

Universal Public Health Insurance, Adult Status and Labour Supply in Jamaica

Diether W. Beuermann
Camilo J. Pecha

Country Department Caribbean
Group

POLICY BRIEF N°
IDB-PB-264

Universal Public Health Insurance, Adult Status and Labour Supply in Jamaica

Diether W. Beuermann
Camilo J. Pecha

April 2017



Cataloging-in-Publication data provided by the
Inter-American Development Bank

Felipe Herrera Library

Beuermann, Diether.

Universal public health insurance, adult status and labour supply in Jamaica / Diether
W. Beuermann, Camilo J. Pecha.

p. cm. — (IDB Policy Brief ; 264)

Includes bibliographic references.

1. Medical policy-Jamaica. 2. Health status indicators-Jamaica. 3. Absenteeism
(Labor)-Jamaica. 4. Labor supply-Jamaica. I. Pecha, Camilo J. II. Inter-American
Development Bank. Country Department Caribbean Group. III. Title. IV. Series.
IDB-PB-264

<http://www.iadb.org>

Copyright © 2017 Inter-American Development Bank. This work is licensed under a Creative Commons IGO 3.0 Attribution-NonCommercial-NoDerivatives (CC-IGO BY-NC-ND 3.0 IGO) license (<http://creativecommons.org/licenses/by-nc-nd/3.0/igo/legalcode>) and may be reproduced with attribution to the IDB and for any non-commercial purpose. No derivative work is allowed.

Any dispute related to the use of the works of the IDB that cannot be settled amicably shall be submitted to arbitration pursuant to the UNCITRAL rules. The use of the IDB's name for any purpose other than for attribution, and the use of IDB's logo shall be subject to a separate written license agreement between the IDB and the user and is not authorized as part of this CC-IGO license.

Note that link provided above includes additional terms and conditions of the license.

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the Inter-American Development Bank, its Board of Directors, or the countries they represent.



Diether W. Beuermann: dietherbe@iadb.org; Camilo J. Pecha: camilop@iadb.org

Abstract

This policy brief answers three main questions with respect to the no-user-fee policy adopted across public health centres in Jamaica: (i) Has the policy improved health status among working age adults? (ii) Has the policy influenced labour market dynamics? (iii) Has the policy had differential effects by age groups? Evidence suggests that the policy improved overall health status, as the likelihood of suffering illnesses associated with inability to carry out normal activities decreased by 28.6 percent. In addition, the number of days where people were unable to perform normal activities due to illnesses suffered within the previous four weeks decreased by 34 percent. Regarding labour market dynamics, no effects are found on the likelihood of being employed or contributing to the National Insurance Scheme. However, consistent with a reduced number of days lost due to illnesses, we find a positive effect of 2.15 additional weekly labour hours. Finally, we find that all of these positive effects are concentrated within adults in the 40–64 year-old age range. Overall, these effects suggest that the policy added a yearly average of US\$PPP 26.6 million worth of net real production to the Jamaican economy during the period 2008–12.

JEL classifications: H51, I1, J22

Keywords: Jamaica, free public healthcare, health status, labour supply

1. Introduction and Summary

Recent international discussion and consensus have emerged suggesting that universal public health insurance is a policy with potential to foster health and economic benefits, especially in low income countries where widespread health insurance coverage is unlikely to be achieved through the private sector (Dye et al., 2013; Jamison et al., 2013; Nicholson et al., 2015). Indeed, around 30 countries have implemented universal health insurance programmes, and many others are considering doing so (Giedion, Alfonso, and Díaz, 2013). One of the key motivations underlying implementation of these policies is that the absence of health insurance coverage conveys a negative impact on healthcare access, resulting in deteriorating health outcomes and productivity losses. However, robust empirical evidence on these claims is scarce and, therefore, evidence-based policy making in this area is largely limited.

Accordingly, the aim of this policy brief is to present the estimated causal effects of the Jamaican no-user-fee policy adopted in public health centres on overall health status and labour market dynamics of working age adults.¹ In particular, we shed light on the following questions:

- Has the policy improved health status among working age adults?
- Has the policy influenced labour market dynamics?
- Has the policy had differential effects by age groups?

The programme that we study started in April 2008 when the Jamaican government passed a no-user-fee policy applicable to all public health facilities. This policy mandated that Jamaicans no longer had to pay for healthcare services, such as doctor's consultations, diagnostic services, hospital admissions, surgeries, medications, physiotherapy, ambulance, maternal services, and so forth. Prior to this policy, uninsured persons using public health facilities were required to pay out-of-pocket fees for these services. The rationale behind this policy was that user fees were regressive and prevented healthcare access to disadvantaged sectors of the population who could not afford the fees (Jamaican Ministry of Health, 2008).

Our main findings suggest the no-user-fee policy caused a reduced likelihood of suffering illnesses associated with inability to carry out normal activities equivalent to two percentage points (or 28.6 percent with respect to the baseline mean). At the intensive margin, we find that the number of days where people were unable to perform normal activities due to illnesses suffered within the

¹ All effects reported in this Policy Brief were obtained from Beuermann and Pecha (2016). They employ a difference-in-differences strategy that compares health status and labour market outcomes between uninsured and insured individuals, before and after policy implementation. The analyses was performed using a district level panel obtained from the 2002–12 yearly waves of the Jamaican Labour Force Survey and Survey of Living Conditions.

previous four weeks decreased by 0.17 days (equivalent to 34 percent with respect to the baseline mean). Therefore, there is evidence that the policy increased the general health of the population and, as suggested by Strauss and Thomas (1998), this could have translated into increased labour supply.

We find no effects on the likelihood of being employed or on the likelihood of contributing to the National Insurance Scheme (a measure of labour formality). However, consistent with a reduced number of days lost due to illnesses, we find a positive effect of 2.15 additional weekly labour hours. In addition, we find that adults in the 40–64 age range (who were relatively disadvantaged at baseline regarding their health status) drive the positive health and labour supply estimated benefits. Back-of-the-envelope calculations suggest that the policy added a yearly average of US\$PPP 26.6 million worth of net real production to the Jamaican economy during the period 2008–12.

In terms of policy implications, our results indicate the following:

- In general, the no-user-fee policy has been shown to add both health and economic benefits within the working age population. Therefore, its effectiveness is positive for the Jamaican economy.
- However, health and economic benefits are concentrated on relatively older adults in the 40–64 age range. Therefore, if focalisation efforts were needed, demographic targeting within working-age adults could be achieved by focusing within this age range.

Next, we elaborate on these findings and the respective policy implications.

2. Findings

2.1 The No-User-Fee Policy

In April 2008, the government of Jamaica abolished all the user fees for facilities within its public health system, including hospitals, health centres, laboratories, diagnostic facilities, and pharmacies.² The elimination of fees also applied to medical services like registration, doctor's consultations, diagnostics, hospital admission, surgery, medications, physiotherapy, ambulance, and maternal care. Prior to this, individuals were required to pay out-of-pocket fees for these services. The main considerations underlying adoption of this policy included: (i) the fees were regressive and a major impediment to access to health; (ii) the fees increased poverty because they reduced the disposable incomes of the poor and depleted their asset

² In May 2007, fees were abolished for children below 18 years old. Then in April 2008, fees were abolished for all users of the public health system. Since we will focus on persons between 21 and 64 years old, the relevant date in which these individuals were affected by the policy was 1 April 2008.

base; and (iii) the fees had a negative effect on utilisation resulting in deteriorating health outcomes, increasing morbidity, and reduced life expectancy (Jamaican Ministry of Health, 2008).

Official statistics reveal that utilisation patterns of the public health system saw significant shifts after policy adoption.³ Indeed, average annual utilisation between the years leading to the policy (2003–06) and the first four years of policy implementation (2008–11) showed significant increases in several types of healthcare services. The annual number of outpatient visits increased by 21 percent, emergency visits climbed by 58 percent, and hospital admissions grew by 8 percent. The number of laboratory tests performed jumped by 135 percent, while filled pharmacy prescriptions increased by 84 percent. X-Ray procedures showed a shift equivalent to 12 percent, but the bulk of this surge occurred in 2007, which was the year when fees were abolished for children under 18 years old. Finally, the number of surgeries showed a more stable pattern with a shift of 5 percent before and after policy adoption.

Public expenditures for health jumped from a pre-policy (2002–06) yearly average of 2.42 percent of GDP to a post-policy yearly average (2008–12) of 3 percent of GDP. The extra funds were supposed to compensate for lost revenues from fees and satisfy the surge in patient load. However, the Medical Association of Jamaica (MAJ) argued that the additional public funds injected were insufficient to ensure the smooth running of the health service. The MAJ suggested that the policy failed to address fundamental issues, such as upgrading primary care services, securing adequately trained and appropriately paid medical staff, and educating the public about the appropriate use of hospitals (De La Haye and Alexis, 2012). The authors reported that inadequately staffed health facilities in light of the increased demand resulted in excessive waiting periods of up to 6–8 hours for non-emergencies.

The average real expenditure per medical service provided in public health facilities dropped by 19 percent between 2006 and 2009. Therefore, the increased demand outweighed the extra public funds invested in the health system after policy adoption. As such, it appears that the quality of public health services freely provided after policy adoption was not optimal; this is something to bear in mind when interpreting our results.

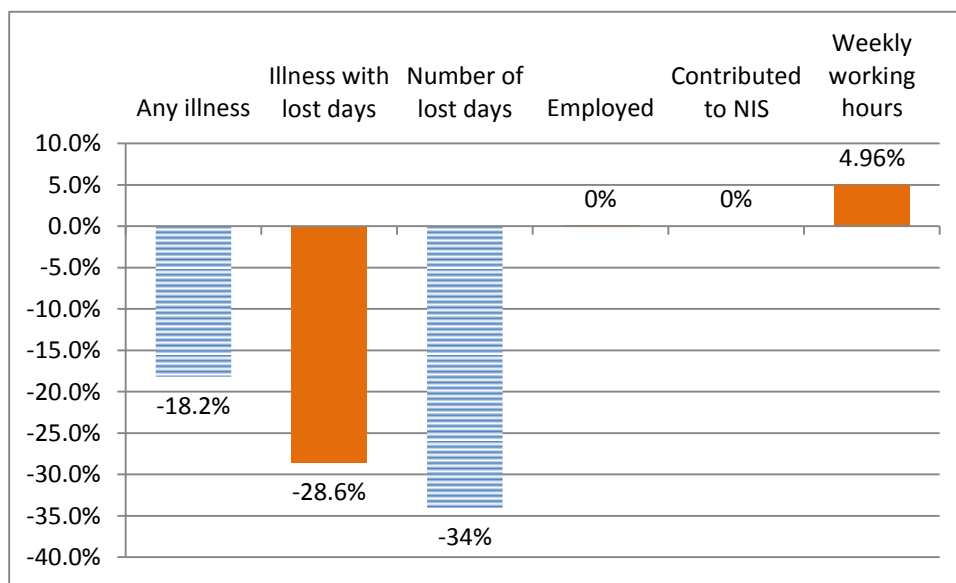
2.2 Effects on Health Status

We first look at the likelihood of suffering any illness, suggesting that the policy reduced it by 18.2 percent (Figure 1). When looking at the likelihood of suffering any illness associated with

³ Official statistics from the Jamaican Ministry of Health reported in Campbell (2013).

losing at least one day of normal activities, we find that the policy caused a reduction of two percentage points. If we consider the baseline level for this indicator among uninsured equivalent to 7 percent, our results imply an economically significant reduction equivalent to 28.6 percent. This reduction is equivalent to the gap observed at baseline between uninsured and insured where the former were two percentage points more likely to experience illnesses associated with lost days. Therefore, the policy has been effective in fully closing the baseline gap with respect to this health indicator.

Figure 1. Overall Effects of the No-User-Fee Policy



We now focus on the number of days in which persons reported that they were unable to carry out normal activities due to illnesses within the four weeks leading to the survey date (ADLs). Our results suggest a significant reduction equivalent to 0.17 days. The baseline level for uninsured was 0.50 days. Therefore, our estimates imply a reduction equivalent to 34 percent that is both statistically and economically significant (Figure 1). The baseline gap between uninsured and insured was 0.23 days favouring the latter. Thus, our estimated effect is equivalent to 74 percent of the baseline gap. As such, our results provide unambiguous evidence that the policy has significantly helped uninsured individuals to have quicker recovery periods from illnesses and to lose fewer productive days. The magnitudes of our estimates are large—suggesting that the policy has almost closed the baseline unfavourable gap on these health indicators between uninsured and insured individuals. In the next section, we explore

whether these improvements occurred contemporaneously with changes in labour market dynamics.

2.3 Effects on Labour Market Dynamics

Figure 1 also shows estimated effects on labour market indicators. We first assess the likelihood of being employed and contributing to the National Insurance Scheme (NIS); suggesting no effects on these indicators. Therefore, the results on these indicators clearly suggest that the policy did not alter labour market dynamics at the extensive margin. Employment rates and the quality of employment in terms of formality (captured by the likelihood of contributing to NIS) remained unchanged.

However, when focusing on the intensive margin, we observe a positive and significant effect of 2.15 weekly hours of labour (equivalent to 4.96 percent with respect to the baseline level). Moreover, this effect is operating at the margin between working part and full time. Indeed, the likelihood of working less than 35 hours per week had a negative effect of three percentage points, while the likelihood of working full time (35 hours or more) increased by three percentage points (Beuermann and Pecha, 2016). For the previous estimates to constitute mainly a labour supply effect there must not have been differential increases in labour demand for uninsured relative to insured individuals. To test this indirectly, Beuermann and Pecha (2016) assess the effects of the policy on both reported and imputed hourly wages, which should decrease if there were a dominant labour supply effect.⁴ Their estimates show that both reported and imputed wages had negative effects equivalent to 0.15 and 0.06 log-points, respectively, supporting the interpretation of the results mainly as to labour supply effects.

The results, therefore, have shown that the policy not only benefited uninsured individuals by helping them to have faster recoveries from illnesses, but also in that it caused them to supply more labour, thereby creating more production for the economy. As such, we compare the costs associated with the policy with the extra marginal production to calculate the net marginal benefit for the Jamaican economy. In terms of costs, during the five years leading to policy adoption (2002–06), the government spent a yearly average of real US\$PPP 546.06 million in the public health system.⁵ By contrast, during the first five years of policy adoption, expenditures rose to a yearly average of real US\$PPP 623.26 million. This implies that, on average, the policy has cost real US\$PPP 77.2 million yearly between 2008 and 2012.

⁴ All wages were deflated to 2014 Jamaican dollars using the official inflation rates; then the prevailing PPP conversion factor was applied to express wages in US\$. To estimate the regression models, we took the natural logarithm of the real US\$ PPP wage as dependent variable.

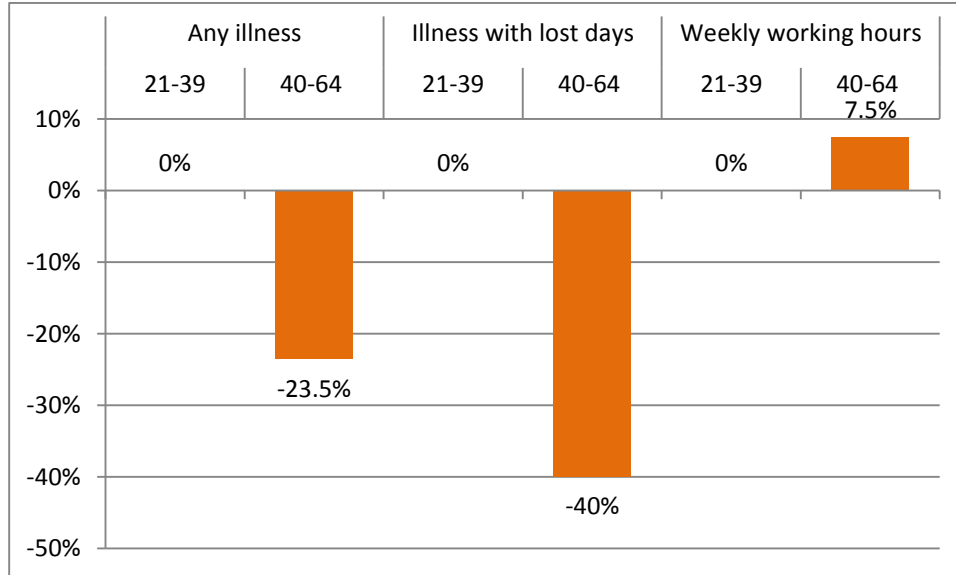
⁵ All monetary figures in this section are expressed in real 2014 US\$PPP.

In terms of additional production, our estimates imply that employed uninsured individuals increased their labour supply, on average, by 2.15 weekly hours. Considering 48 working weeks during the year, this implies 103.2 extra yearly hours of labour supply for each benefited person. The 2011 population census counted 669,395 employed persons between 21 and 64 years old. The SLC reveals that between 2008 and 2012 an average of 77.04 percent of employed individuals between 21 and 64 years old were uninsured. Therefore, the size of the benefited population (i.e., employed uninsured individuals between 21 and 64 years old) comprises approximately $77.04 \text{ percent} \times 669,395 = 515,702$ individuals. This implies that the policy increased aggregate labour supply by $103.2 \times 515,702 = 53,220,446.4$ hours each year between 2008 and 2012. Valuing each extra labour hour at the average real US\$PPP minimum wage rate for this period (US\$PPP 1.95 per hour), the estimated extra yearly production for the economy is US\$PPP 103.8 million between 2008 and 2012. Considering the extra yearly cost in public healthcare of US\$PPP 77.2 million, our estimates imply that the policy generated US\$PPP 26.6 million of net yearly production for the Jamaican economy between years 2008 and 2012.

2.4 Differential Effects by Age

A relevant distinction when assessing health effects is age. Relatively older individuals have a larger probability of falling ill. Therefore, assessing whether the policy impacted alternative age ranges differently can inform if the policy was most effective where initial health levels were lower or vice versa. Figure 2 shows results differentiated by age in two groups: individuals between 21–39 years old and individuals between 40–64 years old. Estimated health effects are concentrated within the 40–64 year-old group. The probability of suffering any illness dropped by 23.5 percent for this age group. In addition, the likelihood of suffering any illness associated with losing at least one day of normal activities dropped by 40 percent for the 40–64 age group. Interestingly, it is also true that the baseline health status was relatively worse for the 40–64 year-old group. Thus, results imply that the policy was effective in improving the health status of the relatively more disadvantaged group at baseline.

Figure 2. Effects of the No-User-Fee Policy by Age Groups



Consistent with previous labour market findings, we find no effects at the extensive margin on employment or formality. However, and consistent with relatively larger gains in health for the 40–64 year-old group, we find a significant positive effect equivalent to 3.22 weekly hours of labour supply for this group (equivalent to 7.5 percent with respect to the pre-policy mean). For the 21–39 year-old group, we find no effect on labour supply. Therefore, our results point out towards stronger effects on both health and labour supply within the group of relatively more mature individuals who, at baseline, exhibited relatively more disadvantaged health status.

3. Conclusion and Policy Implications

In this study, we report findings of Beuermann and Pecha (2016) where the authors examine whether the introduction of universal free public healthcare in Jamaica in April 2008 affected health outcomes and labour supply of individuals between 21 and 64 years of age. In terms of health status, findings indicate that the likelihood of suffering illnesses associated with loss of normal days decreased by two percentage points (or 28.6 percent with respect to the baseline mean). At the intensive margin, the number of days where people were unable to perform normal activities due to illnesses suffered within the previous four weeks decreased by 0.17 days (equivalent to 34 percent with respect to the baseline mean). Therefore, these estimates

suggest that, on average, the policy increased the general health of the benefited population.

In terms of labour market outcomes, there were no effects on the likelihood of being at work. We also find no effects on the likelihood of contributing to the social security system (a measure of labour formality). However, consistent with a reduced number of days lost due to illnesses, we find a positive effect of 2.15 additional weekly labour hours. To give an estimate of the policy's benefit to the economy, we valued the extra hours of labour supply at the real average minimum wage rate for the period 2008–12 and subtracted the real extra expenditures in public health resulting from the policy. This exercise suggests that the policy added a yearly average of US\$PPP 26.6 million worth of net real production to the Jamaican economy during the period 2008–12. Finally, we show that health benefits and labour supply effects are concentrated among individuals between 40 and 64 years old. This segment was relatively disadvantaged in terms of health status at baseline and the policy narrowed this initial health gap, thereby increasing their labour supply by 3.22 weekly hours.

In terms of policymaking, our findings unambiguously show that the no-user-fee policy has brought marginal positive economic benefits for the overall Jamaican economy. However, these overall average effects on working age adults, are heavily concentrated among relatively older adults in the 40–64 years old range. Therefore, if focalisation efforts were needed, demographic targeting within working age adults could be achieved by focusing within this age range.

References

- Beuermann, D. and C. Pecha. 2016. "Healthy to Work: The Impact of Free Public Healthcare on Health Status and Labour Supply in Jamaica". Inter-American Development Bank Working Paper No. IDB-WP-756. Washington DC: Inter-American Development Bank.
- Campbell, A. 2013. "The Abolition of User Fees in the Jamaican Public Health System: Impact on Access, Care Provided and the Work of the Professional Nurse." PhD thesis. Graduate School of Nursing, Midwifery & Health. Victoria University of Wellington.
- De La Haye, W. and S. Alexis. 2012. "The Impact of a No-user-fee Policy on the Quality of Patient Care/Service Delivery in Jamaica." *West Indian Med J* 61(2): 168–173.
- Dye, C., T. Boerma, D. Evans, A. Harries, C. Lienhardt, J. McManus, T. Pang, R. Terry and R. Zachariah. 2013. "The World Health Report 2013: Research for Universal Health Coverage." Geneva, Switzerland: World Health Organization.
- Giedion, U., E. A. Alfonso, and Y. Díaz. 2013. "The Impact of Universal Coverage Schemes in the Developing World: A Review of the Existing Evidence." World Bank Universal Health Coverage (UNICO) Studies Series No. 25. Washington DC: The World Bank. Available at <http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Images/IMPACTofUHCSchemesinDevelopingCountries-AReviewofExistingEvidence.pdf>
- Jamison, D. T., L. H. Summers, G. Alleyne, K. J. Arrow, S. Berkley, A. Binagwaho, F. Bustreo, D. Evans, R. G. A. Feachem, J. Frenk, G. Ghosh, S. J. Goldie, Y. Guo, S. Gupta, R. Horton, M. E. Kruk, A. Mahmoud, L. K. Mohohlo, M. Ncube, A. Pablos-Mendez, K. S. Reddy, H. Saxenian, A. Soucat, K. H. Ulltveit-Moe, and G. Yamey. 2013. "Global Health 2035: A World Converging Within a Generation." *The Lancet* 382 (9908): 1898–1955.
- Nicholson, D., R. Yates, W. Warburton and G. Fontana. 2015. "Delivering Universal Health Coverage: A Guide for Policymakers." Report of the WISH Universal Health Coverage Forum 2015. World Innovation Summit for Health. Available at <https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/public/Universal-health-coverage.pdf>
- Strauss, J. and D. Thomas. 1998. "Health, Nutrition, and Economic Development." *Journal of Economic Literature* 36(2): 766–817.

Previous Policy Briefs on the Caribbean

[Does Size Matter? Yes, If You Are Caribbean!](#) (IDB-PB-201)

[Don't Talk to Me about Debt. Talk to Me about Growth](#) (IDB-PB202)

[The Question is Not Whether "To Devalue or Not to Devalue?" But Rather "What to Devalue?"](#)
(IDB-PB-204)

[Laments of the Caribbean Businessperson are Based on Facts?](#) (IDB-PB-205)

[Spillovers of Global Shocks Over Caribbean Countries: So Large That There is Little Room to Maneuver: An Impulse Response Analysis.](#) IDB-PB-206)

[Okun and Jamaica at 50: How Does Unemployment React to Growth?](#) (IDB-PB-208)

[The Business Climate in Jamaica: What Does the Enterprise Survey Have to Say?](#)
(IDB-PB-211)

[Fiscal Unruliness: Checking the Usual Suspects for Jamaica's Debt Buildup](#) (IDB-PB-213)

[To Cut or Not to Cut: Does the Caribbean Follow the Advice of Multilaterals?](#) (IDB-PB-214)

[Finding New Tourism Opportunities: Finally Looking South?](#) (IDB-PB-218)

[Mothers Are Right: Eat Your Vegetables and Keep Away from the Girls \(Boys\): Bullying Victimization Profile in the Caribbean](#) (IDB-PB-225)

[Unemployment and Growth: Does Okun's Law Apply to Trinidad and Tobago?](#) (IDB-PB-229)

[Remittances as a Safety Net in Jamaica](#) (IDB-PB-235)

[To Bind or Not To Bind: A Fiscal Policy Dilemma in the Caribbean](#) (IDB-PB-236)

[The Fear Factor: A Back-of-the-Envelope Calculation on the Economic Risk of an Ebola Scare in the Caribbean](#) (IDB-PB-237)

[Caribbean Economic Alchemy: Has Magic Returned to Bauxite?](#) IDB-PB-238

[How Much Anti-Money Laundering Effort is Enough? The Jamaican Experience](#) (IDB-PB-242)

[Going for Growth: Pilot Benchmarking in the Caribbean](#) (IDB-PB-243)

[Debt, Fiscal Adjustment and Economic Growth in Jamaica](#) (IDB-PB-249)

[Brexit and the Caribbean: Much Ado About Nothing?](#) (IDB-PB-254)

[CARICOM and Canada: Good Trading Partners?](#) (IDB-PB-255)

[Diversification in Trinidad and Tobago: Waiting for Godot?](#) (IDB-PB-256)

[De-Risking](#) (IDB-PB-257)

[How Safe Are Caribbean Homes for Women and Children? Attitudes toward Intimate Partner Violence and Corporal Punishment](#) (IDB-PB-258)

[Addressing Debt Overhang: Experiences from Two Debt Operations in Jamaica](#) (IDB-PB-259)

[Ease of Doing Business: The Bahamas](#) (IDB-PB-260)

[De-Risking in the Barbados Context](#) (IDB-PB-263)