How Strategically is Public Debt Being Managed Around the Globe?
A Survey on Public Debt Management Strategies

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Abstract

This note describes the results of a 2013 World Bank survey of member countries about their debt management strategies. Out of a sample of 117 participating countries, 60% of countries have a formal debt management strategy in place. For the countries that have a strategy, results indicate that: (i) 77% make the details of the debt strategy public; (ii) 76% use some type of strategic target to define the debt strategy; (iii) 71% ground the debt strategy on quantitative analysis; (iv) in the vast majority, the strategy is approved by a high-level authority; and (v) in 44% of the cases the strategy is supported by a legal framework. However, only a limited number of countries (18 or 15%) satisfy all these requirements simultaneously. Results are also broken-down by income level, World Bank region, and level of indebtedness.

Results suggest: (i) a need to further strengthen the capacity of countries to develop a debt management strategy; (ii) a need to focus particularly on strengthening the capacity of lower-income countries to undertake quantitative analysis in developing a strategy; (iii) a need for further discussion on the use of stochastic versus deterministic models; and (iv) a need to strengthen the debt management legal framework to support strategy development.

Compared with a similar survey carried out in 2007, these latest results indicate a significant increase in the use of strategic targets to define the debt strategy. However, no relevant changes are noted in having a strategy in place or making it public.

JEL classification

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Keywords

Public Debt Management, debt management strategy.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.
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1. Introduction

The main objective of public debt management is to ensure that the government’s financing needs are met at the lowest possible cost in the medium term, while maintaining risks at a tolerable level\(^2\). Another objective often involves the development of the domestic debt market.

Public debt management, particularly the composition and risk exposure of the debt portfolio, may significantly impact the government’s finances and society’s welfare. Usually, the public debt portfolio is the largest liability of the government. Decisions on today’s borrowing strategy have implications not only for the present, but also for future generations. Countries’ experiences also show that the public debt portfolio can help dampen or amplify external or domestic shocks. All of these illustrate the importance of sound public debt management and of making well-informed strategic decisions when analyzing costs and risks of the public debt portfolio.

Developing and implementing a strategy is at the heart of public debt management. According to the Revised Guidelines for Public Debt Management (Guidelines), “Sovereign debt management is the process of establishing and executing a strategy for managing the government’s debt in order to raise the required amount of funding, achieve its risk and cost objectives, and to meet any other sovereign debt management goals the government may have set, such as developing and maintaining an efficient market for government securities.”

A strategy is a plan to achieve the debt management objectives. While objectives are fairly general, as stated above, a debt management strategy is a rolling medium-term plan the government intends to implement to achieve the desired debt composition. It involves analyzing cost-risk trade-offs of alternative options, and it is often expressed in terms of target indicators that reflect the government’s cost and risk tolerance/acceptance levels.

Decisions are taken under uncertainty. While no one knows what the future values of interest and exchange-rates will be, the debt manager has to make borrowing decisions in the present. Instead of just making ad-hoc choices, a strategic approach involves combining information available today with prospective analysis of the costs and risks in the future of alternative borrowing schemes.

There are many benefits of using a debt management strategy to guide borrowing decisions. First of all, it helps in making prudent choices based on analysis of cost and risk. In other words, it can help a country avoid expensive mistakes. Secondly, it enhances intra-governmental communication, facilitating policy coordination. Additionally, it also boosts communication with creditors and markets, which can potentially reduce costs in the medium-term by reducing uncertainty. It is also a key element in the governance/accountability framework for public debt management, because it gives the debt office a clear mandate to manage its risk exposure, and provides standards by which to hold the debt office accountable for its decisions. Finally, it also facilitates domestic debt market development by clearly announcing to market participants the plans of the government for the medium term.

\(^2\) Revised Guidelines for Public Debt Management (2014).
Over the last few years, the World Bank has assisted a number of countries in developing debt management strategies. The Bank, along with other technical assistance providers, is aware of the importance of having a strategy in place for sound debt management, and has dedicated resources to support member countries in developing and implementing debt strategies.

To this end, the Bank has developed tools to support countries developing debt management frameworks. The Medium-Term Debt Management Strategy (MTDS) framework was jointly developed by the World Bank (WB) and the International Monetary Fund (IMF) to support low-income countries (LIC) designing a debt management strategy. The MTDS framework consists of a conceptual guidance note and an Excel-based analytical tool to help quantify costs and risks of alternative debt management strategies using both a baseline and alternative scenarios. The MTDS toolkit reflects best practices in this area, and can be applied regardless of the level of income in the country. Additionally, in a number of cases, the Bank has supported countries in developing their own analytical tools using the same conceptual framework.

In 2007, the World Bank surveyed public debt managers about debt management strategies. Questionnaire responses from public debt authorities and World Bank country offices, along with analysis of WB needs assessments and website searches, resulted in a sample of 105 countries which provided information on (i) whether a country had a debt management strategy in place, (ii) if so, whether this was published and (iii) whether strategic benchmarks for the public debt portfolio had been adopted with respect to currency, interest rates and refinancing risks.

The data collected was used to produce a World Bank Policy Research Working Paper. Key findings of this paper included:

- There was a positive correlation between country income level and the level of indebtedness, and whether a debt management strategy was in place;
- Europe and Central Asia (ECA) was the most strategy-rich World Bank region;
- There was no consistent pattern evident with respect to the transparency of debt management strategies (that is whether the strategy was disclosed in a public document or not).

In 2012, the Bank decided to redo and extend the survey. It was proposed to update the 2007 research and to extend the sample to include as many LICs as possible (LICs were not included in the original sample). World Bank engagement with LICs on debt management has expanded considerably in recent years, so it was appropriate to extend the survey to encompass countries in this category. This would also create a new baseline for potential future surveys that could cover the widest possible range of countries. The survey was initiated in the end of 2012 and finalized in 2013.

The 2013 survey focused on getting direct responses from debt managers, and at the same time increasing the number of survey participants. As mentioned before, while the 2007 survey relied on a number of different sources (responses from authorities and WB country offices, WB reports, and countries’ websites), the recent survey relied only on direct responses from authorities formally in

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charge of public debt management. At the same time, efforts were made to obtain the largest possible set of responses. Because of these characteristics, a decision was taken to extend the data collection period, which took almost a year, and a number of interactions with country authorities took place. The final sample consisted of 117 responses from debt managers around the world, while in the 2007 survey only about 25% of the responses came directly from the authorities.

**Furthermore, this recent 2013 survey expanded the scope of the previous one.** In addition to the questions included in the 2007 survey, the 2013 survey added questions on governance and on the analysis undertaken to develop the strategy\(^4\). On the governance side, we asked whether the strategy is approved by high level authorities and if so, at what level of authority, and whether the strategy is annexed to the annual budget or adopted by primary legislation (that is whether having a strategy in place is a legal requirement). On the process to derive the strategy, we asked whether the strategy is supported by quantitative analysis, and if so, whether deterministic or stochastic analysis is used.

**A simple descriptive analysis of the results is explored in this note.** The current output is a brief note focused on describing current debt management practices compared to international standards as stated by the Revised Guidelines for Public Debt Management and the Debt Management Performance Assessment (DeMPA) tool. This exercise should help shed light on debt management practices, and may reveal patterns and trends that are useful to inform the World Bank’s ongoing public debt management technical advisory programs. Quantitative analysis will be limited to descriptive statistics.

**An attempt will also be made to compare the 2013 results with the results found in 2007.** A secondary objective is to compare key debt management strategy metrics in 2013 with those used five years before in order to see how these indicators have evolved in recent years. The implications of this comparative evaluation will then be discussed and interpreted.

**Because of methodological differences, comparison of the results of the two surveys must be made with caution.** First of all, the samples of the two surveys are different. In spite of the fact that the sample of the 2013 survey is larger than the one of 2007 (117 versus 105), it does not include all countries that were included in the previous survey. Indeed, the intersection of the two sets consists of 81 countries. In fact, 36 countries that had not been part of the 2007 survey were part of the 2013 survey, while 24 countries that had been part of the 2007 survey were not represented in the recent 2013 one. Furthermore, as already mentioned, while the 2007 survey used a number of different sources, in 2013 we only worked with direct responses from debt managers. While we believe that getting direct responses from debt managers can increase the accuracy of the responses\(^5\), caution is needed in comparing results from the two samples because of the difference in sources used in the two respective surveys.

**While the proposed research has the advantage of simplicity, this approach does have significant limitations, which will be acknowledged in the paper.** In particular, this research will examine to what

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\(^4\) See all the questions of the survey in Annex 1.

\(^5\) Responses from sources other than the debt managers themselves are more subject to inaccuracies, either because those other sources may have a less precise understanding of what is a formal debt strategy, or because these other sources, such as websites, reports, and so forth, may only incompletely cover the subject.
extent countries have debt management strategies in place and how many publically disclose their strategies. This captures a key aspect of sound practice in government debt management but does not on its own provide a truly holistic or nuanced view of the progress made in improving debt management in developing countries, something which would require far more detailed input data or information. In this sense, the inferences that the research intends to support should be seen as modest.

Only aggregate results are made public. As agreed with participating countries, all individual responses are kept confidential, and only aggregate results are shown. Results are aggregated by income level, World Bank region, and, in some cases, level of indebtedness.

The results can help improve our understanding of many aspects of debt management practices and provide valuable input for the Bank’s work program. We believe they can also be very informative to country authorities wanting to learn about other international experiences on this particular subject and wanting to be able to identify gaps that need to be addressed in their own respective countries. Even given the limitations of making comparisons between these two surveys, valuable information can be extracted about the evolution of practices used over the past few years regarding the development of debt management strategies.

2. The Sample

The 2013 sample consists of 117 countries. Following the approach used in the 2007 survey, we analyze breakdowns of the results in terms of level of income and World Bank regions\(^6\). The following charts (Figure 1) describe the sample in terms of income and region, showing the prevalence of middle-income countries (58%) and countries in the Latin America and Caribbean (LAC) and Africa (AFR) regions (26% and 28%, respectively).

Figure 1. Sample of the 2013 survey: breakdown by level of income and WB regions.

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\(^6\) When analyzing results in terms of World Bank regions, high-income countries are excluded.
The aggregated results that will be described also reflect the degree of participation of countries. LAC was the region with the highest participation rate (81% of countries), followed by ECA (67%) and SAR (63%), while AFR, EAP, and MENA were around the 50% level. When looked from the income level perspective, participation was higher from middle-income countries (67% for UMIC and 62% for LMIC), followed by high-income countries (49%), and low-income countries (35%).

Figure 2. Sample of the 2013 survey: rate of participation by country and income level.

### 3. Existence of a Debt Management Strategy

Ideally, debt management operations should be guided by a formal debt management strategy. Indeed, one of the debt performance indicators (DPI) of the Debt Management Performance Assessment (DeMPA) Tool is dedicated to assessing the existence, quality, and decision-making process of the debt strategy. The existence of a debt strategy covering at least 90 percent of the central government debt is a minimum requirement in the DeMPA framework in order to achieve a “C” score.

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7 For the computation of participation rates, we followed the World Bank classification where the term country is used interchangeably with economy, not implying political independence but referring to any territory for which authorities report separate social or economic statistics.

8 See DeMPA tool, DPI-3 Debt Management Strategy.

9 In the DeMPA methodology, the evaluation starts by checking whether the minimum requirements for that dimension have been met, corresponding to a score of “C”. Meeting the minimum requirements is the necessary condition for effective performance under the dimension being assessed. If the minimum requirements set out in
The strategy should also be expressed at least as a guideline for the preferred direction or evolution of specific indicators relating to interest rates, refinancing, and foreign currency risk.

The first question of the survey asked about the existence of a formal debt management strategy. The actual question was, “Has the government established a formal debt management strategy for the total central government debt portfolio?”. This question was further clarified by describing a “formal debt management strategy” as a document that defines how the composition of public debt will develop over the medium term, and which officials are obliged to implement unless the strategy document is amended under the same level of approval as the original. Although qualifying what we mean by a “formal strategy” improves the accuracy of the survey, it also makes it more challenging to compare these 2013 results with the 2007 results, where no qualifier was inserted.

Most countries have formal debt management strategies in place. Of the 117 participant countries, 60% responded that they have formal debt management strategies. However, looking at it from the opposite angle, it means that there are still a large number of countries (47 out of this sample of 117) where debt management is not steered by a formal strategy.

Although the picture does not change much with the income level, it does change significantly for some of the WB regions. Looking at the breakdown by income level, results are similar for the different income groups. On the other hand, when analyzed by WB regions, results are quite different. While AFR, Southeast Asia (SAR) and Middle East and North Africa (MENA) regions show results around the average (58%)\(^\text{10}\), LAC is much below the average (38%), and Europe and Central Asia (ECA) and East Asia and Pacific (EAP) regions are well above (71% and 82% respectively). See Figure 3.

Figure 3. Has the government established a formal debt management strategy?

“C” are not met, then a score of “D” is assigned. The “A” score reflects sound practice for that particular dimension of the indicator. The “B” score is an intermediate score, falling between the minimum requirements and sound practices.

\(^{10}\) Note that when results are analyzed by WB region, high-income countries (HIC)s are excluded. As a consequence of having a subset of the total sample, the average is not necessarily the same (in this case 58% compared to 60% in the total sample).
There is a positive correlation between level of indebtedness and having a debt management strategy. Figure 3 illustrates this positive correlation for the 2013 results, which could indicate that higher-indebted countries have a stronger need to have a medium-term strategy in place.

In summary, regarding the existence of a formal medium-term debt management strategy, results show that:

- 60% of countries surveyed had debt management strategies in place in 2013;
- The existence of a strategy is similar across income levels;
- EAP and ECA are the most strategy-rich regions, while LAC is the least and the others are around the average;
- There is a positive correlation between level of indebtedness and the existence of a debt management strategy.

4. Transparency

Debt management operations should be transparent. According to both the Guidelines and the Fiscal Transparency Code\textsuperscript{11}, transparency and accountability are key factors in debt management operations. Transparency should help in: (i) increasing the effectiveness of debt management operations, (ii) improving accountability of all entities involved in debt management, (iii) fostering coordination within the government, and (iv) lowering borrowing costs by reducing uncertainty to investors.

Sound transparency practices require making the debt management strategy public. According to the Guidelines, “A description of the medium-term debt management strategy, with cost and risk indicators or targets, is particularly valuable to investors and other stakeholders.” Public availability of the debt management strategy is also a minimum requirement in the DeMPA methodology\textsuperscript{12}.

\textsuperscript{11} Fiscal Transparency Code (2014), IMF.
\textsuperscript{12} DeMPA tool, DPI-3, sub-dimension 2.
About 80% of countries that have a debt management strategy publish it. One of the questions asked in both the 2013 and the 2007 surveys was whether the strategy document is published or not. In 2013, 77% (or 54) of the 70 countries that had a debt strategy published it. Again, although this is a positive result, it also means that more than 20% of countries that have debt strategies do not publish them. Or, aggregating both results, only 54 out of the 117 countries surveyed had publicly available debt management strategies.

It is interesting that transparency has a negative correlation with income levels. Figure 4 shows that the publishing of the strategy document is negatively correlated with income levels, where 100% of LICs publish their strategies, compared to 80% in the case of middle-income countries (MIC)s, and 65% for high-income countries (HIC)s. The higher transparency found in LICs and MICs might be the result of a greater need for these countries to be more transparent in order to access market sources of financing. Investors might be more demanding for these countries compared to the HICs, where information is usually more accessible and general knowledge about the country is higher. It may also be due in part to the demands for information from international organizations like the IMF and the World Bank.

Transparency varies significantly across regions. In LAC, ECA, EAP and AFR, greater transparency is shown than the average, while transparency in SAR and MENA falls behind the average. LAC is an interesting case because, although it ranks last in terms of countries having a debt management strategy (38%), it ranks first in terms of transparency (having the strategy document publicly available). Thus, compared to other regions, fewer LAC countries have strategies in place, but all those that have it publish it.

Figure 4. Is the strategy document published?

<table>
<thead>
<tr>
<th>total sample</th>
<th>breakdown by income level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes 77%</td>
<td>Average 77%</td>
</tr>
<tr>
<td>No 23%</td>
<td>High income (H) 65%</td>
</tr>
<tr>
<td></td>
<td>Upper middle income (UM) 82%</td>
</tr>
<tr>
<td></td>
<td>Lower middle income (LM) 78%</td>
</tr>
<tr>
<td></td>
<td>Low income (L) 100%</td>
</tr>
</tbody>
</table>

13 Of course, the total sample for this and the following questions is restricted to those countries that have a strategy in place (60% of the total sample or 70 countries).
There is a slightly positive correlation between level of indebtedness and transparency. Figure 4 shows that, in general, the higher a country’s debt-to-Gross Domestic Product (GDP) levels are, the more the country is likely to publish its strategy document (although there are spikes for the ranges <25% and between 35% and 45%). Similar to what was said above, this could also be a result of the fact that higher-indebted countries face higher pressure (from creditors, investors, and so forth) to publish the debt management strategy.

In summary, regarding the transparency of the debt management strategy, results show that:

- 77% of countries that have a strategy publish it, meaning that 54 out of 117 surveyed countries publish their debt management strategy;
- There is a positive correlation between income level and transparency (making the strategy public);
- LAC, ECA and EAP are the most transparent regions, while SAR and MENA are the least transparent.
- There is a slightly positive correlation between level of indebtedness and transparency of the strategy document.

5. Use of Strategic Targets

Strategic targets are a simple and objective way to communicate a debt management strategy. In principle, the debt management strategy can be expressed in terms of general guidelines, such as reduction of external debt or lengthening average maturity. However, many debt managers use risk exposure indicators as strategic targets to communicate the strategy in a clearer and more objective way. Strategic targets represent the desired characteristics of the public debt portfolio, and express the cost-risk preferences of the government. The use of strategic targets also improves governance and accountability, allowing stakeholders to better assess debt managers’ performance.

Strategic targets are typically set in terms of risk indicators for market or refinancing risk. Because the risk of the public debt portfolio has many dimensions, debt managers normally use multiple risk indicators as strategic targets, instead of relying on only one. Because market risk (interest-rate and
The specific risk exposure indicators used as strategic targets should reflect the most important risks to the debt portfolio. Because of that, strategic targets are intrinsic to each country, not only regarding the type of risk indicator, but also its target value or range. Strategic targets represent the portfolio structure that the government would like to achieve, based on its cost-risk preferences.

International best practices suggest the use of strategic targets. This is reflected in the DeMPA tool that requires the strategy to have “realistic target levels for indicators of the interest rate, refinancing, and foreign currency risk, reflecting the specific country environment” in order to get a “B” score on the quality of the strategy document. The Guidelines also highlight that many governments support sound debt structures by establishing targets and ranges for key risk indicators, and that public targets help increase the predictability and transparency of debt management operations, and in turn reduce uncertainty for investors.

In 2013, 76% of countries that had a debt management strategy in place expressed in terms of one or more strategic targets. This means that in most of the cases the identified strategies clearly indicate the cost-risk preferences of the country.

The use of strategic targets is more prevalent in HICs and MICs than in LICs, and is high across all regions. The fact that LICs make less use of strategic targets might be a consequence of the fact that they are more constrained when it comes to financial choices. But it is interesting to observe that the fact that LICs have, in general, limited financial choices doesn’t prevent them from having a formal and published debt management strategy, as discussed above. The use of strategic targets is similar among most regions, except in LAC that falls behind and SAR that performs better.

Figure 5. Use of Strategic Targets

In most of the cases a range or limit, as it is difficult to maintain a point target over time.
Strategic targets for refinancing risk are the most used, followed by targets for interest-rate risk and exchange-rate risk, respectively. Figure 5 shows that 66% of countries that have a debt management strategy have strategic targets for refinancing risk, while 56% have targets for interest-rate risk, and 50% for currency risk.

Currency risk is less of a concern to HICs, while upper-middle-income countries (UMIC)s show a strong focus on refinancing risk. The analysis of the use of strategic targets by type of risk and level of income (Figure 6) shows that, proportionally, HICs are less focused on currency risk than MICs are. This is most likely a consequence of the fact that HICs, in general, can finance themselves in domestic currency, not incurring in the so called *original sin*. On the other hand, within the set of UMICs, there are emerging countries that basically rely on the markets, that are not able to finance large volumes in long-term debt, and that are more subject to market risk aversion, all of which can potentially explain the emphasis these countries put on refinancing risk. As noted before, the fact that LICs have, in general, limited flexibility in terms of borrowing choices might explain why the prevalence of all types of strategic targets is lower among these countries. For example, although currency risk may be very relevant for most of them, they have limited ability to actively manage this risk.

Figure 6. Use of Strategic Targets by Type of Risk

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15 The term original sin was first used in reference to economics by Barry Eichengreen and Ricardo Hausmann in 1999 to define a situation “in which the domestic currency cannot be used to borrow abroad or to borrow long term, even domestically".
In summary, regarding the use of strategic targets, results show that:

- 76% of countries that have a debt management strategy express it by using strategic targets (numeric risk indicators);
- The use of strategic targets is lower in LICs and similar in MICs and HICs;
- The use of targets is similar across the WB regions, except for SAR (higher use) and LAC (lower use);
- Refinancing risk indicators are the most used type of strategic targets;
- Targets for currency risk are more prevalent among MICs.

6. Reliance on Quantitative Models

The survey also asked countries whether the design of the debt management strategy is supported or not by quantitative analysis. While there are countries that develop the strategy based on qualitative considerations, many others have some kind of quantitative tool, either being an in-house developed model or an off-the-shelf solution such as the MTDS toolkit.

Indeed, a quantitative model is not a pre-condition for having a debt management strategy. A debt management strategy could be expressed in terms of general guidelines and be based on the debt manager’s experience and intuition. In fact, we can see in the survey results that there are some countries (29%) that have a debt management strategy without quantitative models in place (Figure 7).

Definition of specific numeric target levels for risk exposure indicators requires quantitative analysis. Quantification of cost-risk tradeoffs allows debt managers to make better-informed decisions and to identify specific target values or ranges for a set of risk-exposure indicators. The DeMPA tool reinforces this sound practice by requiring that “the target levels for the risk indicators are based on a thorough analysis of costs and risk ...” in order to assign an “A” score to the quality of the strategy.

Most countries use quantitative analysis supporting the strategy development. Results show that 71% of countries that have a formal strategy base their strategy on quantitative analysis, either from
deterministic models or stochastic models (Figure 7). The same share of countries only use stochastic models (26%) or deterministic models (26%), while a lower share (20%) uses both types.

**Figure 7. Use of Quantitative Analysis**

![Bar chart showing the use of quantitative analysis](image)

The use of quantitative models is strongly correlated with the income level. While more than 80% of HICs that have a formal strategy ground their analysis on quantitative models, the proportion is about 57% for LICs, 63% for Lower Middle Income Countries (LMICs), and 76% for UMICs. The same pattern is observed with regard to the use of stochastic models. In general, the higher the income level is, the more sophisticated the Debt Management Office (DMO) is, which also means more capacity to develop or use analytical tools.

A relatively high share of debt offices ground their strategies on stochastic models. About 45% of debt managers in HICs use only stochastic models to support their strategies, while almost 20% use them in combination with deterministic analysis (Figure 8). First, as stated above, this could be explained by the higher capacity usually seen in HICs. Secondly, one could argue that the higher prevalence of stochastic modeling in HICs compared to MICs or LICs could also be a result of the fact that developed economies tend to be much more stable in terms of the evolution of financial variables (such as interest rate and exchange rate) and that this makes stochastic analysis more feasible. In these economies, it is usually easier to get more historical time-series data for these variables as well. On the other hand, it might be a bit surprising to see that a relevant share of countries, even in MICs and LICs, rely only on stochastic modeling.\(^{16}\)

The reliance on quantitative analysis and the type of analysis varies across regions. While LAC and MENA are the regions that use quantitative analysis the most, getting close to the HICs average, most debt management strategies in SAR are based on qualitative considerations. LAC is a region where most countries use stochastic modeling.

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\(^{16}\) However since LICs represent only 10% of the total sample, the absolute number is very low.
Figure 8. Use of Quantitative Analysis by level of income and by region

In summary, regarding the reliance on quantitative analysis, results show that:

- 71% of countries that have a debt management strategy ground it on quantitative analysis;
- Stochastic and deterministic models are evenly used;
- The use of stochastic models is positively correlated to income level.

7. Governance

A sound governance process is a necessary complement to having a good debt management strategy. Approval of debt management strategies by high-level authorities provides legitimacy to the strategy and enforces its implementation, with the result that this process steers borrowing decisions and other debt management activities. Best practices, as evidenced by the DeMPA tool, suggest that approval by high level authorities is a minimum requirement to achieve sound debt management. It is essential to give the DMO the mandate to implement the strategy and pursue the desired debt portfolio composition.

Ideally, the legal framework should also support the development of a debt management strategy. Minimum requirements for a sound legal framework include a clear authorization to borrow or undertake debt-related transactions, including the issuance of guarantees, and specification of the purposes for which debt can be issued. In an optimum situation, primary legislation should also include the requirement to develop a debt management strategy.
The 2013 survey further investigated the governance process of the debt management strategy. Specifically, it surveyed countries on whether high level authorities approved the strategy, and if so, who approved it. The survey also asked whether such approval was a legal requirement, and as such whether it was either annexed to the annual budget act or law, or was adopted by primary legislation, such as legislation governing the public debt, the budget system or fiscal responsibility (going forward we refer to all these possibilities as ‘adoption by primary legislation’).

Almost all countries that have a debt management strategy in place have it approved by high-level authorities, primarily by the Minister of Finance or the Cabinet. As can be seen in Figure 9, only 3% of the countries that have a debt management strategy declared that the strategy is not approved by high-level authorities. In most of the cases (77%), the strategy document was either approved by the Minister of Finance (56%) or by the Cabinet (14%), and in a few cases (6%) the strategy was approved by the President. In 14% of the cases, countries answered that the strategy was approved by another entity. In almost half of these other cases, countries answered more generically that the Government approved it. A few cases reported approval by the parliament, or by a high-level debt management committee, and, in one case, by the general accountant.

Figure 9. Who approves the debt management strategy?

The pattern differs when broken down by income level and WB region. Still, in most of the cases, approval is done by the Minister or the Cabinet. Apart from the fact that UMICs have fewer strategies approved by the Minister and more under the “other” category, the income level also doesn’t seem to determine significant changes in the approving authority of the strategy.
In just over half of the countries, the debt management strategy is neither adopted by primary legislation (required by law) nor annexed to the annual budget law. Of the countries that have a strategy in place, only 44% declared that the strategy is annexed to the annual budget law or is adopted by primary legislation.

The results from the set of LMICs differ from the general analysis, and significant discrepancies are also shown in the breakdown by regions. While LICs, UMICs, and HICs show a similar pattern with regard to not adopting a debt strategy by means of primary legislation (the answer is no for around 70% of the countries), LMICs stand out by having the strategy adopted by primary legislation in 76% of the cases. Figure 10 also illustrates how results vary across regions, showing LAC as the region with fewer countries adopting the strategy by primary legislation (13%), EAP on the other extreme with more countries (78%), and the other regions somewhat similar.

**Figure 10. Adoption of the Strategy by Primary Legislation**

In summary, regarding the governance of the debt management strategy, results show that:

- Almost all countries that have a formal debt management strategy have it approved by high-level authorities (97%);
- The strategy is usually approved either by the Minister of Finance (56%) or by the Cabinet (21%);
- In less than half of the cases (44%) the strategy is adopted by primary legislation;
- LICs stand out because more than 70% of these countries that have a strategy have it adopted by primary legislation;
• Regarding the WB regions, LAC stands out as having lower incidences (a bit more than 10%) where the strategy is adopted by primary legislation.

8. **Comparison to the 2007 Survey**

**Three questions posed in the recent 2013 survey were also included in the 2007 survey.** Questions about the existence of a debt management strategy, the transparency of the strategy (whether it’s public or not), and the use of strategic targets were investigated in both surveys.

**However, the two surveys (2013 and 2007) had different samples.** First, while the 2013 survey included 117 countries and the 2007 survey included 105 countries, the intersection of the two sets - that is the common sample - consisted of 81 countries. Secondly, the breakdown by level of income is also quite different. The 2007 survey didn’t include any LICs, whereas in 2013, LICs represented 10% of the total sample. Additionally, there is a higher share of HICs in the new survey, which is also influenced by the fact that some countries moved from UMIC to HIC status between 2007 and 2013. Thirdly, the comparison by regions also shows some important differences, including the movement of some countries to HIC status during the years between the two surveys (as HICs are not classified according to the World Bank regions). Finally, review of levels of indebtedness also reveals a different pattern between the two surveys. On average, the countries in the recent survey have more debt than the countries in the previous sample. Although this increased indebtedness is an effect of there being different participating countries in both surveys, it is certainly also affected by the rise in overall sovereign indebtedness following the global financial crisis of 2008.

**Conclusions cannot be directly drawn from the immediate comparison of the two surveys.** The 2007 survey had found a positive correlation between either country income level or the level of indebtedness, and having a debt management strategy in place. The 2013 survey did not find the first correlation of country income level, but did find the second correlation of the level of indebtedness. In terms of transparency, while in 2007 no consistent pattern was evident with respect to the transparency of debt management strategies, recent results showed a negative correlation between transparency and level of income and a slightly positive correlation between transparency and the level of indebtedness. In terms of regions, ECA appeared in 2007 as the most strategy-rich WB region, a position achieved by EAP in 2013, but with ECA still ranking second. However, one cannot look into the general results of the two surveys and extract conclusions because results can be driven by the differences in the sample.

**To make a finding on the evolution of public debt management practices relatively to the 2007 survey, the same set of countries has to be analyzed.** The common sample of the 2007 and 2013 surveys includes 81 countries, of which 46 are MICs and 35 are HICs (Figure 11); no LICs appear in the common sample given that they were not included in the 2007 survey. The analysis of the common sample can be used to compare how that set of countries evolved in terms of debt management practices.
The composition of the common sample is a reflection of country participation in both surveys. The common sample has a higher share of HICs compared to the individual samples of 2007 and 2013. This is a consequence of HICs presenting a higher rate of response in both surveys. The same applies to the breakdown by WB region, where LAC and ECA had more countries answering both surveys. So, in a way, the results here are biased through the more participative countries. Restricting the analysis to the common sample makes the analysis by region less informative. The common sample has 81 countries, but 35 of those are HICs. Therefore, the analysis by region becomes restricted to 46 countries and after dividing the countries according to the regions they belong to, some regions end up with only a few countries. This makes general conclusions less informative and, because of that, we won’t explore these results.

Even using the common sample, direct comparison of the existence of a debt management strategy is not straightforward. The share of countries that had a strategy in place in 2013 was 59%, therefore lower than the 69% observed in 2007 (Figure 12). However, in the 2013 survey we made it clear what we mean by a formal debt management strategy – a document that defines how the composition of public debt will develop over the medium term, and which officials are obliged to implement unless the strategy document is amended at the same level of approval as the original. As stated before, although this clarification should have improved the accuracy of the new survey, it also made it more challenging to compare the 2013 results with the 2007 results. Furthermore, the 2007 survey adopted an assumption that if a country used one strategic benchmark, it had a debt management strategy in place, an assumption that was not used in the 2013 survey. The use of these additional clarifications and assumptions in the 2013 survey resulted in stricter eligibility criteria for classifying a country as having a debt management strategy in place than was used in 2007. Thus, the lower share might not mean a worsening of the situation, but a consequence of the stricter definition.

The strongest reduction is observed in HICs. In line with the previous explanation, this might not mean that these countries had strategies before and now they don’t, but only that the strategies they have

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17 One could argue that the willingness to participate in the survey is positively correlated to the degree of development of the DMO (more developed DMOs are more active both in implementing sound practices and in willing to participate in such initiatives as this survey).
might not comply with the criteria established for 2013. This could especially be a result of both the 2007 survey relying on other sources than direct answers (such as websites, country economists and so forth), and the assumption made in 2007 that if the country had any kind of a strategic benchmark it was considered to have a strategy in place.

Figure 12. Existence of a debt management strategy across the common sample

Transparency of the debt management strategy remained stable across the common sample, although with different movements across income levels. For the total common sample, transparency was at similar levels on both surveys (Figure 13). However, the stability of the average hides the fact that the MICs (LMICs especially) increased the transparency of the strategy, while HICs decreased it.

Figure 13. Transparency of the debt management strategy across the common sample

There was a substantial increase in the use of strategic targets. Overall, looking at the common sample, 77% of countries expressed their strategies in terms of some kind of strategic targets in 2013 compared to 46% in 2007 (Figure 14). This trend was observed across all income levels, although even more strongly for MICs. Furthermore, the increase was observed for every type of strategic target (indicators for refinancing risk, interest-rate risk, and currency risk). It is interesting to observe that although the use of strategic targets increased for all types of risk from 2007 to 2013, the most notable increase was on the use of refinancing risk targets. This might be a consequence of the global financial crises that put financial pressure on many governments and made more explicit the need to manage refinancing risk.
9. Final Considerations and Policy Implications

The findings presented in this paper can be the subject of further investigation of a number of issues. The survey resulted in a variety of interesting results, whose richness can be further explored in specific studies. The findings represent the answers directly collected from 117 countries.

Findings can be summarized in a number of different ways. Results were presented before being organized according to their respective topics (transparency, governance, and so forth). Although this approach is useful to get a view on what is the current practice in each subject, it may be difficult to get a comprehensive view on what the practices are in different WB regions or according to income level. Therefore, although it may be a bit repetitive, we decided to reorganize the findings and present them here in relation to four questions: (i) What are the main general findings of the recent survey; (ii) What can we say looking at the breakdown by income levels; (iii) What can we say for each WB region; and (iv) What can we say by comparing the results with the 2007 survey.

What are the main general findings?

1. **There is still a relevant share of countries without a formal debt management strategy in place.** If the good news is that 60% of countries have a formal debt strategy, the bad news is that 40% - 50 countries - don’t have one in the considered sample of 117 countries.

2. **Overall, for the countries that have a strategy in place, transparency is good.** Where a country has a debt management strategy, most likely it is public (77% of the cases). The good transparency holds across income levels and for most of the WB regions.

3. **Transparency of the strategy shows a negative correlation with the level of income and a positive correlation with the level of indebtedness.** This might be a consequence of greater demand of information from lower income countries or more indebted countries.

4. **Quantitative analysis is not strictly necessary to develop a debt management strategy.** Not having an analytical tool is not an impediment for developing a strategy. 29% of countries don’t carry out quantitative analysis even they though develop and publish a debt strategy.

5. **Most countries express their strategies using strategic targets.** 76% of countries having strategies in place use strategic targets for currency, refinancing or interest rate risk.
6. **Use of stochastic models is high.** Considering only the countries in which the debt strategy is supported by quantitative analysis, most of them (around 65%) use stochastic modelling. Actually, around 28% use both deterministic and stochastic analysis, and 37% use only stochastic analysis. It is interesting that the same share of countries – 37% - use only deterministic analysis.

7. **In almost all the cases, the strategy is approved by high-level authorities.** Only in 3% of the cases was the strategy not formally approved by high-level authorities. In general, the Minister of Finance or the Cabinet are the authorities in charge of such approval.

8. **However, in more than half of the countries (64%), debt management legal framework does not support the strategy development.**

**What can we say by looking at the breakdown by income levels?**

1. **With regard to the existence and transparency of the debt management strategy, LICs perform well when compared to MICs and HICs.** Although the set of LICs participating in the strategy is relatively small compared to the total sample (12 out of a total of 117), they perform well when compared to the other income groups. 58% of LICs have a debt management strategy in place (compared to the total average of 60%), and 100% of those who have a strategy publish it (compared to the total average of 77%).

2. **However, LICs deploy less quantitative analysis to develop the strategy and use less strategic targets.** In the case of LICs, 43% of the strategies are not supported by quantitative analysis, compared to 29% in the total sample. Besides that, LICs also rely less frequently (57%) on strategic targets than the average of the total set of countries (75%). This lack of use of strategic targets by LICs might be a direct consequence of having less flexibility to choose the financial characteristics of new debt such as more rigid financial sources.

3. **Overall, there is a clear positive correlation between income level and the use of quantitative analysis.** While 57% of LICs deploy quantitative analysis to support the strategy development, this number is 63% for LMICs, 76% for UMICs, and 80% for HICs. If on the one hand it might signal that in many cases LICs lack institutional capacity to engage in quantitative analysis, on the other hand the good news is that it hasn’t prevented them from having and publishing a debt management strategy.

4. **Regarding the use of strategic targets, currency risk seems more important for UMICs.** UMICs are the ones who most use currency risk targets to express their strategy. Having in mind that the big emerging markets are among this group, this seems compatible with the fact that they are not able to totally finance their needs in domestic currency, as is the case in most developed countries, but they are not as limited as LICs or LMICs, that generally have fewer choices to make.

5. **On the other hand, HICs are more focused on targets for refinancing and interest rate risk.**

6. **With regard to the adoption of the strategy by primary legislation, LMICs stand out.** 76% of LMICs declared that their strategy document is adopted by primary legislation, compared to only 29% for LICs and HICs and 33% for UMICs. The factors that could explain this discrepancy
are not clear and this is worthy of further investigation. LMICs also exhibit a higher prevalence of approvals by the Cabinet, compared to other countries, which is consistent with a better governance structure.

What can we say for each WB region?

1. **LAC is an interesting case.** Participation in the survey was high (21 countries participated). The region falls behind the average regarding the existence of a debt management strategy (only 38% compared to 60% overall), but transparency of the strategy is excellent (100% versus 77% overall). The countries that do have a strategy seem sophisticated (in the sense of using quantitative models, including stochastic analysis);

2. **ECA highlights a good share of countries with strategies in place, good transparency, and good governance.** 82% of ECA participants have debt management strategies in place, (compared to the overall average of 60%), and 89% of the strategies are published (compared to an overall average of 77%). The region is also a bit ahead in terms of having primary legislation adopting the strategy development (50% compared to the average of 40%).

3. **EAP has similar strengths to ECA.** A high share of countries in the region has formal debt strategies (82%), and most of them are published (89%). EAP is also the region with the most targets for refinancing risk (80% compared to an average of 64%). The region also stands out on having primary legislation supporting the strategy design (almost 80% against an average of 40%).

4. **SAR exhibits some contradictory results.** It is the region with least transparency (only 33% of the countries publish the strategy), although in 100% of the cases the strategies are approved by the Minister of Finance. Additionally, 100% of the strategies are expressed in terms of strategic targets, although it's the region that makes the least use of quantitative analysis. These somewhat contradictory results should be seen in light of the very small sample of participating countries in the region (5 in total, 3 with debt management strategies).

5. **MENA is also represented by a small number of countries.** Similar to SAR, MENA has only 7 participating countries, 4 of which have debt strategies in place; so aggregate results for the region might not be very informative. The analyzed countries present poor transparency and governance (countries where the strategy is not approved by high-level authorities). On the other hand, the countries rely on quantitative analysis, being the region with the highest use of currency risk targets.

6. **AFR is consistently around the overall average.** In all surveyed aspects, AFR is always close to the overall average, not standing out on either the positive or negative sides. It is the region most represented in the total sample, with 23 participating countries (so the overall average is also highly influenced by the results of the region).

What can we say by comparing the results with the 2007 survey?

1. **Numbers show that fewer countries have a debt management strategy in place, but the methodological difference between the two surveys could be the reason for it.** Because the
recent 2013 survey had stronger criteria relating to this question, this result might be misleading\(^{18}\).

2. **Transparency of the debt management strategy remained stable, although with different movements across income levels.** Transparency was similar on average, but MICs increased the transparency while HICS decreased it.

3. **There was a remarkable increase in the use of strategic targets.** 77% of countries expressed their strategies with some kind of strategic targets in 2013 compared to 46% in 2007.

4. **The most notable increase was in the use of refinancing risk targets.** This might be a consequence of the global financial crises of 2008 that made more explicit the need to manage refinancing risk.

Analysis of the results of these surveys could help all stakeholders have a better understanding of international practice regarding debt management strategy development. For the debt managers, it is an opportunity to learn more about international practice on debt strategy development, and to benchmark themselves against their peers, identifying strengths and challenges ahead. For the World Bank and other providers of technical assistance, it might provide valuable information about results achieved, and facilitate planning for future work.

**Results indicate that, in general, countries still need to considerably strengthen their debt management practices regarding a debt strategy.** Policy makers as well as technical assistance providers should be aware that only a few countries show best practices in all topics regarding the debt strategy. Only 18 out of the 117 countries surveyed answered positively to all questions, that is they have a formal strategy that is public, grounded on quantitative analysis, expressed through strategic targets, approved by high-level authorities, and adopted by primary legislation. If we start from the total sample and begin eliminating countries that don’t comply with each requirement, we get the following picture\(^{19}\):

**Figure 15.** Number of countries complying simultaneously with each requirement

Even considering only the existence of a formal strategy, there is room for improvement. Because the public debt portfolio is usually the most important liability for the country, and because its management can directly impact the resilience of countries to financial shocks and the risks for the budget, one would

\(^{18}\) A fact that supports this thesis is that a few countries declared that they have strategic targets but at the same time they declared that they don’t have a formal debt management strategy. According to the 2007 methodology, these countries would be considered as having strategies just because they use strategic targets.

\(^{19}\) Of course, it does not mean, for example, that only 18 countries have the strategy supported by primary legislation (which includes 31 countries), but here we are counting only those countries that satisfy all criteria at the same time.
expect more countries to act strategically to deal with their public debt management. Nevertheless, 40% of the surveyed countries do not have a formal strategy steering their debt management.

The use of quantitative analysis also deserves special attention. It is true that the absence of quantitative analysis does not impede the development of a debt management strategy, and that it’s better to have a strategy in place even if it’s not grounded on quantitative analysis. However, it is also true that the dynamics of public debt is not trivial and that the debt portfolio composition achieved at the end of a certain period will depend on a number of redemptions and issuances of potentially very different debt instruments (loans and securities of different tenors, in different currencies, linked to different interest-rates, and so forth). In this context, risk management can be significantly enhanced by being supported by quantitative analysis. Furthermore, results indicate that the use of quantitative analysis is positively correlated with income level, signaling a need to further support capacity-building in the lower-income countries.

The type of quantitative analysis might also be a topic for further investigation and discussion. A surprisingly high number of countries (65% of those which use quantitative analysis) deploy stochastic analysis, and actually in 37% of them, it is the only type of analysis carried out. This should not be read as an indication that stochastic analysis is better than deterministic analysis. On the contrary, especially for countries starting to work on quantitative tools, deterministic analysis should be the first step. Even the more sophisticated debt offices should not abandon the more simple deterministic analysis (scenario analysis) because stochastic models might introduce challenges for implementation that could offset their benefits.

The survey also suggests greater focus on strengthening the legal framework for debt management. Although a formal strategy might be in place and might have been approved by high-level authorities, in 56% of the cases the legal framework (primary legislation) doesn’t support its development. This is true across income levels and WB regions, with the exception of the subsets of LMICs and EAP, which are outliers. This suggests greater focus on improving the legal framework of future work.

Of course, one must keep in mind the limitations of the survey results. In some cases, the very small size of the sample group might make the aggregate results appear meaningless. In other cases, participation might be high, but huge differences might coexist within a region or income group. Finally, the results are not based on direct observation, but on responses from country authorities.
10. References


Annex 1: Survey on debt management practices - Questionnaire

Introduction
(i) The objective of this survey is to better understand the current practices of countries in establishing public debt management strategies. The survey will also assess any new developments in this area, in order to update a similar survey conducted in 2007.
(ii) The aggregate results will be shared once the survey is completed. Responses will be kept strictly anonymous - no individual responses will be released and countries will not be identified in any way.
(iii) Completing the survey should take about 10 minutes. Your participation is greatly appreciated.

Questionnaire
1. Country ______________

2. Has your government established a formal debt management strategy for the total central government debt portfolio? By “formal debt management strategy”, we mean a document that defines how the composition of public debt will develop over the medium term, and that officials are obliged to implement unless the strategy document is amended at the same level of approval as the original.
   YES ___ NO ___
   2.a If no, please describe what approach you use to guide your funding decisions (mix of currency, fixed vs. floating rate, etc):

3. Is the debt management strategy approved by high level authorities?
   YES ___ NO ___
   Minister of Finance ____; Cabinet _____; President ____; Other (specify) _________________________

4. Is the debt management strategy document published?
   YES ___ NO ___

5. Is the debt management strategy annexed to the annual budget act/law or adopted by primary legislation (the law governing public debt, the budget system or fiscal responsibility)?
   YES ___ NO ___

6. Have you established a strategic target/benchmark (or range) for the total debt portfolio?
   YES ___ NO ___ If yes,
   6.a Have you established a strategic target/benchmark for currency risk (e.g. % domestic vs. % foreign)?
   YES ___ NO ___
   % domestic vs. % foreign ____; Other (specify) ________________________________

   6.b Have you established a strategic target/benchmark for interest rate risk (% fixed vs. % floating; average time to refixing (months); or modified or Macaulay duration (years))? 
   YES ___ NO ___
   Fixed/floating ____; ATR ____; Duration ____; Other (specify) ____________________________

   6.c Have you established a strategic target/benchmark for refinancing risk (ceiling on debt maturing within one year (% of total outstanding); or average time to maturity (years))?
   YES ___ NO ___
   ATM ____; % debt maturing in 1 year ____; Other (specify) _____________________________

7. Is the design of the debt management strategy supported by quantitative analysis?
   No ____; Yes ___ by stochastic models; Yes ___ by deterministic models

8. Finally, Could you please attach your latest debt management strategy? Please provide any consideration you find useful to clarify or provide further information regarding your previous answers.
### Annex 2: List of participating countries

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