LAC DEBT GROUP

Secondary Government Bond Market

Reinaldo Le Grazie and Jose Maria Fernandez

Summary

"Domestic bond markets have experienced impressive growth since the late 1990s, especially in emerging market economies. Yet this growth has not been accompanied by a commensurate increase in market liquidity." 1

In light of the challenges to structure and develop bond markets amid changing environments, the Inter-American Development Bank (IDB) set a project that aims to diagnose the current conditions for secondary government bonds market trading among LAC Debt Group members which can further substantiate initiatives to foment these markets according to regional characteristics.

Ultimately, the main goal of this project is to strengthen the institutions of public debt management and provide them with insightful resources to develop bond markets.

In this report we will find the general guidelines for public debt management, some important aspects of market structure, interrelated factors that affect market liquidity in general, institutional framework that can support efficient markets and the necessity for transparency and communication. Also the countries structure adherence for these guidelines. Later in the note, some international successful experiences are presented as well as conclusions and some few practical ideas fro improving the development of secondary bond markets.

We would like to thank to Eduardo Berger and Filipe Albert for the support and data and for the Brazilian National Treasury for the coordination of this project, in special, to Jeferson Bittencourt and Otavio Medeiros. A special thanks to Pietro Masci, who encouraged this project.

1 - Mr Malcolm Knight, General Manager, Bank for International Settlements, "Promoting Liquidity in Domestic Bond Markets", May 2007

1- Introduction and background

1.1 Emerging markets and Latin America and Caribbean Macroeconomic environment and risk framework

Recent economic developments in the region reassure that the LAC is going in the right direction and doing well. Most countries have been doing better than they have done for many years and the main indicators of their financial markets have performed accordingly.

The recent period of global economic growth has emerged a resilient wave of liquidity sending down financial spreads and loan costs.

This liquidity glut that has been spread out to companies and consumers has also been available to Emerging Countries.

In 2006, economic growth in the region was around 5% and for 2007 it is expected to remain above 4% in 2007 according to the IMF. It has enjoyed a period of solid growth and low inflation. This means that the current expansion has been the most sustained growth in the region for decades.

Average inflation is to be around 5% in 2007 and good policies have been present in the region as well as both fiscal and external.

The regional economy has been boosted by high commodity prices, a solid growth in international trade and also outstanding good global financial market conditions that have offered liquidity in a unique and unexpected way.

More countries have implemented inflation target regimes and flexible exchange rates that help them to absorb shocks. In addition, Central Banks have attained credibility in combating inflation, which has enabled them to provide a low interest rates environment.

In macroeconomic policy, avoiding crises and inflationary episodes is extremely important in generating sustained growth

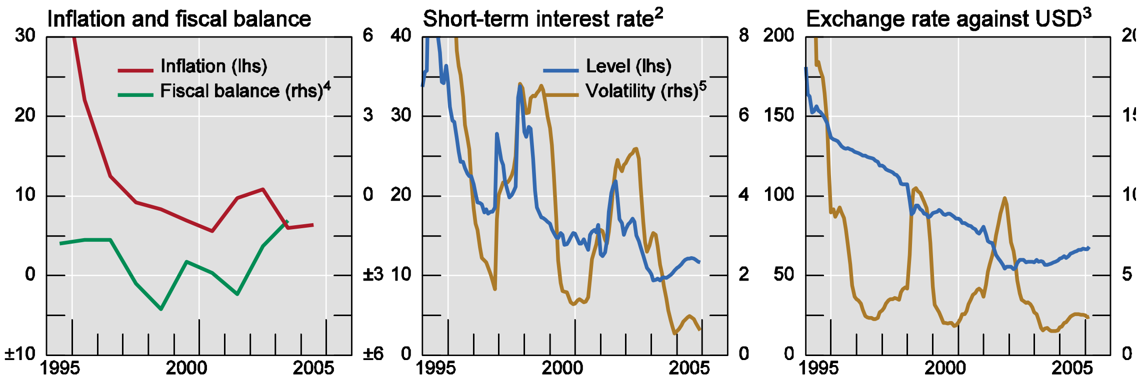
1.2 The evolution of Domestic Debt Market

Domestic bond markets have experienced impressive growth since the late 1990s, especially in emerging market economies. Yet this growth has not been accompanied by a commensurate increase in market liquidity.

Notably in Latin America, the emergence of favorable macroeconomic conditions, along with broader financial channels and portfolio diversification, has led public debt to become an increasingly important factor for government funding. Consequently, in order to minimize their long term funding costs public debt managers are now trying to improve the structure and functioning of their debt markets.

A number of studies, survey and guidelines have often approached the necessity for establishing an efficient primary market. Fundamentally these guidelines encompass a clear determination of objective and scope of public debt management. Moreover, sound macroeconomic policies such as fiscal responsibility of preserving sustainable levels of debt and interest services according to the size and conditions of the economy are necessary conditions for any further discussion of public debt management.

Economic indicators for Latin America[1]

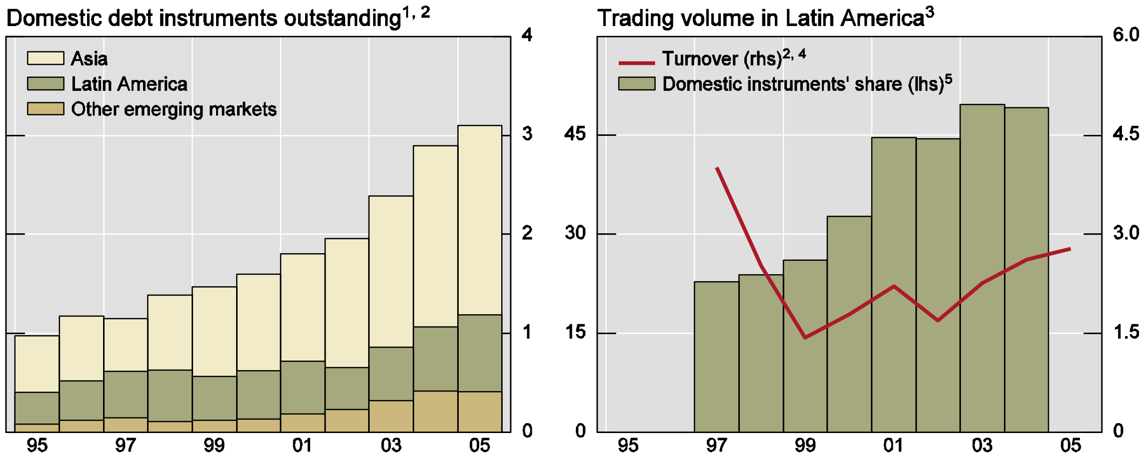


[1] Weighted average of Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela based on 2000 GDP and PPP exchange rates.
[2] Three-month; in per cent. [3] 1995±2003 = 100; an increase indicates an appreciation. [4] On a central government basis.
[5] Twelve-month rolling standard deviation.

Sources: IMF: Economic Commission for Latin America and the Caribbean: national data.

However, initiatives in fostering demand for government securities should also bear in mind at all times the essential issue of developing sustainable conditions for secondary market trading. This allows agents in the economy to diversify their risks, thereby helping make domestic financial markets more stable. Of course, well-developed bond markets offer other important benefits, such as the non-inflationary funding of government budget deficits and a better transmission of monetary policy signals. (BIS 2006). The existence of active and liquidity bond market also plays an important role in reducing the risk of carrying positions for a longer than expected period and enable agents to tailor their investments to their preferences and requirements, which can ultimately return benefit to the issuer as lower risk premium in the primary auctions.

Emerging market debt



[1] End of period; values for 2005 refer to the second quarter. [2] In trillions of US dollars. [3] Argentina, Brazil and Mexico. [4] All instruments; for 2005, cumulative data up to the third quarter. [5] As a percentage of Argentina's, Brazil's and Mexico's total turnover.

Benefits of well functioning markets go beyond those of public debt interest as government debt pricing can create a yield curve against which corporate bond prices may be set. The relative larger size of government issues to that of corporate bonds and the fact that generally the former is regarded as higher quality credit can contribute as a baseline to the corporate bond market in the sense that government bonds are often used as collateral assets for financial operations. Therefore, the development of structures and liquidity in public debt market can spread through operating channels to other markets.

Hence, some issues on how to foment and develop correctly these markets arise in this context. One way to look at this dilemma is to understand the nature of investors and their concerns to be willing to finance government debts and hold these positions in their portfolios. For instance, credit risks and legal risks can be mitigated with the reassurance of sound economic policies at both macro and micro levels. It is worth noticing that the reduction in inflation and the consolidation of fiscal accounts have contributed to lowering the volatility of domestic short-term interest rates. In addition to that, the removal of restrictions on foreign investment and the simplification of investment regulations in some cases represented good progress in terms of increasing the liquidity for government bonds. Strengthening institutional framework in matters such as clarifying the authority to borrow and issue new debt, invest and undertake transactions on government's behalf, the mitigation of risks by modifying and properly managing the debt structure while developing a robust risk management that enables debt managers to assess and manage the trade-offs between expected cost and risk in the government debt portfolio should be encouraged (IMF 2001).

Surely information runs at the nature of financial market. Thus, it is accurate to state that transparency, generally defined as 'the widespread availability of information relative to current opportunities to trade and recently completed trade, supports market efficiency, fosters investor confidence and strengthens investor protection (IOSCO 2004). Specifically, it means that transparency problems should be tackled in all its contexts relevant to market liquidity: the transparency of issuers; the transparency of the issue schedule; and the transparency of market information. The first two contexts are much in line with the needs of the primary market as to reduce the uncertainties of credit and level of indebtedness. In fact, many of the matters attributed to be necessary to strengthen a primary market are just as necessary conditions for developing a secondary market. On the other hand, the matter of market information on both pre- and post-trading is a vital piece for the development of a well-structured secondary market. In sum, constant changes in shape and size of these markets, along with the diversification of instruments and investors call the need for broader transparency and have placed some new challenges to authorities and debt managers involved in this process.

2- Guidelines for Secondary Market

2.1 Primary market

Secondary markets can be seen almost as a natural extension of primary markets. Consequently, the objective of achieving well functioning secondary markets necessarily involves a well-structured primary market as well. Indeed, although the scope of this report is not to be focused in the main factors affecting the latter, many of the issues that can be raised for one can be then extended to the other.

Mitigating risks is a crucial task. Authorities and regulators should consider in designing proper structures for government bond markets. For instance, sound macroeconomic policies and fiscal responsibility in maintaining a sustainable level of public debt decrease credit risk, thus improving investors' confidence. By the same token, ensuring the legal landmarks regulating not only bond markets but also related markets such as repo, futures and other derivatives play an important role to enhance confidence and liquidity. Evidently, appropriate infrastructure of settlement and custody to government bonds is also at the foremost concerns in developing a sound and safe investment environment.

Above all, transparency should be the key factor in promoting a better environment for investments. This would mean not only providing market information, but also rendering good information on public accounts, which could help creditors to better evaluate fiscal accounts and tailor their investments perspectives.

In sum, some of the basic concerns investor would have in primary markets also affect investor of secondary markets. Thus, ensuring protection and positive perspectives to one can positively affect all potential investors.

2.2 Market structure

2.2.1 Settlement and custody

A sound, robust and safe market infrastructure, defined to comprise payment and settlement systems, the regulatory and supervising framework as well as market monitoring/surveillance, is a prerequisite for a properly functioning market. It promotes active participation; it can help to make the market more resilient to external shocks and contributes to continuous price discovery, thereby enhancing market liquidity.

2.2.2 Infrastructure to reduce hidden transaction costs

Standardized, robust trading rules and a safe infrastructure help reduce hidden transaction costs and thus promote market liquidity. This applies both to the underlying market and to related markets, such as those for repos, futures and options. It is especially important that participants can rely on a set of core conventions and practices, given the trend in some markets towards a proliferation of trading platforms.

Safety in trading and settlement is a prerequisite for the existence of deep and liquid markets, as more investors will be willing to trade in a safe market. In this sense, shorter settlement lags and delivery-versus-payment (DVP) practices are welcome. Shorter settlement period and DVP have become common in the government securities markets of developed countries. If improved settlement practices for government securities are extended to the wider universe of fixed income securities, demand for arbitrage and hedging transactions could emerge, thus further enhancing market liquidity.

Standardization of trading and settlement generally increases market liquidity, in cases where previous disparities in these practices had impeded trading incentives. When these practices are standardized, the supply of securities effectively becomes larger, resulting in less market fragmentation. In addition, standardization may encourage participation by non-residents, thereby adding to the heterogeneity of market participants and contributing to market liquidity. In this respect, it may be noted that in organized exchange markets, it is straightforward to achieve this standardization.

2.2.3 Trading systems

Financial instruments are traded through a wide variety of mechanisms, including OTC markets, organized exchanges, and a number of systems and structures that cannot be neatly placed in either of these categories. Which platform sees the bulk of trading of a particular asset class depends on the degree of standardization of the underlying instrument, the size and sophistication of the participants in the market, and a host of other institutional, regulatory and historical factors. Trading often moves from one platform to another, as the financial system evolves, participants' needs change and advances in information technology are implemented. Therefore, it may be difficult to draw any general conclusions on the appropriate configuration of trading platforms.

Nevertheless, as a fundamental strategy, maintaining a competitive market structure is important. Competition among dealers can heighten liquidity by increasing the pressure for a narrowing of bid-ask spreads. In the case of exchanges, while their number is limited, dynamic competition between the leading exchange and other exchanges, and between the OTC market and organized exchanges, contributes to market liquidity. In this sense, it is necessary to maintain a "contestable market", that is a market where the dominant players can be challenged by new entrants if they attempt to exploit their monopoly or oligopoly power.

2.2.4 Dealer system

An important step is to develop the primary dealer system with bond dealers that are well capitalized with experienced staff in fixed income securities. Bond dealers usually "make a market" for bonds. What this means is that the dealer has traders whose responsibility is to know all about a group of bonds and to be prepared to quote a price to buy or sell them. The role of the dealers is to provide liquidity for bond investors.

Primary dealers need to be encouraged to invest in a market and support its liquidity (two way quotes). Some type of exclusive access to financial business or to primary market transactions should be considered in order to ensure the long term commitment of the dealer community. Adequate funding to the dealers through repurchase agreements should be considered as well as auction market where only bond dealers can participate.

2.2.5 Derivatives alternatives

If hedging, arbitrage and speculative transactions can be conducted easily, market liquidity as a whole is enhanced. To this end, the development of related markets such as repo, futures and options markets is important. Repo transactions enable dealers to finance long positions and cover short positions, allowing them to respond to customers' needs quickly. A well-structured futures market reduces hedging costs, and thus makes it easier to take cash market positions. An options market also facilitates flexible hedging and arbitrage.

As a result, encouraging the development of these related markets, in tandem with the underlying cash markets and on the basis of a sound legal, regulatory and operational infrastructure, would contribute to market liquidity.

2.3 Dynamics of market liquidity

A liquid market is defined as a market where participants can rapidly execute large-volume transactions with a small impact on prices.

According to the approach given in market microstructure, market liquidity can be measured by three dimensions: tightness, given by the spread between bid and ask prices; depth, denoting the volume order which can be traded without affecting prevailing prices; and resiliency noted as the speed which prices fluctuations resulted from trades are dissipated. Although market policies should aim at improving measures of liquidity, these ratios might not respond equally to policy changes. Yet, necessary policies at improving liquidity should take into account the general overview including other measures such as the number and volume of trades, trade frequency, and turnover ratio (BIS).

Interrelated factors affecting market liquidity in general can be divided into market microstructure and market participant's behavior.

2.3.1 Market microstructure

-Effects of transaction costs

Transaction costs include all factors that may affect the easiness of executing transactions. Explicit transaction costs include commissions for trade and transaction taxes. Implicit transaction costs can take several different forms, including the temporary divergence of transaction prices from their market-clearing levels. Implicit costs often involve a trade-off between the cash cost of trading at a bad price and the opportunity cost of not being able to trade at the desired time.

-Interchangeable instruments

Low fragmentation leads to a competitive structure of trading and increases heterogeneity in market participants' behavior, reflecting different transaction needs and investment horizons should enhance market liquidity.

Other things being equal, market liquidity tends to be enhanced when instruments can be substituted for one another, since the market for each of them will be less fragmented. This is because high substitutability (or less fragmentation) means that there is a larger trading supply of securities. When the trading supply is large, it is easier to meet transaction demand. Of course, one should be aware of the trade-off between having a large volume of homogeneous products, which generally increases liquidity, and having heterogeneous products, which address the specific needs of market participants. Issuing bonds at several “key maturities” from the short to the long end of the yield curve, so as to meet the demands of various investors may be helpful in resolving this trade-off.

-Distribution of maturities and volumes

As mentioned above, issuing bonds at several “key maturities” along the yield curve can bring positive returns in terms of shaping and improving pricing of assets. However, it is worth noting that in markets for assets that can act as substitutes for one another, liquidity is often concentrated in one or a small number of the assets (BIS). That matter raises the concern on trade-off between spreading issues at different maturities and maintaining certain concentration of further issues at key maturities. Thus, re-opening previous issues can play an important role at improving liquidity for larger issues increasing the supply of bonds and consequently can contribute to increase the number and the volume of trades, hence, improving liquidity in secondary market.

-Pre-announcement of issuance schedules

Although pre-announcement of issuance schedules can be noted as a transparency matter, it should also be part of a market microstructure policy affecting liquidity in the sense that bond auctions can, in fact, compete with secondary markets. Hence, anticipating schedule can help market agents to shape their portfolios. Furthermore, a less frequent issuance schedule is important to avoid primary auctions to compete for liquidity with secondary markets. For instance, if auctions are too frequent agents would better off wait for new issuance since they would have better chance of executing larger volumes without disrupting the market.

-Short sales

Market flexibility under strict regulatory supervision is the key issue to the promotion of government bonds short sales. Many aspects support the introduction of this trading feature as an important factor to increase market liquidity. For instance, it can help dealers to perform their task of market makers for both trading periods and before primary auctions. Furthermore, it creates an alternative structure of trading in which market participants can take advantage of expected reduction in prices, therefore, enhancing liquidity. Nonetheless, a close monitoring of authorities and policies that prevent market concentration and facilitate short sales are necessary to prevent risks of market squeeze.

2.3.2 Market participants’ behavior

-Heterogeneity of market participants

The degree of heterogeneity of participants can by itself affect market liquidity, by increasing the number of participants who are willing to trade on their differing perceptions of the value of an asset. A more heterogeneous customer base might also work to improve market liquidity by providing a dealer with more risk-sharing services than a more homogeneous customer base. This is because a more diverse set of customers, assuming this corresponds to a more diverse set of portfolio strategies and endowments, is less likely to present a dealer with a "one-way" trading session that would force the dealer to increase its inventory to an unacceptably risky level. In other words, as customer heterogeneity increases, dealers become more confident that they can offset a temporary surge in orders in one direction with an equal amount of orders in the opposite direction, so they are less likely to try to reduce liquidity (by increasing the bid-ask spread, for example) to dampen such surges.

-Self-fulfilling expectations

As in other market events self-fulfilling expectations can play an important role in liquidity determination by the fact that regard of market participants to a market as highly liquid helps it to become and remain highly liquid. Of course this effect can work both ways, which means that expectations can lead to lower liquidity depending on other conditions. However, this effect could be mitigated by interrelated factors mentioned above such as heterogeneity of market participants and well functioning market structures.

2.4 Institutional framework

2.4.1 Role of Central Banks

Central bank activities inevitably have an impact on market liquidity, corresponding to the various roles that central banks perform in the financial system. First, since central banks decide monetary policy, the information they communicate, such as policy decisions, statistics and notifications of open market operations, is rapidly incorporated into market prices.

Second, as major market participants, central banks conduct open market operations using government securities, and accept government securities as collateral, thereby affecting the trading supply of securities. Third, most often, as providers of clearing and settlement services for government securities, central banks influence underlying market liquidity conditions.

Given these roles and in the light of their responsibilities for financial stability, central banks have pursued their efforts to develop well-functioning markets and should closely monitor liquidity conditions in markets where liquidity could dry up under stress.

2.4.2 Taxes, if imposed, should be levied so as to minimize their impact on market liquidity.

Taxes tend to constitute an increase in explicit transaction costs, which could affect market liquidity. Such taxes can become impediments to the creation of deep and liquid markets in the sense that raising trading costs can constitute an entry barrier, attracting fewer dealers and investors. Hence, the tradeoff seems to be very clear. Government should weight the potential increase in tax revenues against the potential decline in market liquidity.

Furthermore, it is worth noticing that certain tax exemptions can create further incentives to the entrance of new investors in the market. For instance, reducing taxation for foreign investors can sometimes contribute to increase investors' shape in number and investment horizons, which as mentioned before, should enhance market stability.

2.5 Transparency and communication

2.5.1 Transparency of sovereign issuers, issue schedules, trading information and its relationship to the liquidity

Facilitating the pricing of risk by investors and improving the information available on the financial condition of issuers will tend to encourage participation and trading activity, thereby promoting market liquidity.

Moreover, predictability of issuance can enhance market liquidity. To this end, it may be appropriate for sovereign issuers to maintain a regular issuance cycle and to preannounce the issue schedule (including the characteristics and amounts of the securities to be issued) insofar as this is possible given fluctuations in cash management needs. By doing so, more investors will participate in the market, as it will be easier to formulate an investment strategy conducive to the construction of an optimal portfolio.

Ensuring the transparency of both sovereign issuers and issue schedules is especially important for small open economies, which rely on stable capital inflows from global investors.

Generally speaking, in a dealer market, the dissemination of prevailing prices to the broader trading community, including end-users, will help enhance market liquidity. By contrast, the disclosure of information on specific orders, which endangers the anonymity of market participants, would require careful consideration, as it might discourage dealers from making markets.

2.5.2 Government Bonds, Debt Securities and Transparency

The growing participation of retail investors in bonds in general has brought the opportunity to apply to the diagnosis that transparency allows investors to better look after their portfolios and reduces the risk of unfair and unethical trading practices and therefore increases liquidity. (IOSCO)

The fact that bonds are usually traded in OTC markets due to the size of the tickets, to the predominance of institutional investors, and the dealers acting as principal to their clients asks other kind of electronic assistance capturing the information just before and after the trade happened, the called pre-trade and post-trade data.

The level of transparency in bond markets is still little and some progress has been made in countries that have been extending post-trade requirements. In general, post-trade is more widely available than pre-trade

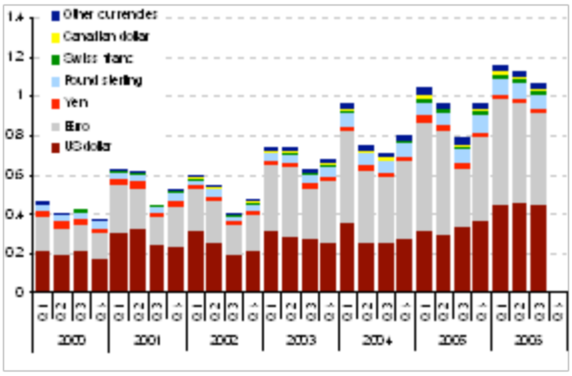
However, in view of the evolution of the bond market, regulators have been reassigning the adequacy of the market's transparency (IOSCO). Of particular interest are the nature of pricing and the growing number of factors that may influence pricing. These seem to indicate that the info contained in trading data may be of greater importance than in the past.

3- Experience and practice in the European Countries

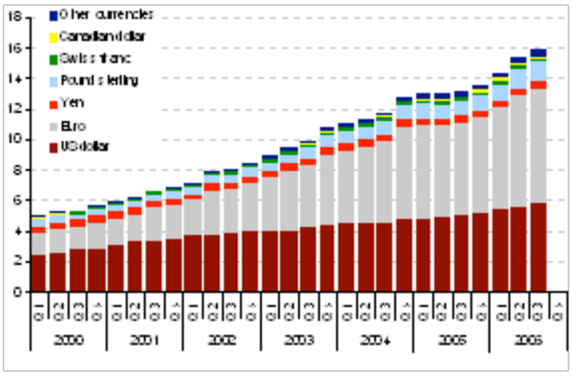
The European markets can be a reference point in terms of the development and practices implemented in the global financial markets.

In terms of outstanding and gross issuance, the share of euro denominated bonds has increased substantially over the past few years. Indeed, according to figures released by the IMF, the outstanding amount of international bond amounted to $1,573,000 billion as of September 2006. Over time, the share of the Euro currency represents an ever increasing share of the total amount of International bond. As of September 2006, euro denominated debt comprised over 45% of the total outstanding, of other major currencies, the US$ accounts for 36% of the total and the GB£ for almost 10%.

International Bonds
Gross issuance by Currency



International Bonds
Amount Outstanding by Currency



Source: IMF

The Mckinsey Institute also acknowledged the importance and dynamism of the European markets by stating in a recent report about global capital markets ("Mapping the Global Capital Markets, Third annual report) "*Eurozone is emerging as a greater force in the global financial landscape.* That region added $3.3 trillion of assets in 2005, boosting financial depth to more than three times the eurozone's combined GDP and reflecting a 6 percent annual growth rate over the last ten years – nearly twice the pace of Anglo–Saxon rivals."

However, it must also be said that as financial markets have developed and continue to do so at a fast pace, the role of public or quasi public debt as a share of financial markets total assets is decreasing and seems likely to continue this trend over the coming years. Financial institutions issued about 80% of the global issuance since 2000, exhibiting a global leveraging trend mainly encouraged by historically low interest rates, the ample supply of liquidity and the economic growth.

The core European public debt market is quite developed and mature. Some of the sovereign debt management offices active in this market started up their activity more than one century ago. Along this time several initiatives have taken place that have contributed and have accelerated the integration and modernization of markets. Among them one could point out: the introduction of the euro, the integration of financial markets, the increasing harmonization of debt management practices in all its different aspects (issuance practices, regulation, settlement, etc...) and the widespread introduction of new information and trading technologies. This development and its competitive edge were fuelled by the introduction of the euro. Once the Euro was born, yield spreads converged at large among euro sovereign issuers and strategies of competitive cooperation took place among the treasuries. That is to say, the issuing practices and policies adapted to try to be, at least, as good as the competing peers.

The implication of this process and its most recent developments in relationship with the liquidity and efficiency of the debt markets are reviewed below:

3.1 Some remarks about the liquidity in public debt market from a European perspective

The European treasuries have tried to diminish their funding costs by improving the liquidity of their markets. What have been the main factors influencing liquidity and what have been the measures taken by the treasuries to reach this target?

3.1.1 Size of issues

The outstanding per reference is a key to its liquidity. Obviously, in this regard, not all the issuers could compete at the same level since the size of their debt markets is quite different as can be seen in the following table.

Total government debt securities outstanding and currency denomination at the end of 2005

Country name	Country code	Total Debt (in EUR mio.)	Currency denomination (value in EUR)			
			Dom. Curr.	EUR	USD	Other
EURO AREA						
Belgium	BE	277,930		276,190	-	1,740
Germany	DE	894,466		890,300	4,166	-
Greece*	GR	195,476		193,374	544	1,558
Spain	ES	319,162		313,329	3,565	2,268
France	FR	877,350		877,350	-	-
Ireland	IR	38,182		38,182	-	-
Italy	IT	1,213,032		1,186,709	7,619	18,703
Luxembourg	LU	467		405	-	31
Netherlands	NL	218,596		281,596	-	-
Austria	AT	141,329		129,694	-	11,635
Portugal	PT	101,758		101,386	9	363
Finland	FN	60,044		60,000	-	44
NON-EURO AREA						
Czech Republic	CZ	22,585	20,082	2,500	3	-
Denmark	DK	81,430	69,229	11,814	377	5
Estonia*	EE	100	-	100	-	-
Cyprus	CY	14,765	12,424	1,680	-	-
Latvia	LV	1,202	602	600	-	-
Lithuania	LT	3,403	1,129	2,274	-	-
Hungary*	HU	50,426	36,218	14,208	-	-
Malta	MT	3,063	3,063	-	-	-
Poland	PO	106,221	80,824	13,600	4,457	3,670
Slovenia	SI	6,189	4,125	2,054	10	-
Slovakia	SK	12,995	9,692	3,227	3	73
Sweden	SE	139,499	123,082	6,730	6,234	3,453
United-Kingdom*	UK	499,712	497,178	-	2,534	-
Total	**EU-25**	**5,279,381**	**857,648**	**58,786**	**29,522**	**57,473**

Source: Responses from members of the EFC Sub-Committee on EU Government Bonds and Bills Markets 2006

As yields became directly comparable, once the exchange risk disappeared, issuers engaged in a competition to improve the liquidity of their securities. The average size of the bonds and bills issued increased after the introduction of the euro. In this process, three different groups of issues were formed:

Issuer	Outstanding size per issue
Germany, France, Italy	Up to 20 bn targeted
Spain, Belgium, Netherlands, Greece	10-12 bn targeted
Portugal, Finland and when issue, Ireland	Up to 6 bn

To reach these higher outstandings, larger sizes per auction were issued and to guarantee a sufficient outstanding from the birth of the bond, the first tranche of a bond was usually syndicated (usually long and ultra long tenors) by the small and medium sized treasuries.

In general terms, the threshold to ensure a minimum of competitive liquidity was fixed at 5 bn euro. In plus, it was agreed that the outstanding should be reached over a maximum of 3 months for the bond to be considered a benchmark and quoted as such in MTS screens (this requirement could be partially relaxed if a number of primary dealers supported the liquidity of the bond).

Consequently and due to the fact that funding programs have different sizes in the eurozone, the smaller and medium sized issuer had to focus on a more limited number of references. In general terms, all the treasuries have stuck to the commitment of issuing one 10 year benchmark per year. On top of this, some treasuries, such as the Dutch one concentrated on the 3, 10 and 30 year part of the curve. Others decided to continue tapping all the tenors along curve but irregularly, ie, alternating the launch of their new 3, 5, 10, 15 or 30 year bonds.

3.1.2 **Market infrastructure**:

Having an efficient market infrastructure helps improving the liquidity. Such infrastructure is composed of different agents, markets and policies.

In Europe not all the countries have independent debt agencies. In each market there is a agency or department of the Ministry that has the responsibility of issuing the debt. In general terms, the northern countries have more independent agencies. Sometimes also, the commercial name of agency has been given to the department in charge of issuance though its degree of independence and flexibility has remained close to where it has historically been (as a department within the Ministry of finance in most of the occasions).

All the Eurozone countries except for Germany have primary dealers but their number varies though it is between 9 and 25. Usually, in order to stay as Primary Dealer, banks have to perform a series of activities including quoting benchmark and non benchmark bonds, having a certain market share in the auctions, being active in the secondary markets (in each different segments and products), etc.

Germany has a group of bidding banks that are entitled to participate in their auctions. The Finanzagentur does not require their counterparties to have a certain minimum share but compiles information about the activity of banks and takes it into account when they consider how to assign business to their counterparties (as well as other criteria).

The European treasuries mainly (and in occasions exclusively) work with their primary dealers. In order to decide who to deal with, DMOs usually produce rankings of their primary dealers taking into account the fulfillment of their obligations as primary dealers and other criteria reflecting their activity in the relevant market. Usually banks are evaluated monthly but the information is disclosed with different degrees of regularity. In general terms an annual ranking is made public or at least an indication of who the best performers have been in a market.

The development of new information technologies, the harmonization of the settlement features of the bonds and bills and the widespread use of e trading platforms on the B2B (interbank/interdealer) and B2C (dealer to investor) levels helped to improve the liquidity and transparency of the market.

In this process, MTS became the interbank reference platform across Europe. In most of the eurozone markets, MTS created a local firm or market segment that shared the core technology and features. The existence of this reference market contributed to improving the liquidity but, most of all, the transparency of the European debt markets. As the prices of euro MTS started to be distributed and shown in other platforms, the competition game did the rest: bid offers narrowed and became widespread in the market as investors and smaller players became aware of what the wholesale prices were and as the banks were happy to offer those prices to investors in the process to compete for their client base.

Nowadays, prices for sovereign bonds issued in euros by European issuers are easily found in the main market platforms (Reuters and Bloomberg). Often the screens offer directly tradable prices.

3.1.3. Treasuries policies:

The treasuries policies have strategic and tactic objectives: on the strategic front, they implement the policies required to try to minimize their long term funding costs and, on tactic front –in the short term-, they focus on beating defined their benchmark. This benchmark was usually defined as a spread to Germany or to France. In order to meet those targets, the liquidity became an intermediate objective of the DMOs.

As such, on top of the increase in sizes and redesign of funding policies, other facilities were incorporated such as, for example and there were it did not existed, a repo facility was set up in most countries to give comfort to traders when they provide liquidity to the market.

As regards the information disclosed, all the DMOs have regular updates about the size and features of their funding programs that include regular quarterly updates and sometimes annual calendar of issuing dates. Probably the best example in this regard is Germany that discloses well in advance not only dates but also bonds to be issued.

The funding and liability management policies of the Treasuries are also somewhat different but with common elements:

-They all issue at least one benchmark per year. Usually at least a 10 year bond is issued every year.

Only a few of them issue in foreign currency. In the eurozone, Italy and Austria are the most active issuers in foreign currency, followed by Finland and Spain. At the level of the European Union the Nordic countries have also been active in foreign currency funding and so are the Eastern European issuers (for instance, Poland and Hungary are active issuers in yen, dollar and sometimes also in Swiss franc). Some issuers like Austria or Greece have executed lightly structured transactions aiming at beating their benchmark curve levels. So far this issuance is limited in the sovereign market as opposed to the agency or supranational market for which this MTN funding is key to improve their funding costs.

The auction is the most common issuance method but all the issuers with the exception of the Netherlands have or regularly use the syndication method to launch part (medium and long tenor) or all their new benchmarks.

-Regarding active liability management, the degree of activity is also quite different. While some countries such as Germany, Italy, Netherlands or Portugal are quite active via derivatives, others such as Spain or Finland are not so. The type of derivatives used is basically limited to interest rate swaps (short and medium/long term) and cross currency swaps. An increasing number of primary market transactions (often syndicated) use different types of hedging strategies to smooth its execution or achieve the interest rate exposure targeted by the issuer.

3.1.3 **The role of derivatives**:

The futures market played an important role in the national markets pre euro. On the aftermath of the euro launch, the elimination of spreads together with increased and stable correlation among sovereign debt allowed for a concentration of volumes and activity under a single derivatives market, the Eurex market whose deliverable are the German bonds. Efforts were made in other markets to try to preserve a local futures contract (such as in Matiff or Meff) but the natural market trend was to prime the liquidity and so it concentrated on the German market.

3.1.4 **The competition for the investor base**:

Among debt managers, the race to improve the distribution has also been an intermediate target. Distribution has been improved through issuance techniques, such as the syndication method. The better placement of bonds allowed for a good secondary market performance. In a few occasions, such was the placement that the bond was squeezed in the secondary markets and so, some issuers have retapped old outstanding bonds trying to prevent this scarcity and its consequences.

3.1.5 **Transparency**:

The European sovereign debt market has achieved a great level of transparency. Market participants have immediate access to efficient prices thanks to information technologies and the integration of markets. In plus, regulation such as the MIFID Directive and its implication in terms of the so called best execution principle for clients favor the use of auction like e trading platforms such as Tradeweb or Bondvision.

According to a recent paper published by the CEPR and the EPDA, there are some important conclusions that can be drawn from the study of the liquidity and transparency of the European public debt markets:

First, across the MTS markets, countries that rely more on syndicate issuance and the placing of secondary market obligations on primary dealers have higher percentages of turnover on the MTS platform and therefore it could be said to be more transparent in the sense that MTS is one of the main sources of price transparency in Europe nowadays.

Second, where there is little or no reliance neither on the primary dealer system nor on syndicated issuance, the activity in the MTS markets is less relevant.

Third, an important point of this study would also be that where transparency is high, trade size tends to be low. Hence it could be said that transparency may reduce the liquidity and that there may be a tradeoff between the benefits of transparency and those of opacity.

Fourth, a detailed study of execution quality again shows it is closely related to the size of the issuer, the issuance techniques, and the obligations imposed on primary dealers. In the markets where obligations on primary dealers are greatest, execution quality for large trades suffers. This is seen in greater steepness of the order book in these markets.

Last, there is evidence of a winner's curse problem in both Europe and the US. These appear to be more prevalent in markets that are more transparent and less fragmented. The more transparent the B2C market, the more difficult it is for the successful bidder to hedge his risk in the B2B market. Consequently, an increase in market transparency could make dealers more cautious about participating in the primary market and therefore turn into costlier auctions for the issuer.

Nowadays, there is an active debate about the efficiency and liquidity of the European debt markets. It basically centers on the structure of the market and, in this regard, two questions are raised:

-Is the current quoting set up for primary dealers optimal? As of now, it is based on a single interbank trading platform, EuroMTS, which has a de facto monopoly in the euro market. The MTS galaxy is basically constituted by a central core market, Euro MTS and a list of domestic MTS markets in most of the euro zone countries. The European primary dealers comply with their quoting commitments in these interconnected platforms. Rival platforms to MTS have produced studies that defend that having a monopoly is costly for the European tax payer. It is possible that in the near future the European primary dealers may be able to comply with their quoting commitments with the Treasuries in more than one competing trading platform.

-Is the current electronic market structure optimal? Two tiers of trading platforms exist in Europe: interbank platforms (the B2B or business to business platforms) mainly used by the primary dealers and the bank to investor (B2C or business to consumer) platforms. There are currently proposals to allow some qualified investors (hedge funds) to join the MTS interbank platform or a segment of it.

It is early to predict the outcome of all this potential changes but what seems sure is that the market continues to develop and to evolve searching for increasing degrees of integration and efficiency.

4- Analysis of the survey of Latin American and Caribbean countries

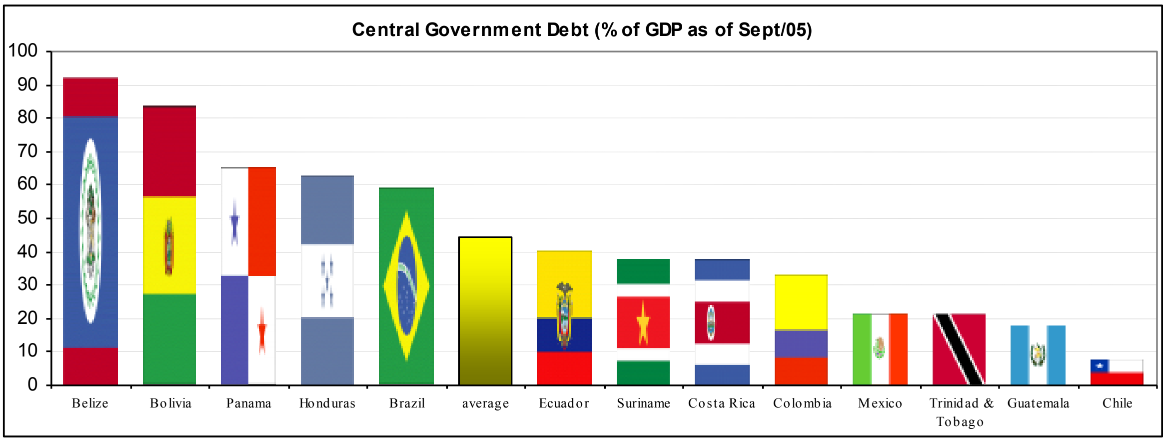
Survey participants:

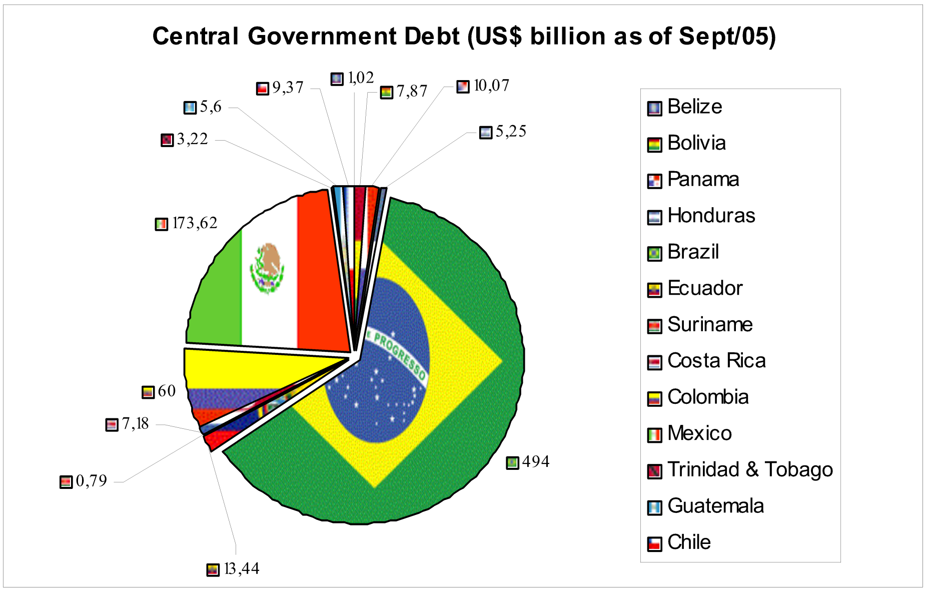
Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Panama, Suriname and Trinidad & Tobago.

4.1 Macroeconomic Background

- Central Government Debt:

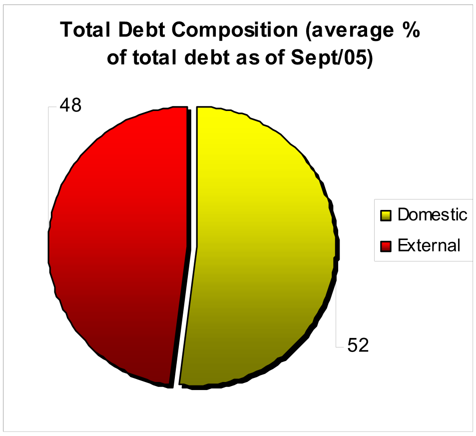
- Countries show great diversity of debt/GDP ratio
- Average debt/GDP is 44,6% (arithmetic mean)

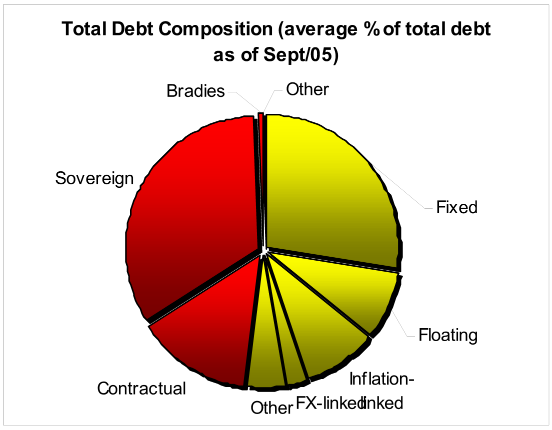




- Debt Composition:

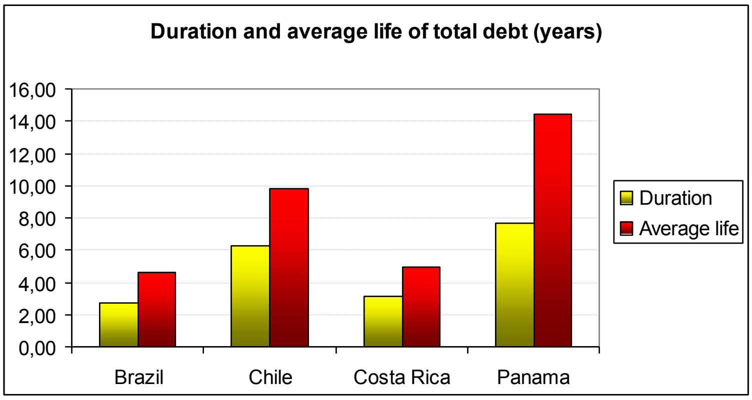
- Bradie Bonds share of total debt is not representative.
- Small share of FX-linked domestic debt reduces vulnerability.
- Sovereign and Fixed-rate bonds are more than 60% of total debt.





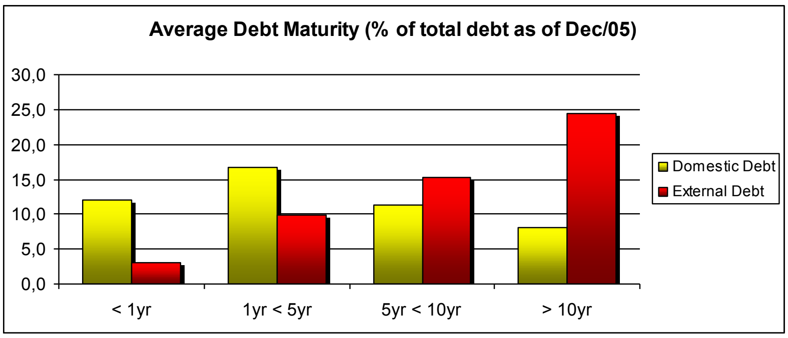
- Debt Structure:

- Average life is almost twice the duration of total debt.



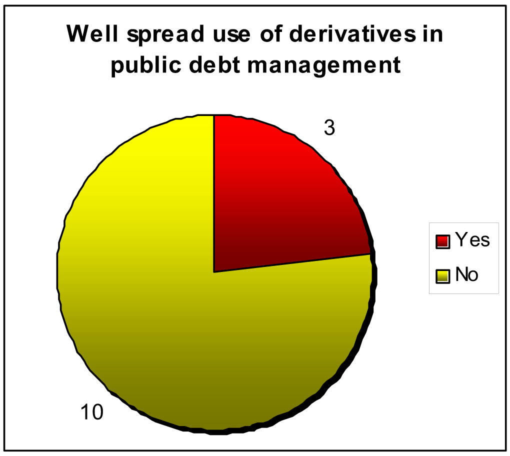
- Debt Maturity:

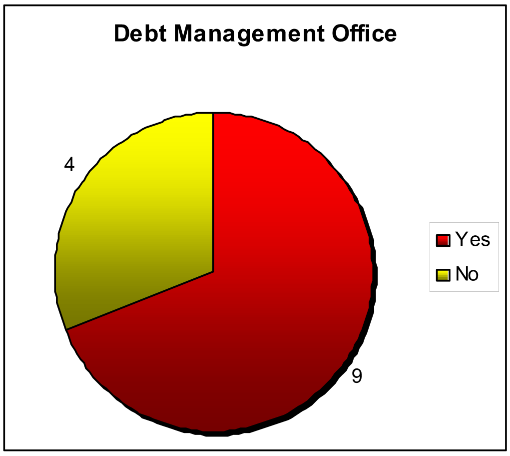
- External debt bonds have longer maturity.



- Derivatives and Debt Management Office

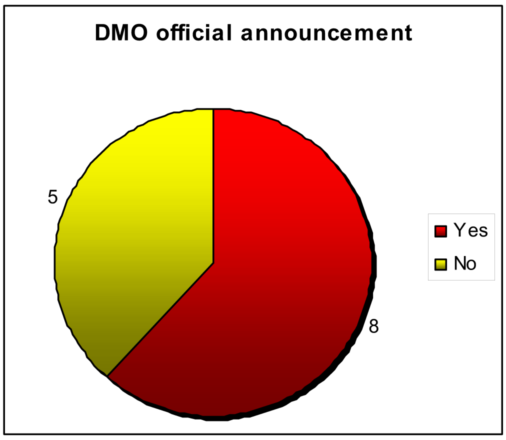
- Only countries with developed **derivatives market**, such as Mexico and Chile, use them in public debt management.
- Most countries have a Debt Management Office (DMO) under the Ministry of Finance. Three of them also report to the Central Bank and another three to the Treasury Department.

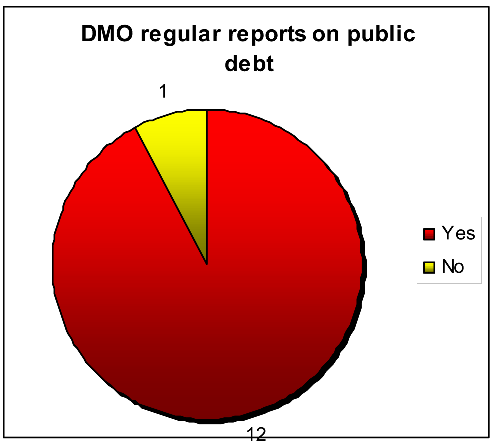




Debt Management Office:

- Debt management strategy is disclosed through annual official announcement in most countries.
- Almost every survey participants have regular reports on public debt
- 92,3% use the Internet, 76,9% use official reports and 38,5% use traditional media as means of communication to disclose public debt information.
- Only 3 countries use all three means of communication, 8 use two, and 2 countries use only one mean of communication.



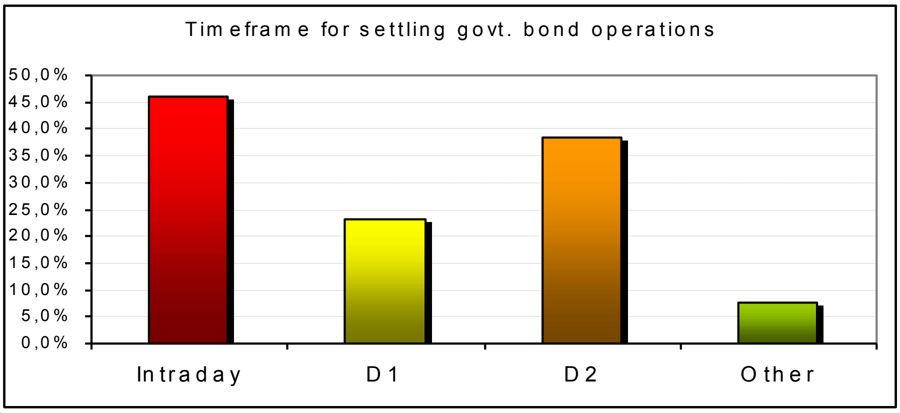


4.2 Market Structure

- Government bond operations:

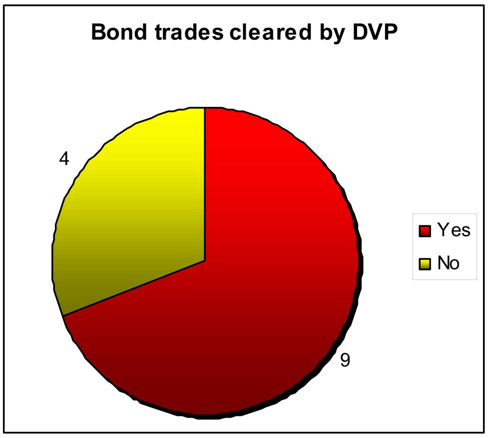
- Timeframe for settling government bond operations vary widely

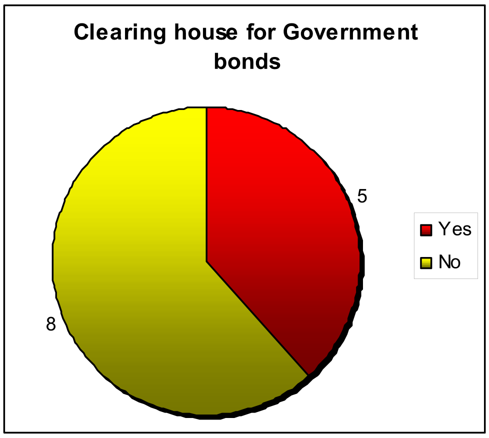
- Most markets have different timeframes depending on bond maturity, operation structure (forward or spot market), etc.



- Clearance:

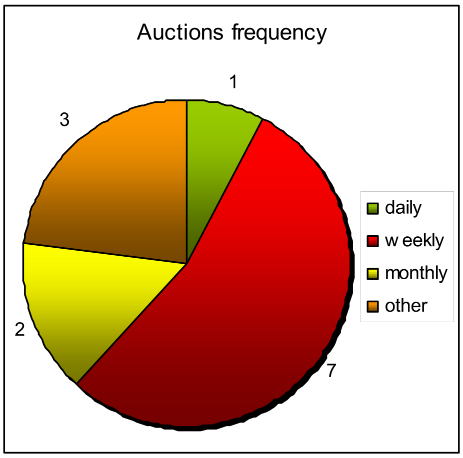
- In most countries, bond trades are cleared by "Delivery versus Payment".
- The existence of a clearing house for government bonds does not necessarily reflect the bond market level of development.

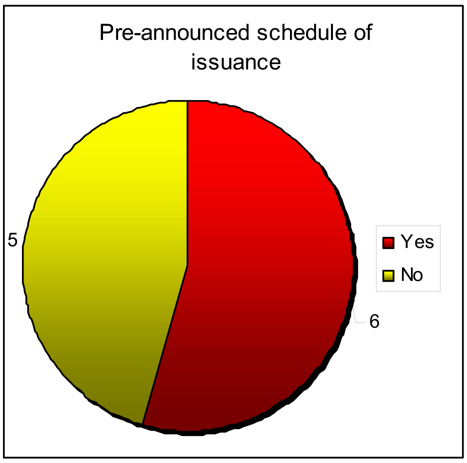


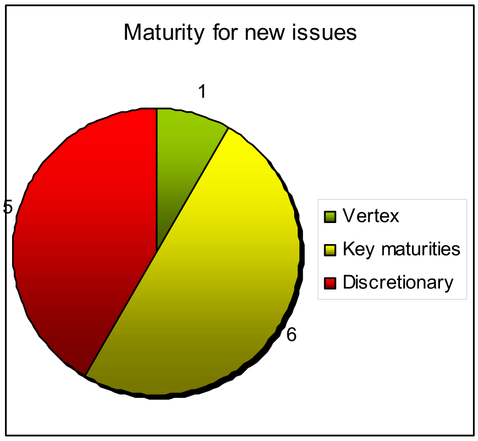


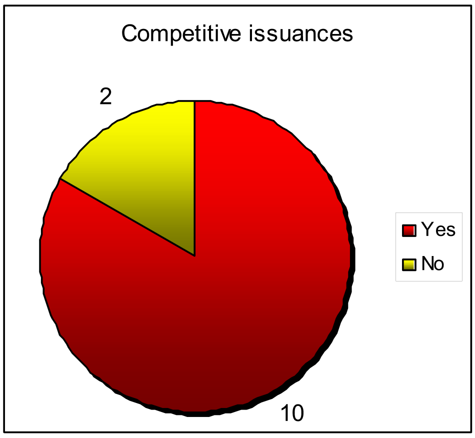
- Bonds Issuance:

- Weekly bonds auctions are more frequent, and the most common types are:
  - Multiple prices
  - Dutch auction
- Only about half of participants pre-announce their schedule of issuance. One country does it annually, 1 quarterly, 3 monthly and 1 weekly.
- Bond maturities for new issues are selected mostly by discretionary or key maturities methods.
- 70% of those with competitive issuances among investors have equal taxing framework.









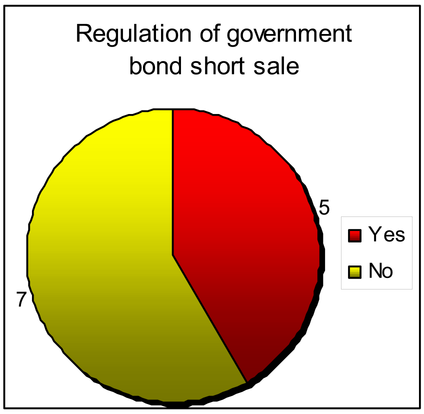
- Dealership framework:

- Survey data shows lack of market monitoring in many countries
- Half of developed markets, called as Group I (Brazil, Chile, Colombia, Ecuador, Mexico and Panama), have a dealership framework
- Less than one third of other markets, called as Group II (Belize, Bolivia, Costa Rica, Guatemala, Honduras, Suriname and Trinidad & Tobago) have a dealership framework
- Banks, brokers and other financial institutions are allowed to deal, but there's no dealer group evaluation pattern.

4.3 Secondary Market Structure

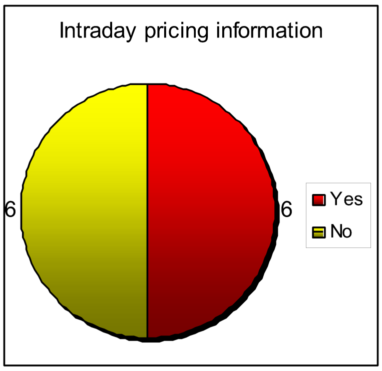
- **Liquidity**:

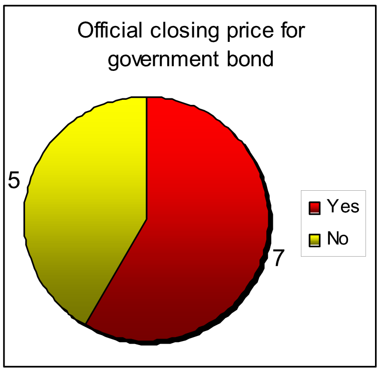
- Short sale of government bond is not regulated in many markets, leading to restricted liquidity
- All countries in Group II have no regulation of short sale, while in Group I, only Colombia haven't.

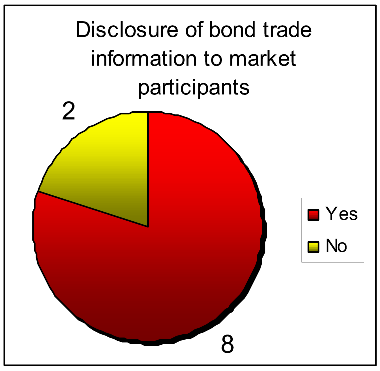


- Transparency:

- Pricing information still not standardized
- Bond trade information (volume and price) is disclosed to market participants mainly through Central Banks and Exchange.







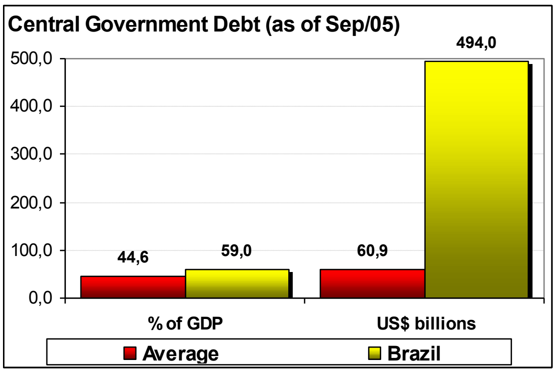
- **Common platform:**

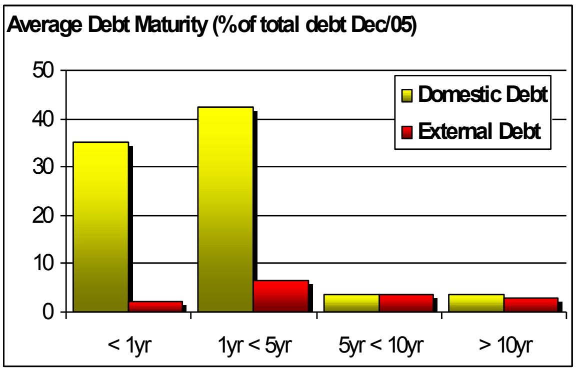
- Most LAC officials have interest on building a common platform for trading public securities.
- Main difficulties pointed are poor regulation, lack of clearing house and building a single operating system.

4.4 Country Profiles

- Brazil:

- Main Domestic debt: Floating
- Main External debt: Sovereign

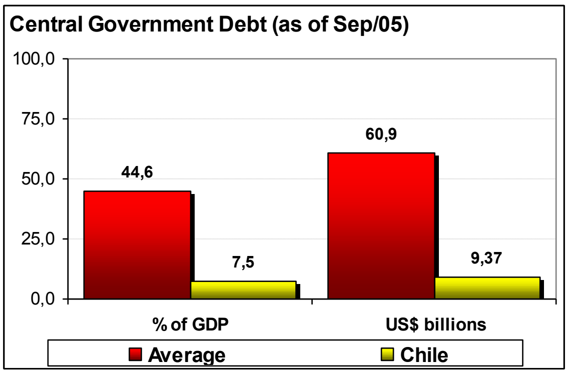


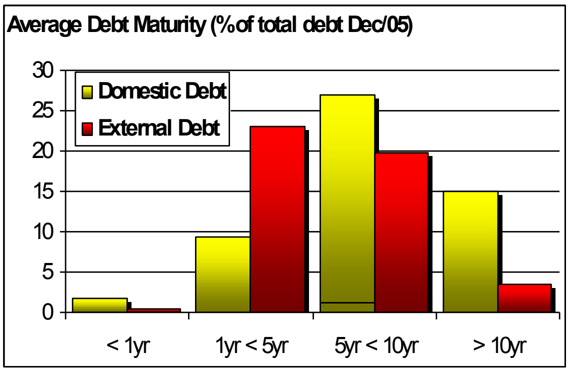


- Broader use of derivatives in debt management and the creation of a DMO are advised
- Although there are competitive bond issuances, taxing framework is not equal
- A dealership framework, a separate clearing house and disclosure of information to the public are signs of transparency
- Bond maturities are selected by: Tenor
- The Brazilian market is well developed, with the regulation of short sales and intraday pricing information.
- Authorities do not have interest in building a common trading platform

- Chile:

- Main Domestic debt: Inflation-linked
- Main External debt: Sovereign

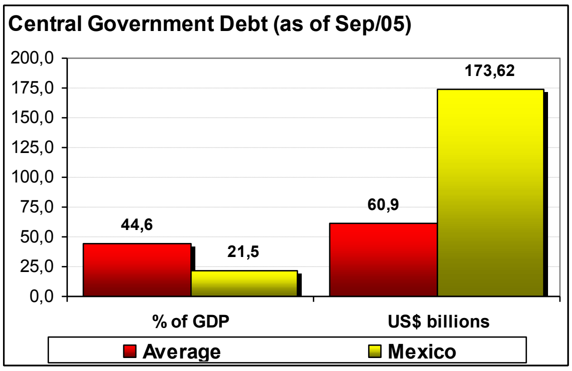


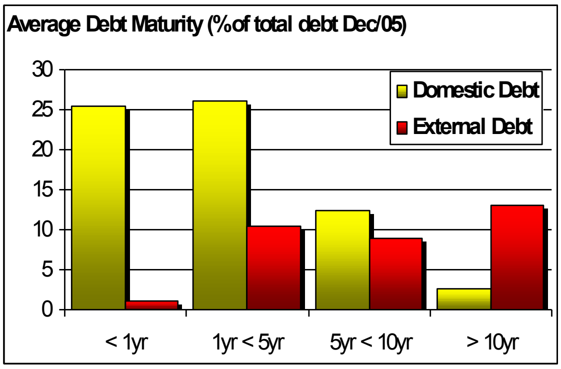


- Use of derivatives is well spread in debt management and a DMO already exists
- Bond issuances are not competitive, harming investors
- Low transparency can be pointed by the lack of a clearing house, a dealership framework and poor information disclosure
- Bond maturities are selected by: Key maturities
- The Chilean market size is limited, therefore it doesn't require intraday pricing information and official closing prices.
- Short sales are regulated

- Mexico:

- Main Domestic debt: Fixed
- Main External debt: Sovereign

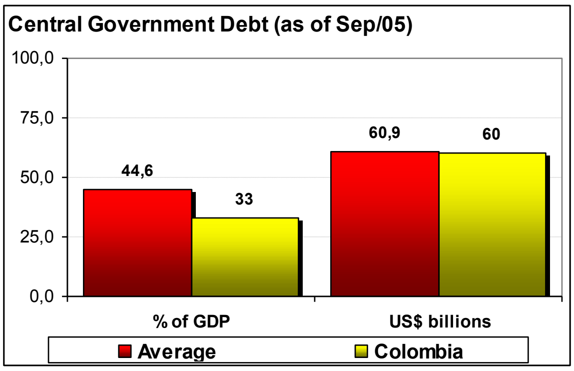


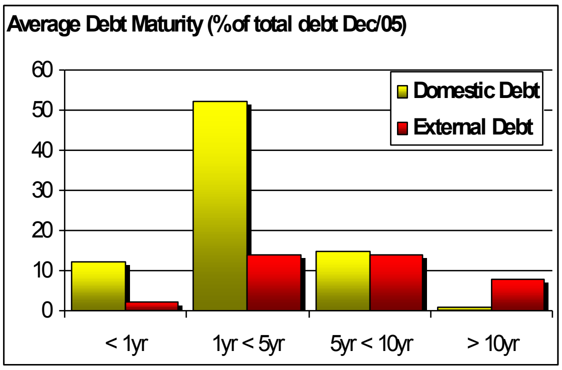


- Use of derivatives is well spread in debt management but the creation of a DMO is advised
- There are competitive bond issuances and equal taxing framework
- Transparency can be pointed by good public access to information
- Bond maturities are selected by: Key maturities
- The Mexican market is well developed, with the regulation of short sales, intraday pricing information and a dealership framework.

- Colombia:

- Main Domestic debt: Fixed
- Main External debt: Sovereign

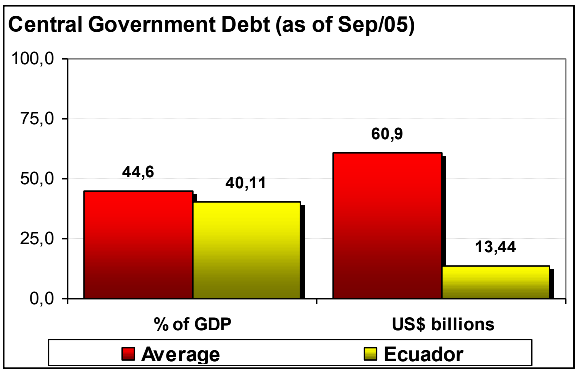


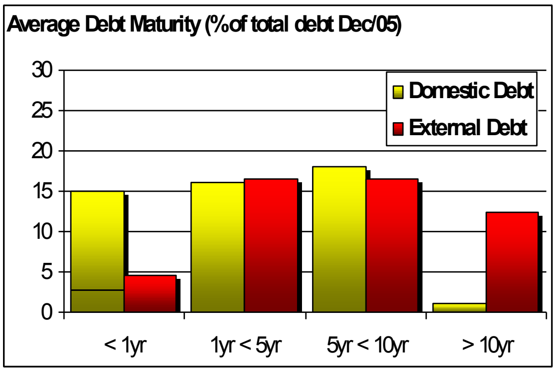


- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- A dealership framework and disclosure of information to the public are signs of transparency
- Bond maturities are selected by: Discretionarity
- The Colombian market have no regulation of short sales, but intraday pricing information is disclosed.
- Market size allows the creation of a separate clearing house

- Ecuador:

- Main Domestic debt: Floating
- Main External debt: Contractual

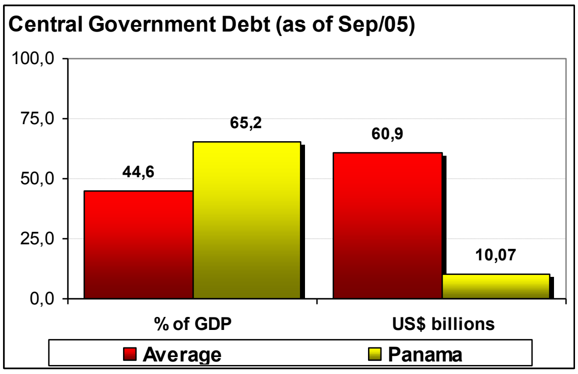


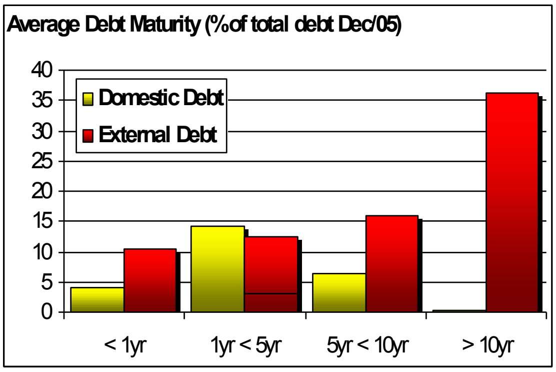


- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- A separate clearing house and the disclosure of information to the public are signs of transparency
- Bond maturities are selected by: Discretionarity
- The Ecuadorian market is well developed, with the regulation of short sales, intraday pricing information and official closing prices.
- Authorities have interest in building a common trading platform

- Panama:

- Main Domestic debt: Fixed
- Main External debt: Sovereign

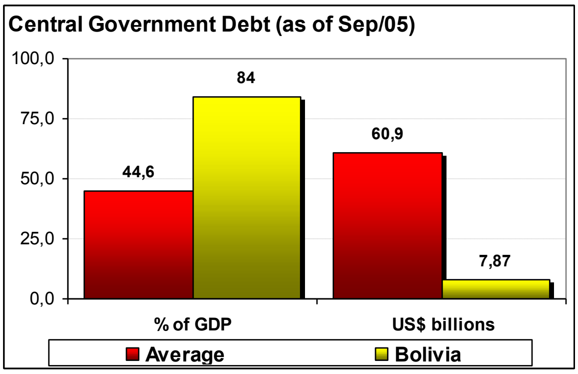


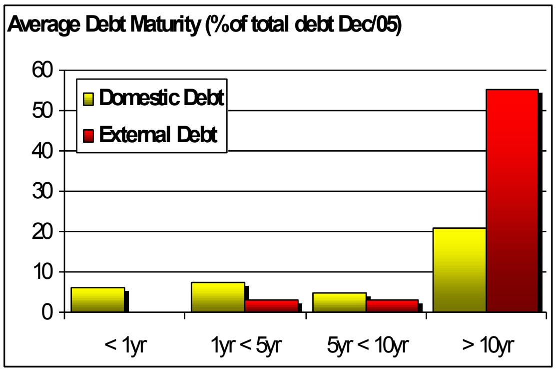


- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- Low transparency due to lack of dealership framework and DMO's official announcements
- Bond maturities are selected by: Key maturities
- The Panamanian market is well developed, with the regulation of short sales, intraday pricing information and a separate clearing house.

- **Bolivia:**

- Main Domestic debt: Inflation-linked
- Main External debt: Sovereign

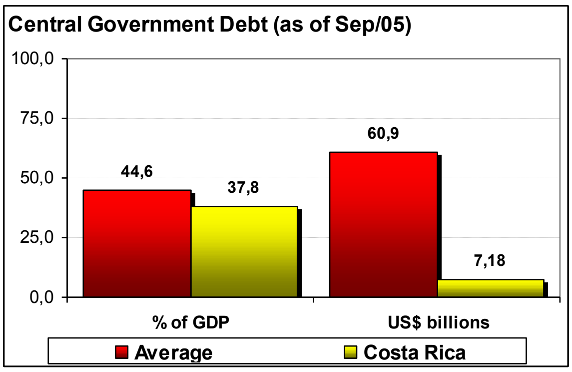


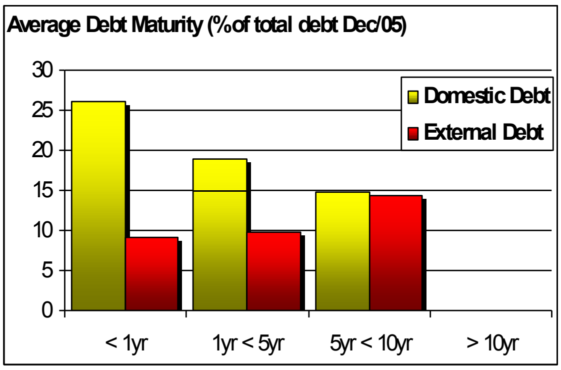


- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- The disclosure of information to the public is a sign of transparency, although market size doesn't allow the creation of a separate clearing house or dealership framework
- Bond maturities are selected by: Key maturities
- The Bolivian market is poorly developed, with no regulation of short sales or intraday pricing information.
- Authorities do not have interest in building a common trading platform

- **Costa Rica:**

- Main Domestic debt: Fixed
- Main External debt: Sovereign



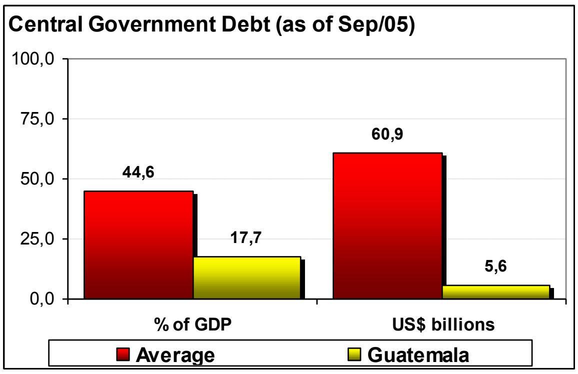


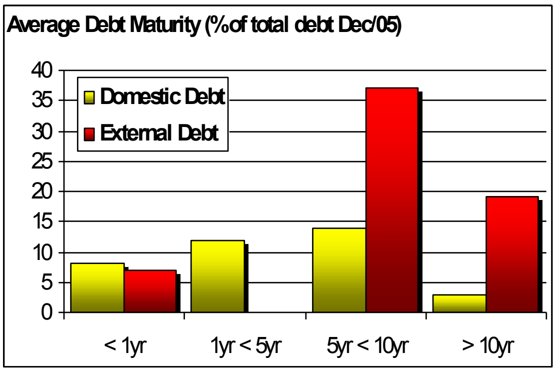
- Broader use of derivatives in debt management is advised although there is a DMO
- Although there are competitive bond issuances, taxing framework is not equal
- The disclosure of information to the public is a sign of transparency, although market size doesn't allow the creation of a separate clearing house
- Bond maturities are selected by: Key maturities

- The Costa Rican market is reasonably developed, with no regulation of short sales, but intraday pricing information and official closing prices.

- Guatemala:

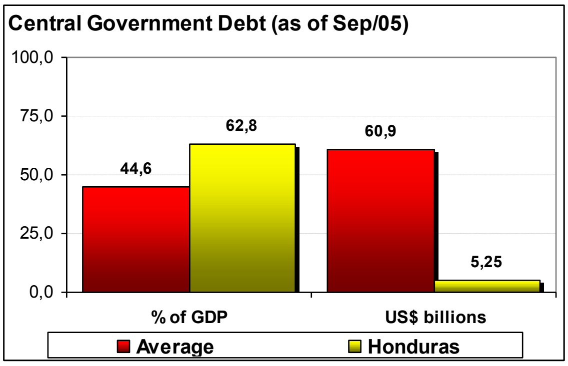
- Main Domestic debt: Fixed
- Main External debt: Contractual

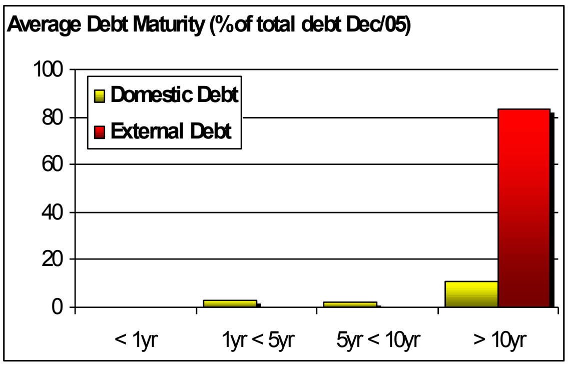




- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- The disclosure of information to the public is a sign of transparency, although market size doesn't allow the creation of a separate clearing house or dealership framework
- Bond maturities are selected by: Discretionarity
- The Guatemalan market is poorly developed, with no regulation of short sales, intraday pricing information or official closing prices.

- Honduras:



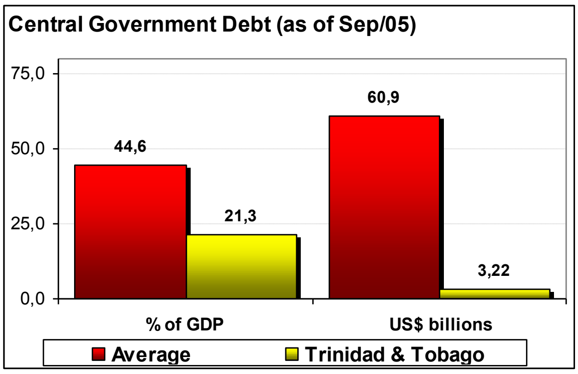


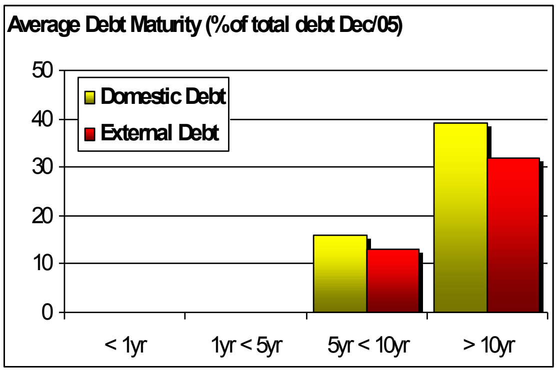
- Broader use of derivatives in debt management is advised although there is a DMO
- There are competitive bond issuances and equal taxing framework
- The disclosure of information to the public is a sign of transparency, although market size doesn't allow the creation of a separate clearing house or dealership framework
- Bond maturities are selected by: Discretionarity

- The Honduranean market is poorly developed, with no regulation of short sales, intraday pricing information or official closing prices.

- Trinidad & Tobago:

- Main Domestic debt: Fixed
- Main External debt: Sovereign

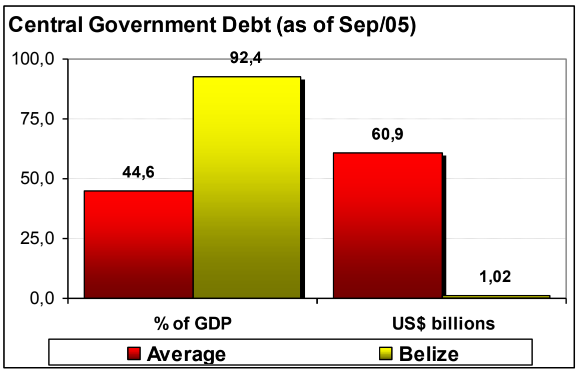


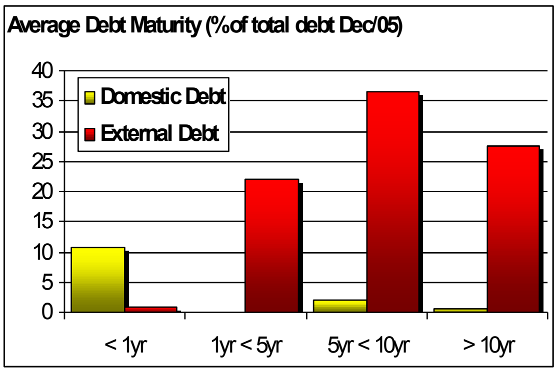


- Broader use of derivatives in debt management and the creation of a DMO are advised
- Although there are competitive bond issuances, taxing framework is not equal
- Despite of the small bonds market, there is a clearing house and a dealership framework
- Bond maturities are selected by: Discretionarity
- The market in Trinidad & Tobago is the only one in the survey that doesn't have regular reports on public debt

- Belize:

- Main Domestic debt: Fixed
- Main External debt: Sovereign

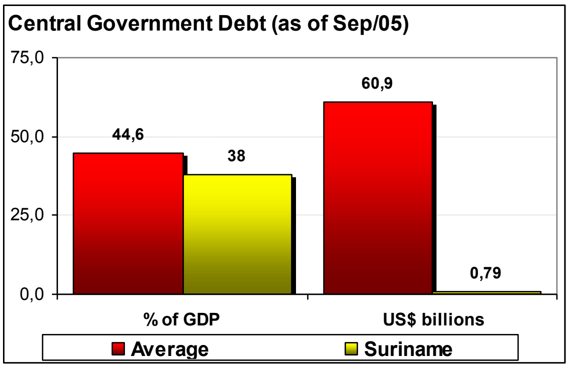




- Broader use of derivatives in debt management and the creation of a DMO are advised
- Bond issuances are not competitive, harming investors
- Low transparency due to lack of a dealership framework, a separate clearing house and the disclosure of information to the public
- Bond maturities are selected by: Discretionarity

- The Belizean market is poorly developed, reflecting its limited size

- Suriname:



- Broader use of derivatives in debt management is advised although there is a DMO
- Information is disclosed by DMO's regular reports
- Market size doesn't allow the creation of a separate clearing house or a dealership framework
- There's not enough information about market structure

5- Identification of trends, common features and gaps in the countries of the region

5.1 Lack of liquidity

What to watch?

Two fundamental preconditions for liquid, well-functioning domestic bond markets are good economic policies and good governance.

Sound fiscal situation, a well-designed and efficient tax system, a well-controlled and efficient government spending framework, an independent central bank that implements a monetary policy that has the clear goal of maintaining price stability are all good ways to foster investor confidence in the commitment to keep resilient the domestic currency and the domestic debt market.

5.2 Lack of liquidity

How to get there?

Few practical ideas for improving the situation:

1 - Establish a DMO in order to consolidate the debt management in just one public obligor.

2 - Key maturities strategy

3 - Short sales

4 - The Role of central banks

5.3 Group analysis from the survey and Recommendations

Group I :
Brazil, Chile, Colombia, Ecuador, Mexico and Panama:

- to implement disclosure, efforts to built a better market price information system
- regulamentation and incentive for short selling
- DMO
- taxing
- consider the tradeoff key maturities
- disclosure on issuance and communication (CB)

Group II:
Belize, Bolivia, Costa Rica, Guatemala, Honduras, Suriname and Trinidad Tobago:

- to an independent DMO
- to strengthen the infrastructure
- a settlement system
- work in transparency and communication
- a dealership framework

5.4 Government Bond trading Common Platform

Participants agree that regional electronic platforms would facilitate trading and improve the general environment for bond market in the region. However, general conclusion is that much progress still should be made by the countries to build a more homogeneous common place both in terms of physical facilities and legal before implementing such structure

6- Conclusions

While there is a consensus by the analysts that the macroeconomic scenario is stable and that the high liquidity is going to keep momentum it is expected that the intensity of the "search for yield" will not be the same in the next few years.

The impressive expansion in domestic bond markets since the late 1990s has allowed governments to fund themselves more efficiently, facilitating the allocation of economic resources and creating the conditions for the reduction of spreads among the issuers both public and privates.

These bond markets offer alternative channels for financial intermediation, increasing competitive pressures. In addition, a developed domestic debt market make available a wider range of tools for a more effective implementation of monetary policy, paving the way for lower interest rates and promoting economic development and growth.

These opportunities have been only partially offset by a lack of liquidity in the debt markets. The development of a domestic market is source of multiple positive externalities but it is not independent of the size of the economy, the funding requirements and the structure of the financial markets. Promoting the development, well functioning and liquid debt market is a key driver of the future of a financial system.

The size of the debt portfolio is a key determinant of the liquidity that cannot be overcome but by issuing debt. A well designed issuance strategy and a well functioning financial system can compensate for the size of the debt portfolio, however only in part.

Apart from other general considerations, removing market impediments is crucial and there are a number of practical measures as consolidation of public sector issuers, concentration of issuance in benchmarks, encouragement to short-selling, central banks engagement which experience suggests could stimulate market liquidity.

The liquidity and transparency of domestic public debt markets is key to its success and to exploit all their positive externalities. The current economic conditions are supportive to implement the required reforms necessary to enhance the efficiency of the overall domestic financial market environment and the development of the debt markets.

References

ANDIMA (2003): "Public debt: Proposals to Increase Liquidity", Relatorio Economico.

ANDIMA (2005): "Public debt: Participation of Foreign Investors", Relatorio Economico.

BIS (1999a): "Market Liquidity: Research Findings and Selected Policy Implications", Report of a Study Group established by the CGFS.

BIS (1999b): "How should we design deep and liquid markets? The case of government securities.", Basel, 22 October 1999.

BIS (2005), "Reducing Financial Vulnerability in Mexico", Serge Jeanneau, Carlos Verdia.

Borio, Claudio (2002): "Asset prices, financial and monetary stability: exploring the nexus.", BIS Working Paper No 114.

Borio, Claudio (2003): "Towards a macroprudential framework for financial supervision and regulation?", BIS Working Paper No 128.

Borio, Claudio (2004): "Market distress and vanishing liquidity: anatomy and policies options.", BIS Working Paper No 158.

IMF (2003): "Guidelines for Public Debt Management, Accompanying Documents and Selected Case Studies".

IOSCO (2004): "Transparency of Corporate Bond Markets", Report of the Technical Committee of the International Organization of Securities Commissions.

Tesouro Nacional (1999): "Internal Public debt: Changes in Primary and Secondary Markets", Brazil.

Werner, Alejandro (2005): "El Desarrollo de los Mercados de Capital en México", Secretaria Hacienda y Credito Publico, México.

European Primary Dealers Association (2005): "European Bond Pricing sources and services".

Asian Development Bank (2005): "Bond Market Settlement and Emerging Linkages".

Wright, Jesse (2006): "The Organization Development of Inter-Bank Money Market in Central America and the Dominican Republic".

IADB (2006): "Living with Debt", Report on Economic and Social Progress in Latin America.

Quintyn, Marc and Taylor, Michael (2004) :"Should Financial Sectors Regulators Be Independent ?" IMF, Economic Issues 32.

World Bank (2006): "A Handbook for Evaluating Infrastructure Regulatory Systems

The Bond Market Association (2005): "eCommerce in the Fixed-Income Markets", The review of electronic transactions systems.