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PERU

SELECTED ISSUES

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Approved By
Western Hemisphere Department

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FISCAL OBJECTIVES: LOWER DEBT OR HIGHER SAVINGS?[1]

A. Introduction

1. The current fiscal framework has served Peru well. Since the establishment of the Fiscal Responsibility and Transparency Law (FRTL) in 2001, the authorities have strengthened public finance management, with a significant reduction in public sector debt and some accumulation of public savings more recently. In improving public finances, Peru has also been profiting from elevated prices on its commodity exports (mainly mining). These savings proved very useful during the 2008–09 global financial crisis, as they served to implement successfully countercyclical fiscal policy to support economic activity.

2. In April 2012, the authorities announced the creation of a fiscal commission to help revamp the macro-fiscal framework. The Ministry of Economy and Finance (MEF) aims at increasing predictability and transparency in the conduct of fiscal policy. The timing is propitious, since Peru has relatively low public sector debt levels and one of the highest economic growth rates among emerging markets. The fiscal commission is technical in nature, formed by international and local experts, and is expected to provide recommendations on the fiscal framework that will shape future budget formulation. Challenges in the overall framework go beyond the fiscal rule and require a comprehensive strategy that cements the prudent management of non-renewable resources wealth and clarifies fiscal policy objectives, while avoiding pro-cyclicality. In this context, a relevant component is to develop a comprehensive strategy for public sector asset and liability management. This would help establish the optimal savings target going forward, which could then embed the formulation of the fiscal anchor.

3. This paper brings some consideration regarding a strategy for public savings and its management. It takes stock of the current fiscal framework (Section B), includes an analysis of fiscal sustainability and assesses the need to further reduce public sector debt (Section C), and discusses considerations for fiscal savings in Peru (Section D). Some concluding remarks are presented at the end (Section E).

[1] Prepared by M. Vera Martin (WHD). The author is grateful for research assistance from Zulima Leal. Sections C and D benefited from extensive discussions and previous work with A. Cheasty, J. Gardner, I. Rial, and M. Villafuerte (all IMF).

B. Peru's Current Fiscal Framework and Low Public Sector Debt

4. In the context of Peru's low public sector debt, a comprehensive strategy on public sector savings and its management requires a view on the optimality of government debt. Such an assessment can be considered from two different perspectives. One is about debt sustainability and the other is about the optimal level of government debt *per se*. In theory, the optimal level of sovereign debt is determined at the point where the (declining) marginal benefit and the (increasing) marginal cost from the increase in sovereign debt coincide. In reality, however, it is difficult to accurately measure all the benefits and costs that arise from public debt.[2] Discussion about sovereign debt has often been around how to verify whether the current debt level is sustainable over the long term, which is the approach followed in this paper.

5. Under the FRTL, the Peruvian authorities have shown a strong commitment to implement a prudent fiscal policy, resulting in significant debt reduction. The fiscal rule embedded in the FRTL (Box 1), with a combination of the current expenditure growth cap and a deficit limit, has served well to reduce public debt, including when comparing to other emerging economies. Solid macroeconomic performance and fiscal consolidation have led to a progressive reduction of public debt as percent of GDP, supported by elevated commodity prices and positive debt dynamics (Figure 1). Debt-to-GDP ratio fell from 47 percent in 2003 to 19 percent of GDP in 2012, one of the lowest in the region. The structure of debt is relatively positive; most of it is issued at long maturities.[3] About half of the public debt is exposed to foreign exchange risks. However, the implementation of the macro-fiscal framework has not been conducive to counter-cyclical fiscal policy. When measured by the correlation between the change in the cyclical component of government expenditures and the output gap, Peru displays a high level of pro-cyclicality compared to other emerging economies (Box 1 of the accompanying staff report).

[2] Applying the optimal capital structure theory of corporate finance to public finance, the optimal level of debt that maximizes social welfare could exist at a point where the marginal benefit from an increase in sovereign debt equals its marginal cost. One could then argue that, given the low costs of financing debt under current conditions, a higher debt level would be advisable to close the infrastructure and social gaps and enhance potential growth. Although this consideration is relevant in the context of Peru, the paper does not address this issue.

[3] The authorities have also been proactive with debt management operations to improve the risk profile. For details, see Box 15 of MEF (2011).

Box 1. Peru's Fiscal Institutional Framework in the FRTL

The Fiscal Responsibility and Transparency Law (FRTL, 2001) supports savings accumulation, other than in periods of low growth. It established a combination of a deficit target (of 1 percent of GDP) for the non-financial public sector, a ceiling on the increase of expenditures in real terms for the nonfinancial public sector (originally set at 2 percent, raised to 3 percent in 2004 and later changed to 4 percent), and limits to the debt increases for the non-financial public sector (equal to the overall fiscal deficit). The overall objective of the FRTL has been to reduce debt levels. However, the combination of provision for a modest deficit on the down-side, and an expenditure cap on the up-side, means that the FRL embodies some countercyclical elements.

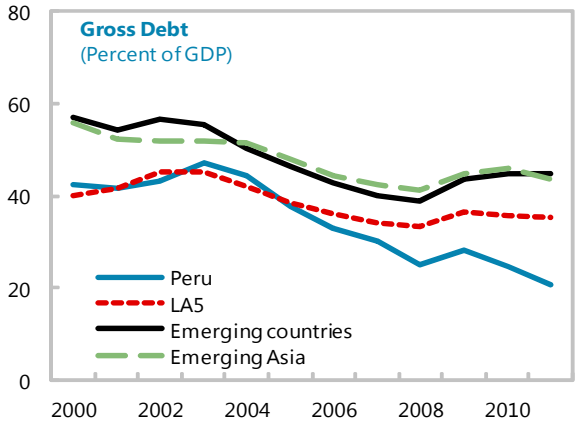
The fiscal framework embedded in the FRTL allowed for escape clauses, with Congressional approval. Application of the fiscal rule may be waived (i) when domestic real GDP growth is negative or (ii) under domestic or international exceptional circumstances. In the first case, the deficit may not exceed 2.5 percent of GDP, and can be extended for three years only if real GDP has not fully recovered. In both cases, a transition rule defines the reversion to the original fiscal rules—requiring an annual reduction of the deficit by 0.5 percent of GDP.

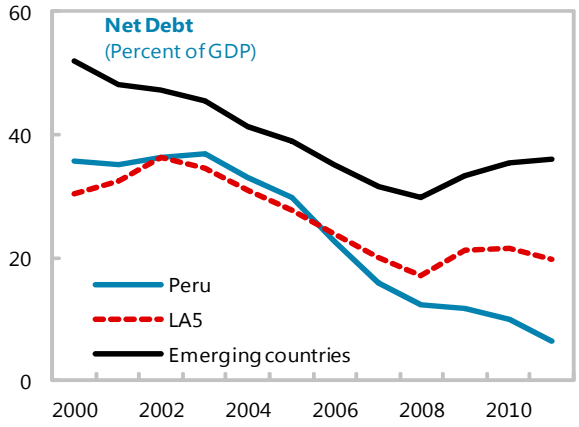
The FRTL also specifies a fiscal stabilization fund (FEF). Resources of the FEF include any fiscal surpluses generated by the Treasury, 10 percent of privatization proceeds, and 10 percent of concessional revenues. These assets are deposited at the central bank or abroad but under similar management criteria as with international reserves. The FEF is subject to a cap of 4 percent of GDP, with any excess allocated to debt reduction. FEF resources may only be used when the revenue shortfall (in percent of GDP) is more than 0.3 percent the average ratio of the last 3 years or under specific escape clauses (i.e. emergency situation). However, no more than 40 percent of total funds can be used in a given year. As a result, FEF's funds have not been used and the fund has worked mostly as a savings fund.

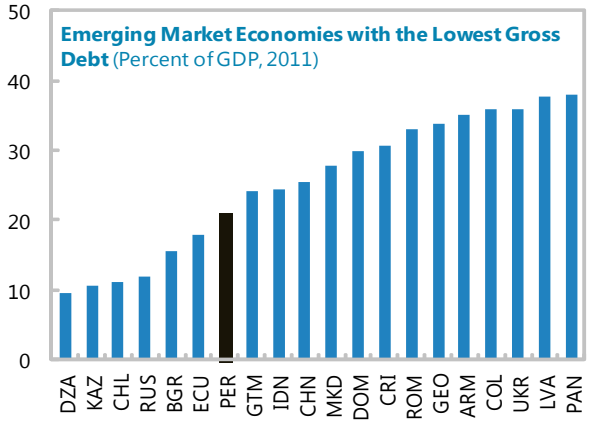
However, the parameters of the fiscal rule have changed frequently. The cap on expenditure growth was suspended during 2006. In 2007, the rule was re-established but applied only to consumption expenditure of the central government—defined as the sum of wages and expenses in goods and services. In 2008, the expenditure growth cap was increased from 3 percent to 4 percent, with consumption expenditure including also pensions. In the context of the fiscal stimulus package, the fiscal deficit ceiling was temporarily raised to 2 percent of GDP; and the expenditure growth ceilings shifted upwards to 10 and 8 percent in 2009 and 2010 respectively. During 2009–10, in the context of the global financial crisis, the application of the fiscal rule (as defined in 2008) was waived, and was to be re-imposed in 2011, but applied to central government. In April 2012, some categories of the expenditure growth rule were excluded (mainly maintenance expenditure and some social and military expenditures) and the transition rule was modified to ensure a structural balance rule over the medium from 2013 onwards, with a minimum structural balance adjustment of 0.2 percent of GDP. With the 2013 Budget Law and the small structural surplus achieved at the end-2012, the latter is not longer effective.

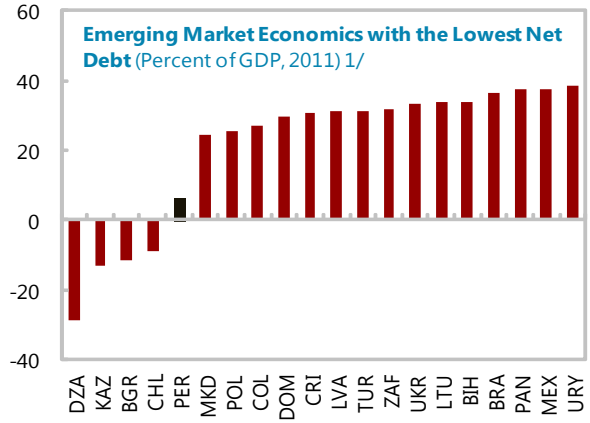
Additional fiscal rules for subnational governments have also been changed. According to the Pre-Electoral Report (MEF, 2011), most subnational governments do not face debt problems but they usually do not comply with the expenditure growth caps and primary balance limits. The primary balance rule is not met by 35 percent of regions and 70 percent of municipalities. As national government transfers have grown, the expenditure growth ceilings are now not fulfilled by almost 60 percent of subnational governments—almost 75 percent for local governments.

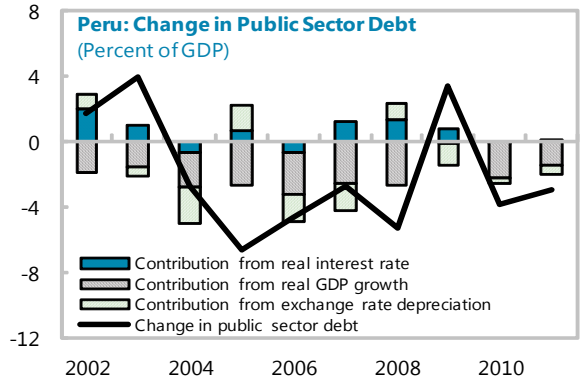
Figure 1. Peru: Debt Reduction with a Cross-Country Perspective (2000-11)







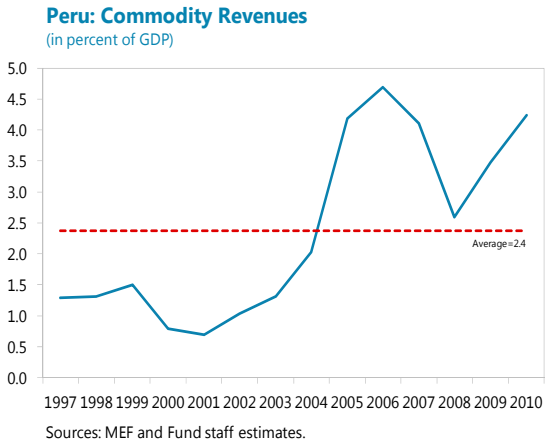




Sources: WEO; and Fund staff estimates.
1/ Excludes Emerging Asia
Note: LA5 includes Chile, Colombia, Brazil, Peru and Mexico.

6. Public sector debt is well below prudent thresholds discussed in the literature. When comparing to other countries with natural resources, the debt-to-GDP ratio seems relatively high (i.e. Chile (11 percent of GDP), Russia (12 percent of GDP) and Kazakhstan (10½ percent of GDP), but is well below the parameters of debt adequacy reported in the literature. A debt-to-GDP ratio of 40 percent is often noted as a prudential limit for developing and emerging economies. This threshold is lower than in developed countries due to lower development in local capital markets and higher uncertainty about external financing conditions (Kumar and Woo (2010)). While there is a tendency to treat these benchmarks for debt-to-GDP ratios as "optimal" in the specific sense that crossing these thresholds poses threats to debt sustainability, this may not be necessarily the case. Debt intolerance would depend on many country-specific factors (growth dynamics, financing costs, exchange rate movements, among others). IMF (2003) noted that, based on past fiscal performance, the sustainable public debt level for a typical emerging market economy may range between 25 and 50 percent of GDP, depending on the approach considered. Emerging market economies have shown inability to generate adequate primary surpluses, in part due to weak revenue bases (with lower yields and higher volatility) and being less effective at controlling expenditures during economic upswings. Mendoza and Oviedo (2004) find that the sustainable level of debt for emerging market is around 45 percent of GDP. More recently, Reinhart and Rogoff (2010) notes that an increase in public debt above a certain "threshold" would affect negatively economic growth, feeding adversely back into debt sustainability. For emerging market economies, the authors found that central government debt in excess of 90 percent of GDP has typically been associated with mean growth of 1 percent versus 4–4½ percent when debt is low (under 30 percent of GDP).[4] Additionally, there is evidence that countries with high debt levels are more likely to achieve lower economic growth, with a higher probability of facing an economic crisis.

7. Strong fiscal performance and debt reduction have been supported by elevated commodity prices.[5] Fiscal reliance on commodity related revenues have increased in recent years, in part because of hikes in commodity prices. Commodity–related revenues accounted for 4 percent of GDP in 2012. Additional revenues have facilitated the generation of fiscal surpluses and some accumulation of public sector savings—the latter accounting for about 15 percent of GDP. However, the fiscal framework in Peru only embodies some countercyclical elements in



[4] The authors also show that growth thresholds for external debt (public and private) are considerably lower than the thresholds for total public debt. Growth deteriorates markedly at external debt levels over 60 percent of GDP, and further when external debt levels exceed 90 percent of GDP.

[5] For details on the role of commodity prices in export performance, see accompanying paper "*Peru: Trade Patterns and Policy Challenges*". For an overview of recent experience in Latin America, see Villafuerte et al. (2010).

response to output or commodity-price shocks. The combination of a provision for a moderate deficit on the downside, and an expenditure cap on the upside, allows for some countercyclical policy. But it does not build in a fully countercyclical response in the face of shocks to output or commodity prices; nor does it incorporate intergenerational equity considerations specifically into fiscal policy formulation. In particular, the framework has no *ex-ante* direct mechanism for saving during long-lasting high commodity price cycles.

8. Under the FRTL, prospects for further debt reduction remain positive. The debt-stabilizing primary balance stands at a deficit of 0.6 percent of GDP (see Table A2 of the accompanying staff report), against the prospects of maintaining small surpluses over the medium term. Further, the accumulation of funds at the FEF will reach 3.9 percent of GDP after the 2012 surplus, close to its legal cap of 4 percent of GDP, with additional surpluses in the Treasury account being devoted to debt reduction. There has also been additional deposit accumulation, and the authorities have recently announced their intentions to prepay debt during 2013. Going beyond the baseline scenario, Rial (2010) showed low risks for debt sustainability under the fiscal rule, using stochastic scenarios that took into account the historical distribution of shocks for Peru. Since the overall deficit cannot exceed 1 percent of GDP, the distribution is skewed towards the downside and the risk of debt increasing over 30 percent of GDP is low. Staff projects public debt to decline to 15 percent of GDP by 2017.

9. However, fiscal sustainability could be compromised by contingent liabilities. While it is unlikely that all contingent liabilities will materialize, they are relevant for Peru.[6] One would need to make an assessment of the probability distribution that links the realization of contingent liabilities to fiscal costs. Beyond judicial claims, Peru is also prone to natural disasters that could put pressure on public expenditure, being mainly exposed to climate change and earthquakes. Cooper and Moron (2010) categorize natural disasters (earthquakes), according to their cost impact, by recurrent (up to 0.3 percent of GDP), severe (between 0.3 and 3 percent of GDP) and catastrophic (above 3 percent of GDP).[7] Finally, the global financial crisis in advanced economies has shown that contingent liabilities arising from the financial sector could also be significant. Despite of a well-capitalized and profitable financial sector, Peru is still a highly dollarized economy and government debt is subject to exchange rate risk, as about half is foreign-currency denominated. Consideration needs to be given also to contingent financing needs that could rise as a result of a financial shock. In this regard, the authorities could start incorporating regular discussions of fiscal risks to get a better grasp on fiscal risks and increase public awareness. An application of the Value-at-Risk (VaR) methodology to the public sector balance sheet could provide a more comprehensive assessment of

[6] In Appendix D of MEF (2011), the authorities reported fiscal contingent liabilities for US$4.5 billion, mostly from nonfinancial guarantees associated with PPPs.

[7] The authors suggest that recurrent events (up to 0.3 percent of GDP) could be financed through the budget; and more severe events (up to 1 percent of GDP) could be financed through a contingency reserve that builds up buffers with additional sources from the fiscal stabilization fund. For more severe and catastrophic events (up to 4 percent of GDP), the authors suggest debt financing as long as long-term sustainability is ensured. More catastrophic events could be covered through insurance or the issuance of catastrophic bonds.

Peru's fiscal sustainability. Among other things, fiscal risks are incorporated and may include interest and exchange rate movements, commodity price changes and output fluctuations. The VaR presents a numerical estimate of the potential loss in net worth the government could face over a given period of time if a "worst-case" scenario were to develop.

10. Current low debt levels do not fully guarantee fiscal sustainability going forward. Stress episodes that affect economic growth and access and cost to finance can change debt dynamics rapidly, as observed in some euro area countries since the 2008–09 global financial crisis. In part, this is due to the recognition of newly acquired contingent liabilities (e.g. financial sector bail-outs), but also because of detrimental growth dynamics. In this regard, one would need to take into account the fact that Peru is still a dollarized economy and that contingent liabilities could be higher at times of stress.

11. Despite these risks that could threaten fiscal sustainability, this is a good time for Peru to reconsider its debt reduction strategy. Given its low debt levels, and the positive outlook for public finances, one wonders whether continuing with the debt reduction strategy remains appropriate for Peru. While reducing indebtedness will improve the sovereign's credit profile, Peru already compares positively to its peers in this category. In light of projected fiscal surpluses, the priority may need to shift toward building up fiscal assets. Barring significant policy changes, the economic outlook is positive, with strong demand dynamics driven by elevated commodity prices, strong capital inflows and investment. Growth is projected to hover around potential growth (at 6 percent) over the medium term, with inflation at around 2 percent. Net debt stands at about 3¾ percent of GDP, one of the lowest among emerging market economies. The strong fiscal position, with low gross public debt levels and some savings in the current environment of elevated commodity prices, provide also the opportunity to enhance the counter–cyclicality of the fiscal stance and to build further fiscal buffers in light of contingent liabilities and intergenerational equity considerations. Shifting towards asset accumulation will require implementing a comprehensive strategy for public sector asset and liability management, which will facilitate shifting towards a risk-based analysis of the public sector balance sheet.

12. There are also benefits to government debt, especially for countries like Peru with a presence in international capital markets. Peru's presence in international capital markets helps build a broader investor base and facilitates access to international financing to the private sector. To serve as a reference, it is important to maintain relatively liquid markets. Following a strategy of further reducing gross debt could hamper access to international capital markets in the future, especially at times of financial stress, because of a reduced investor base. Therefore, the sovereign could start putting in place a strategy that goes beyond liability management and focuses on further accumulation of financial assets, as done by other resource–rich emerging market economies. This will encompass further reductions in net debt and the buildup of additional fiscal buffers that could address concerns about a worsened growth outlook given heightened uncertainty in the external environment.

C. Considerations to Define a Savings Target in Peru

13. In a resource-rich country like Peru, the fundamental challenge is to transform resource wealth into a portfolio of other assets to support sustained development.[8] Two major questions for policy makers in natural resource-rich countries like Peru are: (i) how much of resource revenues to consume and how to save (invest) the remainder; and (ii) how to cope with the uncertainty and volatility of resource revenues.[9] In the short and medium term, designing policies to cope with that uncertainty and volatility may be a more pressing challenge than dealing with the exhaustibility of the resources, especially where there is a relatively long extraction horizon. Uncertainty may relate to how large the resource reserves are, how much will be extracted in a given period, what prices will be on average and how volatile prices are likely to be in the short term. These factors complicate macroeconomic management and stimulate demand for precautionary savings to cope with unforeseen swings in resource envelopes and smooth consumption spending. Addressing volatility will require an adequate (minimum) level of reserves (savings) and the use of specific market-based instruments like over-the-counter forward contracts to lock in prices or hedge price risk with options.

14. Incorporating a savings target in Peru requires an assessment on how best to manage natural resources. In revamping the fiscal framework, two elements could be addressed to enhance fiscal policy management in Peru. First, the fiscal framework should maintain mechanisms to avoid the boom and bust cycles that stem from volatility in natural resource revenues. While the current fiscal framework in Peru contains some elements that reduce pro-cyclicality, the fiscal stance has not been sufficiently counter-cyclical.[10] Despite elevated commodity prices, the public sector has generated relatively small structural surpluses. Thus a counter-cyclical policy would imply running higher fiscal surpluses. Second, over a longer time horizon, considerations related to intergenerational equity on the management of resource wealth could call for higher savings, depending on the resource horizon.

[8] For a comprehensive discussion on the management of resource revenues and macroeconomic policy frameworks for resource rich developing countries, please see IMF (2012). See also Box 11 of MEF (2011) for a stocktaking of the role of natural resources in the Peruvian economy.

[9] According to IMF (2012), the volatility of total expenditure is over 60 percent higher in resource–rich countries than in comparators and, while fiscal policy has become less pro-cyclical over the last decade, the boom-bust cycle has not been eliminated.

[10] Managing Peru's mineral wealth is complex because of decentralization arrangements giving regional and local governments a claim on mining revenues. Subnational governments generate only marginal own revenues, with their main source of income being transfers from natural resource revenues. Subnational governments receive 50 percent of the canon. All royalties paid by mining companies are transferred to the region where exploration takes place. Hydrocarbon exploration companies also pay royalties (about 25 percent of production), half of which are transfers to subnational governments. Furthermore, transfers from mining revenue can be used only for capital spending, which is usually under-executed and results in subnational governments' accumulating financial assets despite running overall deficits.

15. In order to bring the savings target into the fiscal framework, one possibility is to consider the non-resource primary balance (NRPB). The NRPB is anchored around the expenditure envelope that could be maintained over the long term and is consistent with the stabilization of the net resource wealth. The NRPB is defined as the difference between non-resource revenues minus primary expenditure. The overall fiscal balance can be decomposed into resource revenues and non-resource revenues, primary expenditure, income from the initial stock of financial assets and interest payments on the initial stock of liabilities. The overall fiscal balance is also equal to the change in the net financial assets. Over long horizons, the NPV of future resource revenues should be equal to the NPV of future non-resource primary balance deficits. Over shorter horizon, calculations should be done to maintain a stable level of net wealth.

16. In Peru, these considerations for savings need to be balanced against expenditure needs that could boost potential economic growth. Peru has pressing social needs (with elevated poverty in rural areas) and ranks relatively low in education and human capital. There are also large infrastructure investment needs that could enhance economic growth in the future (Box 2). On the other hand, Peru is faced with short- and medium-term capacity constraints that could hamper the effectiveness of public investment. It may be advisable to take a gradual approach to expanding spending and save more of the resource revenues in financial assets even if only temporarily. More of the resource revenue could then be saved in financial assets while investment capacity is build domestically. Berg et al (2012) propose a "sustainable investing" approach, in which public investment is scaled up gradually in line with institutional and absorptive capacity constraints. Sustainable investing can minimize the impact of volatile commodity prices on the domestic economy, mitigate Dutch disease, and reduce the costs of absorptive capacity constraints.

17. Alternative approaches take into account Peru's development needs. An analysis of scenarios for the case of Peru could be premature, and would require an assessment of the investment needs and absorption capacity as well as an objective of precautionary savings to deal with uncertain resource horizons and revenue volatility as a result of large swings in commodity prices. These approaches could help anchor fiscal objectives over the medium term.

- ***A modified permanent income hypothesis (MPIH).*** This approach builds on the permanent income hypothesis (PIH) but accommodates scaling-up of public investments, by "saving" less natural resource revenue on the basis that some frontloading of consumption spending could be welfare enhancing and that higher investment could have a lasting impact on development. This is the option most practiced (although the rate of failure is high), and in the case of Peru, the focus should be on higher investment rather than current expenditure. The higher capital spending would directly reduce the NRPB during the front-loading years.

- ***Fiscal sustainability framework***. This framework explicitly takes into account the inter-temporal budget constraint and incorporates ex ante the expected impact of higher investment on growth and non-resource revenues. Therefore, it provides a long-run benchmark for the NRPB that gradually draws down net wealth. This approach therefore allows for a stabilization of net wealth at lower levels than with the PIH or MPIH framework. Higher investment is assumed to have a positive impact on growth, which generates higher non-resource revenues, but also

leads to an increase in operation and maintenance expenditures. Both variables affect the NRPB, but the key feature is that his framework allows for a fiscally sustainable level of financial wealth that is lower than in the PIH or MPIH. The specific stabilizing target for net wealth (and the time horizon by which it is to be achieved) is country-specific since it involves estimating the interactions between government spending needs and non-resource growth.

Box 2. The Challenges of Closing the Infrastructure Gap[1]

Despite recording high economic growth in the last decade, Peru has a significant infrastructure gap that could hinder maintaining high growth in the future. According to *Instituto Peruano de Economía* (IPE, 2009), as of 2008, the infrastructure gap was estimated at about 30 percent of GDP for the next decade. The assessment was based on Peru reaching Chile's infrastructure level in 2018. The study is based on coverage indicators for sanitation and water supply, density for phone lines and electricity coverage, and incorporates targets that evolve over time, according to population growth and economic activity projected by 2018.

Peru: Infrastructure Gap Estimates in 2008

Sector	2008 Gap (in percent of GDP)	In percent of total
Transportation	11.0	37.0
Water sanitation	5.0	16.7
Electricity	6.6	22.0
Natural Gas	2.9	9.9
Telecommunications	4.3	14.4
Total	**29.8**	**100.0**

Source: IPE (2009).

Despite progress in infrastructure investment in the last decade, the infrastructure gap is increasing as needs are rising rapidly. The gap is largest for the transportation sector, which concentrates 37 percent of the total infrastructure gap. This may reflect delays in channeling projects through *Proinversión*, Peru's private investment promotion agency and the lack of public investment in this sector. Peru lags behind other countries in the region with regards paved roads (which amount to about 14 percent of total roads in 2006 according to the World Bank Development indicators) and the quality of road infrastructure (ranking 99th out of 134 countries, according to World Economic Forum).The deficiency noted on electricity and natural gas is mainly due to higher domestic demand, which may generate supply pressure in the coming year. Water sanitation represents only 17 percent of the total infrastructure gap, bearing in mind that the study only takes into account the gap in coverage, without taking into account replacement efforts, continuity, and tariff adjustment, among other elements.

Adequate infrastructure will be crucial to ensure sustained high economic growth going forward. In order to ensure that Peru can close its infrastructure gap, it will be important to define a national investment strategy that identifies priorities and resources, defines the extent of private sector involvement in projects, and establishes adequate control mechanisms that ensure the quality of investment. Pairing these efforts with additional ones to boost human capital will help support trade openness and enhance competitiveness, which in turn will enhance Peru's economic growth.

1/ This box is based on IPE (2009).

18. The savings target should be chosen to support government policy objectives as effectively as possible, with as little distortion to the fiscal framework and as little administrative cost as possible. Once the objectives have been defined, the next question is how to manage savings. A popular vehicle for managing public savings has been the Sovereign Wealth Fund (SWF). For any such funds, the most fundamental design element is the specification of the rules governing inflows to and outflows from it. These rules are key, not only because they define the size and nature of the SWF, but also because they can ensure or undermine its consistency with the rest of the fiscal framework. Further design provisions can also contribute to ensuring that the SWF supports rather than inadvertently supplants normal fiscal policy channels. Finally, one aspect of SWF design is to ensure that it is a fully integrated element of the over-arching public financial management system.

19. The calculation of the optimal savings level will depend on the structure of the public finances, the rest of the fiscal architecture, the macro-environment, and the nature of the shocks hitting Peru. The maintenance of an adequate stabilization buffer to deal with volatility in resource revenues will in turn define the scope for pursuing a long-term savings objective. Also, in the short term, higher savings may be warranted in light of capacity bottlenecks. Any redistribution of assets between the 'savings tranche' and the 'stabilization tranche' (say, after a run of negative shocks that depletes the stabilization buffer) will come out of a rebalancing exercise that reconstitutes the optimal buffer.[11]

D. A Proposed Framework for Managing Public Savings

20. In managing public savings, sovereign wealth funds (SWFs) have become popular. SWFs are, in essence, organizational tools for public financial managers. Their spreading popularity reflects the desire of the authorities to have a better-defined mechanism for managing public financial assets, with a variety of rules governing financial inflows and outflows (Box 3). Thus, a critical component of implementing an SWF is the integration of its operations with the rest of the treasury function. Since SWFs are fed by government savings, and since the exercise of any SWF stabilization function will require flows between the SWF and the budget, the operational and institutional arrangements for incorporating the fund into the public financial management (PFM) system need to be clearly articulated. Similarly, the legislative framework surrounding the SWF needs to be robust in order for it to interface smoothly with the ordinary business activities of government.

[11] The precise specification of an appropriate investment strategy for accumulated financial assets goes beyond the scope of this paper.

Box 3. Sovereign Wealth Funds, by Type of Funding Rule

SWFs can be broadly classified in three groups according to the rules governing their financial inflows and outflows:

- **Contingent funds** have price- or revenue-contingent deposit or withdrawal rules. Many oil stabilization funds (e.g., in Algeria, Mexico, and Trinidad and Tobago) specify a threshold price (say for example US$70 per barrel) or oil revenue, with any excess/shortfall above/below the threshold being transferred to/from the fund.

- **Revenue share funds**, in this case, the SWF is fed by a predetermined share of revenue. Some saving funds (e.g., the Fund for Future Generations in Gabon and Kuwait; the fund in Kazakhstan) operate under this modality. Peru's FEF receives (inter alia) a share of privatization and concession receipts.

- **Financing funds** link their inflows/outflows directly to the government's overall balance (net inflows should be equivalent to the overall fiscal balance), making them mirror images of the fiscal position. The Chilean Fund for Economic and Social Stabilization and Norway's Government Pension Fund-Global (GPF-G) operate under this modality. Norway's GPF-G follows a bird-in-the-hand rule. The fiscal position (to be financed by the fund) is restricted to the income earned from the assets already in the fund.

21. Given Peru's economic situation, public savings should be used for both stabilization and wealth accumulation purposes. Its economic characteristics and environment are comparable to that of other countries with natural resource-based sovereign wealth funds. Notably, Chile and Norway are both small open economies which benefited from resource windfalls, and channeled some of the earnings into SWFs. Both countries used their SWFs as vehicles to build up enough fiscal resources to allow fiscal policy to smooth the impact of the economic and commodity cycles. Both also designed funds to accumulate savings over the long term, to compensate for the eventual depletion of their natural resources. Peru is in a comparable position, although resource revenues are less important for the public finances and real economy.

- ***On fiscal and macro-stabilization***, Peru equally needs to address the impact of the volatility and uncertainty of mineral revenues on inflation, the real exchange rate, and real GDP growth. The fact that regional and local governments are so heavily dependent on mineral revenues is an added argument for smoothing the impact of volatility, since these are typically less able to adjust than is the central government. More generally, Peru shares the same characteristics of being a small open economy, where output swings can be dramatic, since domestic cycles are augmented by terms of trade shocks and other external spillovers.

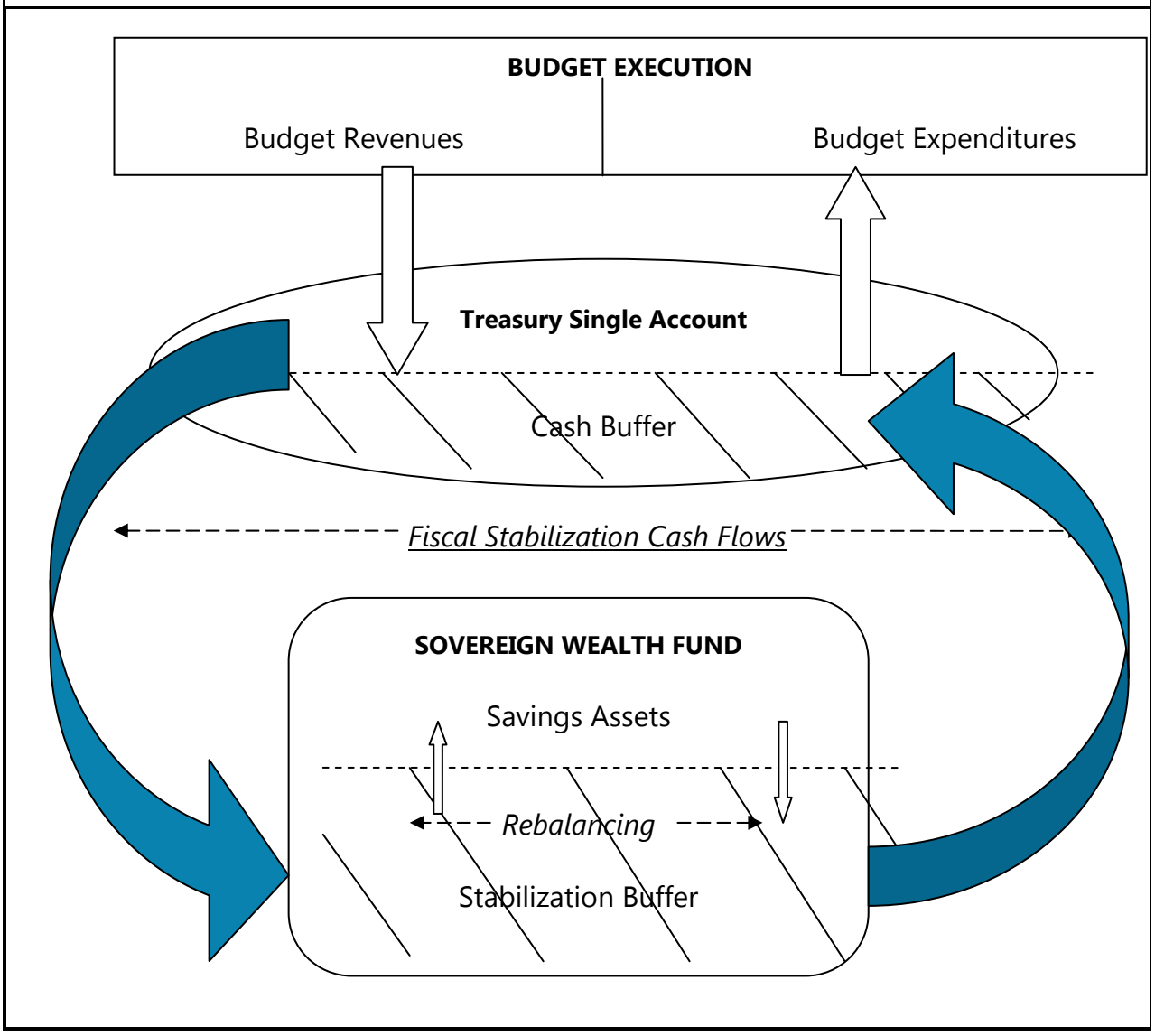
- ***On building up financial savings***, like Norway and Chile, Peru can benefit from provisioning for the exhaustion of mineral resources, particularly since there is uncertainty about how long the current high prices will persist and how long resources will last. Moreover, a main concern for Peru is that contingent liabilities or natural disasters could exceed those it had to pay for during its benign recent history. While full provisioning for rare 'black swan' events is unlikely to be optimal, there is a case for at least some precautionary savings beyond the buffer needed for predicted stabilization needs.

22. The success of SWFs with stabilization and savings objectives has been mixed, highlighting the importance of consistency between SWF operations and fiscal policy, and their operational flexibility. In general, the experience of countries suggests that an SWF is most likely to survive when the government always has sufficient resources to finance required transfers from the budget to the fund (in high-cycle periods or for saving) and from the fund to the budget (for counter-cyclical policy in a down-swing or to pay for emergencies), and if the fund's arrangements are flexible enough to respond to changing circumstances. If not, the government might have to borrow to meet its specified objectives, pressures will build up to change or bypass the fund's operational rules, and the credibility of the stabilization and savings frameworks becomes undermined.

23. Considering financing-fund operational arrangements, budget balances could flow through a stabilization buffer held within the SWF. For this reason, operation of the stabilization buffer will be closely linked to the MEF's central government cash management process. In Peru, where cash flow forecasting and active cash management continues to be developed, the budget department operates a commitment control mechanism whereby spending units are provided with monthly budget releases at the start of each quarter. The treasury single account (TSA) is relatively well established and has reasonable coverage of central government business. It would be appropriate, therefore, to retain a targeted buffer level of cash in the TSA for daily fluctuations in revenue and expenditure mismatches. Where the actual level of cash in the TSA is above or below the target, the difference should be passed to, or from, the SWF stabilization buffer. (Figure 2).

24. The financing fund model of a SWF minimizes operational rules for inflows and outflows through the stabilization buffer to the TSA. Where the principal source of structural revenue variation derives from movements in commodity prices, these can automatically be accommodated through the stabilization buffer as budget execution proceeds. When commodity prices are higher than budgeted, the corresponding surplus revenue flows into the stabilization buffer as the TSA is rebalanced periodically. Similarly, when prices are lower, the required extra resources are furnished by withdrawals from the stabilization buffer. Earmarking of stabilization buffer funds is not permitted since they are destined for general budget support through the TSA as required. If it is necessary to amend budget plans to maintain the fiscal target during the year, this should be performed by means of supplementary budgets which amend budgeted expenditure as required. Thus, if there is a shortage of non-structural (or non-commodity) revenue during the fiscal year for reasons such as lower inflation or general economic activity, this must be met through reduced expenditures and not by an extra resource inflow from the stabilization buffer.

Figure 2. Interface of SWF with Budget Execution and Cash Management



25. Internationally, many examples of SWFs have started with the objective of fiscal stabilization and have grown into large savings funds. The FEF has worked *de facto* as a savings fund as its rules proved too stringent for stabilization—mainly because two quarters of declining GDP are needed before funds can be used, and they are then capped. The FEF was not used for the fiscal stimulus package, mainly because discretion regarding the timing of inflows to the FEF allowed the government to apply adequately the Treasury surplus to the stimulus. Savings accumulation should be allowed under the structure of a SWF, should commodity prices maintain their current strength and trend. This structure requires operational rules which (i) allow excess funds in the stabilization buffer to be transferred to the savings tier, and (ii) restrict flows back into the

stabilization buffer to long-term planning or contingency situations. Any excess funds in the stabilization buffer should be transferred to savings assets for longer term investment.

26. Savings assets may need to be mobilized to support the stabilization objective in case of a sustained negative commodities revenue shock. Consideration could be given to smoothing the decline of the stabilization buffer once it reaches a certain threshold to avoid the need to take costly spending adjustments or to borrow expensively. However, this mechanism would need to be accompanied by assurances that fiscal adjustment is being introduced in response to a (permanent) change, or else the savings component may also succumb to rapid depletion. The calculation of the stabilization buffer is based on the premise that there is a low probability it could be depleted under historically-based shocks. Unless its level becomes abnormally low, it should be replenished by inflows from budget surpluses. Therefore short-term requirements other than those specifically considered to be contingencies should not be met by withdrawals from the savings assets. For day-to-day cash shortages when the stabilization buffer is low, use should be made of expenditure restrictions and/or short-term borrowings to replenish the TSA buffer.

27. Saving entails the long-term investment of assets and any alternative use of these funds entails careful consideration. The authorities will need to decide the circumstances under which it will allow savings assets to be used to top up the stabilization buffer if required in the rebalancing process. These circumstances may be specifically of a long-term nature, such as covering pension liabilities already incurred, or short-term and contingent, such as financial relief from natural disasters including earthquake, tsunami, or El Niño effects. The current and proposed fiscal frameworks encompass situations such as these, which allow for escape procedures from the fiscal rule implementation.

28. It will be critical to ensure the legitimacy, performance, and accountability of an SWF. There is no single formulation that fits all cases given the variety of economic, legal, and institutional arrangements across countries (Box 4). The design and implementation of institutional arrangements will have to be tailored to the specifics of Peru. However, there are some stylized elements that can serve as a guide. Robust accountability and transparency provisions—in line with international best practices—are critical to enhance the legitimacy of the SWF and prevent misuse of resources framework. Government decisions on utilizing savings assets for short-term contingencies should be consistent with this aspect of fiscal rule implementation—and will be ultimately based on a cost-benefit analysis.

Box 4. Institutional Arrangements, Transparency and Accountability of SWFs.

- **The organizational structure of a SWF should clearly distinguish decision making by the owner (i.e., the authorities), and operational implementation.** The setup would apply whether the SWF was established as an autonomous body (such as Temasek in Singapore), or as an account at the central bank or other operational manager (e.g., as in Norway or Chile). General directives could be provided by a governing council representing the authorities, while more detailed policy formulation and management of the SWF are carried out by a supervisory committee.

- **In line with best practice, the authorities should, in principle, be responsible for the investment policy**, which includes the strategic asset allocation (SAA) of the fund. In practice, different models exist, with the SAA determined by either the governing council or the supervisory committee. The choice between governing council and committee reflects the trade-off between ownership and representation on the one hand, and efficiency in decision-making on the other.

- **The success of a SWF will depend in large part on the quality of the fund's management, proper oversight, and the transparency of its operations.** Accountability provisions need to cover various dimensions, including accounting, internal control and audit, external audit, and general oversight. The specific arrangements vary country by country, depending on the precise legal and institutional frameworks in place. The oversight of SWF operations should involve complementary and reinforcing work of agencies and operational units.

- **Transparency and disclosure through frequent reporting is critical to show that the SWF is fully accountable.** In line with the *Santiago Principles* (2008), any laws and regulations governing the SWF, including the corporate governance arrangements that frame the SWF's operations and relationship with other public institutions and SWF operational rules and investment/risk strategies should be disclosed. In terms of transparency, the requirements for a SWF should be similar to those of other entities that are responsible for government financial functions as summarized in guidelines by the IMF and OECD. SWFs should disclose the size and type of financial assets and the gross flows of revenue and spending (e.g. management fees). Audited balance sheets and statements on operations and performance should be regularly published. In addition, an annual report should also include investment performance statements. Quarterly reports could include unaudited balance sheet and profit & loss statement, inflows and outflows, and expenses.

E. Concluding Remarks

29. This is a good time to evaluate the public sector debt reduction strategy embedded in the FRTL. Peru currently has relatively low public sector debt levels, well below prudent levels recommended by the literature, and has started accumulating assets. Despite the uncertain external outlook, the macroeconomic outlook remains positive, in the context of elevated commodity prices. To enhance the management of the public sector balance sheet, the authorities could then shift their focus toward defining a comprehensive strategy for asset and liability management. This will facilitate incorporating savings management in the fiscal framework. The fiscal commission created to help revamp the macro–fiscal framework should take the opportunity to clarify fiscal objectives in such direction.

30. In a resource-rich country like Peru, the fundamental challenge is to transform resource wealth into a portfolio of other assets to support sustained development. Two major questions for policy makers in natural resource-rich countries like Peru are: (i) how much of resource revenues to consume and how to save (invest) the remainder; and (ii) how to cope with the uncertainty and volatility of resource revenues. In this regard, incorporating a savings target in Peru requires an assessment on how best to manage natural resources. The current framework is procyclical, especially at times of commodity price booms; and there is a need to incorporate intergenerational equity considerations in the management of resource wealth. In Peru, these considerations for savings need to be balanced against expenditure needs that could boost potential economic growth. In turn, those need to be balanced with capacity absorption constraints that may hinder the quality of investment in the short-term.

31. In managing public savings, Peru could consider a sovereign wealth fund (SWF), which has become popular across resource rich countries. Given Peru's economic situation, public savings should be used for both stabilization and wealth accumulation purposes. Peru equally needs to address the impact of the volatility and uncertainty of mineral revenues and can benefit from provisioning for the exhaustion of mineral resources. Operationally, a proposed financing fund model ensures consistency of the SWF fund with the fiscal framework while minimizing the operational rules for inflows and outflows through the stabilization buffer to the TSA. Budget balances could flow through a stabilization buffer held within the SWF. Funds accumulated beyond stabilization purposes will then be dedicated to long-term savings. To make the SWF a successful tool within the fiscal framework, it will be critical to ensure the legitimacy, performance, and accountability of an SWF.

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TRADE EVOLUTION AND POLICY CHALLENGES[1]

Peru has been achieving high and stable economic growth since the mid 2000s largely underpinned by prudent macroeconomic management and favorable terms of trade. Buoyant commodity prices, especially for copper and gold, have benefitted Peru both in terms of expanding exports and attracting mineral related foreign direct investments. Greater diversification in products and trading partner concentration could go a long way in reducing Peru's exposure to commodity boom and bust cycles and help to put economic growth firmly on a sustainable path.

A. Introduction

1. Peru's trade openness has risen significantly in the last decade. Trade openness—measures as the sum of exports and imports to gross domestic products—increased to 47 percent of GDP in 2011, a great leap from 27 percent of GDP in 2002. This upward trend in trade openness was underpinned by an expansion of exports which increased seven times in nominal terms during 2000–11, on the back of the global commodity price boom. The international price of copper—one of the key exports, rose close to 400 percent in the last decade (2000–11). Imports as a share of GDP also surged rapidly during 2007–08, fueled by buoyant domestic demand and foreign direct investment inflows. Peru's exports and imports contracted sharply, with the negative terms of trade shock of about 17 percent, during the global crisis in 2008–09. However, by 2011, Peru's trade to GDP ratio has largely recovered to the pre-crisis peak. Trade liberalization and the establishment of free trade agreements (FTAs) with its key trading partners have also helped in increasing Peru's trade openness.[2] Among the LA6 economies, Peru's achieved the largest gain in trade openness during the 2000–11 period, emerging as the third most open economy to trade in 2011 (Figure 1).[3]

2. Higher openness was accompanied by rising share in world trade. The share of Peru's exports in world exports increased from 0.11 percent in 2000 to 0.28 percent in 2011. This represented an expansion of about 2 ½ times, and was larger than any other LA6 economy (which increased on average by 1½ times during the same period). At the same time, the share of Peru's imports doubled from 0.12 percent of world imports in 2000 to 0.22 percent of world imports in

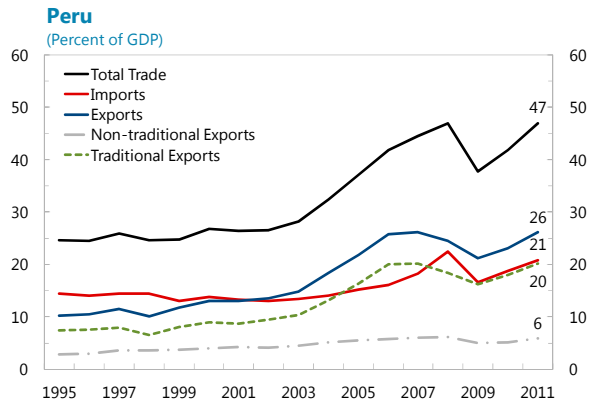
[1] Prepared by Y. Wong (WHD).

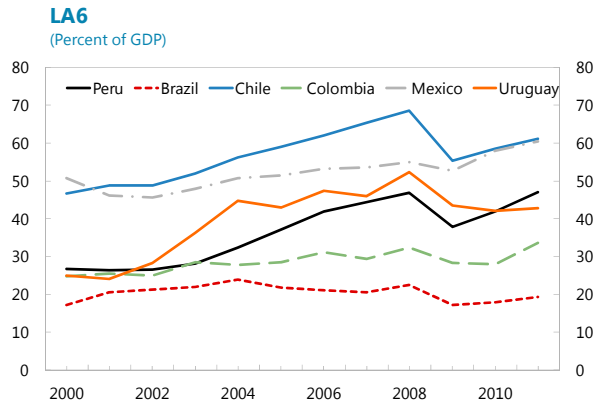
[2] At present, Peru has ten bilateral FTAs with, Canada, Chile, China, Cuba, Mexico, Panama, Singapore, Korea, Thailand and the United States, and regional FTAs such as that with the European Free Trade Association (EFTA), Andean Community, and MERCOSUR. Several others (including FTAs with the European Union (EU) and the Trans-Pacific Partnership (TPP)) are in the pipeline of entering into force or in negotiation.

[3] It is worth noting that some of the recent gain in trade openness could be seen as reversing a previous decline. Peru's trade represented 34 percent of GDP in the early 1980s but declined thereafter to around 14 percent of GDP in 1987–89, a level below other comparator countries. Structural impediments appear to be the major constraints to increase trade, including limited investment outside of the mining and gas sectors, high logistic costs and transportation related problems (IMF (2004)).

2011, recording a pace of expansion that topped among LA6 economies during 2000–2011 (Figure 2).

Figure 1. Peru and LA6: Trade Openness



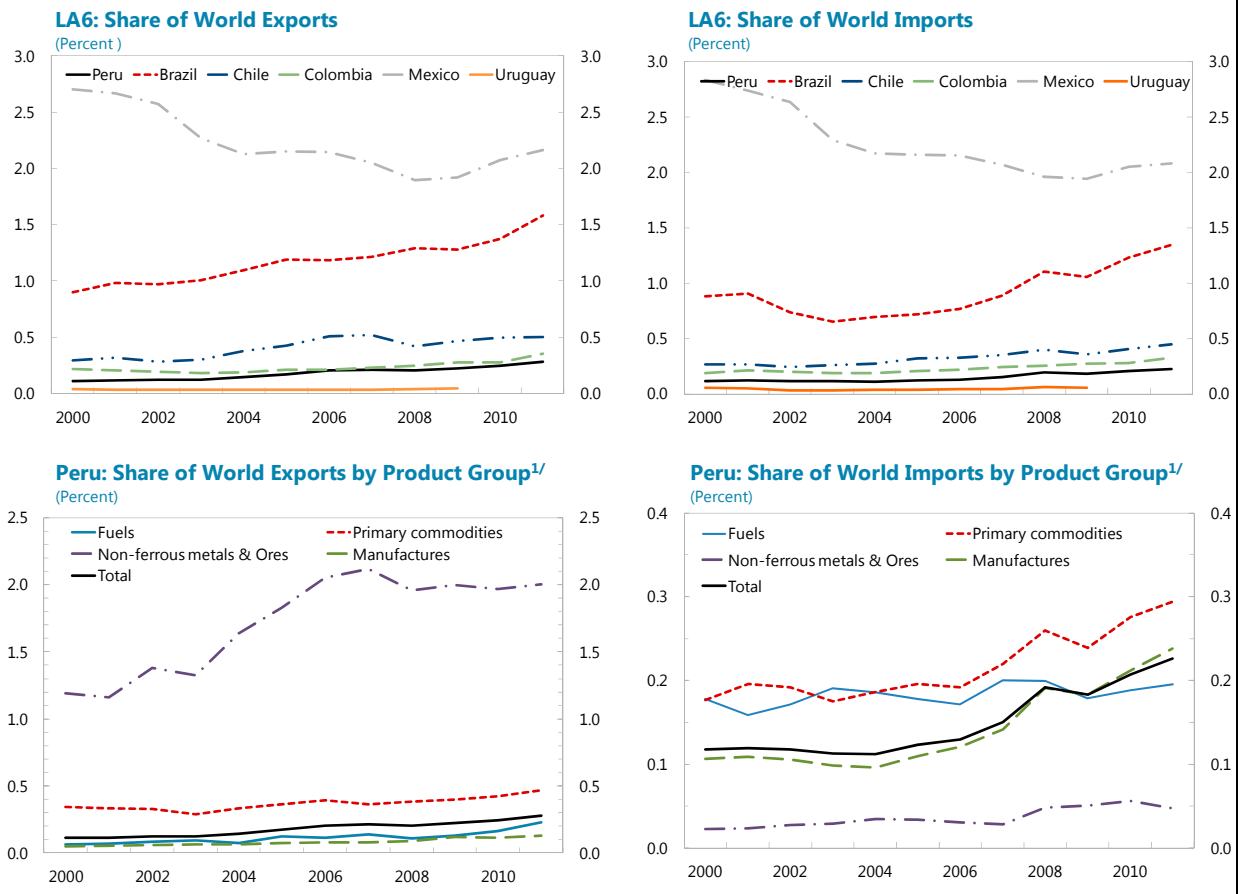


Sources: BCRP; WEO Database; and Fund staff calculations.

3. Peru has gained world market share in mineral products since mid-2000s. Peru's export of non-ferrous metals and ores expanded rapidly reaching an export market share of 2 percent of world exports since 2006 (from 1.2 percent in 2000) but is still low compared to other countries in the region. In comparison, the shares of Brazil and Chile in the world exports of non-ferrous metals and ores are 5¾ and 5½ percent respectively in 2011. Peru's exports of primary commodities, while smaller than other large Latin America primary commodities exporters such as Brazil which holds 5 percent of world exports, have also gained world market share, rising steadily to about 0.5 percent of world exports in 2011 from about 0.3 percent in the early 2000s. On the other hand, the rise in Peru's share of world imports was largely a reflection of the rising demand on primary commodities and manufactures (Figure 2).

4. This chapter provides an overview of the main characteristics of Peru's trade boom during 2000–11, with the objective of analyzing some of its principal trends and structural changes. Section B examines the evolution of Peru's mining exports during the past decade, which has been supported more by the rise in international metal prices than volume growth, and trends towards higher product concentration in mining. Section C focuses on Peru's increasing exposure to China through trade linkages and their implications. Section D provides some considerations on the merits of greater diversification in trade and economic structure that could help to reduce vulnerabilities to adverse external shocks to commodity exports, and Section E concludes.

Figure 2. Peru and LA6: World Trade Integration



Sources: UN Commodity Trade Statistics Database; World Bank WITS; and Fund staff calculations.

1/ The product groups are the sum of 1-digit SITC (Revision 3) export data as follows, fuels (SITC 3), primary commodities (SITC 0. 1, 2, 4, -27, -28), non-ferrous metals & ores (SITC 68, 27, 28), and manufactures (SITC 5, 6, 7, 8, 9, -68).

B. Riding on the Commodity Price Boom

5. The mining sector is shaping the pattern of economic development in Peru. The importance of the mining sector more than doubled from about 5½ percent of GDP in 2000 to 12 percent of GDP since 2006 at current prices. While the mining sector has become a larger part of the economy, real growth in the mining sector slowed to an annual average of 2.2 percent in 2006–11 (from 7.2 percent in 2000–05). On the other hand, the share of agriculture and fishing (8.5 percent in 2000 to 6.9 percent of GDP in 2011) and the tertiary (62 percent in 2000 to 57 percent of GDP in 2011) sectors both declined at current prices while the secondary sector has remained at around 24 percent of GDP during 2000–11.[4] In part due to rich resource endowment and positive terms of

[4] Secondary sector comprises manufacturing, utilities and construction.

trade shock, this pattern of economic development comes in contrast to many emerging and developing economies, which experienced a decline in the share of primary sector in the process of industrialization as production and employment first expanded in the secondary sector and then to the services sector as the economy moves up the value added chain.

Table 1. Peru: Real GDP and Mining Sector GDP Growth
(Percent change; constant prices at 1994)

	1992-99	2000-05	2006-11
Total GDP	4.4	4.0	7.2
of which: contribution by mining	0.3	0.4	0.1
Mining GDP	7.3	7.2	2.2
Share of mining GDP (percent)	4.8	6.2	5.6

Sources: INEI and Fund staff calculation.

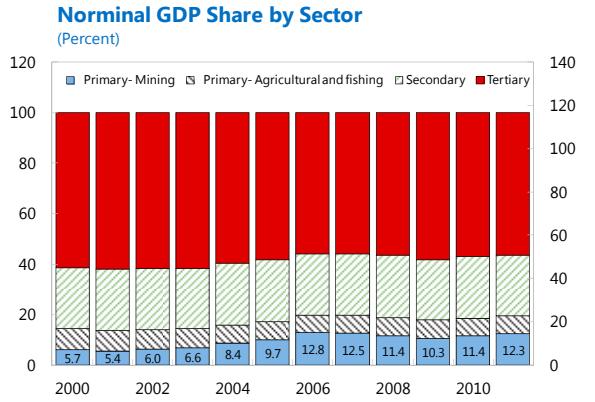
6. Traditional exports gained share steadily in the period 2000–11, reflecting expansion of mining exports. Traditional exports increased by seven and a half times in dollar terms during 2000–11 to US$36 billion in 2011, representing 77 percent of total exports (20 percent of GDP) from about 70 percent to total exports in 2000. About three quarters of the expansion came from the growth in mining exports. On the other hand, non-traditional exports accounted for the remaining 23 percent of exports (6 percent of GDP) in 2011 (Figure 3).[5]

7. Multiple metal exports have helped to reduce vulnerabilities. Mining exports increased by eight and a half times since 2000 to US$27 billion, accounting for 60 percent of total exports (15½ percent of GDP) in 2011. While Peru exports six key metals, the export structure has become more concentrated in copper (23 percent of total exports) and gold (22 percent of total exports), accounting for close to 80 percent of mineral exports (12 percent of GDP). The low correlation of gold prices with other metal prices has helped to reduce somewhat the impact of negative terms of trade shock.[6] During the 2008–09 crisis, the decline in the value of copper exports of close to 20 percent in 2009 (copper prices plummeted by about 20 percent with nearly unchanged export volume) was partially offset by an increase in the value of gold exports of 22 percent in 2009 driven by both higher prices and volumes (Figure 3).

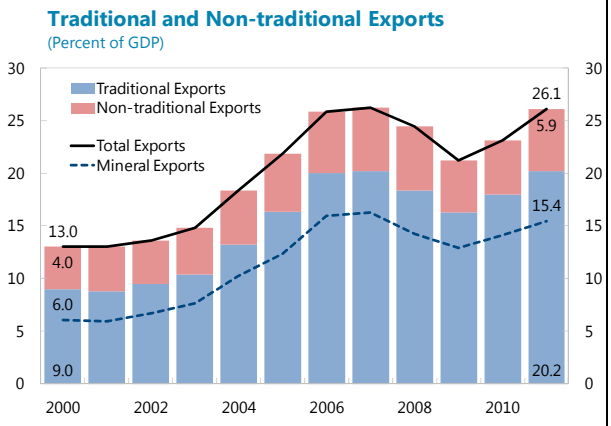
[5] In Peru's trade statistics, traditional exports refer to the aggregate category of fishing products (i.e., fish oil and fishmeal), agricultural products (mainly coffee), mineral products and petroleum and natural gas. Non-traditional exports are a range of newer products, mostly also resource intensive but with higher value-added, including other agriculture, textile, chemicals, and fabricated metal products and machinery

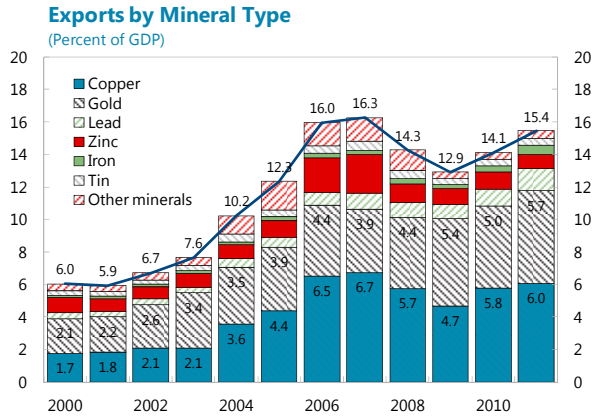
[6] Gold prices continued to rise, despite a decline in other metals prices, during the 2008–09 crisis. This is partly attributed to the status of gold as a safe haven asset, gold prices tend to increase in uncertain times or adverse economic conditions.

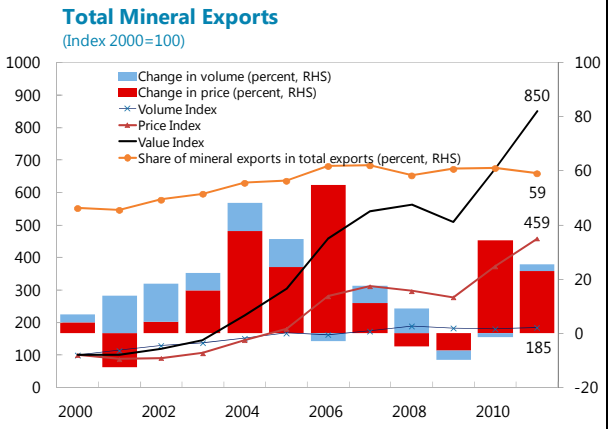
Figure 3. Peru: Mining Production and Mineral Exports, 2000–11

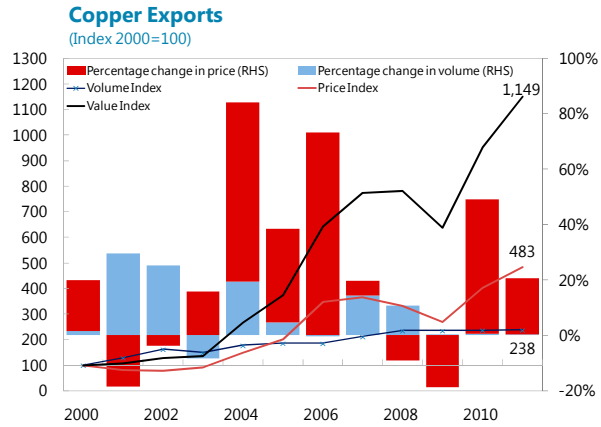


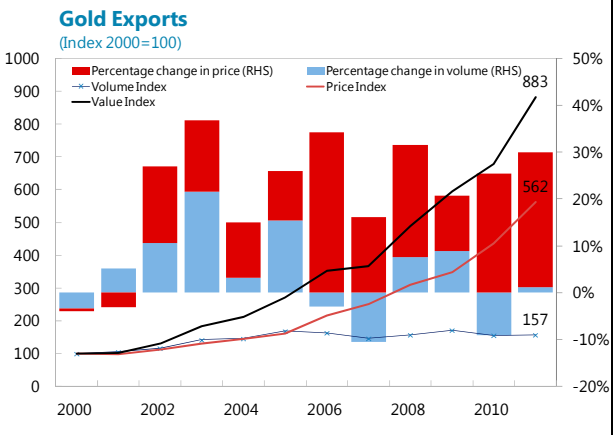
Sources: INEI and Fund staff calculations.











Sources: BCRP; and Fund staff calculations.

8. Export price growth has dwarfed export volume growth in the mining sector. One key feature that stands out during the past decade of rapid expansion in Peru's mining exports is mostly from higher prices and less from higher volume. Metal exports increased by 8½ times in dollar terms during 2000–11, with prices contributing 2½ times more than volumes to the growth of

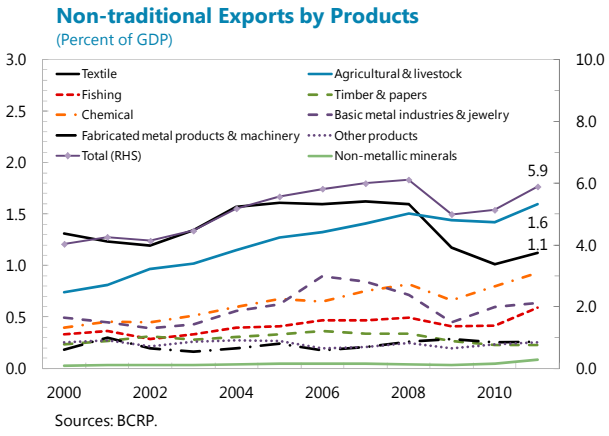
export values. More specifically, the volume of copper exports increased by less than two and a half times (to 1.3 million metric tons) against a surge in copper prices of close to 5 times during the period. For gold, the volume change is smaller at an expansion of 57 percent (to 6.4 million troy ounces) against the effect of a five and a half times increase in gold prices (Figure 3). Given that global metal prices are projected to remain largely flat towards the medium term, further growth in the value of mining exports would hinge on volume gain through new or expansion of existing mines.

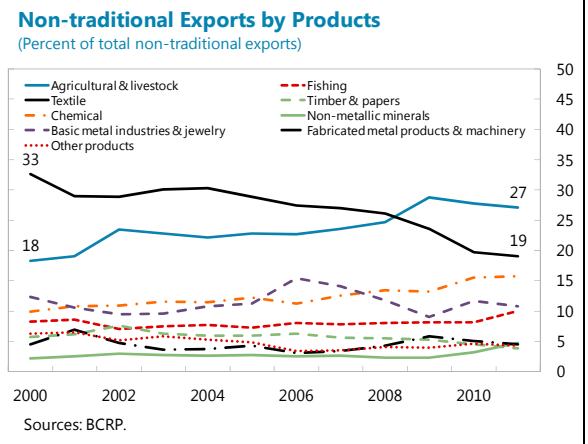
9. While non-traditional exports grew at healthy rates thanks to a rising volume, their share is still limited due to the booming prices in traditional exports. Non-traditional exports increased by five times during 2000–11 to US$10 billion in 2011 (30 percent of total exports or 6 percent of GDP). Albeit growing at an average 24 percent per annum since 2003 (excluding the temporary decline in 2009 associated with the global crisis), non-traditional exports remained at 5–6 percent of GDP since 2004 due to the rapid pick-up in traditional exports with surging mineral prices, while two major product categories, textile and agricultural and livestock, continued to account for one-half of total non-traditional exports.

10. Agricultural exports have emerged as the key non-traditional exports surpassing textile and apparel. Export of agricultural and livestock expanded by an annual average of about 20 percent during 2000–11, reaching close to 30 percent of total non-traditional exports in 2011 (from less than 20 percent in 2000). In contrast, textile and apparel exports increased by an annual average of about 10 percent during 2000–11, as saw its share declining to below 20 percent of total non-traditional exports in 2011 (Figure 4). Textile exports accounted for only about US$2 billion or 4 percent of total exports (1 percent of GDP). These recent trends largely reflect the gain in export competitiveness in Peruvian vegetable and fruits, with the notable example of asparagus which has emerged as one of the main non-traditional products exported from Peru.[7] While unfavorable exchange rate movements are often cited as one of the factors impeding the growth of the textile and apparel sectors, market analysts also highlighted factors such as shortage of skilled labors, high logistics costs, and a lack of brand names as impediments faced by textile and apparel firms in further expanding exports.

[7] Asparagus exports from Peru totaled US$480 million (0.3 percent of GDP) in 2011 almost one-half is exported to the United States, with the rest exported mostly to European markets.

Figure 4. Peru: Non-traditional Exports





Sources: BCRP; and Fund staff calculations.

11. Export concentration has risen as a result of the commodity price boom. For Peru, the top 15 export product categories by SITC 3-digit level captured more than 80 percent of total exports (Table 2). They are concentrated in agriculture, mining and fuels, in part reflecting the commodity price increases, with only one of the top 15 export categories being a manufactured product. This is also consistent with the revealed comparative analysis indicating that Peru has comparative advantage in 15 categories, mostly in agricultures and mining products, measured at SITC 2-digit level (Appendix Table 1). Similarly, export concentration increased indicating declining diversification during the past decade, similar to the trend observed in other primary commodity exporters among the LA6 economies (Figure 5).[8]

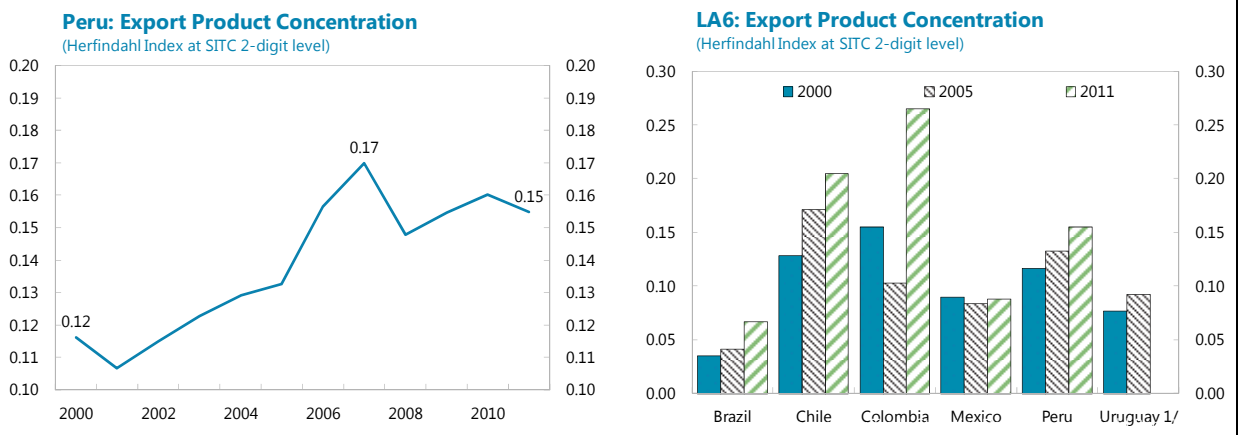
Table 2. Peru: Top Exports by Product, 2005-11
(Percent)

Rank by 2011	Category	SITC	Product	Share of Total Exports		Mil of US$
				2005	2011	2011
1	Others	971	Gold non-monetary ex ore	17.9	21.8	9,931
2	Crude materials	283	Copper ores/concentrates	8.2	17.1	7,800
3	Crude materials	287	Base metal ore/conc nes	12.5	7.9	3,606
4	Non-ferrous metals	682	Copper	12.4	7.3	3,326
5	Fuels	334	Heavy petrol/bitum oils	7.7	6.4	2,934
6	Agricultures	081	Animal feed ex unml cer.	7.0	4.2	1,902
7	Agricultures	071	Coffee/coffee substitute	1.8	3.5	1,586
8	Fuels	343	Natural gas	0.0	2.8	1,284
9	Crude materials	281	Iron ore/concentrates	1.3	2.2	1,023
10	Agricultures	057	Fruit/nuts, fresh/dried	0.9	1.7	778
11	Misc. manufactures	845	Articles of apparel nes	3.3	1.7	763
12	Crude materials	289	Precious metal ore/conc.	0.4	1.6	738
13	Non-ferrous metals	686	Zinc	1.2	1.4	623
14	Fuels	333	Petrol./bitum. oil,crude	1.1	1.3	574
15	Agricultures	056	Veg root/tuber prep/pres	1.2	1.1	495
			Above total	77.0	81.9	37,364

Sources: UN Commodity Trade Statistics Database; and Fund staff calculations.

[8] As measured by the Hirschman Herfindahl index which is the sum of squared of each product in total export. A country with a perfectly diversified export portfolio will have an index close to zero, whereas a county which exports only one product will have a value of one.

Figure 5. Peru and LA6 : Export Product Concentration



Sources: Sources: UN Commodity Trade Statistics Database; and World Bank WITS.

1/ 2011 data are not available for Uruguay.

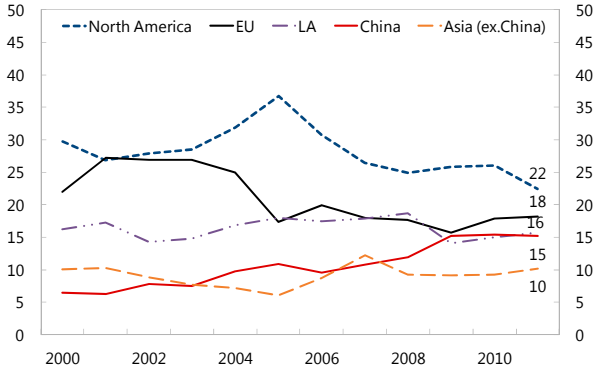
C. Increasing Trade Exposure to China

12. Export concentration by destination has declined slightly since the mid-2000s. The top three export destinations accounted for 38 percent of total in 2011, compared to 48 percent of total in 2005. However, Peru, like many other emerging economies, now relies relatively more on China than on the United States as both an export market and an import supplying country compared to a decade ago. The share of exports to China has risen steadily over the past decade to 15 percent of total exports (3.9 percent of GDP), replacing the United States as the largest single export country destination for Peru in 2011. Interestingly, the shrinkage of the United States share as an export destination (accounting for close to one-third of total exports up to the mid-2000s) has contributed to a marginal decline in export concentration by destination (Figure 6).

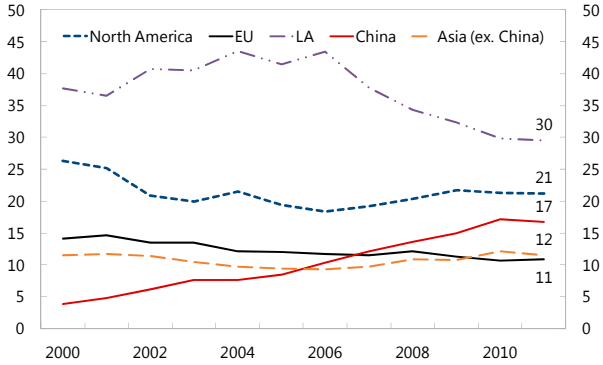
13. Exports to China are also concentrated in a relatively narrow range of products, mainly mining exports. The breakdown in Table 3 shows that China is among the top three export destinations in seven of the top 15 export categories which covered about 80 percent of Peru's total exports. All seven export items are mining products. China alone absorbs about 30 percent of the total copper exports (SITC 283 and 682) from Peru.

Figure 6. Peru: Major Trading Partners

Exports by Region 1/
(Percent of exports)



Imports by Regions 1/
(Percent of imports)



Peru: Top Export Destinations
(Percent share to total exports)

Rank		2000		2005		2011
	Top 3	42.8	Top 3	48.2	Top 3	37.7
	Top 5	51.4	Top 5	57.7	Top 5	46.8
	Top 10	64.8	Top 10	72.0	Top 10	64.0
1	United States	28.0	United States	30.7	**China**	15.3
2	United Kingdom	8.4	**China**	10.9	United States	13.3
3	**China**	6.4	Chile	6.6	Canada	9.2
4	Japan	4.7	Canada	6.0	Japan	4.8
5	Chile	3.8	Japan	3.5	Chile	4.3
6	Brazil	3.2	Spain	3.3	Germany	4.2
7	Germany	3.1	Netherlands	3.1	Korea	3.7
8	Spain	2.7	Germany	3.0	Spain	3.7
9	Mexico	2.2	Brazil	2.6	Italy	2.8
10	Colombia	2.1	Italy	2.3	Brazil	2.8
	Herfindahl Index	0.10		0.12		0.06

Peru: Top Import Origins
(Percent share to total imports)

Rank		2000		2005		2011
	Top 3	38.4	Top 3	34.4	Top 3	42.9
	Top 5	49.1	Top 5	47.9	Top 5	52.7
	Top 10	70.2	Top 10	69.7	Top 10	71.2
1	United States	23.4	United States	17.8	United States	19.7
2	Venezuela	8.4	**China**	8.5	**China**	16.7
3	Japan	6.6	Brazil	8.2	Brazil	6.4
4	Colombia	5.4	Ecuador	7.3	Ecuador	5.0
5	Chile	5.3	Colombia	6.2	Argentina	4.9
6	Brazil	5.1	Argentina	5.8	Korea	4.0
7	Argentina	4.5	Chile	4.9	Colombia	3.9
8	Ecuador	4.4	Venezuela	4.2	Mexico	3.7
9	**China**	3.9	Japan	3.6	Chile	3.5
10	Mexico	3.2	Germany	3.2	Japan	3.5
	Herfindahl Index	0.09		0.07		0.09

Sources: UN Commodity Trade Statistics Database; World Bank WITS; and Fund staff calculations.

1/ EU comprises all 27 EU members; LA consists of LA6 economies, Argentina, Bolivia, Ecuador, Paraguay and Venezuela; and Asia consists of China, India, Indonesia, Japan Hong Kong SAR, Korea, Malaysia, the Philippines, Singapore, and Thailand.

Table 3. Peru: Top Exports by Product and by Major Export Destinations, 2011
(Percent)

Rank	SITC	Category	Share of Top 3 Export Destinations						Herfindahl Index
			First		Second		Third		
1	971	Gold non-monetary ex ore	Canada	30.9	U.S.	8.5	EU	2.9	0.10
2	283	Copper ores/concentrates	China	31.0	EU	28.7	Japan	16.8	0.22
3	287	Base metal ore/conc nes	China	28.5	Korea	16.9	EU	13.9	0.15
4	682	Copper	EU	28.4	China	21.5	Brazil	14.4	0.17
5	334	Heavy petrol/bitum oils	U.S.	42.6	Canada	12.3	Brazil	6.1	0.21
6	081	Animal feed ex unml cer.	China	54.8	EU	14.7	Japan	7.1	0.33
7	071	Coffee/coffee substitute	EU	59.2	U.S.	23.3	Colombia	4.9	0.41
8	343	Natural gas	EU	37.8	Korea	17.4	Japan	17.3	0.23
9	281	Iron ore/concentrates	China	97.8	Japan	2.2	…	…	0.96
10	057	Fruit/nuts, fresh/dried	EU	48.8	U.S.	25.9	Hong Kong SAR	5.2	0.31
11	845	Articles of apparel nes	U.S.	51.7	Venezuela	20.7	EU	8.2	0.32
12	289	Precious metal ore/conc.	EU	36.3	Canada	21.1	China	19.6	0.25
13	686	Zinc	EU	22.2	U.S.	21.9	China	20.2	0.16
14	333	Petrol./bitum. oil,crude	U.S.	56.8	Chile	36.6	…	…	0.46
15	056	Veg root/tuber prep/pres	EU	47.9	U.S.	39.5	Brazil	3.9	0.39

Sources: UN Commodity Trade Statistics Database; and Fund staff calculations.

14. However, import concentration by origin increased since 2005 due to the rapid growth of imports from China. Imports from China grew at an average rate of 30 percent during 2001–05, before accelerating further to an average of 57 percent during 2006–08 and 2010. By 2011, Peru imports a larger share from China and declining shares from other Latin America neighboring countries (Figure 6). For instance, in 2011, imports from China now accounted for 3 quarters of the imports of clothing and accessories (SITC 84), 40 percent of textile yarn and fabric (SITC 65), and one-half of the imports of telecommunication and sound equipment (SITC 76) in Peru. The rapid gain in import share by China in the apparel sector suggests the intense competition faced by Peruvian suppliers which would have implications on the production and in turn export competitiveness.

15. Peru, like other Latin America primary exporters, has recovered much faster from the global crisis than initially anticipated. The recovery owes much to the stabilizing effects from China as an important source of world growth.[9] While China may remain an important driver for global growth, the Chinese economy is expected to shift towards a slower but more balanced growth, relying less on investment. This implies that China's commodity demand would change in terms of quantity and composition. In this context, Peru's vulnerability to China is not only related to a possible slowdown but also to the impact of Chinese demand on global commodity prices as development patterns change.

D. Towards Greater Trade Diversification

16. Turning commodity dependency into a blessing. Some regard natural resource endowment as a curse—Dutch Disease, as commodity price boom tends to lead to a currency appreciation of the primary commodity exporter, which in turn results in crowding out of the manufacturing sector.[10] The approach taken by other primary commodity exporters like Canada highlights that policy can help in reducing the adjustment costs and maximize the benefits arising from commodity booms. More specifically, leaning against commodity driven movements in the nominal exchange rate to support non-commodity exports and domestic producers who face competition from imports would over time result in higher wages and inflation, causing the real exchange rate to appreciate and resulting in the same competitiveness challenge. On the other hand, measures including those to capture more value-added domestically, increase skills to compete, and sustain business investment are highlighted as ways to strengthen the benefits of a resource-rich economy (Bank of Canada (2012)).

[9] Empirical studies such as Cesa-Bianchi and Pesaran et al. (2011) concluded that the long-term impact of a China GDP shock on Latin American economy has increased by three times since mid-1990s based on a global vector autoregressive model for 5 large Latin American economies including Peru. Diego and Saldarriaga (2012) found that about half of the growth reported in Latin American countries by the end of 2000s can be attributed to direct and indirect multipliers effects induced by the growth of China.

[10] Magud and Sosa (2010) documented that while shocks that trigger foreign exchange inflows appreciate the real exchange rate, generate factor reallocation, and reduce manufacturing output and net exports, there is no evidence in the literature that Dutch disease reduces overall economic growth.

17. Greater diversification in products and trading partners could go a long way in reducing risks to commodity boom and bust cycles. Studies have shown evidence that counties with more diversified production structure tend to have lower volatility of output, consumption, investment and increases the resilience to external shocks (see Papageorgiou and Spatafora (2012)). Trade diversification can be achieved across trading partners and products, and the latter through the introduction of new export products, a more balanced mix of existing exports, or fetching higher prices for existing products through product quality upgrading. To bring about these changes would require upgrade in production and trade structure that would generate more inter-sector linkages, and increase value-added by moving up the value-chain which have to be supported by infrastructure investments and human capacity development.

18. Higher intra-regional and intra-industry trade in Latin America could help to reduce over dependence on China and commodity trade. As a result of historical, institutional, and relative endowments and other factors, intra-regional trade accounts for less than 15 percent of Latin America trade in 2011, compared to 44 percent in Asia and 63 percent in the European Union.[11] Preliminary estimates suggest that the share of intra-industry trade in LA5 economies averaged at 0.40 in 2011, with Peru (0.30) at the low end and Mexico (0.53) the highest (Appendix Table 2).[12] In this context, trade diversification could be brought forward through greater division of labor in the production of manufactured goods within the region to meet the rising aggregate demand from higher regional economic growth, and increasing exports to the rest of the world. The example of the gain in export competitiveness in Peruvian vegetable and fruits highlighted the success of diversification through finding the niche markets. Efforts in fostering FDI inflows in the manufacturing sectors over the medium term and further enhancing market access through FTAs are steps in the right direction.

19. In this regard, the expansion of intra-regional and intra-industry trade in Asia in open regionalism since the mid-1980s could offer also some examples of how resource-rich exporting countries such as Peru could diversify their production and trade structure. In Asia, in response to the rapid appreciation of the Japanese yen since 1985, the shift of labor intensive manufacturing operations via Japanese foreign direct investment outflows first to the newly industrialized economies, then to resource-rich ASEAN countries and China resulted in the accelerated growth of capital goods exports to these host countries accompanied by the imports of consumer and intermediate goods to Japan and other advanced economies. Since the last decade, the rise of China as "factory Asia" and the hub of the global product sharing network further

[11] Latin America consisted of LA6 economies, Argentina, Bolivia, Ecuador, Paraguay, and Venezuela; Asia comprises of ASEAN (Indonesia, Malaysia, the Philippines, and Thailand), China, Hong Kong SAR, India, Japan, Korea, and Singapore.

[12] Excluding Uruguay which trade data are not available from the UN Commodity Trade database for 2010–11.

increases intra-regional trade flows, which is also enhanced by intra-industry exchange as vertical specialization trade as countries move up the global value chain.[13]

20. Diversification and structural transformation often have to underpin by reforms and policy measures. Other than maintaining prudent macroeconomic policies including strong fiscal position and saving some of the mining windfalls, broad-based microeconomic measures focusing on eliminating infrastructure bottlenecks, improving the quality of infrastructure, raising education and skills levels and an efficient business climate for domestic and foreign investors are keys to increasing export competitiveness. In this context, the compilation of competitiveness indicators such as unit labor cost, labor productivity and wage by sector would enable better monitoring of changes in competitiveness. Papageorgiou and Spatafora (2012) noted however that, based on country experiences, it remains an open issue to what extend industry focused and narrowly targeted measures have historically helped to underpin diversification effort.

E. Conclusions

21. Buoyant commodity prices have benefitted Peru both in terms of expanding exports and attracting mineral related foreign direct investment inflows. Nevertheless, trade concentration by product and to a lesser extent by trading partners has clearly increased with the commodity price boom. While non-traditional exports grew at healthy rates, they were outpaced by booming traditional exports. Peru, like other Latin America primary exporters, has recovered much faster from the global crisis than initially anticipated despite lackluster growth recovery in advanced economies owing much to the stabilizing effects from the emergence of China as the main driver of commodity demand and world growth. Nevertheless, there is also growing consensus that excessive concentration of exports, in particular concentration in commodities, increases vulnerabilities and could be detrimental to long-term economic development.

22. Going forward, greater diversification in products and trading partners could go a long way in reducing Peru's exposure to commodity boom and bust cycles and help to put economic growth firmly on a sustainable path. Other than maintaining prudent macroeconomic policies, the authorities' efforts in further trade liberalization and enhancing market access through FTAs are steps in the right direction. Further enhancement of structural reforms focusing on improving the quantity and quality of infrastructure, raising education and skills levels, and an efficient business climate for domestic and foreign investors are keys to cement growth over the medium term.

[13] Intra-industry trade in Asia increased from about 0.35 in 1992 to about 0.46 in 2005 (IMF 2011).

Appendix Table 1: Peru : Revealed Comparative Advantage, 1995, 2000, 2005 and 2011 1/

SITC	Category	1995	2000	2005	2011
00	Live animals except fish	0.2	0.2	0.2	0.1
01	Meat & preparations	0.0	0.0	0.0	0.0
02	Dairy products & eggs	0.1	0.1	0.6	0.5
03	Fish/shellfish/etc.	**4.2**	**3.4**	**2.7**	**3.4**
04	Cereals/cereal preparatn	0.1	0.3	0.4	0.4
05	Vegetables and fruit	**2.2**	**3.4**	**3.3**	**3.5**
06	Sugar/sugar prep/honey	**1.5**	**1.3**	0.5	0.4
07	Coffee/tea/cocoa/spices	**9.1**	**8.2**	**6.0**	**7.2**
08	Animal feed ex unml cer.	**32.5**	**40.9**	**23.6**	**10.2**
09	Misc food products	0.4	0.4	0.3	0.3
11	Beverages	0.0	0.1	0.1	0.1
12	Tobacco/manufactures	0.0	0.5	0.2	0.1
21	Hide/skin/fur, raw	0.1	0.3	0.3	0.2
22	Oil seeds/oil fruits	0.0	0.1	0.0	0.0
23	Crude/synthet/rec rubber	0.0	0.0	0.0	0.0
24	Cork and wood	0.2	**1.4**	**1.5**	0.8
25	Pulp and waste paper	0.0	0.0	0.0	0.0
26	Textile fibres	**3.1**	**3.5**	**1.7**	**1.1**
27	Crude fertilizer/mineral	0.5	0.9	0.5	**3.2**
28	Metal ores/metal scrap	**18.0**	**14.5**	**18.4**	**13.2**
29	Crude anim/veg mater nes	**1.5**	**1.9**	**1.1**	**1.1**
32	Coal/coke/briquettes	0.0	0.0	0.0	0.0
33	Petroleum and products	**1.1**	0.7	0.9	0.7
34	Gas natural/manufactured	0.0	0.0	0.3	**2.5**
41	Animal oil/fat	**30.8**	**51.3**	**37.4**	**19.7**
42	Fixed veg oils/fats	0.2	0.2	0.1	0.0
43	Animal/veg oils procesd	0.2	0.3	0.3	0.1
51	Organic chemicals	0.1	0.1	0.0	0.1
52	Inorganic chemicals	0.9	**1.1**	**1.2**	**1.3**
53	Dyeing/tanning/color mat	0.8	0.8	0.7	**1.3**
54	Pharmaceutical products	0.2	0.1	0.0	0.0
55	Perfume/cosmetic/cleansr	0.5	0.8	0.7	0.4
56	Manufactured fertilizers	0.0	0.0	0.1	0.1
57	Plastics in primary form	0.0	0.0	0.1	0.1
58	Plastics non-primry form	0.0	0.2	0.5	0.7
59	Chem material/prods nes	0.1	0.2	0.2	0.1
61	Leather manufactures	0.1	0.2	0.4	0.3
62	Rubber manufactures nes	0.1	0.4	0.3	0.2
63	Cork/wood manufactures	0.2	0.4	0.3	0.2
64	Paper/paperboard/article	0.1	0.2	0.2	0.3
65	Textile yarn/fabric/art.	1.0	0.7	0.4	0.5
66	Non-metal mineral manuf.	0.2	0.3	0.3	0.2
67	Iron and steel	0.0	0.3	0.1	0.1
68	Non-ferrous metals	**13.1**	**11.8**	**9.1**	**4.1**
69	Metal manufactures nes	0.2	0.2	0.2	0.2
71	Power generating equipmt	0.0	0.0	0.0	0.0
72	Industry special machine	0.0	0.1	0.1	0.1
73	Metalworking machinery	0.0	0.0	0.0	0.0
74	Industrial equipment nes	0.0	0.0	0.0	0.0
75	Office/dat proc machines	0.0	0.0	0.0	0.0
76	Telecomms etc equipment	0.0	0.1	0.0	0.0
77	Electrical equipment	0.0	0.0	0.0	0.0
78	Road vehicles	0.0	0.0	0.0	0.0
79	Railway/tramway equipmnt	0.0	0.0	0.0	0.0
81	Building fixtures etc	0.0	0.1	0.1	0.1
82	Furniture/furnishings	0.0	0.1	0.1	0.1
83	Travel goods/handbag/etc	0.0	0.1	0.1	0.1
84	Apparel/clothing/access	**1.1**	**2.3**	**2.2**	**1.4**
85	Footwear	0.0	0.1	0.1	0.1
87	Scientific/etc instrumnt	0.0	0.0	0.0	0.0
89	Misc manufactures nes	0.6	0.4	0.5	0.2
97	Gold non-monetary ex ore	**20.6**	**49.2**	**50.7**	**17.3**

Sources: UN Commodity Statistics Database; and World Bank WITS.

1/Revealed Comparative Advantage RCA = (Xij / Xit) / (Xnj / Xnt)
where X represents exports, i is a country, j is a commodity (or industry), t is a set of commodities (or industries) and n is a set of countries. If RCA >1 (RCA < 1) the country is said to have a comparative advantage (disadvantage) in the commodity / industry.

Appendix Table 2. Selected LA6: Intra-Industry Trade Index, 2011 1/

SITC	Category	Peru	Brazil	Chile	Colombia	Mexico
00	Live animals except fish	0.7	0.1	0.9	0.4	0.3
01	Meat & preparations	0.2	0.0	1.0	0.4	0.4
02	Dairy products & eggs	0.9	0.5	0.7	0.2	0.2
03	Fish/shellfish/etc.	0.2	0.3	0.1	0.8	0.7
04	Cereals/cereal preparatn	0.2	0.9	0.6	0.1	0.4
05	Vegetables and fruit	0.2	0.7	0.1	0.7	0.3
06	Sugar/sugar prep/honey	0.4	0.0	0.2	0.3	0.7
07	Coffee/tea/cocoa/spices	0.1	0.1	0.6	0.2	0.7
08	Animal feed ex unml cer.	0.4	0.1	0.8	0.1	0.2
09	Misc food products	0.3	0.9	0.8	0.6	0.9
11	Beverages	0.5	0.3	0.2	0.4	0.4
12	Tobacco/manufactures	0.5	0.0	0.5	0.9	0.7
21	Hide/skin/fur, raw	0.0	0.5	0.0	0.1	0.3
22	Oil seeds/oil fruits	0.0	0.0	0.7	0.1	0.0
23	Crude/synthet/rec rubber	0.0	0.4	0.0	0.0	0.8
24	Cork and wood	0.5	0.1	0.0	1.0	0.3
25	Pulp and waste paper	0.1	0.1	0.0	0.0	0.1
26	Textile fibres	0.6	0.5	0.4	0.1	0.4
27	Crude fertilizer/mineral	0.4	0.9	0.6	0.4	0.9
28	Metal ores/metal scrap	0.0	0.1	0.1	0.1	0.5
29	Crude anim/veg mater nes	0.6	0.7	0.4	0.1	0.5
32	Coal/coke/briquettes	0.3	0.0	0.0	0.0	0.1
33	Petroleum and products	0.8	0.9	0.1	0.2	0.7
34	Gas natural/manufactured	0.0	0.0	0.0	0.1	0.0
35	Electric current	0.2	0.1	0.0	0.0	0.3
41	Animal oil/fat	0.2	0.5	1.0	0.0	0.1
42	Fixed veg oils/fats	0.0	0.6	0.6	0.7	0.2
43	Animal/veg oils procesd	0.5	0.7	0.1	0.8	0.3
51	Organic chemicals	0.3	0.7	0.5	0.2	0.4
52	Inorganic chemicals	0.9	0.7	0.8	0.5	0.7
53	Dyeing/tanning/color mat	0.9	0.5	0.2	0.7	0.5
54	Pharmaceutical products	0.1	0.4	0.3	0.4	0.6
55	Perfume/cosmetic/cleansr	0.5	1.0	0.2	1.0	0.9
56	Manufactured fertilizers	0.1	0.1	0.9	0.2	0.2
57	Plastics in primary form	0.1	0.7	0.3	0.8	0.5
58	Plastics non-primry form	0.8	0.7	0.7	0.8	0.4
59	Chem material/prods nes	0.2	0.5	0.4	0.5	0.4
61	Leather manufactures	0.7	0.0	1.0	0.2	0.8
62	Rubber manufactures nes	0.3	0.8	0.4	0.3	0.5
63	Cork/wood manufactures	0.4	0.3	0.4	0.2	0.4
64	Paper/paperboard/article	0.4	0.9	0.9	0.9	0.5
65	Textile yarn/fabric/art.	0.6	0.4	0.3	0.5	0.5
66	Non-metal mineral manuf.	0.6	1.0	0.2	1.0	1.0
67	Iron and steel	0.1	0.6	0.5	0.6	0.7
68	Non-ferrous metals	0.1	0.8	0.0	0.3	1.0
69	Metal manufactures nes	0.3	0.8	0.5	0.4	0.7
71	Power generating equipmt	0.1	0.8	0.1	0.1	1.0
72	Industry special machine	0.1	0.8	0.2	0.1	0.7
73	Metalworking machinery	0.0	0.2	0.1	0.0	0.2
74	Industrial equipment nes	0.1	0.5	0.2	0.1	0.8
75	Office/dat proc machines	0.0	0.1	0.1	0.0	0.9
76	Telecomms etc equipment	0.0	0.2	0.1	0.0	0.9
77	Electrical equipment	0.1	0.3	0.2	0.4	0.9
78	Road vehicles	0.0	0.7	0.2	0.1	0.6
79	Railway/tramway equipmnt	0.6	0.7	0.2	0.0	0.8
81	Building fixtures etc	0.3	0.7	0.2	0.8	0.6
82	Furniture/furnishings	0.3	0.9	0.2	0.8	0.6
83	Travel goods/handbag/etc	0.2	0.1	0.3	0.5	0.3
84	Apparel/clothing/access	0.5	0.2	0.3	1.0	0.7
85	Footwear	0.2	0.5	0.3	0.2	0.8
87	Scientific/etc instrumnt	0.1	0.3	0.1	0.1	1.0
88	Photographic equ/clocks	0.0	0.2	0.2	0.0	0.6
89	Misc manufactures nes	0.6	0.5	0.4	0.5	0.7
96	Coin nongold non current	0.0	0.0	0.0	1.0	0.1
97	Gold non-monetary ex ore	0.0	0.0	0.0	0.0	0.1

Sources: UN Commodity Trade Statistics; and Fund staff calculations.

1/ Measured by Grubel-Lloyd Index: $IIT_i=((Export_i+ Import_i)-|Export_i- Import_i|)/(Export_i+ Import_i)$

where $0 \leq IIT_i \leq 1$. If $IIT_i=1$ there is only intra-industry trade; conversely if $IIT_i=0$, there is only inter-industry trade.

0 ≤ IITi < 0.5
0.5 ≤ IITi < 1.0
IITi = 1

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BANKING SECTOR SPREADS[1]

1. Over the last decade, effective interest rate spreads for the Peruvian banking system have remained relatively stable and elevated. During this period, the system's profitability improved markedly—in line with the country's strong economic performance—and as banks (both foreign and domestic) entered and exited the industry.

2. The purpose of this note is to examine Peru's effective interest spreads through accounting decompositions, financial ratio analysis and spread regressions. Banks play an important intermediation role by transforming customer deposits into loans. While interest rate spreads reflect this risk taking role, their level and evolution also contains information regarding regulation and operating costs as well as management decisions—all of which can be evaluated by accounting decompositions. Viewed from a slightly different angle, banks make profits through the use of leverage and an efficient deployment of their assets and operations. In this context, an examination of financial ratios focused on profit creation provides a complementary view to interest rate decompositions, and allows a deeper understanding of spreads. Finally, interest rate regressions offer a direct way to estimate the influence of risk, costs, bank concentration and market power factors on spreads.

A. Background and Stylized Facts

3. In the late 1990s, Peru's economy and banking system were affected by several large shocks. The Asian (1997) and Russian (1998) crises caused a sudden stop and a reversal of capital flows, which weakened the currency and private sector balance sheets—deteriorating credit portfolios. Lower export prices and El Niño effects also affected production and reduced income, weakening domestic demand, and further worsening the quality of credit portfolios.

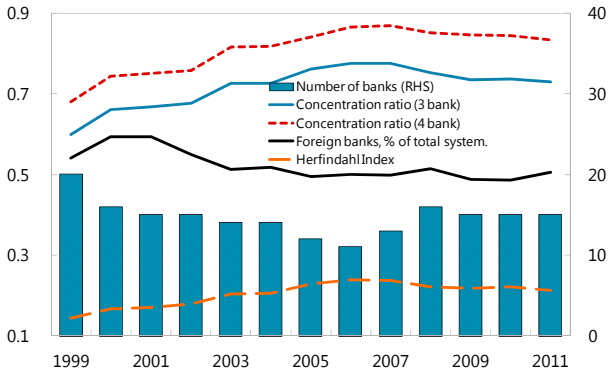
4. These factors coupled with some political instability resulted in a banking crisis. With balance sheets severely destabilized, six of the 26 banks left the system in 1999. In 2000, 2 banks failed, and 2 more were taken over by banking supervision (SBS). In November 2000, the Peruvian government launched a financial system restructuring program ("Programa de Consolidación del Sistema Financiero"). The program extended a $200 million credit line to the deposit insurance system (FDS), financed by issuing Treasury bonds, to be used in the restructuring of financial institutions. The program centered on subsidizing the purchase of institutions estimated to have negative value by stronger institutions. In addition, the government launched two more programs to refinance agricultural and commercial loans at a cost of $500 million.

[1] Prepared by Kevin Ross (WHD) and Juan Alonso Peschiera (WHD-Lima Office).

5. The government's financial sector restructuring program successfully accelerated the banking sector consolidation process. Further exits and mergers occurred during 2001–06 such that there were only 11 banks in operation by end-2006. During 2007–08, foreign banks such as Santander, Deutsche Bank and Mexico's Azteca bank entered the Peruvian market. Moreover, two smaller financial cooperatives were transformed into retail banks specializing in consumer credit linked to retail department stores (i.e., Banco Falabella and Banco Ripley). In 2009, Scotia acquired Banco del Trabajo (a micro finance specialist). This operation left the banking system with 15 institutions, a configuration that has been maintained until end-2011.

6. The restructuring process has resulted in a more concentrated system—which has eased somewhat in recent years (Figure 1). Concentration ratios based upon the top 3 (4) banks in terms of asset size increased from 66 (74) percent in 2000 to 78 (87) percent in 2007, before falling back down to 73 (83) percent today. Herfindahl indices are between 0.16 and 0.18 (moderate concentration) from 2000–03, and remain above 0.20 (signaling high concentration), thereafter. Foreign ownership or control of total banking system assets has remained relatively stable at around 50 percent since 2002.

Fig 1. Peru: Banking Sector Concentration and Ownership



Sources: SBS; and Fund staff estimates.

7. The empirical evidence on the relationship between banking system concentration and competition in Peru is inconclusive. Rojas (2000) found that banking concentration, credit risk and country risk were the main factors behind Peru's high banking spreads in the 1990s. Using data from 1995–2004, Espino and Carrera (2005) also indicated that banking interest rate spreads in Peru were positively impacted by a lack of bank competition. However, Morón, et.al (2010), found evidence of intense banking competition by product line (e.g., mortgages, leasing,) in Peruvian banks—suggesting that while overall system concentration may be high, it has not resulted in collusive anti-competitive practices.

8. Today, Peru's banking system stacks up very favorably in international comparisons. Figure 2 presents a number of financial soundness indicators using 2011 data for a variety of South American countries. Like many of its peers, the Peruvian banking system is well funded through internal sources, with deposit to loan ratios near 100 percent. Thus, although some Peruvian banks do tap foreign financing sources, there is no over-reliance on external financing of basic loan operations. Raw capital ratios in Peru are 10 percent, resulting in a leverage ratio similar to region averages. At the same time, regulatory tier 1 capital risk weighted capital ratios in Peru (not shown here) are near 15 percent—which are at the regional average.

9. Profitability ratios are solid, with low levels of non-performing loans which are amply provisioned. Financial sector deepening indicators such as private banking credit to GDP and broad money stock to GDP are well below middle income averages. However, this also implies that the banking system has sufficient room to expand.[2] At first blush, efficiency indicators across countries suggest personal expenses in Peruvian banks may take up an inordinately large portion of non-interest costs. However, these expenses are still rather small in comparison to banks' gross income levels—suggesting that labor costs are broadly in line with peer groups. Finally, dollarization levels of both assets and liabilities within the Peruvian system remain elevated.

Table 1. Quality of Legal Framework and Credit Information, 2011

	Ranking on Credit 1/	Strength of Legal Rights Index (0-10) 2/	Depth of Credit Information Index (0-6) 3/	Public Registry Coverage (% of Adults)	Private Bureau Coverage (% of Adults)
Argentina	70	4	6	37.0	100
Bolivia	129	1	6	14.8	34.7
Brazil	104	3	5	46.8	62.2
Chile	53	6	5	37.4	3.5
Colombia	70	5	5	0.0	72.5
Ecuador	83	3	6	0.0	53.5
El Salvador	53	5	6	26.5	83.7
Honduras	12	8	6	20.7	32.9
Mexico	40	6	6	0.0	99.2
Paraguay	83	3	6	16.7	47.5
Peru	23	7	6	31.2	42.5
Uruguay	70	4	6	32.9	100
Venezuela	159	1	4	0.0	15.7
Average	**...**	**4.3**	**5.6**	**20.3**	**57.5**

Source: World Bank, Doing Business database.

1/ Getting credit, overall ranking. Higher value reflects lower rank.

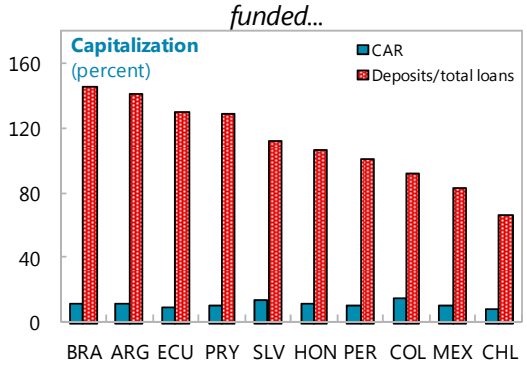
2/ Higher scores measures degree to which collateral and bankruptcy laws protects rights of borrowers and lenders, and thus facilitate lending.

3/ Higher scores indicate greater accessibility of credit information.

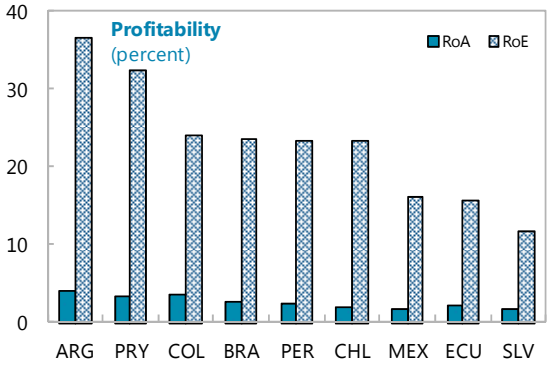
[2] Fitch (2012) has noted that *demographic* (number of branches per 100,000 people) and *geographic* (number of branches per Km2) penetration is comparatively low in Peru when compared to other countries in the region. With a relatively high rural population, an efficient expansion of banking services into these regions will require selecting the right distribution mechanisms.

Figure 2. Banking Sector Indicators, 2011

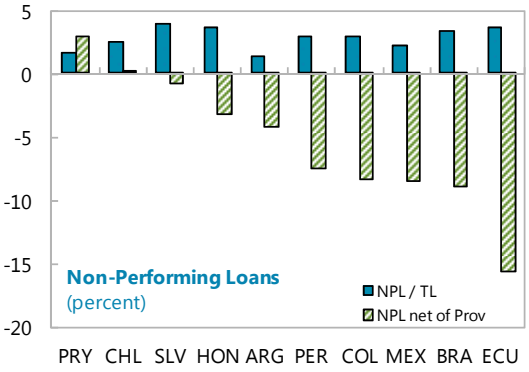
Peru's banks are well capitalized and funded...



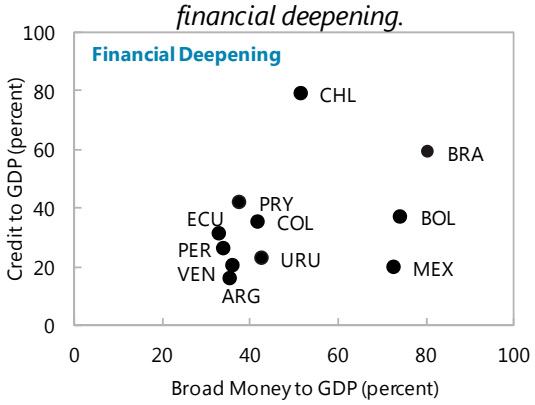
...as well as highly profitable, with...



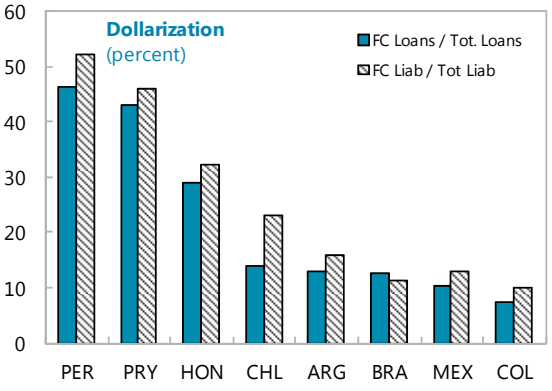
...low NPLs, which are generously provisioned.



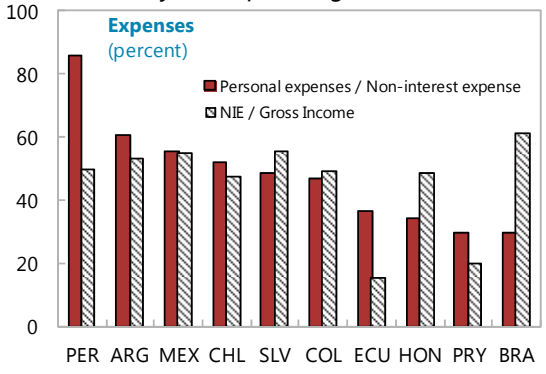
Moreover, there is ample room for further financial deepening.



Still, dollarization remains high in Peru.



Non-interest expenses (mostly wages) are a relatively small part of gross income.



Sources: Financial Soundness Indicators; IFS; and WEO.

10. The overall quality of the credit framework in Peru is robust. Table 1 presents data from the World Bank's Doing Business survey on the ease of getting credit in a number of South American countries. Peru's credit system was ranked 23rd out of 185 countries, above most of its' regional comparators. This index is based upon 2 sub-component indicators related to the protection of legal rights and depth of available credit information. The legal framework, whereby the rights of borrowers and lenders with respect to secured transactions are protected, was rated a 7 out of 10—again above average. While private bureau credit coverage in Peru is somewhat below norms, the overall depth of available information (coverage, scope and accessibility) is viewed very favorably.

B. Interest Rate Decompositions

11. In general, banks require a combination of effective interest and non-interest rate margins to cover costs and to earn a profit. With non-interest rate margins determined by price setting behavior on bank services (fees and commissions), the various factors that determine effective interest rate spreads can be assessed through simple accounting decompositions.[3] Using balance sheet and income statement data, the effective interest rate spread can be decomposed into the following components[4]

$$(i_l - i_d) = [rr + p + oc + prov + tax + d] - nnii + e \qquad (1)$$

where:

i_l	=	the average effective interest rate charged on loans
i_d	=	the average effective interest rate provided on deposits
rr	=	required reserves/deposits,
p	=	profit margin/deposits
oc	=	overhead costs/deposits
prov	=	provisions/deposits
tax	=	tax payments/deposits
d	=	deposit insurance costs/deposits
nnii	=	net non-interest income/deposits
e	=	residual errors that arise from combining flow and stock data.

The identity indicates that effective interest rate spreads (i_l - i_d) will increase as bank costs—from reserve requirements, operations, provisions, taxes and deposit insurance—and profits increase, and fall with higher amounts of non-interest income.

[3] See IMF (2004) for a full derivation. In the analysis, we use annual income and balance sheet data from the SBS.

[4] It can be difficult to discern the true level of interest bearing assets and liabilities to use in the calculation of the effective lending and deposit interest rates. Thus the error term can be large.

12. System wide accounting interest rate spread decompositions from 2000–11 are provided in Table 2, and lead to the following conclusions:

- Operational costs and profits are the two main factors behind effective interest rate margins.
- Effective interest margins increased as the system consolidated and the economy expanded. After declining during the financial crisis, margins have returned to about 7½ percent.
- After 2000, non-interest income has remained around 4½ percent, with a slight decline within the last two years. This suggests little pressure to reduce the charges on non-lending banking services.
- The relative stability of total cost factors—at around 10–13 percent—hides the fact that operational costs have gradually declined from above 7 percent in 2000 to around 4½ in 2011.
- Profitability, which has risen strongly from about ½ percent in 2000–01 to 4 percent in 2011, and tax costs have partially offset operational cost improvements.
- Moreover, the provisions and reserve requirement costs—reflecting monetary policy decisions—also increased.

Table 2. Interest Rate Spread Decompositions: Total Banking System
(in percent)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Effective interest spread (i_l - i_d)	**6.9**	**6.8**	**7.6**	**7.5**	**7.7**	**6.9**	**7.1**	**6.3**	**6.1**	**7.5**	**7.8**	**7.3**
Total cost factors	**15.8**	**11.0**	**11.5**	**12.1**	**12.5**	**11.7**	**12.9**	**12.2**	**12.2**	**13.9**	**12.2**	**13.1**
Reserve requirements (*rr*)	2.4	2.6	2.1	1.9	1.9	1.6	1.8	1.6	1.8	1.8	1.6	2.1
Profit (*p*)	0.6	0.7	1.3	2.2	2.6	3.4	3.7	3.8	3.9	4.1	3.8	3.8
Operational costs (*oc*)	7.2	5.9	6.0	6.0	5.8	4.8	5.1	4.4	4.1	4.7	4.1	4.6
Provisions (*prov*)	5.1	1.4	1.5	1.1	1.0	0.7	0.9	1.1	1.2	1.9	1.5	1.5
Deposit insurance (*d*)	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Taxes (*tax*)	0.2	0.2	0.3	0.8	1.2	1.1	1.3	1.2	1.2	1.3	1.2	1.0
Net non-interest income (*nnii*)	**7.6**	**4.3**	**4.7**	**4.5**	**4.6**	**4.6**	**4.7**	**4.7**	**4.9**	**4.6**	**3.9**	**4.2**
Residual (*e*)	**-1.3**	**0.1**	**0.8**	**-0.1**	**-0.3**	**-0.2**	**-1.2**	**-1.2**	**-1.3**	**-1.7**	**-0.5**	**-1.5**

Source: SBS and fund staff estimates.

13. Interest rate decompositions across various bank sub-groupings reveal substantial differences. Figures 3 and 4 graphically presents the interest rate decompositions for the total banking system, as well as for 2 separate comparative groupings: (i) the largest 3 banks (by asset size) versus the other banks in the system, and (ii) foreign versus domestic banks. The results using a 4 largest versus smaller bank decomposition are very similar. The main outcome is that margins and costs of the smaller bank grouping (other) are markedly different from the 3 largest banks:

- *Non-interest margins* for the other grouping of smaller banks increased from under 10 percent in 2000 to around 16 percent at the peak of the financial cycle in 2008, before returning back to 10 percent. Non-interest margins have been more stable for the top 3 banks, and similar to the foreign / domestic breakdown at around 3–5 percent. Still, domestic banks tended to obtain non-interest margins about 1 percent higher than those found in foreign banks.

- *Regarding effective interest spreads,* smaller banks generally tended to increase their margins, reaching a spread of about 12–13 percent. On the other hand, the larger top 3 banks spreads fell to 4.5 percent in 2008–09 before returning back to 6 percent by end-2011. Outside of the 2008–09 periods, both foreign and domestic banks achieved margins of about 7.5 percent.

- *Looking at costs,* the smaller banks markedly higher expenses (of 30–35 percent) were driven by higher operational costs (10–14 percent), reserve requirements (3–4 percent, and provisions (1–3 percent), with the remainder taken up by sharp rise in profits (10–14 percent). It would appear that any operational cost savings these smaller banks achieved since 2007 have been taken up by higher provisions, and offset by lower non-interest margins. The larger 3 banks reported much lower operational costs and provisions than smaller banks, while the breakdown and evolution between foreign and domestic banks was very similar. Profits for larger, as well as foreign and domestic banks have risen and now stand around 4 percent.

C. Financial Statement Analysis

14. Financial statement analysis focuses on three key financial ratios.[5] These ratios are the return on equity (RoE), return on assets (RoA), and net interest margin (NIM), each of which can be further decomposed into two separate ratios. To assess profitability of the system, it would be important to analyze these ratios and their subcomponents to provide insights into banking sector performance and management over time.

- ***RoE is the ratio between after tax earnings (EAT) and book value of equity (BE).*** It presents the earnings per unit of invested capital, making it a universally comparable indicator for measuring the profitability of investment. RoE consists of three components: (i) tax policy (TP = EAT / EBT); (ii) financial leverage (LEV = TA / BE); and (iii) return on assets (RoA = EBT / TA). RoA changes are often the main cause of changes in bank's performance, whereas tax policy and leverage effects should be relatively stable.

  $$RoE = TP \times LEV \times RoA, \qquad (2)$$

- ***A bank's RoA can be further disaggregated into three components.*** This would include: (i) burden (B = NNIR / TA); (ii) earning assets ratio (EAR = EA/TA); and (iii) net interest margin

[5] Variables not defined in the text include: (i) EBT, earnings before tax; (ii) TA, total assets; (iii) IR, interest revenue; (iv) IE, interest expense; and (v) EA, earning assets.

(NIM = (IR-IE) / EA). Burden measures the success in maintaining control over operating costs. It is normal for the bank's burden to have a negative value, since non-interest revenues (NNIR, revenues from fees and commissions) are not able to cover all non-income related costs. Earning asset ratios usually have a minor role in determining changes in RoA, but are a good indicator for analyzing the strategic focus of individual banks. The net interest margin (NIM) reveals the net income from investing through borrowed funds.

RoA = B + EAR x NIM, (3)

- ***Finally, the net interest margin (NIM) can also be decomposed into three variables:*** (i) return on earning assets (REA = IR / EA); (ii) cost of liabilities (COL = IE / L); and (iii) liabilities to earning assets (LEA = L / EA). The return on earning assets directly connects earning assets and interest revenue, and is a measure of the average rate of lent funds. COL is an indicator of the average price of borrowed capital, while LEA measures the intensity of the bank's investment activities.

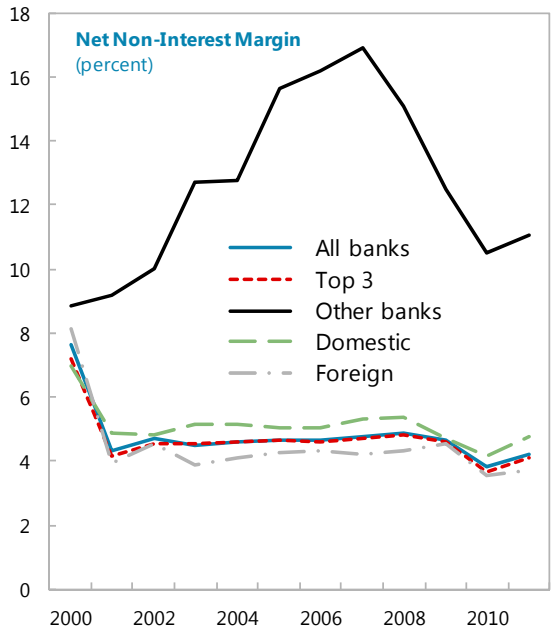
NIM = REA - COL x LEA. (4)

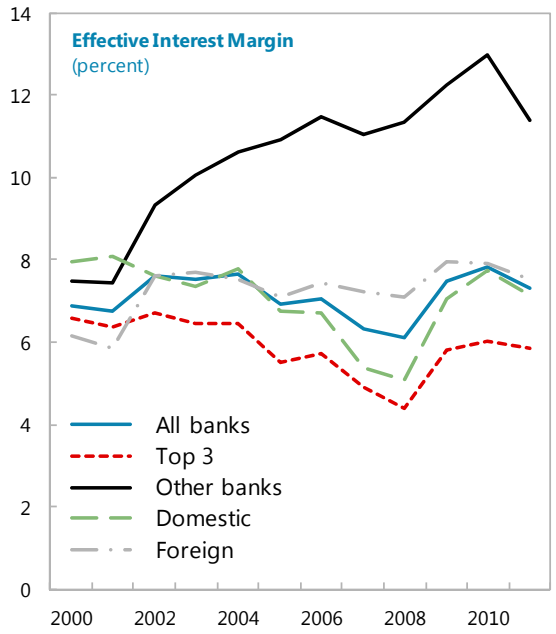
Table 3. Peru: Financial Statement Analysis of the Banking System
(in percent)

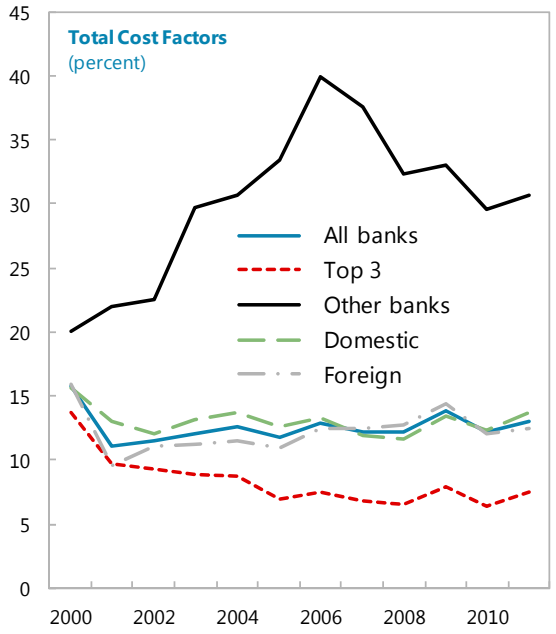
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Return on Equity (EAT/BE)	**0.03**	**0.04**	**0.08**	**0.11**	**0.11**	**0.21**	**0.22**	**0.25**	**0.27**	**0.22**	**0.22**	**0.22**
Tax Policy (EAT/EBT)	0.73	0.76	0.74	0.61	0.54	0.67	0.66	0.68	0.70	0.68	0.68	0.75
Financial Leverage (TA/BE)	10.48	10.26	10.11	9.81	9.58	10.83	10.48	11.38	12.11	9.80	10.48	9.92
Retrun on Assets (EBT/TA)	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Return on Assets (EBT/TA)	**0.00**	**0.01**	**0.01**	**0.02**	**0.02**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**
Burden [(NIR-NIE)/TA)]	-0.03	-0.03	-0.03	-0.03	-0.03	-0.02	-0.02	-0.02	-0.01	-0.02	-0.02	-0.03
Earning Asset Ratio (EA/TA)	0.54	0.59	0.60	0.64	0.65	0.65	0.72	0.76	0.73	0.76	0.67	0.75
Net Interest Margin [(IR-IE)/EA)]	0.07	0.07	0.08	0.08	0.08	0.07	0.07	0.06	0.06	0.07	0.08	0.07
Net Interest Margin ([(IR-IE)/EA]	**0.07**	**0.07**	**0.08**	**0.08**	**0.08**	**0.07**	**0.07**	**0.06**	**0.06**	**0.07**	**0.08**	**0.07**
Return on Earning Assets (IR/EA)	0.16	0.14	0.11	0.10	0.10	0.09	0.10	0.09	0.10	0.10	0.09	0.09
Cost of Liabilities (IE/L)	0.06	0.04	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.01	0.02
Liabilities on Earning Assets (L/EA)	1.67	1.54	1.50	1.41	1.38	1.39	1.26	1.20	1.26	1.18	1.36	1.19

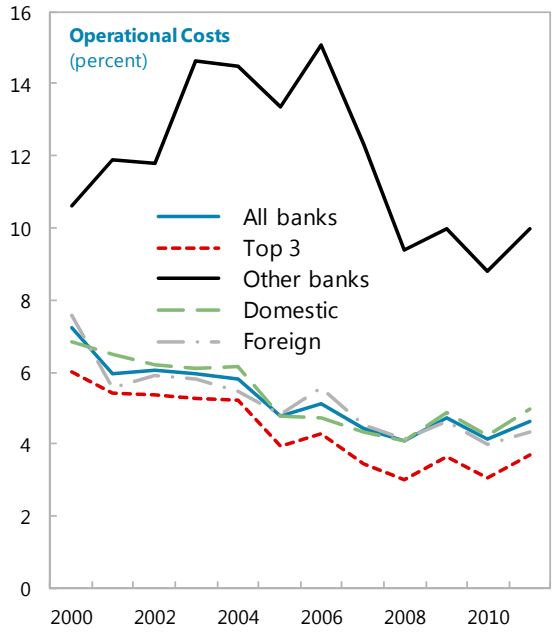
Source: SBS and staff estimates.

Figure 3. Peru: Interest Rate Spread Decompositions, 2000-11



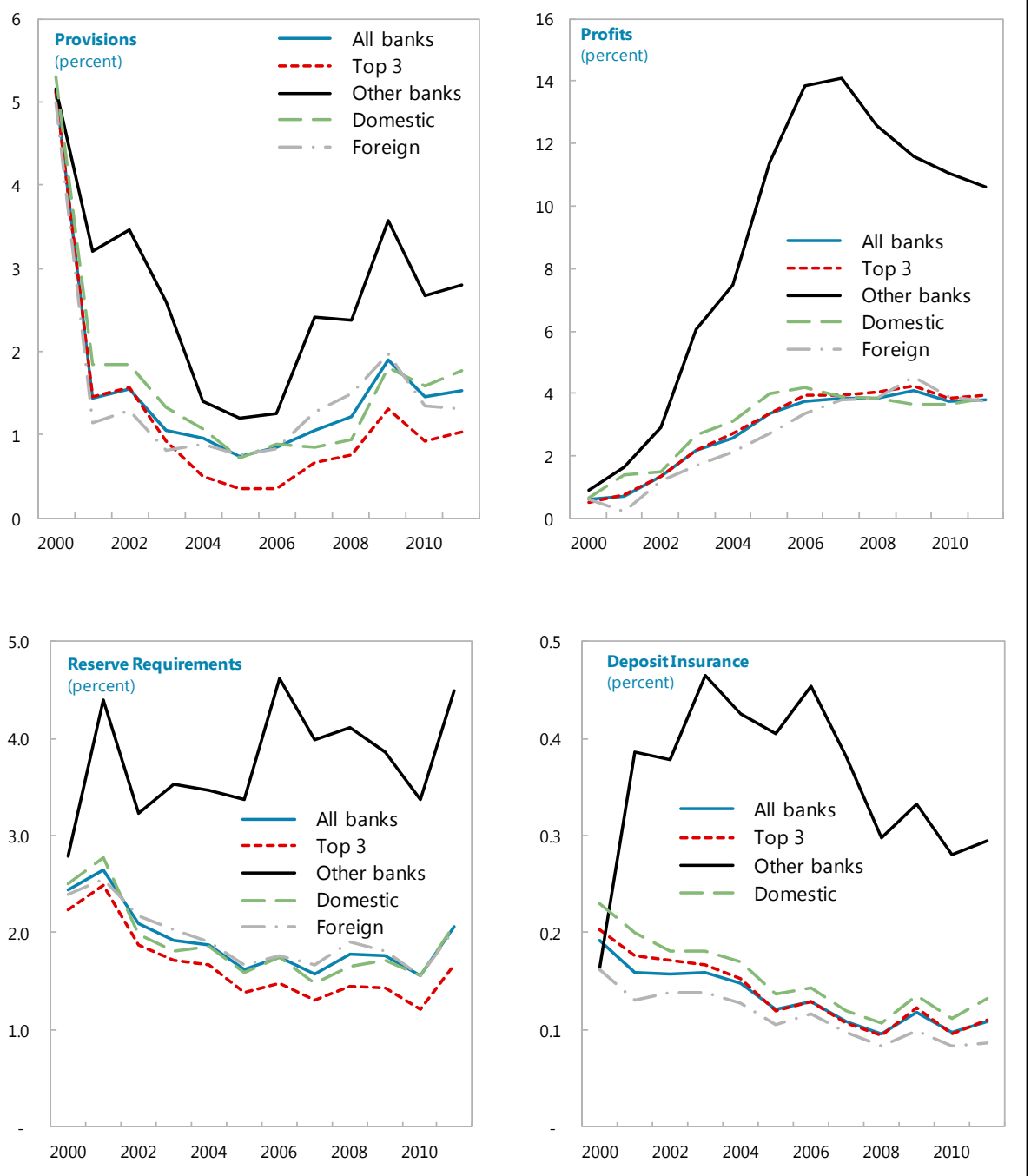






Sources: SBS data; and Fund staff estimates.

Figure 4. Peru: Interest Spread Decompositions, 2000-11



Sources :SBS data; and Fund staff estimates.

15. Table 3 presents the financial statement analysis for the whole banking system. RoE has steadily increased, peaking at 27 percent in 2008 before falling back down to 22 percent. The main driver of banking sector profitability has been a greater generation of return on assets. RoA's have gone from about ½ percent to above 3 percent as the burden of administrative expenses fell dramatically and as the percentage of assets deployed increased. However, the peak in RoE was strongly influenced by a spike in leverage at the peak of the economic expansion in 2007–08. Tax policy effects were actually a drag on profits until 2005, with a notable increase in after tax earnings in 2011. Finally, it appears that net interest margins have been relatively stable—with offsetting movements in cost of funds and return on earning assets—with a minor improvement in investment intensity.

16. The evolution of financial ratios is markedly different between smaller and larger banks (Figures 5 and 6). The smaller bank grouping generated much larger net interest margins, but due to a worsening of their administrative burden, they experienced a smaller improvement in their RoAs.[6] Moreover, due to a lower use of leverage and an inferior tax policy effect, the smaller banks reported a smaller increase in bank profitability or RoE. Foreign banks also tended to do a better job than domestic banks in generating returns on assets, but have had not reduce their administrative burden until recently. Thus until 2008 the RoA for foreign banks was better than domestic banks. Since 2008, domestic banks RoA have worsened in line with a worsening of their administrative burdens. Still, overall profitability or RoEs are much better for domestic banks due to their greater use of leverage.

D. Interest Rate Regressions

17. Estimation of the interest rate spread panel regressions broadly follows the framework of Espino and Carrera (2005). Using monthly data (December 2001 to September 2012) provided by the SBS we estimated the following equation: [7]

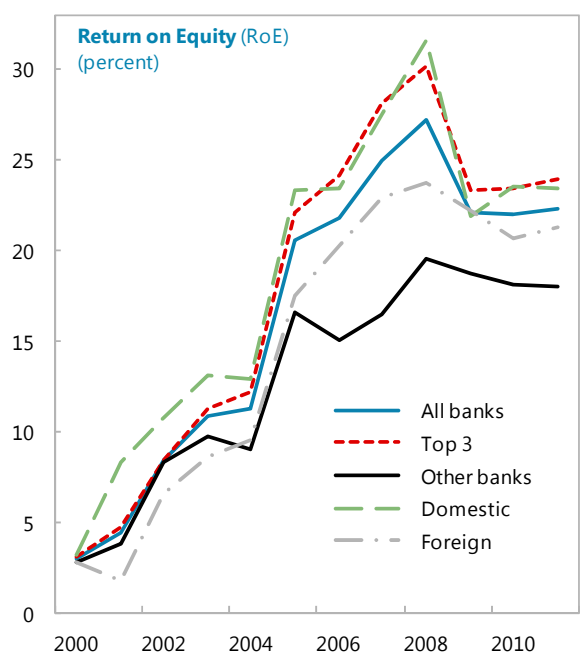
$$Spread_{it} = \alpha + \beta 1\ NPL_{it} + \beta_2 Liq_{it} + \beta_3 MR_{it} + \beta_4 Cost_{it} + \beta_5 Share_{it} + \beta_6 IC3_t + \beta_7 Libor_t + \beta_8 ER_t + \beta_9 Inf_t + \epsilon_t \quad (5)$$

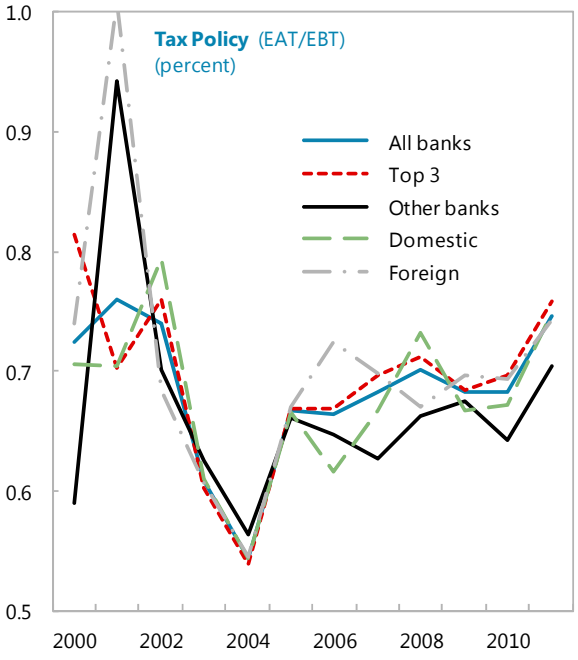
The dependent variable is the effective interest rate spread (Spread), as defined previously. The main explanatory variables reflect credit and market risks, as well as operating and liquidity costs and all should positively impact interest margins. For example, as non-performing loans (NPL) increase, banks would have an incentive to increase margins in order to better reflect actual credit risks. Similarly, an increase in the liquidity asset ratio (Liq), calculated as liquid over total assets, represents

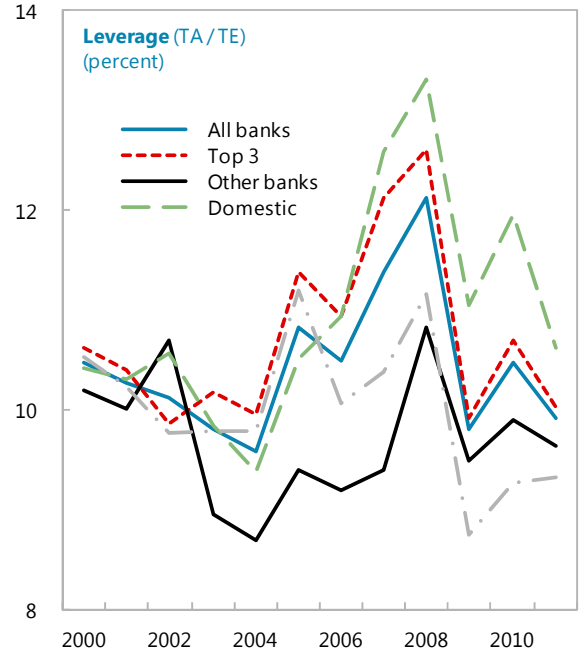
[6] The profit margins from the interest rate decompositions reflect earnings before taxes, and have been scaled by deposits. As noted above, financial ratio analysis allows a more precise view on generation of earnings and profits.

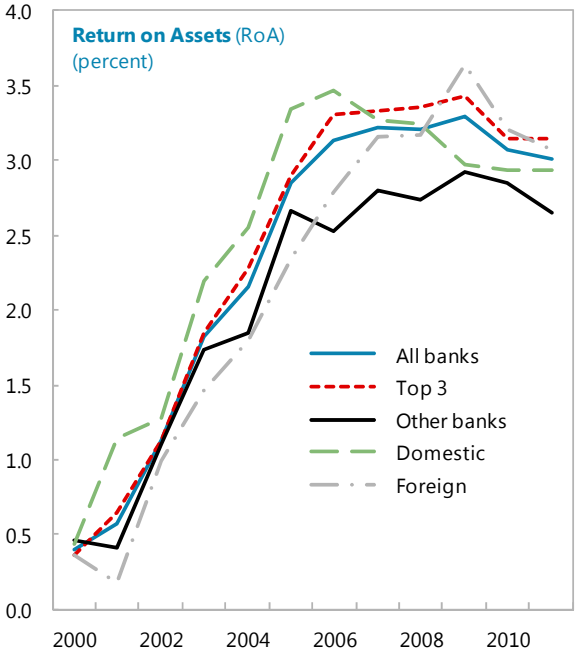
[7] All estimations are done in EVIEWS using unbalanced panel data regression techniques assuming fixed effects. Robust estimators were calculated using White cross sectional SUR corrections to ensure robust standard errors.

Figure 5. Peru: Financial Statement Analysis, 2000-11



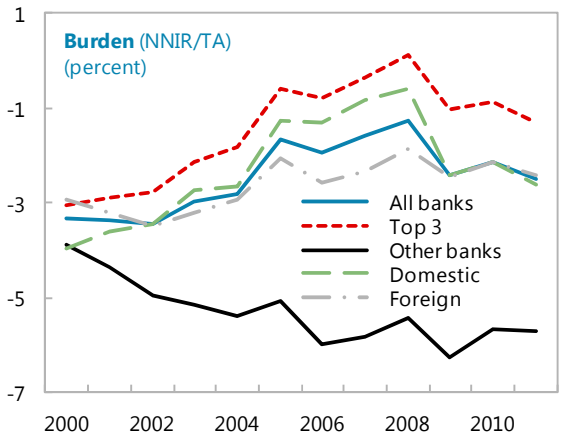


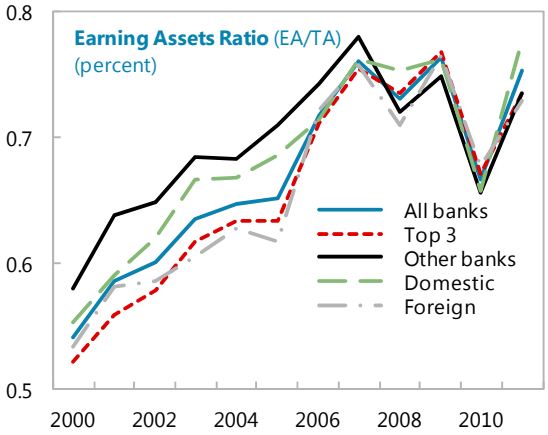


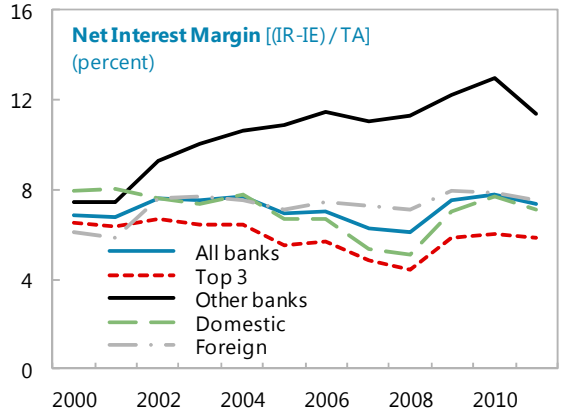


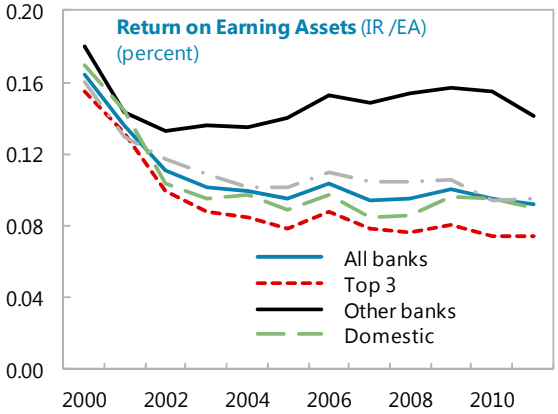
Sources: SBS data; and Fund staff estimates.

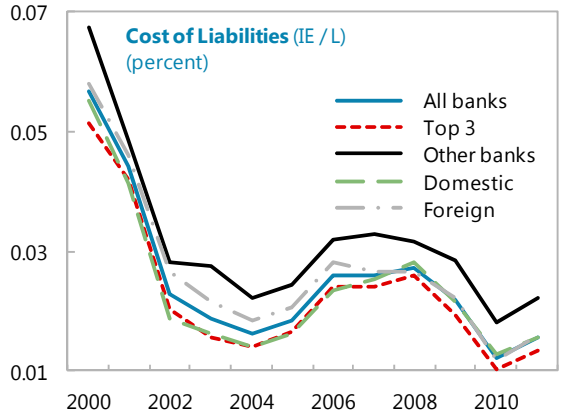
Figure 6. Peru: Financial Statement Analysis, 2000-11

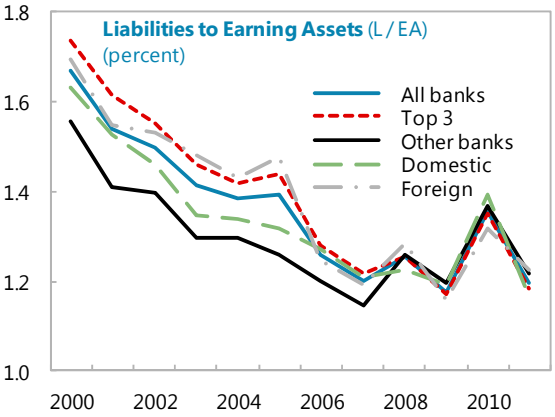












Sources: SBS data; and Fund staff estimates.

a lost opportunity cost of undertaking financial intermediation and would increase margins. Market risk (MR) is defined as each bank's disposable investment over their total assets, while (Cost) are administrative costs over total assets. Two other variables, market share (Share) and the bank concentration ratio (IC3), are also employed in separate regressions to test if banks market power or concentration in the system has an impact on margins. The general assumption is that both variables should increase margins. Additional macroeconomic conditioning variables: (i) the 3-month Libor rate; (ii) domestic inflation (Inf); and (iii) the nuevo sol-U.S. dollar exchange rate—are also included.

18. Table 4 presents the two panel regression estimates.

- The main result is that the key explanatory variables—credit and market risks, liquidity and operational costs—are all positive (in line with theory) and highly significant. These are the foremost factors behind effective interest rate spreads.
- The coefficient estimate for bank concentration variable (IC3) is also positive, and indicates that for every 1 percentage point increase in system wide bank concentration, the effective interest rate margin rises by 0.074 percentage points. This estimate is more than double the 0.033 estimated coefficient reported by Espino and Carrera (2005) using quarterly data from 1995 to 2004.
- The coefficient for an individual bank's market share, however, is negative and implies that for every 1 percentage point increase in a bank's market share, the effective interest rate margin falls by 0.16 percentage points. This result may seem counter intuitive, but stems from the fact that the larger banks which have gained market share have been the institutions that have experienced lower effective interest rate margins, while the smaller banks which have lost market shares have increased margins.

Table 4. Interest Spread Regressions [1/]

	Regression 1 (market share)	Regression 2 (bank concentration)
NPL $_t$	0.0955	0.1059
(t)	(9.3)	(9.6)
LIQ $_t$	0.0914	0.1001
(t)	(6.8)	(7.8)
MR $_t$	0.2012	0.1954
(t)	(8.5)	(8.4)
COST $_t$	0.9850	1.0373
(t)	(8.4)	(9.4)
LIBOR $_t$	-0.0018	-0.0025
(t)	(-6.2)	(-6.3)
ER $_t$	-0.0001	-0.0001
(t)	(-0.8)	(-0.5)
INF $_t$	-0.0023	-0.0027
(t)	(-7.3)	(-8.0)
C	0.0625	-0.0073
(t)	(5.7)	(-0.3)
SHARE $_t$	-0.1623	...
(t)	(-2.9)	...
IC3 $_t$	...	0.0725
(t)	...	(2.6)
R^2	0.9527	0.9526
Prob (F)	0	0
No. banks	15	15
Observations	1291	1291

Source: SBS, and Fund staff estimates.
1/ t-statistics are below the estimated coefficients.
Robust standard errors were estimated using cross sectional SUR (PCSE) methods.

- Finally, the results of the macro conditioning variables are somewhat surprising. The exchange rate has no impact on margins—which is unexpected if uncovered interest rate parity holds.

Also, the Libor coefficient, a proxy for the cost of external funding is negative (although significant).

E. Conclusions

19. The Peruvian system compares very well with other Latin American banking systems. Banks are well capitalized, have ample access to deposit funding sources, and follow prudent provisioning policies. Most importantly, the credit delivery system is very healthy. Nevertheless, the consolidation process has resulted in a more concentrated banking system with slightly lower levels of foreign participation. An open question is whether an absence of spread reduction for the system as a whole reflects a lack of competition in the sector. The panel regressions indicated that increases in system wide concentration levels did raise spreads, but also implied that banks which gained market share ended up lowering effective spreads.

20. While effective interest rate spreads for the system as a whole have been stable, they have varied widely among certain bank groupings. Surprisingly, both interest and non-interest spreads as well as the return on interest earning assets on a system wide basis have remained relatively stable throughout Peru's banking consolidation process and as the economy expanded rapidly. For the most part banks profits rapidly increased due to reductions in personnel and administrative expenses. Moreover, a greater deployment of interest earning assets and lower cost of funds environment also helped to bolster profits. Most striking, the experience and behavior of the smaller banks was significantly different from the larger top 3 banks. These smaller banks achieved much higher spreads, and while they also raised profits substantially, they have not been able to control costs to the same degree as larger banks. Finally, when split between domestic and foreign banks, the differences in outcomes appears much smaller.

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