriate configurations. However, the plan also assumes that NWC will be responsible for the development planning of all potable water-supply and sewerage systems, giving the firm a role it should not play. OUR should supervise sector regulation, including the setting of tariffs and service standards. Development guidelines should be a part of the pricing rules (in the case of existing regulated firms) and the creation of new systems (in the case of the Minister).

For privatization to succeed, appropriate licensing is critical. Lack of clarity regarding this issue could hurt interest in bidding participation. All water providers should be licensed by OUR; however, thus far, only Four Rivers Development is licensed.

Telecommunications

In the 1960s, the newly independent GOJ assumed control of most of the equity of companies operated by C&W. The challenges imposed by new technological changes, as well as requirements that other sectors imposed on telecommunications, led to the re-privatization of the company in the late 1980s. During 1987–1989, C&W re-acquired 79% of equity and control of Telecommunications of Jamaica (TOJ).

In the process, the two domestic telephone providers and international carrier merged into a single entity, known as Telecommunications of

Jamaica, Ltd., which later became Cable & Wireless Jamaica, Ltd. (C&WJ). The GOJ licensing agreement stated that C&WJ would be the sole provider of domestic and international telephone services in Jamaica, having the exclusive responsibility of providing all international telephone services.

Immediately after privatization, sector analysts raised questions about the terms of the license that had previously been granted to TOJ while it was public. Because licenses were not reviewed for privatization, new private firms obtained exclusivity for 25 years over the locally wired telephone network, similar rights on external telecommunications, and lesser rights on other services. Clearly, this long period compromised the sector's capacity to compete and exceeded the limits of certain monopoly licenses globally.

Similarly, until 1995, TOJ had the right to approve all network interconnections for which the law did not define tariffs. The FTC has taken tentative steps in this matter, requiring that the interconnection of certain basic network facilities be allowed.

Besides monopoly right, the license guaranteed an annual return of 17.5–20% on revaluated assets (carried out by C&WJ's independent auditors, subject to Ministry approval). Vertical integration of domestic and international segments permitted an official cross subsidy from the latter to the former. This structure seeks to induce higher penetration rates, at least in urban areas, as the company concentrates on more easily-served businesses and urban sectors. However, international experience shows that such schemes have become progressively more difficult because of new technologies and hence the introduction of new approaches to competition, whether allowed or not.

Telecommunications is a bottleneck in many countries, which could be particularly significant for Jamaica. The country's proximity to the U.S. and English-speaking population facilitate both tourism and establishment of information-processing facilities in the form of export processing zones (EPZs) in Montego Bay (Dunn and Gooden 1996). In both areas, development of telecommunications facilities is key.

Since 1992, C&WJ has operated a completely digital network and has numerous Outside Plant Modules (OPMs). Two submarine, fiber-optic cable systems, an earth station with access to INTELSAT Atlantic Ocean satellite, and three co-axial submarine cables support Jamaica's international telecommunications traffic. Direct dialing to most countries is possible with this

system (other international services include cellular lines, PBX systems, pay telephones, credit authorization terminals, data services, toll-free services, telegraph, facsimile, television, telex, and card-lease circuits). In addition, C&WJ offers ISP functionality through its Voyageur service. Other Jamaican Internet Service Providers (ISPs) offer associated services (e.g., e-mail and web-hosting) at a relatively high price; however, residential-user demand is still low, as telephony and computer penetration is small by international standards.

The advanced telecom facilities of Jamaica's urban corporate centers are transforming the country into a growing telecom market with strong potential for developing non-voice services. The strong deficiency in domestic-sector and rural-community services has, to a certain extent, been reduced. In 1993, three years after privatization, the waiting list of potential subscribers was much higher than the number of subscribers, and the penetration rate was only 5 telephones per 100 persons countrywide. In 2002, some 520,000 telephone main lines were in service, reflecting a significant line increase.

Despite such progress, internal regulation and the way in which privatization was carried out were not without problems. Unlike the electricity-sector experience, the regulator of the telecommunications market imposed investment requirements that obeyed the forces of technology and the progressive contestability of even protected segments, as in Jamaica.

In 1993, C&WJ demanded new legislation to replace the 1893 Telephone Act and modification of its licenses to maintain the privileges that technical progress had eroded.[12] In return, the GOJ required C&WJ to increase investment.

The pressure of large clients, information-processing companies, cable-TV operators, mobile telephony companies, and public controversy generated by the disclosure of negotiations that also reached the UK led to a process of reviewing licenses and deregulation.[13] In particular, technical criticism focused on the monopoly rights that C&WJ enjoyed and limitations imposed on entry, including technical innovation.

[12] In an official letter, dated November 2, 1990, from then Prime Minister Michael Manley to TOJ Chairman Mayer Matalon, the GOJ agreed to "make the necessary amendment to the Act and thereafter to make such amendments to the telephone license as may be necessary to ensure that TOJ enjoys exclusive rights to provide public telecommunications services in, from, and through Jamaica."

[13] While C&WJ demanded further restrictive monopoly rights in the Caribbean, its subsidiary, Mercury, demanded the break-up of British Telecom's monopoly in the UK.

Deregulation

In 1997, Jamaica agreed to open the telecommunications market to foreign investment and competition. This decision, made within the context of the World Trade Organization (WTO) Basic Services Agreement, honored licenses granted to C&WJ and allowed for three stages of phased competition. A new telecommunications act was required to ensure fair interconnection and efficient exploitation of the radio spectrum. Definition of the universal service policy was agreed to, and OUR was put in charge of regulatory issues.

Enactment of the Telecommunications Act in 2000 initiated the process of liberalizing Jamaica's telecommunications. The first phase, starting in 1998 and lasting until September 2001, guaranteed pro-competitive regulatory principles. It was stated that this phase would open an array of services to competition (e.g., domestic mobile services; data services, including Internet services using C&WJ facilities and single- and multi-line equipment; and the wholesaling of C&WJ international switched-voice minutes).

The second phase (2001–2003) focused on access to satellite services and facilities and granting licenses for domestic voice facilities and services (e.g., wireless in the local loop and wired, including the resale of C&WJ domestic switched-voice minutes; and Internet access to facilities of subscriber television [STV] operators).

During the third phase (2003–2013), all markets are open to foreign investment and competition, including voice and data facilities, and access to international services and facilities.

In all of these processes, OUR plays an administrative and advisory role in the licensing process under the Act, and the Minister of Industry, Commerce, and Technology issues licenses based on OUR recommendations. The Act details the process of granting licenses.

The Mobile Phone Challenge

A key event associated with both technology and the start of the regulatory process was the introduction of mobile telephony. In 1999, the GOJ awarded two licenses to Cellular Network Providers, soon followed by a third; by 2002, the monopoly power of C&WJ had clearly been eroded. In 2003, the GOJ was expected to grant a fourth license. Although C&WJ is a licensee and interconnection delays have occurred (partly because of the law's lack of clarity, which must be corrected), competition in this segment is significant.

The most evident proof of this progress is that, by August 2002, the number of mobile subscribers was about 150,000 more than fixed-line subscribers.

Transport Infrastructure

Compared to other Caribbean countries, Jamaica has sound transport infrastructure. Its sophisticated port facilities in Kingston and Montego Bay serve more than 20 international shipping lines (Kingston is the world's seventh largest natural harbor). Moreover, its two international airports provide regularly scheduled international and domestic service and 9,000 miles of primary and secondary roads.

Nonetheless, the sector suffered from the mid-1990s fiscal crisis. In fiscal year (FY) 1999–2000, the real expenditure for road maintenance was one quarter what it had been in FY 1996–1997. Poor road maintenance—only 13% of roads are in good condition, while 48% are poor—as well as low standards and an increase in the car fleet (estimated at 230,000 in 2000), makes Jamaica vulnerable to vehicular accidents. Similarly, the railway system has suffered, especially during the 1970s. With the exception of the bauxite corridor, its 242 miles of track have been inoperative since 1992.

The GOJ is committed to new investment in the sector. The Port Authority invested $US 100 million to expand and upgrade Port Bustamente, and airport repairs are under way. Moreover, the GOJ is interested in reopening and creating new rail lines for passenger transport. However, road infrastructure is where the most urgent actions are needed; the GOJ is developing a major project, whose analysis is particularly important. Lessons learned from that experience can be applied to many areas of infrastructure.

Highway 2000 Project

The GOJ has defined the Highway 2000 Project as a centerpiece project that can catalyze economic growth, job creation, and sustained development. Even if implemented under its current mega-project framework, its lessons should be far more relevant to all other infrastructure areas. For this reason, it is critical to analyze the project (its design, purpose, and eventual consequences).

Through the Ministry of Transport and Works, the GOJ identified a wide variety of infrastructure projects that are either being implemented or

planned for future development. These projects include coastal-road construction and improvement, bypass construction, bridge building, and route development.

The GOJ decided that the project should be implemented through a combination of Build, Operate, and Transfer (BOT) and Public Private Partnership (PPP) methods. This approach is appropriate in Jamaica; that is, Government investment focuses on those areas where the private sector is unable to participate. Furthermore, the project has already considered certain elements that are particularly valuable for the appropriate design and implementation of this project, including the cost of land expropriations and associated eventual difficulties. It has also identified specific project activities and institutions that will play a key role, including the NRCA. In addition, the GOJ has ranked projects and defined two implementation phases.[14] Before pursuing further, however, numerous issues that form the basis of the project must be resolved.

Building White Elephants: Coping with Risk

Under certain circumstances, a concession project (such as the basis for the Highway 2000 Project) will improve efficiency and should be a priority. However, certain factors can lead a project to create risk—the proverbial "white elephant"—thereby reducing efficiency and social welfare. The GOJ repeatedly attributed to the Highway 2000 Project the existence of externalities, its capacity to sustain development, and other non-measurable benefits (Project Development Unit 2001). To justify the social advisability of the Project, the GOJ pointed to emerging World Bank results, which showed that infrastructure projects implemented over the 1974–1992 period had the highest return among all Bank-funded projects. The problem with that argument, however, is that all of the projects referred to were socially evaluated before implementation, while no explicit evaluation has been made of the Highway 2000 Project.

Moreover, the GOJ argues that the BOT and PPP methods would transfer performance risk to the private sector. While this is true, the private sector would be rewarded for taking such risks; because certain performance

[14] The budget for expropriation is J$ 2.5 billion, and development would involve two phases. A strategic environmental assessment for the Project identified many areas to consider for addressing environmental impact and reducing construction-related problems.

determinants are under Government control (e.g., calling for new substitute concessions), total project risk could increase.[15]

In the absence of negative technological externalities, a design that assigns the project to the bidder charging the lowest consumer tariff—or even a bidder paying the Government the lowest amount—guarantees that only socially efficient projects will be carried out, with the private sector willing to finance all project costs. While some socially efficient projects may not be carried out, no white elephants will be created.

To avoid the potential risk associated with a concession, the terms of reference state that the project will be awarded to the bidder requiring the lowest Government transfer.[16] Consequently, if such transfer is not limited, any project, independent of its social benefits, can be implemented.

Other optimistic scenarios justifying the project may again suggest that no social evaluations were conducted. This is the case for projected traffic flow, which resulted from relatively high estimates of the value of time and excessive time saving from changing the use of current roads. The project also considers a number of tax exemptions for the concessionaire, which, although they cannot be estimated, would negatively affect efficiency, reflecting economic distortions and a lack of analysis. Thus, the project considers waiving the corporate tax (for a period of about 12 years) and import duties on construction materials. Waiving import duties is particularly important because cement is highly protected; it also reflects microeconomic distortions in the Jamaican economy that should be considered in a more comprehensive way.

Another salient design feature is that, although the Highway 2000 Project includes several two-phase projects, it considers favoring the bidder who is more committed to a two-phase approach to the entire project. This aspect is unnecessary and could possibly limit relevant competition and economies of specialization. Furthermore, having a single concessionaire increases the risk of post-contractual re-negotiation.

Out of the 11 firms that pre-qualified, the shortlist included only three (Dragados, LTA, and Bouygues); however, the first two bidders merged their

[15] The traffic and revenue advisor to the Highway 2000 Project has opined that the award of a future concession to a private-sector operator to rehabilitate the rail system would not negatively affect the Project; however, this is not true. See Project Development Unit (2001).

[16] The design considers that the bidder should propose a tolling strategy, which would maximize net tolling revenues, thereby reducing the amount of required Government money if the problem persists.

proposals into one after the release of the Request for Proposals. In June 2001, Bouygues was declared the preferred bidder. Subsequently, a negotiating process started.

Some Negotiating Pitfalls

Negotiating with a single firm, which in principle is undesirable, is characteristic of the Jamaican process. Preferably, the main aspects of the contract would be specified ex-ante and be considered part of the competition. This author finds it particularly undesirable for the lowest payment to the Government to become a bidding variable (i.e., no market mechanism would exist to avoid the construction of white elephants). Likewise, assigning the entire project to a single bidder is inadvisable because it makes post-performance regulation more difficult and promotes ex-post negotiation.

Traffic-generated risk could be reduced by including the Least Present Value of the Revenues as the bidding variable (Engel, Fischer, and Galetovic 1998). It is also necessary to set parameters to limit post-contractual renegotiation. In particular, allowance should be made for costs associated with eventual delays, especially those attributed to expropriations and permits (Paredes, Sánchez, and Sanhueza 2003).

Conclusions and Policy Recommendations

Jamaica's recent experience in privatization teaches both institutional and regulatory lessons.

Create clear regulatory rules. Jamaica has an overall problem with the uncertainty created by new indigenous institutions co-existing with traditional British legislation. Although there are general regulatory rules, many concepts are agreed on through negotiation and ex-post interpretation. It is especially critical that OUR have much clearer rules—at least clearer than those that existed when the most relevant privatization occurred—for future action. A clear regulatory framework and related policies should favor future privatization of water, including such essential features as precise formulas and parameters for setting prices of regulated services. Unlike past experience in the electricity and telecommunications sectors, regulated firms of the future should have precise investment targets, which will leave little room for ex-post contract negotiation (as is currently the case for road infrastructure).

Develop and wisely use regulatory expertise. As in many other developing economies, Jamaica lacks regulatory expertise. This means that scarce, private-sector human resources to shoulder extra burdens. It is particularly important for Jamaica to make optimum use of its human resources and avoid overlapping roles.

Refine application of antitrust laws. Jamaica is a pioneer country in its application of an antitrust law. Thus far, it has wisely implemented the law through a slow learning process. It is well understood that the sudden application of antitrust laws, particularly when aimed against powerful monopolies, would have negative results that would ultimately preclude any possibility of stabilizing institutions. However, the slow application of antitrust laws is also subject to formal problems in the law, such as the need to separate judiciary and investigative roles. Clearly, further steps must be taken since antitrust is an important tool not only for correcting distortions, but for ensuring politically viable privatization.

Minimize decision-making contradictions. Another related problem is that key institutions often have competing objectives and easily respond to pressures. In the name of avoiding anti-competitive practices, protectionism arises. In Jamaica, the problem has become severe. A classic case is the recently privatized cement industry, where a poor regulation also significantly affects infrastructure investment and growth. After privatization, the antidumping commission imposed barriers on imports from relevant points of origin; this explains why, in the year 2002, the internal price of cement was US$ 130 per ton, easily exceeding 100% of the relevant import prices (e.g., the domestic price in Costa Rica).

In addition to the obvious effects on construction, a domino effect led to other policy measures, such as exempting the Highway 2000 Project from paying import duties on construction materials. Instead of reducing distortions, those policies may increase them through progressive lobbying pressures. Although not unique, this case reflects a major institutional problem that could be curbed by integrating the antitrust and antidumping commissions into a single body. This would reduce decision-making contradictions that arise (e.g., regarding competition criteria). Such an institutional change is not unprecedented; for example, before the antidumping and subsidies act was created, antidumping and antitrust were integrated into the FTC.

Regarding utility regulations, the creation of a single entity, OUR, has the advantage of sharing knowledge across industries. However, it presents the

problem of not having a benchmark for contrasting and comparing the regulatory quality of this single office, thereby granting it excessive power. In Jamaica, this problem is particularly noticeable when the regulatory body has much room for discretion and negotiating conditions. A dramatic example is the abnormal monopoly conditions granted to JPS and, at least initially, to C&WJ.

Promote environmental sustainability through institutional and policy reform. Another major institutional issue is the environment, which cuts across all sectors. International experience dramatically shows that environmental protection has little to do with ownership and more to do with poverty. Historically, poorer countries have resorted to using wood for fuel, which has contaminated water and depleted nonrenewable resources. In this sense, sound policy measures and extensive growth, along with the associated reduction in unemployment and poverty, are likely to reduce pressure on excessive use of natural resources.

At the same time, the GOJ is adequately addressing a number of environmental issues. The Strategic Environment Assessment, non-mandatory guidelines created for the Highway 2000 Project, identified potential effects, particularly with regard to soils, hillsides, and drainage, and recommended mitigation measures. In addition, the GOJ is currently redesigning the solid-waste-management system. None of the current 15 waste-disposal sites meet international standards, and the absence of regulation and control has led to the creation of many illegal dumpsites.

Jamaica's many other environmental problems could be addressed concurrent with making key institutional changes and thus be politically more viable. Furthermore, the fact that a number of sectors previously controlled by the GOJ are now under private control requires that unfulfilled requirements by State-owned firms be formally met to avoid future regulatory uncertainty. Likewise, promoting both sustainable investments and environment requires the coordination of the various institutions in charge of these issues.

As stated above, environment is a cross-sectoral issue, and the regulated sectors are not exempt. The main issues associated with privatization of the JPS involve the need to meet turbine pollution standards. Conversion to gas can reduce dependence and air pollution; however, it is still unclear whether such a project is socially feasible. With regard to the water sector, the main issues include protecting sources from contamination and extending cover-

age of potable drinking water and sewerage systems. Specific sectors require simplifying bureaucratic procedures to set and meet clear, easily understood standards.

Institutional overlap often underlies bureaucratic problems. For example, the NRCA is currently the lead agency in charge of environmental management in Jamaica. It is responsible for implementing the permit-and-license system, operative since 1997, by which all projects with environmental impacts must be evaluated and authorized. However, in the case of infrastructure projects, the Ministry of Transport and Works and the local government, in addition to the NRCA, must authorize permits related to the environment. Creating a single window would facilitate performance monitoring and evaluation.

However, institutional overlap extends beyond environmental problems. At least three regulatory institutions participate in the water sector, thereby reducing the clarity of the process and diligence. At the other extreme, some regulatory areas are outside the scope of both the FTC and OUR.

In addition to the above-mentioned challenges that specific sectors face, a more general policy must be considered to make regulation more efficient and the regulatory process more politically viable: The need for separate social policies that, at the same time, are consistent with regulation. Achieving such consistency requires treating these aspects as different tracks; one should not use regulated prices or lack of control as a social policy.

A clear-cut case is water. Rapid progress is being made on the pricing of water treatment and the efficient pricing of production, disposal, and levels of treatment and unaccounted-for water. These prices must be put in place as soon as possible, and criteria must be defined prior to privatization. However, these actions will require implementing subsidies for the poor. Excluding people from water-related services because of excessive tariffs should be avoided. To this end, it is recommended that subsidies be explored for those whose bills are the lowest.

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6

Poverty Paradox: Social-sector Strategy

SUDHANSHU HANDA*

Designing appropriate social programs and policies requires an understanding of poverty: its distribution, determinants, and ability to prevent people from leading healthy and productive lives. Data on Jamaican poverty and well-being are derived from the Survey of Living Conditions (SLC), a household survey that monitors social conditions and welfare. Since 1989, the Statistical Institute of Jamaica (STATIN) has annually administered the SLC to samples of 1,600–7,000 households. The Survey measures household welfare by per-capita household consumption expenditures. STATIN computes the consumption aggregate, the welfare measure this study uses to assess Jamaican poverty.[1]

Poverty Profile

Jamaican poverty has been measured since 1989, when SLC data was first made available. The figures in Table 6-1 measure absolute poverty—the percentage of individuals living in households whose per-capita consumption

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[1] Details on the SLC can be found in the *Economic and Social Survey of Jamaica* (various years), PIOJ.

TABLE 6-1

Trends in Poverty, Real Wages, Inflation, and Growth (%)

Year	Poverty Rate	Real Interest Rate	Inflation	Real Wage	GDP Growth
1989	30.5	1.9	17.2	100.0	4.6
1990	28.4	–3.6	29.8	92.2	5.5
1991	44.6	–54.6	80.2	67.4	0.5
1992	33.9	–5.8	40.2	72.6	1.9
1993	24.4	–1.3	30.1	88.7	1.3
1994	22.8	16.1	26.9	99.5	1.1
1995	27.5	2.2	25.5	106.6	0.5
1996	26.1	22.1	15.8	115.0	–1.8
1997	19.9	12.0	9.2	129.0	–2.4
1998	15.9	17.8	7.9	134.4	–0.7

Sources: PIOJ and STATIN

falls below the minimum requirement (official poverty line), as calculated by the Ministry of Health and Planning Institute of Jamaica (PIOJ). After the 1991 spike in poverty, which coincided with a sudden liberalization event, poverty steadily declined, reaching an all-time low of 15.9% in 1998 (the last survey year for which data was available).

Jamaica's macroeconomic performance over the past decade has been stagnant. Since the 1991 macroeconomic shock, GDP growth has remained flat, accompanied by a rapid decline in poverty. This paradoxical trend has been attributed to the 1) large and growing informal economy (estimated at nearly 33% of GDP), 2) rise in real wages since the 1991–1992 run-up in inflation, 3) lower inflation, and 4) increased efficiency resulting from liberalization of the balance of payments.

Table 6-1 shows that real wages have increased steadily since the 1991 macroeconomic reforms, which may have contributed to greater welfare overall. Furthermore, the stated commitment of the Government of Jamaica (GOJ) to reducing inflation has led to its steady decline since 1991, which has presumably lowered the inflation tax on the poor, thereby contributing to poverty reduction. A macroeconomic simulation model—developed to assess the effect of Jamaica's balance-of-payment reforms on poverty and distribution—shows that liberalization of capital and current accounts in the

1990s had a positive effect on poverty, due to the reduction in rent-seeking activity after the removal of exchange controls (King and Handa 2003).

While overall poverty has declined significantly in Jamaica, it is critical to understand which groups have had the greatest gains and identify the characteristics associated with poverty. To this end, Table 6-2 presents relative poverty rates for various subgroups, using five rounds of SLC data. The figures were calculated by setting a relative poverty line equivalent to the 25th percentile of per-capita consumption in 1989 (the first year of data), and then holding this line constant in real terms for subsequent years.

In 1989, incidence of Jamaican poverty was highest among rural residents (35%), households with seven or more members, and households whose heads were employed in agriculture or had little (30%) or no (48%) primary education. The link between a household head's level of schooling and poverty is telling; even households whose heads have completed Grade 9 are at greater-than-average risk. Poverty rates drop significantly only after a household head has completed the 2nd cycle of secondary schooling. Although primary school is universal (albeit of low quality, especially in rural areas), its completion does not significantly reduce the risk of falling into poverty.

The 1998 SLC shows that, in general, the risk factors associated with poverty in 1989 were still relevant in 1998, although the overall poverty rate had declined significantly. One interesting difference over this period is that the poverty rate of individuals living in households whose heads had completed A-levels has increased since 1989. This is part of a more general trend to equalize returns to schooling.

The crisis year of 1991 witnessed 80% inflation and a 16% rise in the poverty rate. As Table 6-2 shows, in 1991, Jamaica's poverty rates increased proportionately more for households whose heads had completed the 2nd cycle of secondary, and even A-level, schooling and for those living in Kingston. (Interestingly, both groups have traditionally low poverty rates.) In response, the GOJ implemented several financial-sector reforms, including liberalization of the exchange rate with the U.S. dollar (from 1990 to 1999, it rose from J$ 7 to 23).

Taken alone, subgroup poverty rates are insufficient to guide programs since groups with high poverty rates may constitute a small portion of the population. Table 6-3, which shows each subgroup's contribution to poverty, qualifies the results of Table 6-2 in several important ways. First, although households whose heads have no or some primary schooling have the highest

TABLE 6-2

Relative Poverty Line (25%), by Year and Group, 1989–1998

Poverty Factor	1989*	1991	1993	1996	1998
Mean	6,403	4,202	5,427	5,293	6,602
Median	4,591	3,172	4,202	4,141	5,016
Head count	24.90	40.27	23.50	23.97	14.66
Area					
Kingston	5.73	20.74	13.21	13.06	6.07
Town	13.49	27.62	19.24	18.89	11.41
Rural	35.44	54.62	31.39	32.22	18.99
Household Size					
1–2	8.63	17.05	8.37	5.66	4.88
3–4	14.50	26.94	13.06	10.20	8.95
5–6	21.42	37.62	25.46	21.32	15.19
7–9	36.32	57.19	33.44	37.54	24.20
10 or more	43.15	69.76	48.15	63.65	29.01
Household Ages					
0–14	30.96	47.01	30.17	31.61	19.13
15–19	26.34	42.34	24.24	23.94	15.53
20–35	19.80	34.50	17.83	20.13	11.48
36–50	19.29	33.33	15.70	15.89	9.70
51–64	22.08	37.38	21.52	19.87	12.36
65 or older	22.87	41.10	26.49	20.19	16.39
Education of Household Head					
None	48.17	59.21	33.64	33.69	18.78
Some primary	30.02	43.73	35.67	29.02	21.59
Primary	27.61	51.40	28.31	31.03	17.06
Grade 9	26.19	31.45	23.46	23.17	13.15
Grade 11	9.93	20.49	14.32	16.01	7.90
A-level or higher	0.78	16.79	3.56	0.00	6.59
Industry					
Tradable agriculture	40.52	57.08	25.69	36.02	21.84
Non-tradable agriculture	39.48	60.26	41.15	32.05	21.32
Mining	0.00	0.00	6.35	0.00	16.76
Manufacturing	18.90	27.29	14.29	7.55	9.31
Tradable services	16.05	20.93	8.33	17.41	4.43
Non-tradable services	17.56	33.80	16.05	21.79	11.68
Gini coefficient	0.436	0.403	0.382	0.369	0.381
Theil entropy measure	0.330	0.300	0.260	0.250	0.264

*The relative 25% line in 1989 was J$ 2,652 per year.
Source: IDB Social Information System (SIS)

TABLE 6-3

Contributions to Poverty (25% Line), by Year and Group

	Year				
Contribution	**1989**	**1991**	**1993**	**1996**	**1998**
Mean	6,403	4,202	5,427	5,293	6,602
Median	4,591	3,172	4,202	4,141	5,016
Head count	24.90	40.27	23.50	23.97	14.66
Area					
Kingston	4.02	14.25	17.29	16.16	9.55
Town	13.18	12.65	15.54	15.21	13.90
Rural	82.80	73.10	67.17	68.63	76.55
Household Size					
1–2	4.25	5.47	5.12	3.28	5.33
3–4	13.74	17.48	15.37	11.39	17.84
5–6	22.31	25.69	29.57	25.40	27.54
7–9	34.70	29.96	29.45	31.43	32.95
10 or more	25.01	21.39	20.49	28.50	16.34
Individual Age					
0–14	44.45	39.91	45.23	46.75	44.12
15–19	12.49	11.30	9.78	9.78	9.99
20–35	19.47	21.78	19.79	21.05	19.74
36–50	9.69	10.27	8.67	9.18	9.68
51–64	7.71	8.53	7.74	7.04	7.62
65 or older	6.19	8.21	8.79	6.20	8.85
Head's Education					
None	3.49	4.80	2.11	7.52	2.23
Some primary	16.28	18.11	13.40	10.45	18.75
Primary	43.08	49.50	42.19	35.04	42.23
Grade 9	33.08	20.25	30.54	35.81	20.04
Grade 11	4.05	4.77	10.09	11.22	9.44
A-level or higher	0.13	2.49	1.11	0.00	4.22
Industry					
Tradable agriculture	3.58	5.12	2.46	5.11	4.26
Non-tradable agriculture	51.48	42.68	51.03	39.23	39.02
Mining	0.00	0.00	0.27	0.00	0.88
Manufacturing	9.13	5.12	6.65	2.49	5.41
Tradable services	12.32	1.68	2.06	2.89	1.43
Non-tradable services	23.49	45.40	37.52	55.28	49.00
Gini coefficient	0.436	0.403	0.382	0.369	0.381
Theil entropy measure	0.330	0.300	0.260	0.250	0.264

Source: IDB Social Information System (SIS)

poverty rates, 76% of the poor lives in households whose heads have completed primary or middle school, highlighting the issue of poor-quality schooling at these levels. Second, the main issue is not whether a household head works in agriculture, but whether the agriculture sector produces a tradable good. In 1998, for example, 88% of the poor lived in households whose heads worked in the non-tradable sector, a significant increase from the 1989 rate of 74%.[2] Third, a high percentage of Jamaica's poor are children between the ages of 0 and 14 (44% in 1998). Any specific intervention that transfers benefits to children and is reasonably targeted is likely to affect the well-being of the poor.

Changes in Welfare

Analysis of Consumption

Analysis of poverty rates focuses the welfare discussion on changes that occur at or near the poverty line and ignores changes in the rest of the distribution of per-capita consumption. However, poverty analysis is sometimes sensitive to the choice of poverty lines, while changes in overall distribution can provide valuable information on the dynamics of well-being. Kernel density estimates of per-capita consumption are a useful tool for analyzing consumption behavior throughout the distribution.

Figure 6-1 (upper left-hand graph) shows a sharp leftward shift in the middle and lower portions of the 1991 distribution during the macroeconomic shock; the lower left-hand graph shows the difference between the two densities at each point (a negative value indicates fewer people at that point in 1991). Clearly, the sharp increase in poverty in 1991 was caused primarily by the fall in consumption of those in the middle of the distribution, with virtually no change in the upper tail. Figure 6-1 (upper right-hand graph) shows the recovery of consumption during 1991–1993, when poverty returned to its 1989 level. Again, the change in poverty rates was caused by changes in the middle of the distribution, rather than by large changes just above the poverty line. Again, virtually no change occurred in the upper tail of the distribution.

Another major change occurred during 1996–1998, when Jamaica's poverty rate declined by more than 10 percentage points. As Figure 6-2 shows, these

[2] It should be noted that, in Jamaica, mining and manufacturing are also tradables; thus, in general, expanded employment in the tradable goods and services sector is likely to offer a sound poverty-reduction strategy.

FIGURE 6-1

Per-capita Consumption Distribution, 1989–1991 and 1991–1993

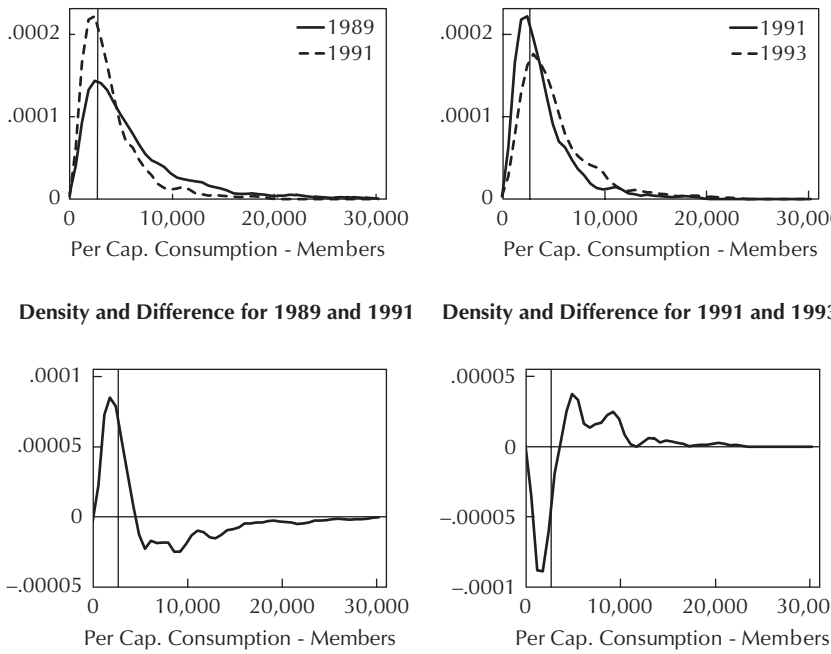
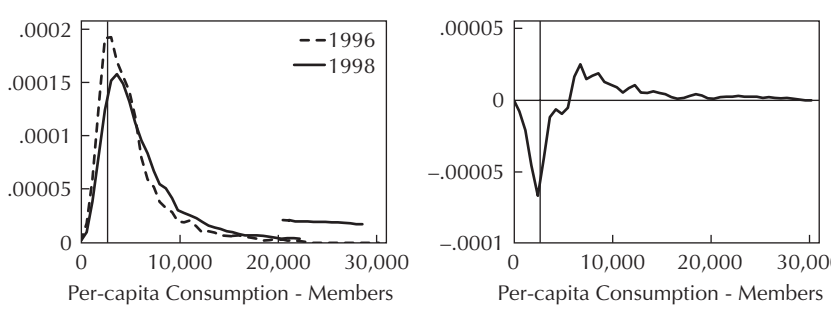


FIGURE 6-2

Per-capita Consumption Distribution, 1996–1998



Density and Difference

changes were driven by large changes in the middle of the distribution, not those just above the poverty line.

In sum, analysis of overall changes in consumption distribution shows that poverty head-count rates are not sensitive to the specific choice of poverty line. Changes in poverty are driven by large changes in the middle of the distribution, not by changes just above the poverty line. Thus, the middle class is susceptible to sudden welfare changes and movements in and out of poverty.

Determinants of Household Well-being

Using regression analysis, one can isolate the specific characteristics that influence consumption, measure their quantitative effect on consumption, and test their statistical significance in determining household welfare. This, in turn, can help to identify the key variables that can form the core of a successful poverty reduction strategy.

The econometric model used for this study contains a set of household-level characteristics that can be divided into six groups (Table 6-4).[3] Using this regression framework, three types of analyses can be undertaken to gain a broader perspective of the determinants—and changes in those determinants—of poverty:

1. Assess how the returns to schooling and the employment sector are distributed and have changed over time.
2. Using well-known techniques (Oaxaca 1973, 1998), divide changes in welfare over time into changes in household characteristics and the returns to them.
3. Conduct hypothetical exercises to determine what welfare would have been had no change in the economy's structure or household characteristics occurred over this period.

Schooling of Household Heads

Figure 6-3 graphs the returns (the regression coefficients for each of the variables presented in Table A-I) to different levels of schooling (measured relative to no schooling) for the five years of the SLC. These estimates reveal two important trends. First, returns to all levels of schooling declined sharply in

[3] Full results of this estimation for all five years are presented in Annex I (Table A-I).

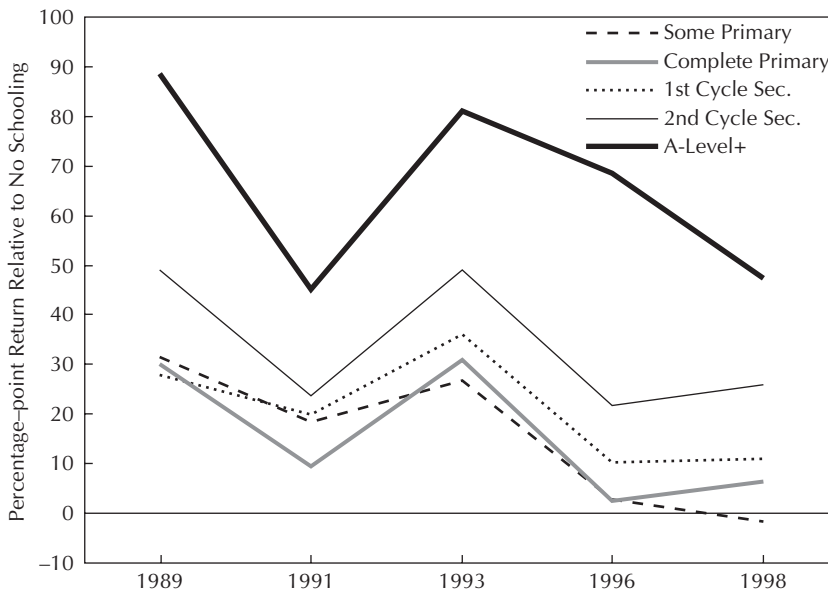
TABLE 6-4

Means of Variables Used in Regression Analysis, by Year

Variable	Year 1989	1991	1993	1996	1998
Resident Age					
0–5	0.556	0.504	0.531	0.541	0.484
6–14	0.917	0.833	0.782	0.819	0.731
15–19	0.487	0.420	0.353	0.376	0.339
20–24	0.395	0.361	0.344	0.336	0.295
25–34	0.569	0.587	0.568	0.581	0.559
35–44	0.372	0.361	0.382	0.415	0.413
45–54	0.287	0.258	0.242	0.265	0.262
55–64	0.228	0.243	0.206	0.199	0.203
65 and over	0.312	0.345	0.321	0.307	0.308
Schooling Level of Household Head					
None	0.019	0.028	0.014	0.045	0.016
Some primary	0.138	0.167	0.083	0.091	0.130
Completed primary	0.359	0.367	0.333	0.272	0.344
1st cycle secondary	0.307	0.265	0.298	0.335	0.220
2nd cycle secondary	0.124	0.106	0.191	0.189	0.183
A-level or higher	0.053	0.068	0.082	0.067	0.107
Schooling Level of Non-head Adults					
Primary or middle	0.728	0.684	0.600	0.571	0.500
Secondary	0.389	0.363	0.420	0.477	0.383
A-level or higher	0.078	0.109	0.098	0.093	0.140
Employment Sector of Principal Household Earner					
Agriculture (tradable)	0.022	0.041	0.021	0.034	0.029
Agriculture (non-tradable)	0.320	0.291	0.265	0.260	0.256
Mining	0.008	0.005	0.010	0.005	0.006
Manufacturing	0.123	0.080	0.117	0.083	0.080
Services (tradable)	0.204	0.034	0.059	0.040	0.046
Services (non-tradable)	0.323	0.549	0.528	0.578	0.583
Region					
Kingston	0.187	0.292	0.330	0.302	0.253
Other towns	0.248	0.202	0.195	0.197	0.179
Ln (p.c. expenditure)	8.682	8.288	8.564	8.582	8.768
Other Variables					
Age of household head	48.498	49.837	47.541	47.638	48.404
Household head's age (squared)	2,638.209	2,788.546	2,558.548	2,550.456	2,643.520
Ln (size)	1.172	1.136	1.094	1.102	1.041
Female-headed household	0.412	0.430	0.437	0.422	0.431

FIGURE 6-3

Returns to Household Head's Schooling



1991, rebounded in 1993 to their 1989 (pre-crisis) level, and then declined again. Second, the spread in returns to schooling has declined significantly over the decade. In 1989, the range of returns was 30–90%; by 1998, it had fallen to 0–40%. Returns to the highest level of schooling (A-level or higher) have declined significantly since 1993.

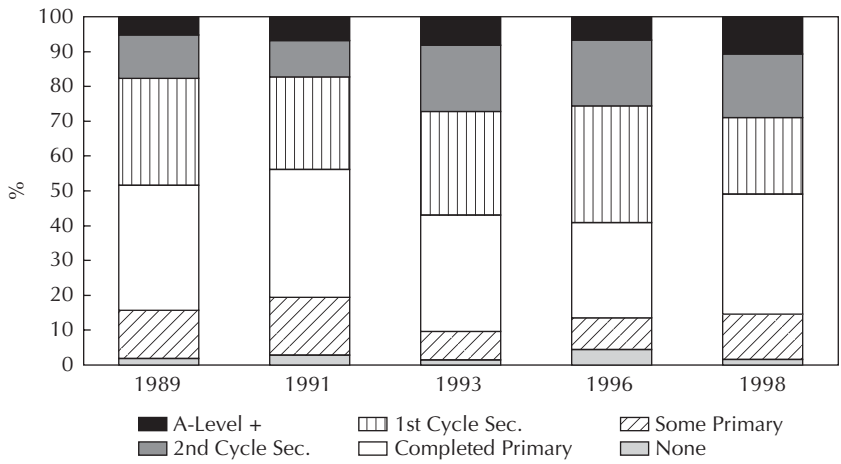
Figure 6-4 shows the trend in the mean levels of schooling of household heads over the 1989–1998 period. In 1998, 30% had completed at least the 2nd cycle of secondary schooling, compared to only 18% in 1989. This increase suggests that the relative decline in returns to higher levels of schooling is caused by an outward shift in supply that has not been matched by a similar increase in demand.

Schooling of Non-heads

Figure 6-5 shows the returns to schooling for non-head, adult household members. For these estimated returns, only those for A-level or higher statistically differ from 0 for all five surveys. However, the basic trend is that of

FIGURE 6-4

Schooling Distribution of Household Heads



compression in the variation in returns to schooling. The difference between the highest and lowest returns in 1998 was 10 percentage points, compared to 14 percentage points in 1989.

Figure 6-6 shows the actual means for these three variables over time. It also shows that the number of non-head residents with higher levels of

FIGURE 6-5

Return to Schooling of Non-head Household Members

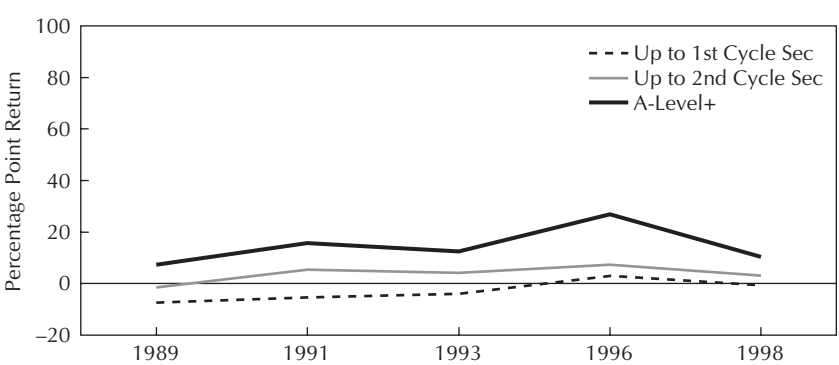
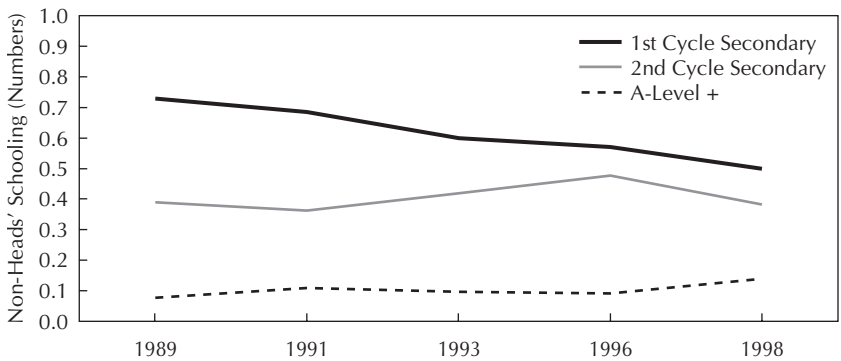


FIGURE 6-6

Distribution of Schooling for Non-head Household Members



schooling has increased over the decade, while the number with lower levels has declined significantly. These trends are consistent with those observed for household heads; that is, while more adults are completing higher levels of schooling in Jamaica, the relative returns to that schooling are declining.

Sector Returns and Employment Distribution

Figure 6-7 depicts returns to various employment sectors, relative to the tradable agriculture sector. Most of the coefficients are statistically significant, with the exception of 1996 figures (Table A-I). Sector returns are highest for mining and the tradable services (tourism) sector, although the latter fluctuated greatly over the 1989–1998 period. Nevertheless, there is a distinct trend of compression in the variation of returns across sectors (similar to the schooling-level trends mentioned above). Figure 6-8 shows the distribution of sector employment for principal earners for the five SLC years. The significant increase in the non-tradable services sector (from 32% to 58% over the decade) has been attributed to former GOJ employees who now work as private consultants. As mentioned above and confirmed by the multivariate analysis, working in a sector that produces a tradable output provides significant returns in Jamaica. Thus, one obvious poverty-reducing, employment policy would be to encourage the production of tradables or the export of goods and services produced for the domestic market.

FIGURE 6-7

Returns to Employment Sector

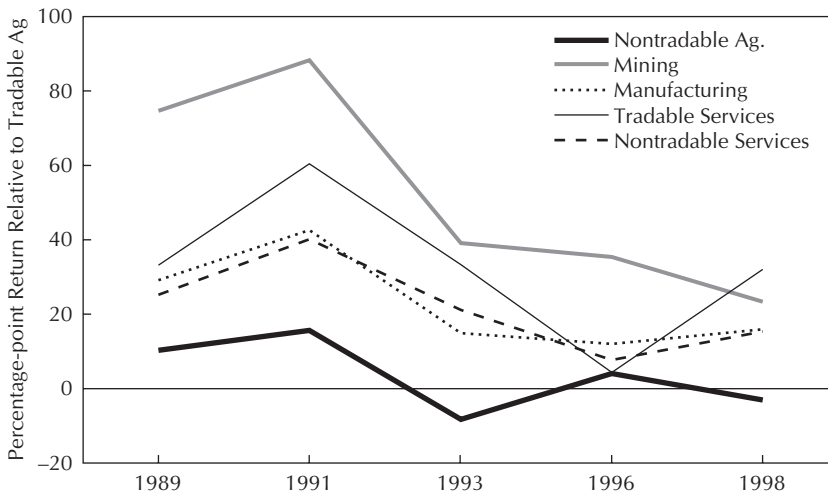
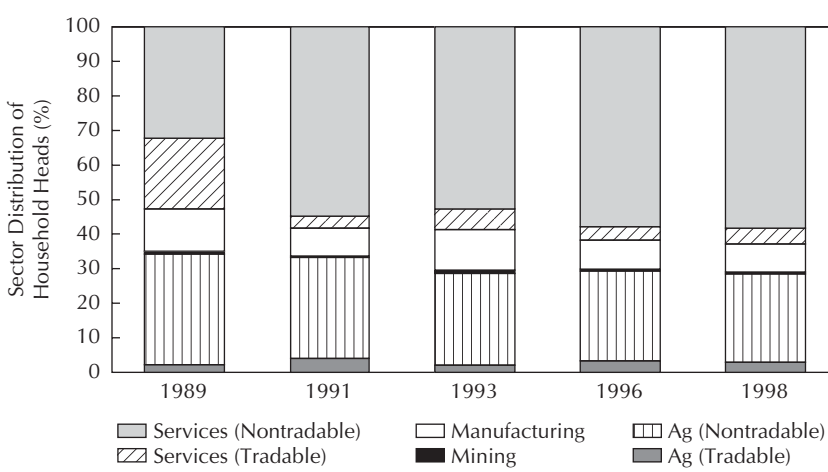


FIGURE 6-8

Sector Distribution of Employment



Breakdown of Welfare Changes

Within the regression framework, the average change in consumption between any two years can be divided into 1) changes caused by differences in household characteristics over time and 2) change in returns to those characteristics. During this period in Jamaica, significant changes occurred in such key characteristics as returns to education and the employment sector, as well as their distribution across households. Using the breakdown technique explained in Annex II, it is possible to attribute the observed changes in consumption to each of the two factors.

Table 6-5 presents the results of applying the breakdown technique to the regression estimates (Table A-I), over three time periods. The sharp drop in mean consumption during 1989–1991 was caused primarily by changes in the returns to household characteristics in 1991 (i.e., factors associated with changes in the economic environment). By contrast, the 1991–1993 recovery was primarily caused by changes in household characteristics. The subsequent increase in consumption during 1996–1998 was caused mainly by changes in household characteristics.

That a large share of increased consumption during 1996–1998 was caused by changes in household characteristics is puzzling, given that these characteristics tend not to vary drastically over the short term. Further analysis reveals that this result was driven by changes in the distribution of schooling among household heads and decline in average household size.

The importance of changes in household characteristics in the evolution of well-being over this period can be further illustrated by predicting what

TABLE 6-5

Breakdown of Causes of Consumption Changes (%)

		Cause of Change	
Time period	**Change in predicted mean**	**Characteristics (× variables)**	**Environment (coefficients)**
1989–1991	–40	.38	.62
1991–1993	32	.66	.34
1996–1998	18	.85	.15

TABLE 6-6

Predicted 1998 Consumption Using Characteristics from Previous Years

Year of characteristics (X_i):	$B_{98} * X_{98}$	$B_{98} * X_{96}$	$B_{98} * X_{93}$	$B_{98} * X_{91}$	$B_{98} * X_{89}$
Predicted median consumption ($B_{98} * X_i$)	6,634	6,218	6,474	5,840	5,869
Change in median consumption (%) from (1)	—	–6.3	–2.4	–12.0	–11.5

consumption would have been in 1998 if households had continued to display mean characteristics from previous years (Table 6-6).[4]

If there had been no change in household-level characteristics between 1996 and 1998, median consumption would have been 6.3% lower in 1998 than otherwise observed. If 1998 household characteristics had been identical to those of 1989, median consumption would have been 11.5% lower in 1998. These numbers illustrate the importance of such changes as education, demographic composition, and employment sector on the observed changes in welfare over the decade.

Policy Implications

In the 1990s, evolution of growth and welfare was paradoxical. While average growth over the period was flat, poverty rates were virtually cut in half, falling from 30% in 1989 to 16% by 1998. Potential explanations for this phenomenon include the growing informal sector, sharp rise in real wages during the mid-1990s, and increased efficiency stemming from balance-of-payments reforms. Still, more rigorous work is needed to understand this large reduction in poverty during a period of macroeconomic stagnation.

Poor school quality at the primary- and middle-school levels is a critical problem. Although primary schooling is universal, more than 60% of the

[4] This is achieved by multiplying the estimated returns to characteristics for 1998 (B_{98}) by the mean characteristics of, for example, 1996 (X_{96}), and then calculating the percentage change in median consumption. The change in median consumption, not poverty, is estimated because the Ordinary Least Square regression model is more accurate around the mean than the tails.

poor lives in households whose heads have completed primary or 1st-cycle secondary schooling.

Poverty-reducing employment growth should focus on production of tradable goods and services. Currently, 88% of Jamaica's poor lives in households in which the principal wage earners work in sectors that produce non-tradable goods.

Children ages 0-14–about 44% of Jamaica's poor–are a target for poverty alleviation. Consequently, a reasonably targeted intervention that delivers benefits to children will likely reduce poverty.

Jamaica's middle class is susceptible to large, short-term changes in welfare. The large changes in welfare observed in 1991, 1993, and 1998 were driven by movements in the welfare of individuals in the middle of the distribution of per-capita consumption, not by those just above the poverty line. Thus, the average Jamaican is likely to suffer from large economic swings, both positive and negative.

Variance in returns to different levels of schooling declined over the 1990s. This phenomenon, along with more adults achieving higher levels of schooling, indicates a rightward shift in the supply curve for more trained people (O-level and A-level graduates); however, because of low economic growth, no analogous shift in demand has occurred to absorb this potential labor.

The overall welfare trend is partially caused by changes in observed household characteristics over this period. Thus, although growth in illicit activities and the informal sector are key to explaining the overall poverty decline, other factors—including schooling, family size, and employment sector—also play an important role.

Social Protection Approaches

Current thinking and practice in social protection differ from past programs in at least two basic ways. First, today's programs are active mechanisms to assist the poor in investing in their own productivity, in contrast to the passive programs of the past. Second, in many developing economies, reducing State control of the fiscal condition has led to more emphasis on targeting programs to the poorest of the poor.

Jamaica has an extensive Social Safety Net (SSN), ranging from food stamps and school feeding, to drug provision for the elderly, public works, and indigent housing schemes. Administered by various agencies and ministries, these programs are impressive in their efforts to protect and assist the poor; nonetheless, overall benefits to the poor remain low.

Spending

Currently, GOJ spending is severely constrained by the level of debt service, primarily stemming from interest payments on domestic debt. The large share of debt service stems, in part, from bailing out large indebted banks during the mid-1990s financial-sector crisis. Table 6-7 outlines total GOJ spending and its distribution in the late 1990s. As a share of GDP, spending increased by 7% in late 1990s; by 1998–1999, the share of debt service had overtaken social-sector spending as a proportion of GDP.

Over the past two years, the share of Central Government spending devoted to social services has declined as the debt-servicing burden has risen. Persistent budget deficits have further contributed to adverse debt dynamics (more borrowing has been required to finance the deficit, which itself has resulted from the need to service the large domestic debt). By fiscal year (FY) 1999–2000, 62% of GOJ spending was devoted to debt management, while social-sector spending had fallen to 18% (Table 6-8).

TABLE 6-7

Government Spending and Fiscal Surplus (% of GDP)

		Spending Distribution			
Year	Total Spending	Social Services	Debt Management	Other	Fiscal Surplus
1994–95	33.7	7.9	12.1	13.7	1
1995–96	37.0	8.3	13.9	14.7	2
1996–97	44.2	10.0	13.5	20.5	–7
1997–98	37.9	12.3	11.2	14.3	–8
1998–99	40.7	12.0	15.0	13.7	–7

Source: PIOJ (1999)

TABLE 6-8

Government Spending and Distribution, by Main Components

FY	Spending Distribution (% of Total)				Total Spending (J$ million)
	Debt Management	Social Services	National Security	Other	
1994–1995	53	20	6	21	68,434
1995–1996	47	19	7	27	80,658
1996–1997	46	20	5	29	99,864
1997–1998	49	26	7	18	115,051
1998–1999	53	24	7	16	127,391
1999–2000*	62	18	6	14	160,133

*Preliminary
Source: PIOJ (1999)

Education and health comprise nearly 90% of total social-services spending. Educational spending accounts for about 7% of Jamaica's GDP, which compares favorably with the 4.6% average for Latin America and the Caribbean (LAC), although GOJ health spending of less than 4% of GDP is about 2% lower than the LAC regional average.

Social welfare and insurance account for the smallest share of social-services spending (about 1.5% of GDP, compared to the 4.7% regional average). However, this large difference is caused primarily by low expenditures on social security (known as the National Insurance Scheme or NIS). In 1998–1999, for example, SSN spending totaled about US$ 78 million, of which only US$ 4.5 million was devoted to the NIS (Blank 2000).

As Table 6-9 shows, the two largest SSN programs are the Food Stamps Program (FSP) (US$ 10.8 million) and the School Feeding Program (SFP) (US$ 11.8 million). In 1999–2000, Lift Up Jamaica—a public works program that targets at-risk youth—had a projected budget of US$ 60 million, an amount nearly equal to total annual SSN spending.

Income Support Programs

Jamaica has three main income support programs: FSP, Poor Relief Program, and Economic and Social Assistance Program (ESAP). Together, these programs account for about 30% of SSN spending. FSP, the largest and most

TABLE 6-9

Major Social Safety Net Programs, 1998–1999

Program Type	1998–1999 Budget		
	Budget (US$ million)	Share of GDP	Share of Central Govt. Spending
Income Support			
Food Stamps	10.8	0.17	0.54
Poor Relief	8.0	0.13	0.40
Economic and Social Assistance	3.3	0.05	0.17
Subtotal	22.0	0.35	1.11
School-based Welfare			
School Feeding Program	11.8	0.19	0.59
School Fee Assistance	4.0	0.06	0.20
Grants to Tertiary Students	1.7	0.03	0.09
Social Economic Support Program/Student Welfare	0.1	0.00	0.00
Subtotal	17.5	0.28	0.88
Community-based			
Social Investment Fund	4.1	0.06	0.21
Social Economic Support Program	9.5	0.15	0.48
Subtotal	13.6	0.21	0.68
Labor Market			
Lift Up Jamaica	na	na	na
Skills 2000	1.3	0.02	0.06
HEART Trust/NTA Community-based Training	na	na	na
Micro Investment Development Agency	1.9	0.03	0.10
Self-Start Fund, GOJ/GON, and GOJ/EU Projects	6.3	0.10	0.31
Subtotal	8.2	0.13	0.41
Subsidized Drug			
Jamaica Drug for the Elderly	1.3	0.02	0.06
Drug Serve Program	0.1	0.00	0.00
Subtotal	1.4	0.02	0.07
Indigent Housing			
Operation Pride, Squatter Resettlement Component	6.7	0.11	0.34
Subtotal	6.7	0.11	0.34
Feeding			
Supplementary Feeding	0.0	0.00	0.00
Golden Age Feeding	0.5	0.01	0.03
Subtotal	0.5	0.01	0.03
Grants to NGO Social Assistance			
Various NGO Programs	2.2	0.03	0.11
Total	73.5	1.16	3.69

Source: Blank (2000)

important of the three, was started in 1984 in response to large public-sector lay-offs; it is administered through the Ministry of Labor and Social Security (MOLSS).[5]

Targeted Beneficiaries

The **FSP** targets diverse groups: vulnerable pre-schoolers, pregnant and lactating mothers, the elderly poor, people with disabilities, and poor families. Of the 8–10% of the Jamaican population serviced by the Program, the primary beneficiaries are the elderly and those with disabilities (53%) and children (33%). A means test is provided for those seeking to qualify as a poor family or household, while other categories are self-targeted; children and pregnant women are usually identified through public health centers, which serve poor communities.[6]

The **Poor Relief Program** targets the elderly and those with disabilities, as well as poor families. The Ministry of Local Government administers the Program, whose beneficiaries total about 16,000. Local caseworkers identify beneficiaries to ensure that children in poor families attend school and are lifted out of poverty.

The **ESAP,** also administered by the MOLSS, provides a small cash transfer to a targeted group: the elderly poor, people with disabilities, and indigent individuals. One small component provides cash assistance for emergency relief, natural disasters, and other unexpected circumstances. For those who have not contributed enough to the NIS or who do not receive a pension, the ESAP functions as a supplement. Approximately 20,000 people receive benefits under the elderly and disabled program component.

Cash Transfer System: Areas for Improvement

Three key areas in the cash transfer system call for improvement, as follows:

Targeting and coverage. All three programs are relatively progressive in their distribution of benefits. According to the SLC, more than 66% of FSP beneficiaries represent the poorest two per-capita, household-consumption quintiles, while only 15% are from the top two quintiles. The majority of beneficiaries (the elderly, people with disabilities, and children) are self-selected, and do not undergo a means test. Similarly, SLC data indicate that

[5] The PIOJ publishes FSP information in its annual SLC report.

[6] The Poor Relief Program also identifies poor families, but this approach seldom succeeds.

70% of Poor Relief Program beneficiaries and 60% of ESAP recipients represent the bottom two consumption quintiles. In short, targeting is not a serious problem for any of the three transfer programs.

However, under-coverage is a severe problem for all three programs. Only 15% of the poorest quintile and 9% of the second poorest receive FSP benefits. Among the elderly in the lowest two quintiles, the coverage rate is only about 50%; for pre-school children in these same quintiles, the coverage rate is about 25%. The same is true for the Poor Relief Program and ESAP, although these two programs are smaller in size. The coverage rate in the bottom two quintiles is 20% for the ESAP and only 10% for the Poor Relief Program.

Under-coverage is likely caused by low overall participant benefits. However, SLC data indicate that potentially eligible FSP beneficiaries did not apply, thinking they were ineligible. That most FSP beneficiaries are self-selected and social workers are responsible for identifying Poor Relief Program beneficiaries suggest that cash transfer programs are inadequately advertised.

Level of benefits. Overall recipient benefits are low. For example, the ESAP provides an annual transfer of about US$ 32, while the Poor Relief Program provides an average benefit of about US$ 50 per year. According to the SLC, FSP benefits represent approximately 15% of the poverty line, accounting for only 1% of beneficiaries' total food expenditures. Together, the three program transfers total about 20–25% of the overall poverty line.

Coordination and overlap. Any one of the three programs is unlikely to make a significant difference in the beneficiary's well-being. Targeted beneficiaries must spend much time and money to obtain a meaningful level of benefit (e.g., FSP beneficiaries spend nearly two hours and about US$ 1 in travel costs to collect food stamps). Thus, the question arises: What degree of coordination is needed among programs to ensure that vulnerable groups receive adequate resources? In principle, Poor Relief Program officers identify indigent FSP beneficiaries. However, the SLC analysis shows that only 25% of Poor Relief Program beneficiaries receive food stamps; hence, coordination between the two programs is low. Coordination between ESAP and FSP is better—both are run by the MOLSS—and 88% of ESAP beneficiaries also receive food stamps.

School Feeding Program: Features and Issues

The Ministry of Education and Culture administers the School Feeding Program (SFP), a school lunch program implemented in all primary schools and selected pre-schools and secondary schools. In about 80% of cases, the GOJ and students share the cost, while 20% are completely subsidized, based on school administrators' selection of the neediest students. Lunch costs range from US$ .50 to US$ 2, depending on the school.[7]

SLC data indicate that approximately 57% of children (pre-school through secondary levels) participate in the SFP, with highest coverage in primary (62%) and all-age schools (71%).[8] While poorer children are more likely to attend all-age schools, distribution of subsidized lunches is not progressive because children from wealthier households are more likely found in higher grade levels. According to the 1999 SLC, 65% of children in the bottom quintile participate in the SFP, as do 59% in the top quintile. Thus, the SFP does not necessarily target the poor, but is intended as a nutritional supplement for children.

Evidence suggests that the SFP may even discourage poor children from attending school. The cost of lunch represents 40% of non-tuition, out-of-pocket school expenditures for households. In addition, households cite "money problems" as the main reason for children not attending school. Within this context, the co-payment required to receive the school lunch may discourage poor children—especially those in rural areas—from attending. Moreover, a social stigma is associated with receiving a completely free school lunch, which runs counter to the fundamental program aim.

Nearly half of all SFP costs are administrative (Blank 2000). For example, for the hot-meal component, the per-student cost is US$ 26, but more than US$ 40 for the snack (nutribun). This is because the schools are provided commodities for the hot-meal component, while a GOJ-owned company fully produces and packages snacks.

While GOJ commitment to ensuring the nutritional status of children is admirable—the SFP is fully funded from Government revenue—several

[7] Because the SFP has not been officially evaluated, the information presented in this chapter is based on SLC analysis, as well as informal discussions with program managers and other informed individuals in Jamaica.

[8] Approximately 130,000 and 170,000 children, respectively, participate in the cooked lunch and snack (nutribun) programs.

microeconomic issues prevent the Program from achieving one its most critical objectives: bringing children to school. In addition, given that the cost of lunch is the most important component of a household's educational expenditures, a more progressively targeted SFP would likely raise the attendance of poor children and keep them in school longer, thereby improving their life opportunities.

Other Major Programs

The **Social and Economic Support Program,** administered by the Office of the Prime Minister, funds a variety of community-development activities, ranging from training and micro-credit, to infrastructure rehabilitation and recreation-center construction, to rural development. The broad Program mandate—improving economic welfare—makes it difficult to identify the target group and determine whether resources are being delivered. In addition, certain funds are allocated through line ministries, while others are allocated by parliamentary ministers within their respective regions of representation.

Lift Up Jamaica is a traditional public works program created to generate employment through rehabilitation and upgrading of community and social infrastructure.[9] While the Office of the Prime Minister is responsible for the program, the Urban Development Council implements it. Community-based groups apply for funding, and an experienced local team leader is assigned to hire targeted labor: those 18–30 years of age (the labor component is a minimum of 70%). The wage is J$ 2,500 per week (well above minimum wage), and maximum employment length is four months.

Labor Market Programs: Youth at Risk

Today, one of the most vulnerable groups in Jamaica is out-of-school youth (ages 14–19) and young adults (ages 20–24) who are either unemployed or under-employed. Within this group, the unemployment rate is 33% (the national rate is 16%); those with some secondary education have an even higher unemployment rate of 37%. Data from the 1998 Labor Force Survey

[9] Lift Up Jamaica—a GOJ response to the volatile problem of Jamaica's unemployed youth—was planned to run from mid-1999 through 2000, with an estimated budget of US$ 60 million (nearly equivalent to the SSN budget for one FY). The program aimed to employ 40,000 young people over the course of 18 months.

show that 52% of Jamaica's unemployed (about 90,000 people) are young people between the ages of 14 and 24; within this group, only 50% have any work experience. Thus, part of the problem is the school-to-work transition.

The social consequences of unemployment and under-employment of Jamaica's youth, who represent 25% of the country's poor, are potentially volatile. Inability to fit into the labor market is linked to street crime and violence, especially drug-related gang violence and high rates of teen pregnancy.

Causes of the problem are multidimensional. On the supply side, they include poor-quality primary and all-age schools; on the demand side, they include poor parenting skills.[10] Moreover, lack of formal-sector job opportunities caused by macroeconomic stagnation has further diminished prospects for youth and increased the relative pay-off from informal and illicit activities.

At least five Jamaican labor-market programs focus on youth, the largest and most publicized of which is Lift Up Jamaica (described above). In terms of training, the major actor is the **HEART Trust/National Training Agency** (NTA), which is formally responsible for coordinating the country's technical, vocational, and educational activities. Funded through a 3% employer payroll tax, the NTA sponsors a variety of training and skills standardization and accreditation activities at academies across the island.

Unfortunately, many at-risk youth fail to qualify because the minimum requirement is passing Grade-9 entrance exams. In response, HEART Trust/NTA has developed special programs to meet the needs of such young people (e.g., remedial program to qualify youth for academic training, apprenticeships in such technical areas as welding and mechanics, and a special training and employment program to develop social and other skills).[11]

National Youth Service (NYS), another youth program, facilitates the school-to-work transition for vulnerable youth. NYS provides socialization and training skills, identifies a clear demand for certain skills, and recruits youth who have an interest in or aptitude for them. While the Service currently supports only 2,000 in the 17–24 age group (its budget is about

[10] Jamaica's system of automatic promotion means that children can complete Grade 9 without any guarantee of having learned the Grade 9 (or lower) curriculum.

[11] One major challenge for HEART Trust/NTA is balancing the focus on higher-level skills training for youth with solid basic skills (Grade 11 schooling and 5–6 CXC subjects) with training of disadvantaged youth whose low basic skills would otherwise disqualify them for academic-based training.

US$ 2.5 million), initial success in youth placement makes it likely that the Service will expand coverage to more than 5,000 young people.

Recommendations

Coordinate cash transfer programs to better serve target groups. That the three cash transfer programs serve the same or similar target groups creates an extra administrative layer and increases the participation costs of potential beneficiaries, who must deal with multiple agencies to receive benefits. The high-time costs of applying for benefits and the low level of benefits received help to explain severe under-coverage problems.[12]

Cost savings could be achieved by 1) streamlining the targeting process and 2) merging the three programs.[13]

Reform the SFP. The SFP is facing grave structural problems that require immediate attention. In addition to structural leakage, perverse incentives are undermining an essential program objective: increasing poor children's school attendance. Given the budgetary importance of this program, as well as the potential ramifications for long-term development of human capital, the SFP should be evaluated immediately so that structural reforms can be implemented as soon as possible.

Systematically monitor and evaluate youth training programs. Performance of training programs that address youth unemployment and skills is questionable, given Jamaica's labor-market outcomes related to school dropouts and young people. Systematic program monitoring and evaluation is required. Within this context, the role and mandate of HEART Trust/NTA must be better defined (and probably narrowed considerably). One possible scenario is limiting the HEART Trust/NTA focus to higher-level training in technical and vocational skills and designing a poverty-targeted program for youth training. A successful youth-training scheme would not only address the youth-skills shortage and unemployment issues directly. It would also have an indirect, positive effect on the interrelated social problems of crime, violence, drugs, and teen pregnancy.

[12] The combined benefit of all three programs is only 20% of the food basket, compared to the international standard of about 40%.

[13] It should be noted that the Poor Relief Program provides critical casework services to indigent and vulnerable families. Thus, any unified transfer system would need to ensure that this important function be maintained at the local level.

Evaluate Lift Up Jamaica. Given its target group and large budget, Lift Up Jamaica (the GOJ public-works program) should be evaluated. Based on that evaluation, a decision must be made on how to address Jamaica's youth problems in the future (e.g., through public works, comprehensive training, or a mix of the two).

Develop a uniform targeting system. Currently, major SSN programs face leakage and under-coverage problems. Moreover, multiple programs targeted to the same beneficiary group often replicate screening procedures. Jamaica may wish to explore the applicability of a standardized targeting mechanism, such as Colombia's Beneficiary Selection System, known as SISBEN (*Sistema de Selección de Beneficiarios*), which would be applied once to all poor households and used to target benefits for all programs in the publicly funded SSN. The benefit of such a system is more accurate targeting and coverage. However, resources would be required to maintain and upgrade the system on a ongoing basis; thus, it is unclear whether overall cost savings would result. Nevertheless, the SSN as a whole would likely function better and in a more transparent way. Moreover, cost effectiveness could be increased if such programs as the SFP and Jamaica Drugs for the Elderly Program (JADEP) used the system to identify and select beneficiaries. Such a system would also reduce the time costs of poor beneficiaries in enrolling in welfare programs.

Assess feasibility of creating new target groups and linking benefits to behavior.[14] Lack of school attendance at the primary and lower secondary levels, especially in rural areas, is a critical issue among Jamaica's poor families. The SLC confirms that attendance is linked to "money problems." If the recommended structural reform of the SFP fails to solve the school-attendance problem completely, the next step is to assess the feasibility of creating a new target group of poor families with school-age children within the cash transfer programs and linking benefits to school attendance.

[14] The current trend in social protection programs is to link the receipt of cash transfers to verifiable household actions that enhance human capital, such as children's school attendance, growth monitoring, preventive health maintenance, and educational seminars for parents. Such programs are especially relevant in countries where demand-side constraints prevent families from investing in the human capital of their children. In Jamaica, the main beneficiaries of transfer programs are the elderly and disabled, for whom conditional transfers are inappropriate. The next largest beneficiary group is pre-school children, for whom receipt of food stamps is already linked to the public health centers they visit. The outcomes of other aspects of maternal and children's health (e.g., pre-natal check-ups, growth monitoring, and immunizations) are well above average in relation to income level.

Education

Since gaining independence in 1962, Jamaica has made remarkable progress in schooling outcomes. Net enrollment in primary and lower-secondary school is nearly 100%, while that of upper-secondary school (Grades 10 and 11) is 80%, well above the standard for middle-income countries. However, these high-quantity outcomes have been achieved at the expense of quality, especially for poorer children in the lower levels of schooling. As a result, the Jamaican school system is limited in enhancing social mobility and graduating young people skilled to compete in the global marketplace. Jamaica now faces serious educational problems whose solutions are critical in preparing the country to meet the economic challenges of the 21st century.

Sector Structure

Jamaica's educational system consists of four levels: early childhood, primary, secondary, and tertiary. Children between the ages of 6 and 11 receive six years of primary education free of charge. In 1998–1999, some 310,000 students were enrolled in Grades 1–6 in 876 primary, all-age, primary and junior high, and private preparatory schools.[15] Approximately 6% of all public primary schools operate on shifts. The average student-teacher ratio is 32:1, among the highest in the Caribbean.

Secondary education consists of two cycles (Grades 7–9 and 10–11) and is highly stratified by educational level and type of institution. Placement in secondary school is achieved through a selective examination given at the end of primary school, known as the Grade 6 Achievement Test or GSAT. There is a clear hierarchy of secondary schools, which depends on the number of academic subjects taught. Students at this level of the system are tracked according to their GSAT performance, with the better performers (about 30%) directed into the more prestigious academic secondary high schools, and the remaining students tracked into comprehensive or technical high schools or vocational and agricultural schools.[16]

[15] Private preparatory schools account for about 7% of total primary enrollment.

[16] The more prestigious secondary high schools offer a seven-year program that includes five years of academic secondary school and two years of post-secondary or A-level training required for entrance into the University of the West Indies.

Historically, this multi-track system was developed to allow for optimal allocation of scarce educational resources. It permitted a few bright students to pursue academic courses, while the majority pursued more applied (technical and vocational) curricula. However, because GSAT performance is tightly linked to socioeconomic status, the system is highly inequitable; that is, children from higher socioeconomic families are placed in the more academic secondary schools, while those from lower socioeconomic backgrounds attend lower-quality technical and vocational schools. Moreover, few graduates are sufficiently prepared to face the lifelong learning challenges of the current economic environment.

Post-secondary programs are offered through an emerging network of community colleges, six teachers colleges, two universities, and the HEART Trust/NTA. The University of the West Indies (UWI), the premier regional tertiary institution, is co-funded by governments of member countries in the region. Entry requirements are high; successful applicants usually have completed Grade 13, as well as several GCE A-level subjects. Teachers and community colleges require completion of Grade 11, with successful completion of CXC subjects, while HEART Trust/NTA provides training in technical and vocational skills to individuals with at least a Grade-9 level of knowledge. Over the last decade, tertiary enrollment has risen steadily and is now approaching 10% of the population.

Sector Financing

Public

Total public expenditures on education absorb a relatively high share of Jamaica's GDP (5.8% in FY 2000–2001, compared to an average of 4.6% for the LAC region overall). This share has gradually declined since FY1997–1998, when it represented an all-time high of 6.9% of GDP, caused by the increasing proportion of GOJ resources channeled into servicing rapidly growing debt obligations. Despite these recent developments, over the last decade, education has remained one of the most important sectors in terms of GOJ budget allocations (its share has fluctuated between 25% and 27% of all non-debt public expenditures). Over the past five years, about 31% of those resources have been allocated to primary-level schooling; another 37% has been directed to secondary schools; 22% to tertiary schools; and

the remaining 10% to early childhood, adult education, library services, and administration.[17]

Over the past decade, diminishing enrollments and significant increases in public-education spending have resulted in considerable increases in real per-pupil expenditures at all levels. Primary enrollment, for example, fell from a high of 333,674 students in 1986–1987 to a low of 293,863 in 1996–1997, subsequently increasing to 308,702 in 1999–2000 (this latter level is expected to be maintained for at least the next six or seven years). In terms of spending, real per-student expenditures increased 174% for primary schools and 154% for secondary schools between 1991–1992 and 1997–1998 (they have somewhat declined since the 1997–1998 peak). For FY 2000–2001, recurrent per-pupil budgeted expenditures amounted to about US$ 145 for early childhood, US$ 480 for primary, US$ 590 for secondary, and US$ 2,740 for tertiary education; however, considerable variations occurred within each level, depending on the type of educational institution.

During the past decade, more than 91% of Ministry of Education and Culture (MOEC) expenditures has reflected recurrent costs (teachers' salaries account for the largest single item). The average share of capital expenditures for this period, accounting for only 9% of total spending, clearly reflects under-spending on educational equipment and maintenance of physical facilities. A large increase in recurring public expenditures on education became effective in 1997–1998, as a result of a 1996 agreement signed by the GOJ and the Jamaican Teachers Association. From 1996–1997 to 1997–1998, total MOEC recurrent expenditures jumped 28% in real terms. The fiscal crisis that ensued resulted in a 15% reduction in recurrent expenditures in real terms. Given the Government's current fiscal situation, it is expected that the education-sector budget will remain fairly constant in real terms over the next few years.

Private

Public primary schools are not permitted to charge fees, and, until 1994, fees were not officially sanctioned in secondary schools. However, given the shortfall in funding at that level, the GOJ introduced cost-sharing measures to allow secondary schools to recover the cost of books, materials, and supplies. At

[17] Secondary school expenditures include those for Grades 6–7 services provided in all-age and junior high schools.

both the primary and secondary levels, students have significant non-tuition, out-of-pocket costs (e.g., uniforms, transportation, and school lunches or snacks). At the secondary level, the highest tuition fees, charged by secondary high and comprehensive schools, average about US$ 115 per year. However, compliance is also highest at these two types of schools, reflecting the more affluent socioeconomic backgrounds of their students.

Non-tuition, private-school expenditures average US$ 640 annually per household; expenditures are significantly higher for households in the wealthiest consumption quintile (US$ 930) relative to the poorest (US$ 410). Nevertheless, the share of total expenditures directed to non-tuition school expenses is significantly higher among households in the bottom quintile (12%) compared to those in the top (7%). Thus, despite the substantial amount of public resources devoted to schooling in Jamaica, direct costs are still significant for poor families.

The largest non-tuition school expense is food (lunches and snacks), which accounts for 38% of a household's non-tuition educational spending; it is constant across quintiles, reflecting the targeting problem associated with the Government's school lunch program discussed above. The next most significant out-of-pocket expenditure is transportation, representing 27% of total non-tuition spending among the poorest quintile of households and 21% among the wealthiest.

Key Issues

Primary-school Quality, Equity, and Efficiency

With a net enrollment rate of 93.3% (1998–1999), primary education in Jamaica has achieved nearly universal coverage. Nevertheless, budgetary constraints and a shortfall of quality inputs have combined to produce an educational system unable to provide an acceptable level of literacy and numeracy across geographic and socioeconomic groups.[18]

One measure of primary-school under-performance is the failure of a high percentage of children, primarily from economically and socially dis-

[18] Jamaica's primary-education system is in the process of evolving from the British colonial model. While the traditional British system worked well for academically advanced students, it did little to promote the overall educational efforts of most primary schools; as a consequence, many children attending Government-funded primary schools fail to satisfy the learning standards established for the sector.

advantaged groups, to achieve basic literacy and numeracy skills by the end of Grade 4. Results of the Mico Diagnostic Reading Test, for example, indicate that the median level of performance for students in Government primary schools was below their respective grade level for all six grades. The 1999 administration of the National Assessment Program further corroborates system failure; that is, approximately 45% of students in Grade 4 could not read, even at the most basic level; and the literacy rate for students completing Grade 6 was only slightly higher than 40%.

Secondary School Access, Equity, and Quality

Currently, Jamaica's school system does not ensure access to upper secondary school (Grades 10–11), and net enrollment at this level is only 80%. The current structure of secondary-school placement is highly inequitable. This inequity is directly related to the tracking system based on results of the GSAT exam taken at the end of Grade 6. Given that the elite secondary high schools have a shortage of spaces, which are awarded according to GSAT performance, families have a powerful incentive to invest in tutoring to ensure their children's success on the GSAT exam. Obviously, this preparation puts children from poorer families at a disadvantage.

Children from socioeconomically disadvantaged backgrounds are tracked into all-age and comprehensive high schools, which have fewer academic offerings and resources generally, while children from wealthier families are tracked into the elite high schools. For example, in the poorest consumption quintile, 34% of enrolled children at the secondary level were in all-age schools, and 26% were in comprehensive high schools. Conversely, in the top quintile, 47% of enrolled children were in elite high schools. This multiple tracking system also limits the eventual grade attainment of poor children, so that the limited spaces available after Grade 10 are regressively distributed. Thus, in 1998, 63% of 17–19 year-olds in the top quintile were still enrolled in school, while only 18% of those in the bottom quintile were enrolled. Even at the Grade 10–11 level, the enrollment gap between the top and bottom quintile was nearly 30 percentage points.

Public-expenditure resources are also regressively distributed. The MOEC estimates of recurrent costs indicate that, in 1996–1997, per-student spending in the elite secondary high schools was 2.08 times that for Grades 1–6, while, in comprehensive schools, per-pupil spending was only 1.53 times that for primary grades. In addition, per-pupil spending for Grades 7–9 in

all-age and junior high schools (where secondary-school children from the poorest quintiles are most likely found) was only 0.96 that for Grades 1–6. Overall, the bottom quintile receives only about 15% of recurrent public spending on education, compared to 26% for the top quintile; the bottom quintile receives 26% of spending on primary education and only 14% of secondary school spending (World Bank 1999).

One consequence of lacking access to secondary school spaces and poor-quality education at the lower and upper secondary levels is high youth unemployment. The unemployment rate for young people between the ages of 14 and 19 is 46%, compared to 15% nationwide. Most of these youth have never worked, indicating that the school-to-work transition is key to their success in the labor market; this difficult transition is clearly related to the low-quality schooling offered in Grades 7–9 in the all-age and junior high schools. Finally, high youth unemployment is indirectly related to increased crime and violence.

Early Childhood Education

Researchers and policymakers alike increasingly recognize that the quality and type of early childhood education are key inputs to children's eventual success in the school system. A recent Inter-American Development Bank (IDB)-funded study conducted by UWI scientists showed that both socioeconomic background and early education/stimulation are significantly correlated with cognitive function and academic achievement among primary-school children.

In Jamaica, nearly 90% of primary-age children (ages 3–5) are enrolled in pre-school; most are in publicly funded basic schools and infant departments of primary schools. Thus, Jamaica is well on its way to achieving its 2004 target of universal early childhood education. However, unresolved issues remain regarding the quality and care of learning environments and the supply of trained teachers. Several studies report that only half of all basic schools are of acceptable quality. In terms of teacher training and early childhood workers, 90% of those in service are uncertified, although a national certification scheme was formally adopted in 1999.

Post-secondary Education

As currently structured, schooling for most students is considered complete after Grade 9 or 11. For those completing Grade 11, there are few opportu-

nities to complete the Grade 12–13 curriculum in order to sit for the GCE A-level exams; yet, it is extremely difficult to gain admission to UWI without having completed some A-level courses. As a result, post-secondary education options for most individuals are severely limited.

Tertiary Education

UWI is the premier tertiary institution in the English-speaking Caribbean, and its largest campus, Mona, is located in Jamaica. Per-student spending at UWI is the highest of all levels (approximately 19 times the per-capita allocation at the Grades 1–6 level). This high allocation has been criticized on both equity and efficiency grounds. The equity argument is based on the socioeconomic background of most UWI students, while the efficiency argument stems from the fact that benefits from university graduates are more private than social.

The tracking system at the lower secondary level puts children from higher socioeconomic backgrounds in a better position to enter UWI. This implies that, at a minimum, the University should offer more targeted scholarships based on ability to pay.

The efficiency argument that public allocations to UWI resemble those for primary school may not be clear-cut. In the current global environment, a country like Jamaica cannot develop on the backs of primary- and secondary-school graduates. Moreover, having a cadre of intellectual elite to work on local socioeconomic problems should not be understated. University professors, through research, can play an important role in providing solutions to local problems when foreign researchers (due to incentives) may not, thereby providing critical justification for public support of universities in developing countries. This potentially important social benefit, coupled with the high per-unit cost of delivering quality tertiary education, makes it unclear whether the current per-unit allocation to UWI is significantly higher than it should be.

The GOJ has embarked on a policy to lower the per-unit subvention to UWI by forcing the institution to increase enrollment. In the 1990s alone, the per-unit subvention declined by 33%, primarily because of increased admission of part-time students. Unfortunately the result has been a significant increase in average class size and deterioration in student quality, thereby lowering the overall value of a UWI degree. For example, the failure rate of part-time students in the Faculty of Social Sciences is 32%. Even after

controlling for the lower pre-entrance qualifications of part-time students, their failure rate remains significantly higher than that of full-time students, who tend to be younger, having arrived directly out of high school.

Meeting the Challenge

It is widely recognized that the structure of Jamaica's educational system is inconsistent with national needs and economic goals, within the context of an increasingly technological and service-oriented regional and global economy. Today, Jamaican workers must compete with others from throughout the region and around the world, placing a high premium on strong basic skills and the ability to pursue lifelong learning. Over the past decade, with the financial support of the IDB and other international agencies, the MOEC has begun to address these concerns through targeted investments to improve primary and secondary education.

Primary school: Enhancing quality, equity, and efficiency. Despite universal enrollment, Jamaica's primary schools still have serious problems involving quality, equity, and efficiency. The IDB is addressing these issues through its Primary Education Support Project (PESP-II), recently negotiated with the GOJ. This program includes support for curriculum reform, teacher training and certification, development of instructional materials, institutional management, and administrative reform.

PESP-II does not directly tackle the issue of poor primary-school attendance. SLC data show that only 20% of primary-school students attend school every day; the percentage is even lower for poor and rural students. Low attendance, coupled with a policy of automatic promotion, further reduces performance. Moreover, SLC results show that financial considerations are the main reason for non-attendance. Given that lunch and snacks are the largest single component of out-of-pocket expenses at this level, a well-targeted SFP could resolve the non-attendance problem and create an environment for improved performance.

Secondary school: Increasing access, equity, and quality. Ensuring universal coverage in secondary schooling up to Grade 11, a key policy initiative of the GOJ, is a critical step toward developing Jamaica's ability to compete in the technologically driven, global environment. Tackling this issue, as well as improving the quality of junior secondary education (especially for children

in the lowest quintiles), is reflected in the MOEC's Reform of Secondary Education (ROSE) program. Initiated in the early 1990s and financed through a World Bank loan, ROSE aims to address the dual issues of quality and quantity at the secondary-school level. On the quantity side, all Grade 9 graduates have been assured a space in Grade 10. On the quality side, a standard national curriculum for junior secondary students (Grades 7–9) has been developed and is currently being piloted in 120 schools. This will be complemented by reforms to strengthen the teaching profession, including subject-matter training at the certification stage and professional-development activities for in-service teachers. It is recommended that the IDB support the ROSE program.

Early childhood education: Ensuring universal access and quality. Early interventions, if done equitably, hold the possibility of allowing poorer children to enter primary school on a level footing with other children. This, in turn, can improve the overall efficiency of the educational system by redirecting valuable resources currently invested in remedial training.

National standards for service providers are being prepared in support of a new initiative to regulate integrated daycare and early childhood education. Three teachers colleges now offer teacher certification in early childhood education; one also offers continuing education toward bachelor's and master's degrees in education. With these structures in place, the next hurdle involves more certification, financing comprehensive training at all levels, and upgrading facilities according to the new standards. The Caribbean Development Bank will support selected activities through a GOJ loan. In sum, much work remains to ensure universal access and to develop quality control of national curriculum standards, teacher training, and professional development.

Post-secondary education: Providing cost-effective alternatives. The challenges at this level are formidable, and the policy response could well determine the capacity of Jamaica's workforce to compete in the global marketplace. Secondary-school graduates need more educational alternatives. A network of community colleges could become a cost-effective alternative for those who are either unable to or not interested in continuing their education at a traditional four-year college. Even for those students who wish to pursue long-term professional careers, the community college could provide an entree into tertiary education, making it possible to later transfer to a traditional program, under the "two-plus-two" scheme.

In addition to cost savings, responsiveness to the labor market, and practical curriculums, community colleges offer the advantages of physical proximity, quality, and flexibility. Opening up such alternatives would allow UWI to focus on training the most capable students for leadership roles in the LAC region and would free up professors to conduct research on pressing local issues that could contribute to solving the region's development problems.

Tertiary education: Balancing quality and quantity. When it comes to tertiary education in general and UWI in particular, Jamaica faces a difficult trade-off between quality and quantity. The key question is this: How does one deliver high-quality education to prospective leaders of the LAC region, while, at the same time, providing non-traditional students an opportunity to further their education at the post-secondary level? One plausible solution, as described above, is to expand post-secondary educational opportunities via a network of community colleges.

Health

Since its independence, Jamaica has had an impressive record in health outcomes due to significant investments in primary health-care infrastructure and services in the 1960s and 1970s. Over the past decade, however, public-health expenditures have not kept pace with health-care costs, resulting in a steady deterioration in the quality of public care. This has been exacerbated by the shifting burden of disease, due in part to the past success of delivering primary health care. As a result, health-sector challenges now resemble those of more industrialized countries, and significant reform is needed in the type of care delivered and its financing to address the country's current health-care needs.[19]

Health Status and Disease Burden

Since the early 1970s, Jamaica's crude birth and death rates, like those of other Caribbean countries, have declined gradually, resulting in a concurrent increase in the proportion of people over 60 years old and a decrease in the proportion younger than 14 years. Decline in the death rate and increased life

[19] This chapter does not attempt to address the environmental aspects of health status.

expectancy are the result of an aggressive expansion in primary-health infrastructure, which occurred in the 1970s. Quality-of-life indicators in Jamaica are significantly higher than the average for middle-income countries.[20]

Jamaica's demographic transition has been accompanied by a rapid epidemiological transition. In 1964, nutritional deficiencies and infectious diseases accounted for 20% of all deaths in Jamaica; by 1984, they accounted for only 10%. By contrast, the proportion of deaths caused by non-communicable chronic diseases (NCCDs) (e.g., malignant neoplasms, diabetes, heart disease, hypertension, and cerebrovascular disease) rose from 35% to 48% over this same period. By 1994, malignant neoplasms had become the leading cause of death, followed by cerebrovascular disease, heart disease, and diabetes. Even among those younger than age 65, circulatory diseases and neoplasms ranked as the third and fourth leading causes of death in 1990. In Jamaica, 60% of all health losses is attributable to NCCDs.

Reviewing Jamaica's demographic and epidemiological profiles are critical to understanding the current challenges facing the country's health sector. Adult health problems differ significantly from childhood diseases and thus require different health infrastructure and expertise. Furthermore, the cost of treating NCCDS—traditionally in hospitals after the medical condition of the patient becomes serious—is high. They can overburden the health-care budget of a country like Jamaica because all inpatient care is provided publicly. With an elderly population expected to double over the next 25 years, a key issue is health-care financing. Jamaica must discover a way to address its "first-world" health problems with a "third-world" health budget. Questions about what services the public sector can realistically continue to provide and how to ensure equity as private-sector care increases are the main issues to tackle over the next few years.

Sector Structure

Jamaica's health sector has been dominated by a centralized public system, headed by the Ministry of Health (MOH), which is responsible for policy-making and day-to-day operations, including the management of all health personnel. Traditionally, the MOH has managed both hospitals and health

[20] Life expectancy is 73 years, infant mortality is 14 per 1,000 live births, and prevalence of malnutrition under five years of age is 7%.

centers, which are organized and run through parallel administrative and management structures. Approximately 330 health centers are classified according to the complexity of services offered, and rural polyclinics are organized into four regions. The public hospital system, which includes 27 primary-, secondary-, and tertiary-care facilities, is organized into 10 regions, thereby lacking consistency with the primary-care system.

In principle, a patient's initial contact with the health system is through one of the primary health-care facilities distributed throughout the island. A referral is then made to a higher-level institution, depending on the case. The first point of referral is usually a Type-C hospital (a basic district hospital located in each parish). Subsequent referrals are made to Type-B hospitals (located in major towns, they provide specialized care in general surgery, internal medicine, obstetrics and gynecology, and pediatrics). The highest level of care and the final referral point are provided by Type-A hospitals, of which there are three (Kingston Public, University, and Cornwall). In practice, the referral system is not used, and there are many self-referrals to public hospitals for relatively minor cases; one study mentions a self-referral rate of nearly 90% in the casualty department of five large, public hospitals.

While the provision and financing of health-care services in Jamaica have traditionally been the responsibility of the GOJ, in recent years, the sector has evolved into a truly mixed system. The private sector accounts for 75% of all outpatient visits, providing both prevention and care services, while the public sector accounts for 95% of all hospital inpatient care. Some 800 doctors are in private practice, although it is difficult to distinguish them from the approximately 400 doctors in the public sector, most of whom also practice privately. Only seven private hospitals, five of which are located in Kingston, provide secondary care. There are no private tertiary facilities.

Sector Financing

Public

GOJ health-care spending represents about 3% of GDP (lower than the LAC regional average of 6%). As a proportion of total Government spending, health has commanded a share of 5–7% over the last few years, most of which is dedicated to recurrent expenditures. In terms of the two broad types of services provided by the MOH, roughly 70% of the total health budget is devoted to secondary and tertiary care, 20% to primary care, and the remain-

ing 10% to other expenses (e.g., health-services support and training). Nearly 40% of the total recurrent budget is directed to the three Type-A facilities.

In the face of a fixed budget, the MOH has continued to provide all levels of service in the public-health system, despite the increasing cost of care brought about by shifts in the burden of disease. This policy has resulted in the deterioration of infrastructure and facilities, staff shortages, and long lines at public-health facilities. Of the total health-sector budget, less than 10% is allocated for maintenance and investment, while approximately 80% of all public-health spending is for staff salaries and wages. Despite the large share of resources spent on wages and salaries, shortage of key personnel continues, partly because Jamaica must compete with Canada and the U.S. for its trained health-care workers. For example, in 1999, the vacancy rate for registered nurses and nurse assistants in the MOH was estimated at 45% (nurses obtain permits to work in both the U.S. and Canada, where there are shortages of trained nurses).

Private

User fees were introduced in the early 1990s to cover some of the shortfall in the public health budget. While both fee and collection rates have increased steadily over the past decade, user fees still only comprise 8% of the MOH recurrent budget. However, spending on private health-care services has risen steadily over the past two decades. For example, one study estimates that, in 1980, total health expenses represented 5% of GDP, with public funding accounting for nearly 70% of the total. By 1994, total expenses were approximately 8.9% of GDP, equivalent to US$ 105 per capita; however, the public-financing share accounted for only 35%, while out-of-pocket payments represented 54% and private insurance accounted for 8%. If correct, these estimates indicate that Jamaica has one of the highest income-to-health ratios in the region (most of it is direct, out-of-pocket payments).

Consistent with the type of service supplied by the public and private sectors, the bulk of private-sector health expenditure is for ambulatory or outpatient care; indeed, MOH estimates indicate that 70% of all such visits is made at private health facilities. In-patient care, on the other hand, is almost exclusively provided by the public sector, yet private expenditures are reported to cover 35–50% of this type of care. The discrepancy occurs because patients make direct payments to private physicians who have admitting privileges at public tertiary-care facilities. As much as 7% of the recurrent

health budget is transferred to private doctors through their admitting privileges at acute-care hospitals.

Large, out-of-pocket payments to private health providers indicate that Jamaicans are willing to pay for higher quality health care, which, in turn, raises an important equity question if those who cannot afford to pay are relegated to poorer-quality, public-health services. SLC data indicate that this may be the case; the propensity to seek care and the type of care sought are highly correlated with a patient's socioeconomic status. In the poorest quintile, only 50% of those reporting an illness visit a health practitioner, while in the wealthiest quintile, the rate is 75%. Even more significant, those in the wealthiest quintile are more than twice as likely to visit a private practitioner as those in the poorest. Finally, private health-care costs (as reported in the SLC health module) are more than twice as high as public-care costs. Overall evidence indicates two key phenomena in the Jamaican context: 1) individuals appear prepared to pay for better-quality service[21] and 2) poor people visit less expensive but lower-quality, public-health facilities.

Insurance

In response to cutbacks in the public-health budget, private health-insurance services increased significantly during the 1980s, and private coverage became an important part of many formal-sector salary packages. However, private health insurance is still limited and is highly associated with formal-sector jobs in large urban firms. SLC data show a coverage rate of only 12% of the population, with virtually no coverage among those in the bottom quintile. Coverage increases steadily with household income, and rates are highest for those living in the Kingston Metropolitan Area (KMA). Furthermore, most claims are for expensive ambulatory and outpatient care in the private sector, with fewer claims for public care, which is less expensive.

Key Issues

Under-financing

Under-financing is the key challenge facing Jamaica's health sector. While impressive health gains have been made over the last 25 years, changing

[21] The Rand Corporation (1994) estimates that demand for health care in Jamaica is price inelastic, although the elasticity is three times higher for those in the bottom quintile.

demographic and epidemiological profiles and constraints on public resources threaten the ability to maintain, if not improve, the health status of the population. On the one hand, an aging population and a consequent shift in the causes of morbidity and mortality toward chronic and degenerative conditions will result in more expensive hospital admissions if not prevented or managed cost effectively. On the other hand, the public-health sector, which is responsible for public-health interventions and the bulk of inpatient care, is under-financed. In 1992–1993, it was estimated that an increase in recurrent expenditures of approximately 37% was needed to operate the system as designed.

Under-financing of public services is expressed in the inability to recruit and retain sufficient numbers of skilled personnel, inadequate maintenance of facilities, severe shortages of pharmaceuticals and other inputs, and critical gaps in service delivery. These problems have led to deterioration in the quality of services, contributed to existing inefficiencies, and increased inequities in access (limited resources are insufficiently targeted to lower-income groups). Increasingly, Jamaicans have turned to the private sector for ambulatory care at a substantial cost to the poor. In the case of inpatient services, low-income patients must wait in long lines at public hospitals, while more affluent patients bypass waiting lists by paying doctors, who utilize public facilities free of charge for their paying patients.

Inefficiencies in Resource Allocation and Decision-making

The health-sector funding crisis is exacerbated by inefficient spending patterns. Inefficiencies in resource allocation have resulted from services not being geared to the population's changing epidemiological profile. Most of the Ministry's education and promotion efforts address communicable diseases and maternal and child health, rather than chronic diseases and injuries. In addition, staff training programs have not been developed or adapted in response to new sector demands, especially in the areas of mental health and health promotion.

Technical inefficiencies have resulted from excessively centralized decision-making. The MOH has had responsibility for planning, policymaking, regulation, and provision of services. These inconsistent roles have resulted in weakened leadership, as resources have been absorbed in day-to-day operations. Moreover, effective provision of services requires accessible management and immediate decision-making for executing point-of-service

activities. In a centralized system, these conditions cannot be satisfied consistently, and the effects are increasing inefficiency and lowering of employee morale.

The Health Sector Reform Program (supported by IDB loan JA-0051) has as one of its key objectives the creation of incentive structures that ensure services are delivered effectively and efficiently. The proposed reform separates regulatory from provider functions so that management of resources and decisions related to delivery of services are closer to the point of service. Provider functions would be carried out predominantly by four Regional Health Authorities (RHAs), each covering a discrete geographical area. The RHAs would operate as autonomous corporate entities, allowing them to contract with the MOH for the provision of health services for the population in their respective regions. Annual service agreements between the RHAs and the MOH would be based on an assessment of health needs and specification of the deliverable quantity and quality of services. The RHAs would have the freedom to provide services within the scope of the annual service agreement and would be responsible for ensuring quality of care and integrating primary and secondary care, currently administered through parallel systems. Critical to these functions is RHA authority over personnel matters, which has already been delegated by the Public Service Commission.

Primary Health Care and Child Nutritional Status

Jamaica's impressive outcomes in primary health care are a testament to its past investments in infrastructure and delivery systems. Nevertheless, the serious financial limitations of the health sector have also affected service delivery at this level, as evidenced by recent slippage in child immunization rates. The MOH reports that coverage rates for children 0–11 months have dropped significantly in the past two years, from nearly universal coverage in 1997 to about 85% for measles, DPT, and OPV in 1999. A small rise in the proportion of low-weight births also occurred in 1999 (although this may not indicate the beginning of a trend).

In terms of children's nutritional status, Jamaica's problems, like those across the English-speaking Caribbean, center more on overweight, rather than underweight, children and micro-nutrient deficiencies. A recent study by the Pan American Health Organization (PAHO) and the Caribbean Food & Nutrition Institute (CFNI) estimates that approximately 30% of children between the ages of 1–4 years suffer from micro-nutrient deficiencies. Thus,

for children as well as adults, Jamaica's health problems more closely resemble those of industrialized, rather than developing, countries.

Pharmaceutical Costs

A major component of Jamaica's health-sector financing crisis involves drug costs. Nearly 70% of all drug costs are private, accounting for 15% of total private, out-of-pocket health spending. The spending and drug-cost patterns follow that of user fees, according to SLC results. Thus, patients in the wealthiest quintile are twice as likely to purchase drugs from private (as opposed to public) outlets as those from the poorest quintile, and the average expenditure for drugs purchased from private outlets is more than twice that from public ones.

Two key GOJ programs aim at addressing the problem. Drug Serve, a Government bulk-purchase program, buys drugs at bulk rates and passes the savings on to consumers. In 1998–1999, about 70,000 prescriptions were filled; to date, only six windows currently exist for consumers. JADEP, the other major program, provides elderly patients specific drugs to treat particular diseases at highly subsidized prices. In 1999, JADEP had 133,000 beneficiaries; the most common diseases subsidized were asthma and hypertension, followed by glaucoma and diabetes. In 1999, the Program cost about J$ 30 million, reflecting an extremely high, per-person subsidy for a relatively small target group.

STDS and HIV/AIDS

The rate of HIV infection has been rising steadily over the past four years (PIOJ 1999), and could become a major issue in terms of health-care costs and economic development (through its negative effect on the labor force). The current prevalence rate is estimated at 25 per 100,000, up from 15 only a few years ago. HIV/AIDS and sexually transmitted diseases (STDs) are the second leading cause of death among adults 30–34 years of age. While major urban centers continue to have the highest number of reported rates of AIDS cases, reported cases are increasing in tourist areas; as a result, hotel workers are now included in the target group of the MOH's National STD/HIV Program.

Recommendations

The stated mission of the MOH is to promote the physical, mental, social, and spiritual well-being and enhanced quality of life of Jamaican people. To fulfill its mission, MOH must make critical decisions regarding the types of

services it will continue to provide, especially given the current disease burden and equity issue that arise whenever the private sector plays an increasingly important role in health-care delivery.

Develop a strategy for services offered and financing. Given the current disease burden and budget constraints, the MOH can no longer expect to provide all services at subsidized rates. A strategic decision must be made with regard to the basic package of services that should be provided to all citizens, as well as its financing. Discussions are currently under way in Jamaica regarding the possibility of creating a national health insurance scheme, which would finance this basic package.[22]

Deliver services more efficiently. Current public-sector financing constraints make it imperative that existing funds are spent as efficiently as possible. In this respect, money should be spent on services that match the changing disease burden of the population, with appropriate staff training provided as necessary. Communication campaigns aimed at helping to prevent or postpone chronic diseases through diet and life-style changes should be emphasized. Increasing technical efficiency through decentralized decision-making has begun and should be consolidated.

Ensure better health for children. Recent slippage in immunization coverage rates should be speedily addressed. In addition, the MOH's SFP should include an education component to tackle the problem of micronutrient deficiency and obesity, the main problem with regard to children's nutritional status.

Contain pharmaceutical costs. Prescription drugs should be addressed within the context of the basic package of goods and services that the MOH aims to provide all citizens. In addition, the Drug Serve program, which does not provide real subsidies, should expand its outlets to benefit more consumers. Finally, JADEP should be evaluated in light of the extremely high per-person subsidy it provides.

Support national program to fight HIV/AIDS. Jamaica's large tourist industry, combined with growing youth unemployment and drug-related crime, has generated a prime breeding ground for the spread of STDs, especially HIV/AIDS. The National STD/HIV Program will be an important player in this area, and may soon be supported through IDB technical cooperation.

[22] The IDB supports this reform under loan JA-0051.

Housing

Jamaica's population density, 218 per square kilometer, is among the highest in the LAC region, owing to the country's small geographical size. High population density pressures urban centers and strains environmental management.[23] Over the last decade, Jamaica has become increasingly urbanized, with a corresponding rise in urban poverty. The share of poor residents in the KMA alone has more than doubled (from 4% in 1989 to 10% in 1999). This rise in urban poverty has profoundly affected social conditions. The bulk of violent crime, often related to drugs and gang warfare, is concentrated in urban centers; this, in turn, erodes social capital in urban communities, one outcome of which is increased marginalization of youth. Another outcome of urban poverty and violence is the decay of infrastructure and decline in providing essential services by utility companies unwilling to work in violent neighborhoods.

According to recent SLC data, distribution of housing characteristics varies significantly across regions and quintiles. Rural households are more likely to live in detached dwellings (88%) than are KMA households (53%), where semi-detached houses and town homes prevail. Residents in the KMA and other towns are more likely to rent, while rural residents and those in the poorest consumption quintile are more likely to own their homes. Consequently, rental payment, as a proportion of overall spending, is considerably higher among urban and wealthier households. For example, the share of spending dedicated to rent is 14% among KMA residents and 11% among households in the wealthiest quintile, compared to only 3% for households in the poorest quintile.

The PIOJ has estimated that approximately 15,000 new starts and 10,000 upgrades are needed each year to meet the country's housing needs. While housing starts reached about one-third the estimated requirement in the early 1990s, new starts fell over the latter half of the decade (Table 6-10). One reason for this decline is land scarcity, which has prevented private developers from providing suitable solutions that most Jamaicans can afford. Another key sector problem is the high cost of financing, generated by the rise in interest rates following the 1997 financial crisis (Table 6-11).

[23] According to the UNDP, Jamaica's deforestation rate is 3% (the average for all developing countries is 1%).

TABLE 6-10

Housing Starts and Completions

Year	Housing Starts	Public-sector Starts	Housing Completions
1995	10,848	7,455	10,573
1996	6,047	5,174	6,103
1997	7,193	7,029	6,200
1998	4,546	3,725	3,270
1999	5,390	3,733	7,905

Source: PIOJ (1999)

TABLE 6-11

Housing-sector Financial Indicators

	No. of Mortgages		Mortgage Value (J$ thousands)			
Year	All	NHT	All	NHT	Lending Rate (%)	Inflation (%)
1995	10,277	4,347	7,365	2,148	18.4	25.5
1996	10,209	6,239	8,236	3,646	22.7	15.8
1997	6,860	4,313	3,090	2,758	23.6	9.2
1998	6,437	5,290	5,879	4,178	23.3	7.9
1999	7,267	5,560	6,984	4,902	24.0	8.0

This has resulted in a proliferation of informal tenancy and squatter settlements over the last few years. Most of these are located on Government-owned land, particularly in and around major urban centers.

Sector Structure

The Ministry of Environment and Housing (MEH) has developed a National Shelter Sector Strategy, which guides Jamaica's activities in this area. The two main organizations dedicated to finding affordable housing solutions for low-income households are the National Housing Trust (NHT) and the Program for Integrated Development Enterprise (PRIDE). The NHT, the

main provider of housing solutions, is a Government-owned corporation funded through a payroll tax, which provides low-cost financing for eligible individuals. Those who have contributed to the NHT for at least six months and meet income criteria may borrow up to J$ 800,000 at subsidized interest rates to purchase a home. The NHT has several solution alternatives, ranging from housing schemes (ready units), to open market, build on own land, and house lots, which allow customers to build incrementally as funds become available. As Table 6-11 shows, the NHT is responsible for most housing starts in Jamaica; its importance has increased over the last few years, as commercial lending rates have risen.

While the NHT is committed to providing low-cost solutions, primarily through affordable financing rates, its target population does not include the very poorest, who usually fail to meet eligibility requirements or lack formal wage earnings that are subject to the NHT payroll contribution.

The MEH has several programs specifically directed to poor individuals, the most visible of which is Operation PRIDE. Initiated in 1994–1995, PRIDE aims to upgrade and regularize the tenancy status of squatter settlements, identifying new greenfield sites for land acquisition and development and provision of alternative housing solutions for civil servants.[24] Based almost entirely on the divestment of public lands, Operation PRIDE was initially envisioned to attain financial self-sufficiency within five years.

Government subvention to Operation PRIDE has averaged about J$ 240 million per year; the allocation for FY 1998–1999 was J$ 247 million; however, this amount was drastically reduced the following year because of the fiscal adjustment brought on by the domestic-debt crisis. Since Operation PRIDE began, some 1,125 squatter families have been assisted by a total of 20 projects (apparently, there is a large pipeline of projects requested by communities).

Another key player in developing housing and related infrastructure for poor communities is the Kingston Restoration Company (KRC). A private company originally funded by the United States Agency for International Development (USAID), KRC is involved in urban and economic development in downtown Kingston. The Company's approach is multi-sectoral, with areas of intervention encompassing microenterprise, industrial and commercial development, and rehabilitation of social-service infrastructure.

[24] For an assessment of PRIDE, see the report entitled "Assessment of Low-Income Urban Settlements Initiatives" (1995), prepared under IDB loan JA-0046.

KRC appears to have gained the trust of inner-city communities, owing to its collaborative and open relationship with local organizations and citizens.

Sector Financing

The NHT dominates the financing of housing solutions. Table 6-11 shows the total number and value of mortgages granted over the 1995–1999 period. The share of mortgages handled by NHT, in terms of both numbers and value, has increased rapidly, partly because of the prohibitive cost of private-sector financing. NHT mortgage rates range from 2% to 12%, depending on the buyer, while building-society rates are about 20%. Financial-sector turmoil, including the collapse and merger of several financial institutions, has contributed to the increased importance of NHT in financing housing solutions for middle-class Jamaicans. Trends in the number and value of mortgages show that fewer people are accessing smaller amounts of money over time.

Key Issues

Public Land Use and Divestiture

Current procedures for the use and divestiture of Government-owned land are ad hoc and lack transparency. Lack of an official policy has constrained the expansion of Operation PRIDE, since its objective is to regularize urban squatter settlements, which are located predominantly on public land. Related issues involve land acquisition and the extent to which the State will acquire land in order legalize the tenancy of squatter settlements within the Operation PRIDE context. A public land-use policy also has implications for the NHT, which has several programs that involve housing on public land.

Minimum Development Standards and Regulatory Process

A key obstacle to the expansion of low-cost housing solutions is rigid construction and development standards, which increase the cost of solutions, especially in urban areas. In the KMA, for example, the ratio of developed land to inhabitants is 48 acres per 1,000 people, which is higher than in other major cities with higher levels of per-capita income. One innovation of Operation PRIDE was to permit starter standards for squatter settlements; in principle, however, this should be sought for all forms of residential construction in order to lower housing costs and expand the solutions provided.

Ideally, development standards should be related to planned zoning, based on land-use patterns and minimum acceptable levels of environmental and sanitation conditions.

Integrated Urban Restoration and Development

Revitalization of Jamaica's two main urban centers—Kingston and Montego Bay—is a major concern for Jamaican policymakers, especially in the capital city of Kingston. The rapid rise in urban poverty, along with drug- and gang-related violence, has originated mainly in downtown Kingston; as a result, Kingston neighborhoods have been abandoned by all but the poorest, who live in squatter or tenement yards, with little access to low-quality sanitation and social services. Re-development of these urban areas involves more than mere physical construction; it implies revitalizing the local economy and basic infrastructure to improve environmental conditions and attract small business and industry. A successful approach would include significant community participation, such as that currently under way by the KRC. This type of multi-sector, urban intervention is likely to have an enormous positive effect on Jamaica's poorest and most vulnerable groups.

Housing Finance

High interest rates and rigid development regulations have made housing costs prohibitive for poor and middle-class Jamaicans. The NHT presently provides affordable solutions to middle-class Jamaicans through a payroll tax, but demand far outstrips supply. This raises the issue of NHT cost-effectiveness (e.g., in terms of construction, the type of contracting system used, and whether the system could be made more efficient). The financial situation of private building societies is also a potential concern, particularly in light of the recent financial-sector crisis.

Recommendations

Conduct technical analysis to reform building standards and regulations. Rigid development standards and regulations often hinder affordable housing solutions. This issue requires technical analysis, including international comparisons to determine what is appropriate for a country at Jamaica's level of income. Depending on the results, reforms in this area could be included in an IDB-led, sector-reform program.

Conduct in-depth study on NHT and housing finance to benefit middle-class families. The problem of excess demand for affordable housing requires urgent attention. A comprehensive study of NHT (currently the main market player) is needed, especially with respect to its construction activities, to determine whether any cost savings can be translated into solutions for middle-class families. In the same context, a study on the private housing-finance sector and regulatory framework is needed to provide information on how to make the market work more efficiently in order to lower housing costs. Depending on study results, the IDB could potentially support a sector program that would make housing-finance policy changes.

Re-evaluate Operation PRIDE and initiate integrated urban development. Operation PRIDE is the main sector intervention that targets the poor. In 1995, an IDB-financed evaluation of the Program identified cost recovery, land-divestiture policy, and building standards as potentially problematic issues. A re-evaluation of the Program is a necessary first step for any IDB-supported initiative that aims to address the housing problems of low-income groups. A related issue—urban restoration and community revitalization—is closely linked to crime, drugs, violence, and at-risk youth. Clearly, an integrated urban-development initiative is needed to address this problem.[25]

Review other housing initiatives. At least two other Government-led initiatives can potentially create housing solutions and infrastructure for Jamaica's poor. The Jamaica Social Investment Fund (JSIF) supports community-led, small-scale infrastructure works; conceivably, it could open a housing "window" to facilitate solutions for the poor under certain conditions. The idea deserves further appraisal in a future phase of the JSIF. In addition, the Office of the Prime Minister, through the Social and Economic Support Program, provides funding for local housing initiatives for the poor; however, little information is available on this relatively new program. These smaller initiatives should be reviewed to determine how they fit into the broader sector strategy.

[25] Results from the Kingston Urban Renewal technical cooperation (TC9710238) could pave the way for future IDB operations in this area.

ANNEX I

Table A-I: Full Regression Results for Determinants of Per-capita Consumption

	1989		1991		1993		1996		1998	
Variable	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**
Log of household size	–0.547	(12.37)	–0.546	(10.32)	–0.592	(12.78)	–0.555	(12.51)	–0.584	(22.65)
Resident Ages										
0–5	–0.064	(3.56)	–0.038	(1.74)	–0.082	(4.30)	–0.071	(3.81)	–0.080	(7.39)
6–14	–0.040	(2.65)	–0.019	(0.98)	–0.014	(0.78)	–0.019	(1.13)	0.013	(1.26)
15–19	0.044	(2.06)	0.029	(1.07)	0.031	(1.31)	0.027	(1.16)	0.029	(2.11)
20–24	0.087	(2.66)	0.028	(0.77)	0.104	(2.46)	0.004	(0.12)	0.081	(4.07)
25–34	0.178	(5.60)	0.109	(3.15)	0.166	(4.15)	0.053	(1.51)	0.105	(5.41)
35–44	0.185	(5.01)	0.155	(3.95)	0.178	(4.17)	0.046	(1.20)	0.127	(5.91)
45–54	0.200	(5.09)	0.155	(3.52)	0.113	(2.45)	0.030	(0.70)	0.110	(4.69)
55–64	0.148	(3.47)	0.069	(1.58)	0.072	(1.50)	–0.033	(0.74)	0.056	(2.24)
65 and over	0.145	(3.43)	0.108	(2.29)	0.088	(1.78)	–0.065	(1.41)	0.028	(1.12)
Schooling Level of Household Head										
Some primary	0.316	(3.41)	0.185	(2.00)	0.268	(2.33)	0.028	(0.37)	–0.017	(0.28)
Completed primary	0.302	(3.36)	0.095	(1.05)	0.309	(2.85)	0.024	(0.35)	0.065	(1.08)
1st cycle secondary	0.281	(3.08)	0.202	(2.17)	0.363	(3.33)	0.104	(1.51)	0.111	(1.81)
2nd cycle secondary	0.490	(5.03)	0.236	(2.30)	0.490	(4.36)	0.217	(2.96)	0.260	(4.17)
A–level or higher	0.886	(8.40)	0.451	(4.23)	0.810	(6.84)	0.684	(8.22)	0.474	(7.47)
Schooling Level of Non-head Adults										
Completed primary or middle school	–0.074	(2.76)	–0.054	(1.90)	–0.041	(1.16)	0.030	(0.95)	–0.006	(0.36)

(*continued*)

Table A-I: Full Regression Results for Determinants of Per-capita Consumption (*Continued*)

	1989		1991		1993		1996		1998	
Variable	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**	**Coef**	**Stat**
2nd cycle secondary	–0.015	(0.53)	0.054	(1.73)	0.041	(1.15)	0.074	(2.33)	0.030	(1.68)
A–level or higher	0.074	(1.70)	0.156	(3.42)	0.125	(2.52)	0.268	(5.69)	0.103	(4.63)
Female-headed household	–0.161	(6.23)	–0.075	(2.45)	–0.099	(3.68)	–0.063	(2.30)	–0.072	(4.80)
Household head's age	0.010	(1.78)	0.008	(1.30)	0.020	(3.21)	0.001	(0.18)	0.007	(2.21)
Household head's age (squared)	0.000	(2.79)	0.000	(2.30)	0.000	(3.31)	0.000	(0.02)	0.000	(3.06)
Employment Sector of Principal Household Earner										
Agriculture (non-tradable)	0.103	(1.26)	0.157	(2.05)	–0.082	(0.91)	0.041	(0.56)	–0.030	(0.70)
Mining	0.746	(4.91)	0.883	(4.05)	0.391	(2.56)	0.354	(1.86)	0.233	(2.37)
Manufacturing	0.291	(3.29)	0.426	(4.63)	0.150	(1.56)	0.120	(1.44)	0.160	(3.36)
Services (tradable)	0.333	(3.88)	0.604	(5.57)	0.334	(3.27)	0.044	(0.46)	0.321	(6.15)
Services (non-tradable)	0.252	(3.01)	0.402	(5.17)	0.211	(2.36)	0.077	(1.07)	0.153	(3.64)
Region										
Kingston	0.490	(13.92)	0.377	(9.40)	0.123	(3.60)	0.280	(8.45)	0.289	(15.61)
Other towns	0.252	(7.99)	0.245	(5.87)	–0.020	(0.56)	0.159	(4.46)	0.140	(7.14)
Constant	8.330	(45.16)	8.886	(45.68)	9.513	(46.08)	10.870	(58.58)	11.018	(102.50)
Number of observations	2,927		1,613		1,696		1,569		6,082	
R^2	0.43		0.46		0.49		0.50		0.45	

Note: OLS regression coefficients, based on SLC data; absolute value of t-statistics in parentheses.

ANNEX II

Breakdown of Changes in Mean Consumption: Technical Explanation

To illustrate the breakdown of changes in mean consumption into changes in characteristics (X variables) and returns to these characteristics (betas), consider the following regression, which relates per-capita consumption to a set of household variables and their respective coefficients:

$$CON_i = C + B_I * X_I + u_i \quad (1)$$

where
CON = per-capita consumption,
B and C = parameters to be estimated,
X = set of household variables, and
u_i = random error term.

Equation (1) is estimated over households separately by year. Using estimates from different years, one can break down the change in consumption between years into the proportion caused by 1) changes in the mean level of household characteristics and 2) differences in returns to these characteristics (betas), according to the technique pioneered by Oaxaca (1973, 1998). Thus:

$$\Delta Con = (C_1 - C_0) + \overline{X}_0 * (\hat{b}_1 - \hat{b}_0) + \hat{b}_1 * (\overline{X}_1 - \overline{X}_0) \quad (2)$$

where
Con = (log of) per-capita consumption,
C_i = constant term in the regression for time period i,
$\overline{X}_i$ = mean characteristics of households in time period i, and
$\hat{b}_i$ = coefficient vector for the regression from time period i.

Equation (2) states that the change in consumption between time periods 0 and 1 can be divided into differences in the 1) estimated constant term between the two time periods, 2) coefficients between the two time periods or returns to household characteristics, and 3) household characteristics between the two time periods or change in endowments.

Traditionally, this disaggregation technique is applied to male-female wage differentials; within that framework, the portion of wage differential caused by differences in betas (or returns to characteristics) is a measure of the unequal treatment that men and women experience in the labor market. This study's framework compares differences in consumption over time; thus, differences in betas can be interpreted as differences in the environment between the two time periods, which lead to different returns to characteristics (e.g., household head education or employment sector). Furthermore, while this study refers to changes in Xs as changes in household characteristics, certain changes are endogenous in the short term since households may split or join in response to an economic crisis, or household heads may change employment sectors. The variable sets that are most likely exogenous in the short term are those that describe the education of household heads and other adult household members.

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