

## **Peru: Selected Issues**

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PERU

**Selected Issues**

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Approved by Western Hemisphere Department

January 4, 2007

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## I. GROWTH AND REFORM IN PERU POST-1990: A SUCCESS STORY?<sup>1</sup>

### A. Introduction

1. ***After a “lost decade” and a half, Peru stabilized its economy and initiated comprehensive structural reforms in the 1990s.*** The economy grew by 4 percent a year during 1991–2005, with annual per capita real GDP growth rates of about 2½ percent on average. Nonetheless, by 2005, per capita real GDP was only just approaching its peak level of the 1970s, and more than half of the population was under the poverty line. This paper assesses the contribution from several fundamental growth determinants, such as market-oriented reforms, macroeconomic stability, and external conditions, to the income improvements post-1990. The paper also explores whether the implementation of complementary reforms in education, infrastructure, and civil liberties may have affected the expected boost to growth from market-oriented reforms. Structural reforms are indeed found to be an important source of growth, along with macroeconomic stabilization and public infrastructure development. Progress in civil liberties and education appears to have further enhanced the growth-effectiveness of reforms.

### B. Stylized Facts

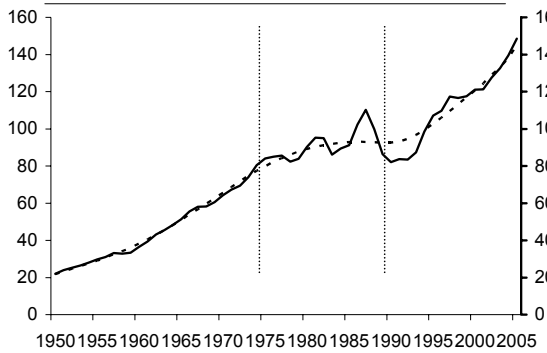
2. ***Following a poor record since the late 1970s, Peru’s growth has surpassed the regional average since the early 1990s.*** Similar to most countries in the region, an unsustainable build-up of external debt and the demise of the import substitution development strategy led the Peruvian economy into crisis in the late 1970s. The 1980s were characterized by boom-bust cycles, that culminated with hyperinflation and a major output collapse at the end of the decade (Figures 1 and 2). During 1961–90, real GDP per capita grew only by ¼ percent on average, compared with 1½ percent for Latin America and over 2 percent for the global economy (Figure 3). At the same time, growth was highly volatile (Figure 4). Since 1990, income improvements have been well above the regional average, however, and volatility has also sunk below the Latin American average since 2000.

3. ***Strong growth in the 1990s was initiated by macroeconomic stabilization, along with deregulation and opening of the economy.*** Growth has been driven by private investment and exports, particularly in the mining and hydrocarbons sectors (Figures 5 and 6). However, the concentration of growth appears to have exacerbated regional disparities. Serra et al. (2006) examines growth convergence across Peru’s 24 departments between 1970 and 2001, and finds that the speed of convergence slowed considerably in the 1990s, converting to divergence during the second half of the 1990s, and producing regional “convergence clubs.”

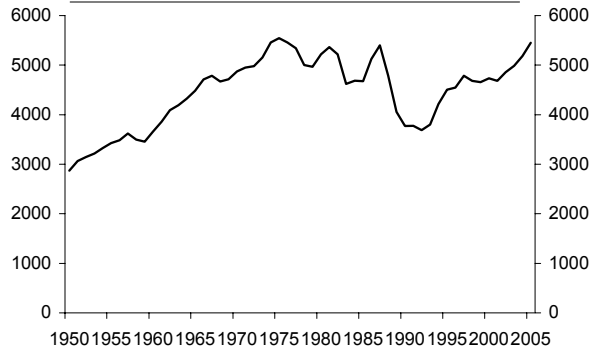
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<sup>1</sup> Prepared by Eva Jenkner (WHD).

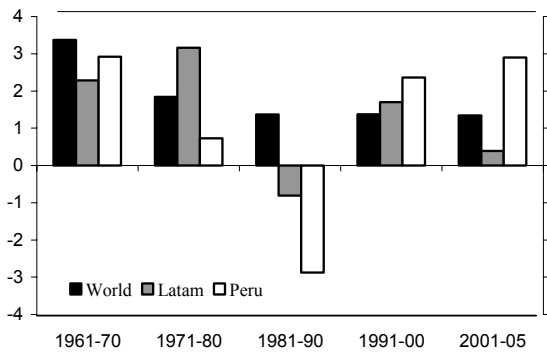
**Figure 1. Real GDP 1950-2005**  
(In billions of 1994 New Soles)



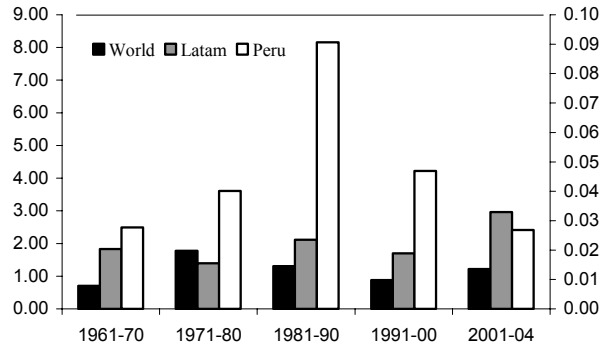
**Figure 2. Real GDP Per Capita 1950-2005**  
(In 1994 New Soles)



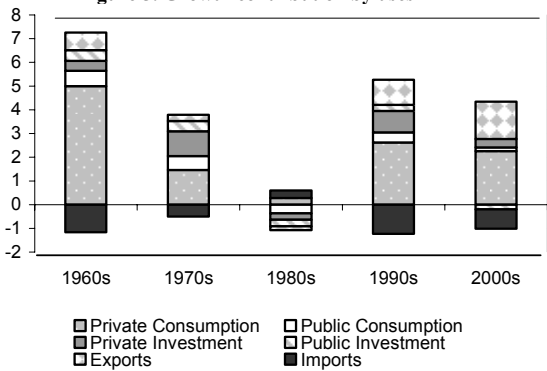
**Figure 3. Growth Rates of GDP per Capita 1961-2005 1/**



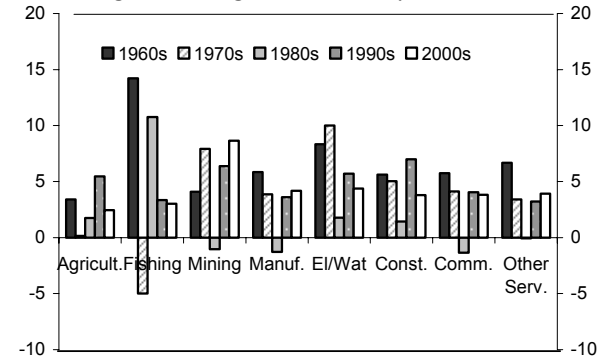
**Figure 4. Volatility of GDP Per Capita 1961-2005 1/**



**Figure 5. Growth contribution by uses**



**Figure 6. Average Growth Rates by Sector**



1/ For World and Latam up to 2004.

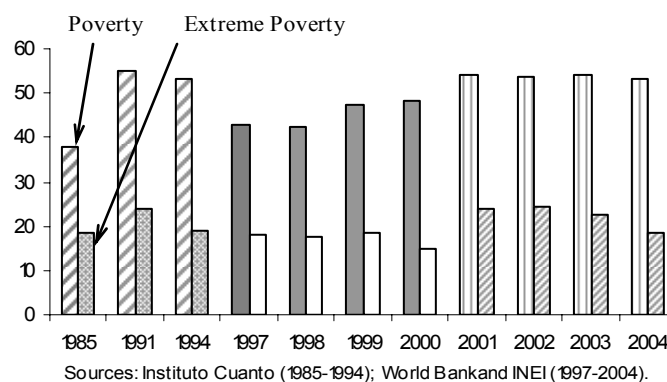
Sources: Banco Central de Reserva del Peru; WDI (2005); and author's calculations.

4. ***Despite strong average growth rates, poverty has remained stubbornly high***

(*Figure 7*). After peaking during the economic crisis of the late 1980s and early 1990s, poverty showed a downward trend during most of the 1990s. During the recession of the late 1990s, poverty levels seem to have bounced back, however, and have not significantly come down despite strong and uninterrupted growth during the last four years. Extreme poverty, on the other hand, has decreased significantly since 2001 (World Bank, 2005).

**Figure 7. Peru: Poverty Trends 1985-2004** 1/

(Fourth Quarter)



1/ Figures not comparable across series

### Growth accounting

5. ***Basic growth decompositions point to swings in total factor productivity (TFP) as the main explanation for Peru's volatile growth performance (Table 1)***. Most recent studies indicate that the low growth of the 1980s and the subsequent recovery were the result of large swings in TFP. Even when adjusting for human capital enhancements and estimated utilization rates of factor inputs, Loayza, Fajnzylber, and Calderon (2005) find that virtually all of the 5 percentage point increase in average growth between the 1980s and the 1990s can be attributed to improvements in TFP. Similarly, Peru's regional underperformance before 1990 and its subsequent over-performance can be traced back to swings in productivity.

Table 1. Peru: Growth Accounting

	Average GDP growth 1/	Contribution of		
		Labor	Capital	TFP
1961-70	5.3	1.5	2.1	1.5
1971-80	2.9	1.6	2.4	-1.1
1981-90	-0.3	1.3	1.1	-2.7
1991-2000	4.7	1.0	1.1	2.5
2001-04	4.4	0.9	0.8	2.7

Source: Ministerio de Economía y Finanzas (2005).

1/ Figures may differ from latest revised series.

6. ***Surprisingly, the contribution of capital does not seem to have been significant despite far-reaching economic liberalization in the 1990s***. Most empirical studies find that the contribution of capital remained virtually unchanged following the reforms initiated in the 1990s, and may even have declined since 2000. The limited contribution from capital to

growth could reflect not only difficulties in accurately measuring the stock of capital but also some underestimation of its impact on growth associated with relatively inefficient public investment in the 1970s—and “higher quality” investment during the last 15 years.

### C. Econometric Analyses

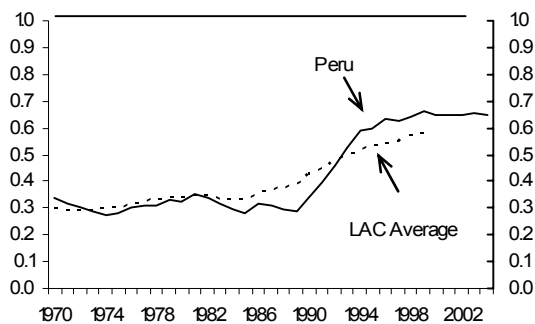
7. *An extended structural reform index is used to assess the potential contributions of structural policies to Peru’s recent growth experience.* This analysis extends, combines, and slightly modifies the basic approaches of other authors that had found structural reforms and stabilization policies to have had a positive impact on growth during the 1990s.<sup>2</sup>

- First, existing structural reform indexes were extended and combined to assess the impact of structural reforms in Peru for 1970–2004, and for Latin America for 1970–99. This considers actual changes in policy to estimate the impact of reforms on growth in Peru, rather than expected consequences of reform. For example, as trade shares have remained relatively low despite significant tariff reductions, including trade shares as a proxy for reform could distort the estimated impact.
- Second, the composite structural reform variable is interacted with areas of complementary reform to explore the importance of policy complementarities. As poverty remains high in Peru, it is worth considering whether the lack of complementary reform may have dampened the economy’s response to liberalization, and generated misdirected popular disenchantment with liberal policies.

8. *The composite structural reform index (SRI) covers the periods 1970–99 for 17 Latin American countries and 1970–2004 for Peru (Figure 8).* The SRI approximates

economic liberalization measures and is constructed by combining indexes from Lora (2001) and Morley, Machado and Pettinato (1999), and extending the Lora index until 2004 for Peru (Appendix 1). For Peru, the index nicely captures the reform spurt of the early 1990s, and the subsequent slow-down in implementing second-generation reforms (Guzman, 2004). Similar to the approach of Chang, Kaltani and Loayza (2005) for openness, the importance of complementary reforms is assessed by including proxies for civil liberties, educational attainment, and infrastructure.

Figure 8. Composite Structural Reform Index



<sup>2</sup> See Fernandez-Arias and Montiel (2001), Loayza, Fajnzylber, and Calderon (2005) (from hereon LFC), Easterly, Loayza and Montiel (1997), Carranza, Fernandez-Baca and Moron (2003), Chang, Kaltani and Loayza (2005) (from hereon CKL), Lora and Panizza (2001).



## Time-Series Analysis

9. *A time series model of GDP growth was estimated to assess the impact of structural reforms in Peru between 1970 and 2004.* The basic model of GDP growth per capita ( $g$ ) is as follows:

$$g = \alpha + \beta_1 glac + \beta_2 inf + \beta_3 cl + \beta_4 edu + \beta_5 infra + \beta_6 sri + \beta_7 sri * CR$$

where  $glac$  (average GDP growth per capita in Latin America and the Caribbean) proxies for the external environment,  $inf$  (or inflation) represents macroeconomic stability,  $cl$ ,  $edu$  and  $infra$  capture improvements in the complementary policy areas of civil liberties, education, and public infrastructure, respectively, and  $sri$  is the structural reform index described above (Panel 1).<sup>3</sup>

10. *The results of the time-series model suggest that structural reforms, macroeconomic stabilization, and the external environment have had a significant impact on per capita growth (Table 2).* Specifically:

- *Structural reforms have boosted per capita growth.* The results also show a strong dependence of growth on low and stable inflation, as well as on the external environment facing Latin America (Column 1).
- *Other structural factors, such as improvements in civil liberties, infrastructure, or education, have not been significant.* When adding interactive terms to determine whether the growth contribution of structural reforms was affected by trends in civil liberties, education, and infrastructure, only the coefficient on the interaction term with civil liberties is statistically significant, suggesting that reforms tend to have a more positive impact on growth when civil liberties are improving (Column 2).

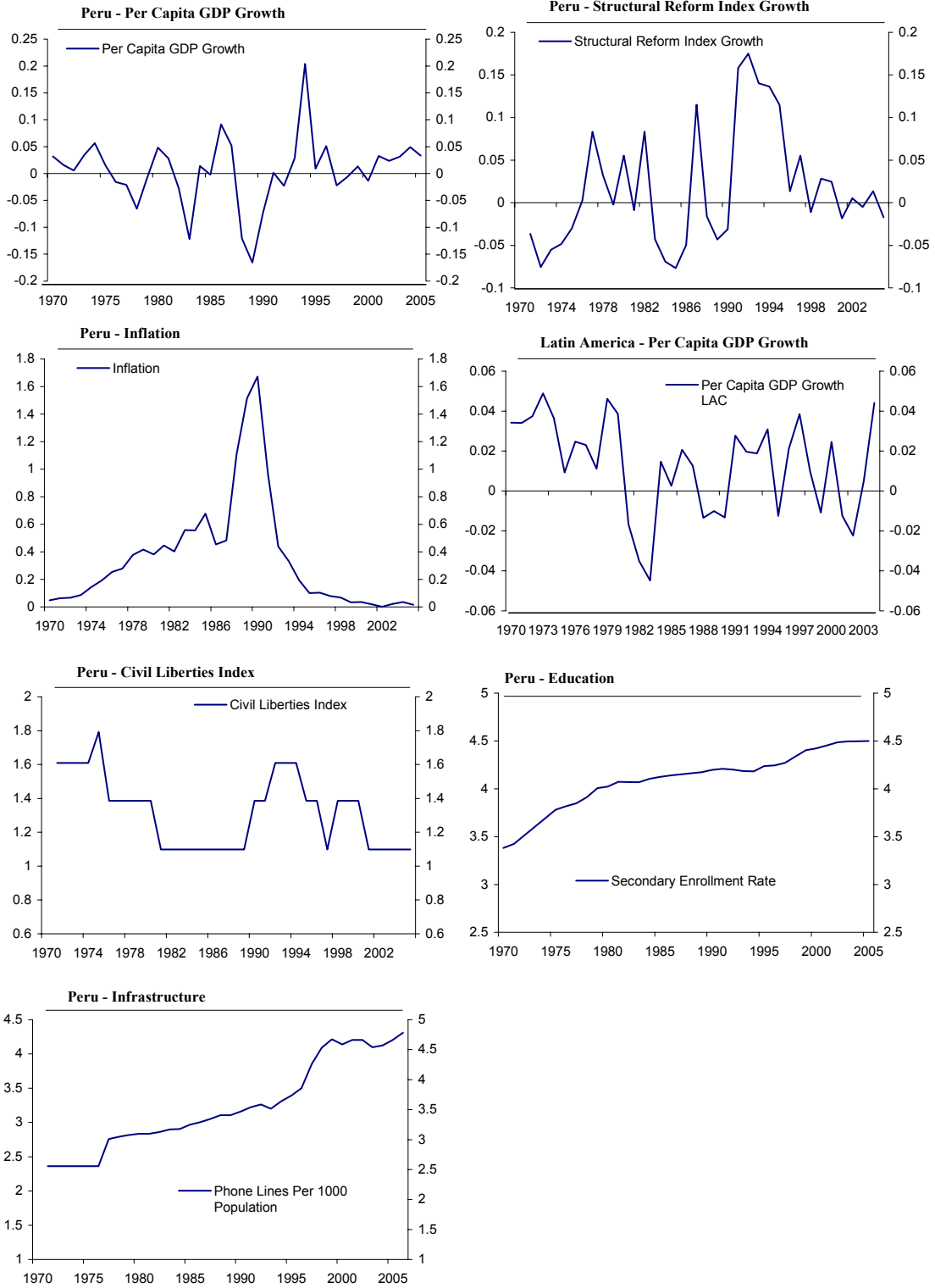
11. *The recovery of growth during the 1990s can be attributed in almost equal parts to macroeconomic stabilization, favorable external conditions, and structural reforms (Table 3).* Growth contributions calculated on the basis of estimated coefficients show that the strong recovery of the 1990s was led by lower inflation, strong Latin American growth, and progress with structural reforms. However, the estimated model does not fully capture growth trends since 2000, with actual growth rates above those predicted.<sup>4</sup>

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<sup>3</sup> Augmented Dickey-Fuller (ADF) tests show all variables to be stationary in first differences, except for the log of inflation and secondary enrollment, which are stationary in levels, so OLS estimation in first differences was employed.

<sup>4</sup> Possible explanations include catch-up growth after the slump of the late 1990s or improvements in the terms of trade. Changes in the terms of trade were not found to be significant when included in the estimation.

Panel 1: Regression Variables  
(all variables in logs and log differences)



Sources: See Data Appendix

Table 2. Growth Determinants in Peru, 1970–2004

Dependent Variable: Per Capita GDP Growth	(1)	(2)	(3)	(4)
Average Per Capita GDP Growth in Latin America	0.757 * (0.403)	0.866 ** (0.382)	0.868 ** (0.406)	0.772 ** (0.404)
Inflation 1/	-0.034 *** (0.009)	-0.035 *** (0.009)	-0.034 *** (0.009)	-0.033 *** (0.010)
Change in the Civil Liberties Index 2/	-0.098 (0.063)	-0.074 (0.060)	-0.074 (0.065)	-0.083 (0.065)
Change in Educational Attainment	-0.150 (0.324)	-0.360 (0.320)	-0.154 (0.320)	-0.187 (0.328)
Change in Public Infrastructure	-0.040 (0.088)	-0.096 (0.087)	-0.043 (0.087)	-0.069 (0.094)
Change in the Structural Reform Index 3/	0.283 ** (0.137)	0.29 ** (0.129)	0.18 (0.155)	0.202 (0.164)
Change in the SRI*Change in Civil Liberties		-2.133 ** (0.986)		
Change in the SRI*Change in Educational Attainment			5.870 (4.378)	
Change in the SRI*Change in Public Infrastructure				1.904 (2.101)
Constant	0.016	0.024	0.019	0.017
Sample	1970–2004	1970–2004	1970–2004	1970–2004
Included Observations	35	35	35	35
R-squared	0.571	0.635	0.598	0.584
Durbin-Watson Statistic	1.639	1.674	1.418	1.696
Breusch-Godfrey SC LM Test	Prob F(2,26) 0.227	Prob F(2,25) 0.071	Prob F(2,25) 0.095	Prob F(2,25) 0.100
Q-Statistic	Prob (6 lags) 0.223	Prob (6 lags) 0.124	Prob (6 lags) 0.142	Prob (6 lags) 0.150
White Heteroscedasticity	Prob F(12,22) 0.419	Prob F(14,20) 0.124	Prob F(14,20) 0.005	Prob F(14,20) 0.288
Jarque-Bera	Prob 0.193	Prob 0.710	Prob 0.921	Prob 0.442

1/ Log (1+inflation rate)

2/ A reduction in the index implies an improvement in liberties.

3/ An increase in the index implies progress with structural reform.

\*, \*\* denotes significance at 5 percent, and 1 percent level, respectively.

Table 3. Estimated Growth Contributions (OLS) 1/

	1990s vs. 1980s	2000s vs. 1990s
Average Per Capita GDP Growth in Latin America	1.9	-1.0
Inflation	1.9	0.7
Change in the SRI	1.8	-1.9
Cumulative Change	5.9	-2.2
Actual Change in Per Capita GDP Growth	5.7	1.0

Source: Author's calculations.

1/ 1990s refer to 1991–2000, and 2000s to 2001–04.

12. *The results also suggest that greater progress in advancing structural reforms could have translated into higher income improvements.* While estimating the impact of structural reforms on growth is inherently difficult, the estimated coefficients suggest that, had reform efforts slowed down only by half of what the indices indicate, per capita GDP growth could have been almost 1½ percentage points higher per year.

## Dynamic panel analysis

13. *A dynamic panel model of per capita GDP growth was estimated to assess the robustness of the time-series model and explore the impact of structural reforms in a cross-country context.* The robustness of the results based on time-series analysis may have been weakened by the volatility of output growth in Peru during the sample period and the limited number of observations used in the estimation. Therefore, a dynamic panel was estimated for 17 Latin American countries of five-year nonoverlapping intervals for 1971–99, which builds on the work of LFC and CKL.<sup>5</sup> The four main differences with LFC are the replacement of proxy variables with the SRI to capture structural reforms, the interaction of the SRI with three complementary reform variables, the interaction of explanatory variables with Peru dummies, and a smaller sample of 17 Latin American countries.<sup>6</sup>

14. *The estimated dynamic panels confirm that structural reforms have had a significant and positive impact on per capita growth in Latin America (Table 4, Column 1).*<sup>7</sup> In line with the initial results for Peru only, the SRI is found to have a significant, positive impact on growth. The coefficients on initial per capita GDP and initial output gap are negative and highly significant, confirming the presence of transitional convergence and cyclical reversion in Latin America. As to the other standard determinants of growth, the coefficients on public infrastructure, education, changes in the terms of trade, and inflation all show the expected signs and are significant, except for education.

15. *Testing for Peru-specific differences only reveals significantly stronger cyclical reversion than in Latin America as a whole (Columns 2 and 3).* In order to test for the presence of Peru-specific differences in slopes and significance, a dummy variable for Peru was multiplied with each of the explanatory variables. Only cyclical reversion appears to have played a much larger role in Peru during the sample period. This is likely driven by the extreme depth of the recession of the late 1980s and the strong recovery of the 1990s, as also reflected in higher output volatility in Peru than in the rest of Latin America. The impact of reform cannot be shown to be different in Peru than in the rest of Latin America.

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<sup>5</sup> We use generalized method of moments (GMM) estimators for dynamic panel data developed in Arellano and Bover (1995) and Blundell and Bond (1998) to control for country-specific effects and joint endogeneity of the variables. Unobserved effects are controlled for by first-differencing, and variables are instrumented for with lags of their own first-differences. See Bond (2002) for a comprehensive description of the methodology, or Loayza, Fajnzylber, and Calderon (2005) for a brief overview. We gratefully acknowledge David Roodman (CGD) for providing the statistical package for dynamic panel estimators to the IMF.

<sup>6</sup> Also, given the much smaller cross-country sample, and the need to restrict the number of instruments, inflation is the only proxy for stabilization policies. Entered in turn, only inflation and systemic banking crises were found to be significant; output volatility and real exchange rate overvaluation were not significant.

<sup>7</sup> The Hansen overidentification test and the Arellano-Bond autocorrelation test support the model specification.

Table 4. Growth in Latin America and the Caribbean, 1971–99: Regression Results for Dynamic Panel Analysis (System GMM)

Dependent Variable: Per Capita GDP Growth	(1)	(2)	(3)	(4)	(5)	(6)
Initial Per Capita GDP 1/	-0.029 *** (0.009)	-0.030 *** (0.010)	-0.029 *** (0.009)	-0.023 ** (0.009)	-0.031 *** (0.010)	-0.030 *** (0.009)
Initial Output Gap 1/	-0.126 * (0.076)	-0.122 (0.084)	-0.093 (0.077)	-0.098 (0.079)	-0.123 (0.079)	-0.101 (0.086)
Change in the Terms of Trade	0.125 ** (0.056)	0.123 ** (0.052)	0.114 ** (0.051)	0.126 ** (0.055)	0.121 ** (0.050)	0.129 ** (0.052)
Inflation 5/	-0.008 *** (0.003)	-0.009 *** (0.003)	-0.009 *** (0.004)	-0.009 *** (0.004)	-0.008 *** (0.003)	-0.009 *** (0.004)
Civil Liberties Index	0.005 (0.006)	0.004 (0.007)	0.005 (0.007)	0.004 * (0.023)	0.008 * (0.005)	0.008 * (0.004)
Education 3/	0.0001 (0.012)	-0.003 (0.013)	-0.0001 (0.012)	-0.005 (0.010)	0.047 * (0.28)	-0.004 (0.011)
Public Infrastructure 2/	0.024 *** (0.008)	0.026 *** (0.010)	0.025 *** (0.008)	0.022 *** (0.007)	0.025 *** (0.006)	0.046 *** (0.018)
Structural Reform Index 1/	0.032 ** (0.013)	0.031 ** (0.015)	0.035 *** (0.013)	0.089 ** (0.036)	-0.173 * (0.094)	-0.051 (0.065)
Structural Reform Index*Peru Dummy		-0.003 (0.009)				
Initial Output Gap* Peru Dummy			-0.344*** (0.136)	-0.368*** (0.123)	-0.208 (0.136)	-0.301** (0.135)
Structural reform Index*Civil Liberties Index				-0.047** (0.020)		
Structural Reform Index* Education					0.051** (0.023)	
Structural Reform Index*Public Infrastructure						0.021 (0.016)
Period Dummy 1971–75	0.066 ***	0.068 ***	0.07 ***	0.064 ***	0.058 ***	0.068 ***
Period Dummy 1976–80	0.052 ***	0.053 ***	0.055 ***	0.051 ***	0.048 ***	0.056 ***
Period Dummy 1981–85	0.016	0.018	0.018	0.016	0.013	0.021
Period Dummy 1986–90	0.027 *	0.029 **	0.03 ***	0.028 **	0.027 **	0.033 ***
Period Dummy 1991–95	0.022 ***	0.023 ***	0.023 ***	0.021 ***	0.023 ***	0.025 ***
Constant	0.191 ***	0.205 ***	0.197 ***	0.229 ***	0.009	0.121*
Sample Countries	17	17	17	17	17	17
Included Observations	98	98	98	98	98	98
Hansen Test	Prob > chi2 = 1.00	Prob > chi2 = 1.00	Prob > chi2 = 1.00	Prob > chi2 = 1.00	Prob > chi2 = 1.00	Prob > chi2 = 1.00
Arellano-Bond test for AR(1) in first differences	0.007	0.01	0.006	0.005	0.004	0.004
Arellano-Bond test for AR(2) in first differences	0.596	0.586	0.433	0.542	0.396	0.363

\*, \*\*, \*\*\* denotes significance at 10 percent, 5 percent, and 1 percent level, respectively.

1/ In logs.

2/ Log of phone lines per 1000 population.

3/ Log of secondary enrollment rate.

4/ An increase in the index implies progress with structural reform.

5/ Log (1+inflation rate)

6/ A reduction in the index implies an improvement in liberties.

16. *The results also show that improvements in education levels and civil liberties tend to reinforce the positive effects on growth associated with market-oriented reforms (Columns 4–6).* As before, improvements in civil liberties had a significant impact on the growth response to economic liberalization. Also, a positive impact of education improvements, both on its own and in conjunction with the SRI, can be detected. The results further suggest that infrastructure had a robust and positive impact on growth for all specifications, but does not appear to affect the growth effectiveness of structural reforms.

17. ***Market-oriented reforms, as captured by the SRI, explain a large share of growth improvements during the last 15 years in Peru (Table 5).*** Consistent with the earlier findings, market-oriented reforms, along with cyclical reversion, declining inflation, and improvements in infrastructure, appear to have contributed significantly to Peru's output performance of the 1990s. However, since 2000, an adverse external environment has partially offset the benefits from further reductions in inflation, improvements in infrastructure, and the SRI. Furthermore, the interaction terms of structural reforms with the civil liberties index and education illustrate the negative impact of reductions in civil liberties in the 1990s, and the positive impact of continuous education improvements.<sup>8</sup> The impact of the democratic transition after 2000 is positive, but too small to show. This result is in line with findings by Carranza, Fernandez-Baca, and Moron (2003) for Peru and Jadresic and Zahler (2000) for Chile, and appears to lend some support to the hypothesis that Peruvians may not have felt the full benefits of liberalization due to reductions in civil liberties in the 1990s.

Table 5. Estimated Growth Contributions (GMM) 1/

	1990s vs. 1980s	2000s vs. 1990s
Initial GDP Per Capita	0.9	-0.6
Initial Output Gap	1.9	0.0
Change in the Terms of Trade	0.3	0.3
Inflation	1.4	1.0
Education	0.0	0.0
Public Infrastructure	1.8	1.0
SRI	2.1	0.5
<i>SRI with Civil Liberties Index</i>	1.3	0.5
<i>SRI with Education</i>	2.7	0.8
Period Dummies	-0.1	-2.3
Cumulative Contributions	8.2	-0.1
Actual Change in Average Per Capita GDP Growth	6.1	-0.4

Source: Author's calculations.

1/ 1990s refer to 1991–99, and 2000s to 2000–04.

<sup>8</sup> The composite growth effect is given by  $g = (b_{SRI} + b_{INT} * comp) * sri$ , where  $b_{SRI}$  denotes the estimated coefficient on *sri*,  $b_{INT}$  denotes the estimated coefficient on the respective interaction terms, and *comp* refers to the civil liberties and education variables, which can be treated as constants. For purposes of calculating the growth contributions in Table 6, levels for the 1990s and 2000s were included, respectively.

#### D. Conclusion

18. ***The empirical results presented in this paper underscore the importance of advancing market-oriented reforms to further boost per capita growth in Peru.*** Preserving macroeconomic stability, while advancing reforms as well as expanding basic infrastructure and education, would help entrench higher growth rates in Peru. As measured by the reform index, room for improvement remains mainly in the areas of *de-jure* labor market flexibility, and with respect to tax efficiency and creditors' rights. In regional comparison, Peru lags behind in infrastructure provision, especially with respect to ports, the quality of education, governance, and employment and firm flexibility, with the latter inducing elevated levels of informality (Loayza, 2005, and Loayza, Oviedo and Serven, 2005).

19. ***Further research should focus on how best to ensure that growth translates into more decisive reductions in poverty.*** As half of the population in Peru still lives below the poverty line, further research should consider how the link between average income improvements and poverty reduction can be strengthened. Possible explanations for the comparatively weak link in Peru include strong population growth and growth concentration in capital-intensive or low-productivity sectors. Also, the historical volatility of growth and labor market rigidities may have discouraged firms from expanding formal employment during the recent upturn (World Bank, 2005). Accordingly, greater poverty reduction seems to require not only higher and less volatile growth, but also labor market and regulatory reforms that help promote formal employment and encourage enhanced human capital accumulation.

## ANNEX 1. DATA APPENDIX<sup>1</sup>

**Per Capita GDP Growth:** Log difference of real GDP per capita. Source: LCF and *Banco Central de Reserva del Peru* (BCRP) for Peru.

**Per Capita GDP Growth in Latin America:** Log difference of average real GDP per capita in Latin America and the Caribbean. Source: World Development Indicators (WDI).

**Initial GDP Per Capita:** Initial value of the ratio of GDP to total population. Source: LCF.

**Initial Output Gap:** Difference between the log of actual GDP and the log of potential GDP at the start of the period. Baxter-King filter used to decompose the log of GDP. Source: LCF.

**Education:** Log of the ratio of total secondary enrollment to the population of the age group that officially corresponds to that level of education. Source: LCF and Loayza (2006) for Peru.

**Public Infrastructure:** Log of the number of telephone mainlines per 1000 people in the country. Source: LCF and Loayza (2006) for Peru.

**Inflation:** Log of (1 plus the log difference of the Consumer Price Index). Source: LCF and BCRP for Peru.

**Terms of Trade Growth:** Log difference of the terms of trade. Source: LCF and WDI (2005).

**Civil Liberties Index:** Log of index for civil liberties ranking freedom from 1–7, with 1 being the freest. Source: The Freedom House.

**Structural Reform Index (SRI):** Log of composite SRI. SRI is constructed by using the log difference of the Morley, Machado and Pettinato (1999) index to extend Lora's original index (2001) for 1985–99 back to 1970. The composite index includes five sub-categories for trade liberalization, financial sector reform, labor market reform, the tax regime, and privatization. The overall index is a simple average of 5 sub-indices ranging from 0 to 1, with 0 being the worst reading for any country and any year, and 1 the best. See Lora (2001) for a detailed description. SRI for Peru 2000–04: Author's own calculations on the basis of Lora (2001).

**Country Sample for Panel Analysis:** Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

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<sup>1</sup> We would like to gratefully acknowledge that Norman Loayza shared the LFC data set for 1961–99, as well as extended data for Peru up to 2005.



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## II. TOWARD A SOUND FISCAL DECENTRALIZATION IN PERU<sup>1</sup>

### A. Introduction

1. ***Like other countries in Latin America, Peru has embarked on a fiscal decentralization process in recent years.*** The current Peruvian decentralization attempt started in 2002, with a constitutional amendment that mandated political and fiscal decentralization. Other countries in Latin America, such as Bolivia and Ecuador, have also experienced pressures to decentralize, while others, like Chile, remain fairly centralized. In Peru, the process was promoted by the general view that decentralization would help improve governance and public service delivery through enhanced accountability at subnational levels. Decentralization was also aimed at ensuring broader access to basic public services and, ultimately, at reducing high poverty rates and regional income disparities.
2. ***Despite its potential benefits, decentralization is a difficult and challenging process.*** International experience shows that the merits of decentralization largely depend on its design, as well as its implementation. Appropriate revenue assignments are critical to ensuring an effective provision of public services by subnational governments—for example, local taxes are generally preferable to central government transfers in order to generate incentives for subnational accountability (Ahmad and Brosio, 2006). In countries where important natural resources are located in specific regions, decentralization may increase regional disparities in the absence of equalization mechanisms (Ahmad and Brosio, 2006). The assignment of expenditure responsibilities is also critical. For instance, ill-defined functions combined with a rapid devolution of revenues may result in fiscal imbalances, as was the case in Indonesia (Ahmad and Tanzi, 2002).
3. ***The success of decentralization also depends in part on the quality of institutions.*** If local institutions related to tax administration, expenditure management systems, and budgetary processes are weak, their ability to collect effectively and manage public resources is limited. In turn, this tends to jeopardize the effective delivery of social services and to lead to waste in public resources. In fact, there is no convincing evidence that decentralization brings significant improvements in the delivery of services, particularly to disadvantaged groups (Ahmad and Tanzi, 2002).
4. ***Decentralization could pose risks to macroeconomic stability.*** If the central government has limited capacity to monitor indebtedness operations by subnational governments, decentralization could result in a rapid increase in subnational debt. At various points in time, these problems became evident in countries such as Brazil, Argentina, or Russia (Tanzi, 2002, Ahmad and Tanzi, 2002). Also, in a decentralized fiscal structure it is

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<sup>1</sup> Prepared by Mercedes García-Escribano (FAD). This chapter builds on the IMF WP/06/120 “Fiscal Decentralization and Public Subnational Financial Management in Peru” by E. Ahmad and M. García-Escribano.

more difficult to coordinate the actions of national and subnational jurisdictions to achieve certain well-specified macroeconomic objectives.

5. ***This paper seeks to assess the extent to which the conditions for a sound decentralization process are present in Peru.*** Peru remains fairly centralized and, despite a legal framework for decentralization yet to be completed, the authorities have reaffirmed their intention to press ahead rapidly with decentralization.<sup>2</sup> This chapter presents the legal framework and its status of implementation, and assesses the extent to which the institutional conditions for efficient spending and adequate reporting by lower levels of government are in place. It finds out that the legal framework is well advanced but that further steps should be taken before pressing ahead with decentralization, including through a clearer definition of responsibilities at all levels and improvements in the capacity of subnational governments to execute spending effectively.

## **B. The Framework for Subnational Governments**

6. ***Subnational governments in Peru share many of the shortcomings of the central government in the area of public financial management.*** Peru consists of three levels of government: national, regional, and local.<sup>3</sup> As in many countries, shortcomings of the central government in the area of public financial management, including information generation, are magnified at the lower levels, due to limited human capital and organizational capacity. As noted by Tanzi (2002), the probability for poor governance, and lower quality of institutions and staff, are more common at the subnational level. Indeed, in Peru the technical capabilities of subnational governments to assess and execute investment projects has proven to be very limited, resulting in part in an under execution of budgeted resources. In addition, the central government has not been able so far to obtain comprehensive financial information on the activities of subnational government on a timely basis. A priority should thus be to build up the administrative capacity of subnational governments since this is crucial for an effective use of public resources.

7. ***Since 2002, the legal framework for a fiscally-neutral decentralization process has been put in place gradually.*** Building upon the 2002 constitutional mandate, laws were enacted to guide the sequencing and procedures for the devolution of responsibilities, the transfer of resources, and the reporting provisions and fiscal rules for subnational governments. The legislation also provided for the creation of larger regions resulting from the merger of existing regions.

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<sup>2</sup> In 2005, local governments carried out about 13 percent of total primary expenditure of the general government.

<sup>3</sup> Before the 2002 constitutional amendment, there were only two levels of government: the national and local levels. At present, in addition to the national level, there are 25 regional governments and 1,840 local governments.

8. ***Five main laws have been enacted to guide the process of fiscal decentralization:***<sup>4</sup>

- The 2002 ***Framework Decentralization Law***, which mandates a clear, gradual, and fiscally-neutral devolution of expenditures and revenue. It regulates expenditure assignments among levels of government and specifies which functions are exclusively assigned to a particular level and which ones are shared. It also established stages for the devolution process, under which devolution of responsibilities was to start with social and infrastructure programs, continue with other sectoral functions, and end with the transfer of education and health functions.
- The 2002 ***Organic Law of Regional Governments*** and the 2003 ***Organic Law of Municipalities*** detail regional government and municipal expenditure responsibilities, respectively. However, neither these laws nor the Framework Decentralization Law did clarify the assignment of shared responsibilities (Table A.1).
- The 2004 ***Accreditation System Law***. This law aims at establishing a system to assess whether regional and local governments meet minimum capacity standards to qualify for the transfer of functions and corresponding resources. This law also regulates the procedures for the devolution process (Box 1).
- The 2004 ***Fiscal Decentralization Law*** (FDL), which establishes the sequencing of transfers to regional governments and sets fiscal rules and reporting provisions for subnational operations.

9. ***Subnational governments rely heavily on transfers from the central government.***

Although local governments can collect their own taxes, most of their revenue accrues from central government transfers, including from shared-revenues (such as the *canon* for natural resources). Other specific transfers are to fund social programs, such as *Vaso de Leche* (Table 1).<sup>5</sup> Local governments can also borrow in the domestic or international markets, subject to certain fiscal rules.<sup>6</sup> While regional governments receive transfers from the central government and can borrow from the financial markets, they cannot levy taxes.

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<sup>4</sup> Organic Law of Regional Governments of 2002 (Law No. 27867); Organic Law of Municipalities of 2003 (Law No. 27972); Framework Decentralization Law of 2002 (Law No. 27783); Accreditation Law of 2004 (Law No. 28273; implementing regulations were issued in November 2004); and Fiscal Decentralization Law of 2004 (Decree No. 955).

<sup>5</sup> In 2005, local current revenues accounted for 35 percent of total local government current resources.

<sup>6</sup> A central government guarantee is needed for external indebtedness operations of subnational governments (Organic Law of Regional Governments of 2002, Organic Law of Municipalities of 2003, and General Law of Public Indebtedness of 2005). As a result, external indebtedness operations by subnational governments are counted against the annual limit on indebtedness operations that the central government may contract or provide in a given year (this limit is established each year in the Annual Public Indebtedness Law).

### Box 1. The Accreditation Process

*The Accreditation System Law defines the procedures for the transfer of functions from the central government to regional and local governments.*

*As a first stage, the functions that may be transferred are defined in an annual transfer plan.* Based on the responsibilities assigned to subnational governments, the National Decentralization Council (NDC) prepares annual transfer plans. These plans integrate the annual plans prepared by each line ministry and specify the functions that may be transferred during the next budget cycle. They also establish the criteria that subnational governments need to meet in order to qualify for the transfer of functions and corresponding resources. By end-March of each year, the NDC annual plan is approved by the Council of Ministers.

*In a second stage, the capacity of subnational governments to undertake the functions to be devolved is assessed.* In the context of the annual transfer plan, the regional and local governments may request the devolution of functions and their capacity to undertake the new responsibilities is assessed. The subnational governments' capacity assessment—which may be performed by the NDC or a non-public agency—is undertaken in August-September. By end-October, the NDC certifies the subnational governments for the devolution of functions during the next budget cycle.

Table 1. Financial Sources of Subnational Governments

Regional government	Local government
<ul style="list-style-type: none"> <li>• <b>Transfers</b> from the central government: shared-revenues (<i>canon</i>, royalties, and in second stage of the decentralization, 50 percent of VAT, excises and personal income tax) and other transfers (FONCOR, discretionary transfers).</li> <li>• <b>No regional tax</b></li> <li>• <b>Borrowing operations</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Transfers</b> from the central government: shared-revenues (<i>canon</i>, royalties), and other transfers (FONCOMUN, for social programs, other discretionary transfers).</li> <li>• <b>Local tax revenues</b> (property tax, cultural events, vehicles) and <b>non tax revenues</b> (fees, fines, sale of goods and services).</li> <li>• <b>Borrowing operations</b></li> </ul>

Table 2. Current Revenue Sources of the Local Governments, 2005

	Millions of soles	In percent of general government total current revenues	In percent of GDP
Total current revenue	6,703	14.0	2.6
Local revenues			
Taxes 1/	689	1.4	0.3
Nontax revenues 2/	1,671	3.5	0.6
Contributions	8	0.0	0.0
Transfers from the central government			
Shared-revenues 3/	1,568	3.3	0.6
Other transfers 4/	2,767	5.8	1.1

Source: MEF

1/ Includes property tax, and casino taxes.

2/ Municipal fees, fines, and revenues from the sale of goods and services

3/ Canon and sobrecanon.

4/ Foncomún, Vaso de Leche, and other transfers.

10. ***The 2004 Fiscal Decentralization Law (FDL) addresses the issue of the sequencing of transfers to regional governments.*** Under the law, transfers must be such as to ensure a neutral and fiscally sound decentralization process. The law establishes a two-stage process for transferring revenues to regional governments:

- During the first stage, regional governments are to be funded through transfers from the central government, earmarked for certain social programs and infrastructure projects, and consistent with the principle of fiscal neutrality.
- Regional governments that voluntarily merge to constitute larger regions qualify to enter the second stage.<sup>7</sup> At this stage, they will receive 50 percent of certain taxes collected in their jurisdictions, including VAT and personal income taxes. They also receive additional transfers from the central government if expenditures (excluding the wage bill) exceed shared-transfers because of external factors (such as a natural disaster or a drop in regional income). Also, regions can receive a bonus (earmarked for investment and maintenance of infrastructure) equivalent to the increase in tax collections above their estimated potential level resulting from efforts to improve tax administration and reduce tax evasion.<sup>8,9</sup>

11. ***The implementing regulations of the FDL, issued in September 2005, clarified that shared-transfers should not exceed the estimated cost associated to the devolved functions.*** This clause was aimed at ensuring fiscal neutrality in decentralization. Moreover, the regulations also clarified that fiscal savings resulting from the efficient provision of public functions by the regions should be used for capital spending or infrastructure maintenance.

12. ***While legislation on the sequencing of decentralization was being prepared, fiscal rules on subnational governments were introduced to ensure fiscal sustainability.*** The 2003 amendment to the Fiscal Responsibility Law (FRL), together with the 2004 Fiscal Decentralization Law (FDL), placed a number of responsibility rules on subnational operations. These rules (for both local and regional governments) include the following:

- The three-year average primary balance must be positive.
- There is to be a 3 percent annual limit on real primary expenditure growth.

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<sup>7</sup> The Framework Decentralization Law provided for passing legislation on the creation of regions (resulting from the merger process of regional governments) and incentives for the merging process.

<sup>8</sup> The assignment of revenues of the second stage does not apply to Callao or Lima.

<sup>9</sup> According to the law, a bonus to reward efforts to increase revenue collections may also be implemented in the first stage.

- A central government guarantee is required for contracting external debt.
- Domestic or external indebtedness operations must be used exclusively to finance investment projects.<sup>10</sup>
- The debt-to-current revenue ratio and annual debt service-to-current revenue ratio must be below 100 percent and 25 percent,<sup>11</sup> respectively.<sup>12</sup>
- The non-guaranteed debt-to-current-revenue ratio and the annual non-guaranteed debt service-to-current-revenue ratio must be below 40 percent and 10 percent, respectively.<sup>13</sup>
- Short-term debt (including floating debt) at end-year cannot exceed one-twelfth of annual current revenues.

13. ***The legal framework also contains reporting provisions for subnational operations.***

The FDL established that regional and local governments needed to provide their medium-term fiscal projections (indicating the planned external and domestic indebtedness operations) to the central government, consistent with the three-year Multi-annual Macroeconomic Framework (MMM) published by the Ministry of Economy and Finance. Also, subnational governments need to report on their quarterly fiscal performance and describe adjustment measures, if needed, to comply with their annual targets.<sup>14</sup>

14. ***Additional legislation is needed to complete the decentralization framework.***

Despite the concerted efforts to shore up legal underpinnings, the legal decentralization

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<sup>10</sup> All investments are subject to the evaluation of their social return by the National System of Public Investment (SNIP).

<sup>11</sup> This requirement is more restrictive than the limit of 30 percent imposed by the Organic Law on Municipalities.

<sup>12</sup> The definition of current revenues used to compute the ratios includes transfers from other levels of government but excludes the operating balance from previous years, financing from domestic and external indebtedness sources, and revenues earmarked to trust funds (*fideicomisos*) (Regulations for the FRL, November 2004).

<sup>13</sup> The limit on the ratio of non-guaranteed debt to current revenue and the annual limit on the ratio of non-guaranteed debt service to current revenue were raised to 45 percent and 25 percent, respectively, for local governments contracting debt associated with the purchase of machinery and equipment.

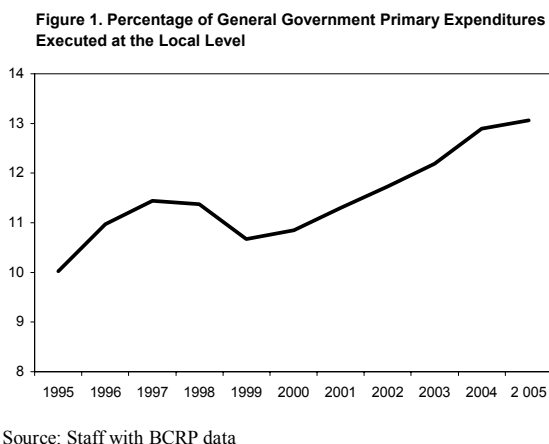
<sup>14</sup> The FDL established that by end-2005, local and regional governments would provide a fiscal management report to the Ministry of Economy and Finance, to inform on compliance with the fiscal rules and suggest adjustment measures, if necessary. Financial management weaknesses at the subnational level have led to an extension of the period to start the report submission. A Resolution was passed in June 2006 with the list of municipalities (93 total) that have to submit their reports by end-2007.



framework is still not complete. There is a need to clarify the spending responsibilities of each level of government and to issue regulations with sanctions for subnational governments not complying with their fiscal rules or their reporting requirements. There is also a need to establish precise conditions for central government intervention and procedures when the implementation of fiscal adjustment programs is required in subnational governments.

### C. The Experience with Decentralization

15. ***Peru's progress under its decentralization process has remained relatively limited so far.*** Local governments continue to carry out only a small fraction of general government expenditure. Following a significant increase during the late 1990s, and a subsequent correction, the share of general government expenditure executed by local governments rose from 10 percent in 1999 to about 13 percent in 2004 (Figure 1). No information is available about the impact of this increase on public service delivery or on poverty rates, however.



16. ***This limited progress is partly due to delays in clarifying spending responsibilities among levels of government.*** As noted above, the FDL specified which functions were exclusively assigned to a particular level of government. The law also listed the shared responsibilities and provided that these responsibilities be clarified either in a new Organic Law of the Executive Power or in sectoral legislation. However, because of a lack of consensus, neither the draft Organic Law (presently under debate at Congress) nor sectoral legislation have addressed the important issue of expenditure assignments.<sup>15</sup> Instead, in the implementing guidelines prepared by the NDC, responsibilities are being gradually clarified through medium-term sectoral transfer plans elaborated by the relevant Ministries, in coordination with local and regional governments.

17. ***Delays and shortcomings in the accreditation system have also led to delays in the devolution process.*** Each year, the NDC prepares a list of subnational governments complying with the certification criteria and thus qualifying under the annual transfer plan for the transfer of functions and associated resources. The transfer plan approved in 2003 and with effect in 2004 included specific social and infrastructure programs, and most of the subnational governments which were recipients of those programs were certified (Table 3).

<sup>15</sup> The Council of Ministers is currently working on the draft Organic Law of the Executive Power that aims at clarifying responsibilities among levels of government.

Lacking an accreditation system, a simplified provisional system for the certification of subnational governments' capacity to deliver some social and infrastructure programs was implemented in 2003. Starting in 2004, the accreditation system had to be in place to proceed with the transfer of functions for 2005. The transfer plan approved in May 2004 included functions in the agriculture, fishing, tourism, trade, industry, energy, and mining sectors. However, because of delays in passing the implementing regulations of the Accreditation System Law, no further functions were devolved in 2005.

Table 3. Devolution of Functions, 2003

		Program or Project Recipient 1/	Certified 1/
Regional governments	Special programs of INADE (National Institute of Development)	9	8
	Maintenance of rural roads of PROVIAS RURAL	12	4
	Projects of rural electrification	17	17
Local governments	Food programs of PRONAA (National Program for Food Assistance)	194	67
	Maintenance of rural roads of PROVIAS RURAL	22	12
	Reconstruction projects of ORDESUR (Organization for the Reconstruction and Development of the South)	29	29
	Social infrastructure projects of FONCODES	498	241

Source: PRODES.

1/ Number of governments.

18. ***The creation of larger regions, a key component of the decentralization process, has not yet materialized.*** The Law on Incentives for the Integration and Creation of Regions of June 2004 provided incentives for the voluntary merger of regional governments (via referendum) to obtain an optimum number of economically-viable regions. Referenda were scheduled to take place at end-October 2005, 2009, and 2013. For the 2005 referendum, the NDC had approved technical requests for consolidating 16 departments into 5 regions.<sup>16</sup> However, 15 out of the 16 departments rejected the proposal by referendum. As a result, none of the regional governments have merged into larger regions. Part of this result is thought to have reflected a lack of information from voters and a lack of clarity as to how the resources from the *canon*, which provides the bulk of public resources for investment by subnational governments, would be allocated. For some analysts, the shared-transfers were interpreted as automatic transfers (not linked to the devolution of functions) while, for others,

<sup>16</sup> These departments were: Tumbes, Piura and Lambayeque; Ancash, Huánuco, Lima provincias, Pasco, and Junín; Apurímac and Cuzco; Ica, Ayacucho and Huancavelica; Arequipa, Puno, and Tacna.

these transfers were linked to the devolution of functions. The FDL regulations subsequently clarified that the shared-transfers should be linked to the cost of devolved responsibilities.<sup>17</sup>

#### D. Priorities Ahead for a Sound Fiscal Decentralization

19. ***A set of measures need to be in place before decentralization proceeds, to ensure that it does not pose risks to macroeconomic stability.*** This section identifies next steps and medium-term priorities, including in the area of public financial management and reporting of fiscal operations.

##### Next steps

20. ***Spending responsibilities need to be clarified, with a view to avoiding a duplication of tasks.*** As expenditure assignments are yet to be clarified (for example in areas such as education and health), it is difficult to assess whether the process of decentralization is based on the principle of subsidiarity. This lack of clarity poses a risk of duplication of expenditures. Furthermore, the emphasis on revenue-sharing rather than expenditure responsibilities opens up the possibility of overall imbalances, if the central government is left with more responsibilities than revenue. Therefore, the legislation should aim at clarifying spending responsibilities.

21. ***To ensure effective service delivery, the devolution of responsibilities needs to be in line with subnational capacity.*** Subnational governments often face capacity limitations in executing spending and responding to the needs of the population. To avoid a deterioration in service delivery and creating false expectations, the expenditure management capacities of subnational governments will need to be developed, including through training programs administered by the central government. These programs could start being implemented on a pilot basis first, before more expenditure responsibilities are devolved.<sup>18</sup> The accreditation system needs to be strengthened to ensure that subnational governments meet the criteria to qualify for the transfer of functions and corresponding resources.

22. ***Monitoring of the fiscal operations of subnational governments would need to be strengthened, to ensure fiscal prudence and macroeconomic stability.*** In recent years, the overall primary balance of the local governments has been positive, reflecting both fiscal prudence and a limited capacity to use the sizable *canon* transfers (Tables 4 and 5). As decentralization proceeds, the level of subnational spending is likely to rise and, thus, to

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<sup>17</sup> However, there is an incentive in the FDL regulations: each region created in the 2005 referendum, would receive an annual fixed transfer (S/. 210 million, equivalent to 0.08 percent of GDP) during four years.

<sup>18</sup> In addition to training, the Ministry of Economy and Finance is planning to establish offices at the regional level to provide assistance to subnational governments in the preparation of investment projects.

contribute to a deterioration in the overall balance of the nonfinancial public sector (NFPS).<sup>19</sup> It is critical that subnational governments comply with the fiscal reporting and fiscal responsibility rules, for an enhanced coordination between central and subnational fiscal policies. Legislation will need to be enacted to introduce sanctions for subnational governments not complying with their fiscal rules or reporting requirements, and to make more precise the conditions under which the central government would intervene.

Table 4. Peru: Fiscal Operations of the NFPS  
(Percent of GDP)

	1997	1998	1999	2000	2001	2002	2003	2004	2005
NFPS Primary balance	2.09	1.19	-0.87	-0.84	-0.23	-0.11	0.43	1.01	1.63
Central government	0.97	0.75	-1.04	-0.60	-0.65	-0.15	0.22	0.59	1.13
Rest of general government	0.44	0.54	0.14	0.25	0.21	0.17	0.26	0.28	0.29
of which local governments	-0.02	0.06	-0.08	0.10	0.05	0.10	0.16	0.14	0.28
Public entities	0.68	-0.10	0.03	-0.49	0.21	-0.12	-0.05	0.14	0.21
Interest payments	2.03	2.18	2.35	2.48	2.25	2.13	2.15	2.05	1.94
Overall balance	0.06	-0.99	-3.22	-3.32	-2.48	-2.24	-1.72	-1.03	-0.30

Source: BCRP.

Note: Regional governments are included together with the central government, since during this period they were deconcentrated organs of the center.

Table 5. Evolution of Canon, 2000–05  
(Millions of nuevos soles)

	2000	2001	2002	2003	2004	2005
Mining canon	55	81	136	286	451	888
Petroleum canon	407	333	351	401	440	576
Hydroenergetic canon	0	0	51	92	109	113
Fishing canon	0	0	0	8	40	29
Forestry canon	0	0	1	1	2	1
Gas canon	0	0	0	0	73	302
Total	463	414	539	788	1,115	1,908
in percent of GDP	0.25	0.22	0.27	0.37	0.47	0.73

Source: MEF.

23. ***Public financial management shortcomings that lead to difficulties in monitoring subnational operations need to be addressed.*** Peru is working toward a Treasury Single Account that would operate at all levels of government. Once in place, this would help ensure higher transparency and better cash management. This will also minimize the danger of a build-up of idle cash balances in some areas of the general government while some other areas are borrowing from the financial sector. To ensure a smooth and efficient process, very clear reporting requirements for subnational governments are necessary, in line with standard budget classification.

<sup>19</sup> The central government would have to take corrective measures in order to offset this deterioration and stay within the 1 percent of GDP deficit ceiling stipulated by the Fiscal Responsibility and Transparency Law (FRL). Further, more fiscal flexibility by the central government will be needed (for example, to adjust to unexpected revenue shortfalls during the annual budget execution) as adjustments and coordination at the subnational level becomes more difficult.

***Timely information on subnational debt is needed.*** At present, it is difficult to estimate the extent of debt exposure at the municipal level. The General Public Debt Law mandated that regional and local governments should register all their indebtedness operations using a debt module in the subnational government financial information management system (SIAF-GL). However, such a module is not yet operational. The absence of a centralized risk register (which should cover all debt, including floating debt) also makes it difficult to assess compliance with fiscal rules.<sup>20</sup> In addition to the need to establish a registry of subnational debt, the definition and recording of floating debt (which is not covered under the definition of indebtedness operations under the General Public Debt Law) still needs to be addressed.

### **Medium-term priorities**

24. ***Greater subnational government reliance on own-source revenues would help create the conditions for better management.*** Local governments do not have discretion over revenues (that is, they do not have control over the rates or bases), as all tax policy issues at the local level are determined by Congress. Regional governments do not have their own sources of revenues, since no taxes have been created for this level of government. Providing subnational governments with discretion over their own sources of revenue would help strengthen subnational accountability and responsibility.<sup>21</sup>

25. ***Various arrangements are conceivable to introduce some discretion over own-source revenues at the subnational level.*** Specifically, congress could retain control over the tax rate structure by enacting a band for local tax levels, within which local governments would be able to set their particular rates, taking into account their spending needs. Discretion over own-source revenues does not necessarily imply that there must be local administration of taxes. Indeed, suitable arrangements could involve contracting the national tax administration agency SUNAT to collect some subnational taxes, which would be facilitated if there were shared bases.

26. ***Earmarking further restricts the operations of subnational governments.*** Earmarking in Peru is extensive at the subnational level, largely for investment expenditure. Some shared-revenues are earmarked for investment, such as revenues from the *canon* and mining royalties.<sup>22</sup> Other earmarked transfers include FONCOR (the regional government

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<sup>20</sup> The Ministry of Economy and Finance is collecting data from creditors to estimate subnational debt. The World Bank has undertaken a study to assess the magnitude of subnational debt stock and identify municipalities that might face debt problems. Preliminary conclusions of this study show that unregistered debt is about 4 times as large as registered debt; debt is highly concentrated (in particular, 40 percent of total debt is held by 20 municipalities); a significant number of municipalities also do not comply with FRTL rules.

<sup>21</sup> Discretion over own-source revenues does not automatically guarantee accountability, since the incentives may be offset, for example, if there are automatic transfers to meet subnational deficits.

<sup>22</sup> While restricting the operations of subnational governments, earmarking has helped contain demands to increase current expenditures in the current context of high *canon* transfers.

compensation fund), which is also allocated to investment projects distributed among regional governments, taking into account population needs.<sup>23</sup> The recent sharp increase in *canon* revenues (due both to the extensive new operations as well as the upturn in commodity prices), together with limited capacity to prepare and execute investment projects, has led to significant capital under-spending in relation to budgeted allocations, while current spending is fairly close to budget estimates.<sup>24</sup> In Cajamarca, for instance, in 2004 current spending of the regional government was broadly in line with budgeted amounts, while capital spending only reached 55 percent of the budgeted figures.

**27. *Finally, an equalization transfer system should be part of the decentralization program, given that the current transfer design may lead to growing regional disparities.***

The range of transfers in Peru poses the risk that the decentralization initiative might exacerbate geographical disparities. While in itself the decentralization process is assumed not to exacerbate geographical disparities, some of the existing transfer schemes not linked to the decentralization process (such as *canons*) may clearly lead to larger geographical disparities. They may also limit the capacity of the central government to equalize access to public services across regions.<sup>25</sup> Therefore, the establishment of an equalization transfer system should be integrated as part of the decentralization design.<sup>26</sup>

## E. Conclusion

**28. *While the ongoing decentralization effort in Peru has been based on considerations of fiscal sustainability, more work needs to be done to ensure that the conditions for a successful decentralization are in place.*** Given the dangers of decentralization for the effective use of public resources and macroeconomic stability, key steps need to be taken in the legal and institutional areas before decentralization proceeds. In the legal area, this would include clarifying better the shared spending responsibilities among levels of government, and establishing sanctions on subnational governments when they do not comply with the fiscal rules. Other steps include ensuring more accountability at the subnational level through

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<sup>23</sup> Some other transfers like Foncomún (the municipality compensation fund), which is distributed according to criteria that include the needs of the population, can be used in part for current spending.

<sup>24</sup> Investment projects have to meet the standards of the National System of Public Investment (SNIP).

<sup>25</sup> *Canon* revenues and mining royalties accrue to local and regional governments where the economic activity takes place. Therefore, they tend to further increase disparities between producing and non-producing areas. Within each region, however, *canon* resources are distributed taking into consideration the needs of the local populations, thus helping reduce intra-regional inequalities.

<sup>26</sup> Best international practices suggest that consideration could be given to a mechanism that takes into account the differential costs in the provision of services (which are particularly important in a country with the difficult topography and linguistic differences of Peru), as well as the capacity of subnational governments to raise their own sources of revenue. Details of international experiences and models are summarized in Ahmad (1997).

greater reliance on own-source revenues and the introduction of an equitable transfer mechanism that would help reduce geographical disparities.

29. ***Work is also needed in the area of public financial management.*** Monitoring of subnational operations should be strengthened to ensure the consistency of subnational fiscal operations with their fiscal rules and the overall macroeconomic fiscal framework. A system of treasury single accounts needs to be implemented, the budget classification brought closer to international standards, and a registry of subnational debt established. The capacity of subnational governments to deliver public services needs to be enhanced to ensure an efficient provision of decentralized public services. There is also a need to strengthen the accreditation system and to monitor the quality of services delivered by subnational units.

Table A.1. List of Expenditure Responsibilities

	Central government	Regional government	Municipal government
Exclusive	<ul style="list-style-type: none"> <li>• Defense, national security, foreign relations, justice, money and banking, taxation and public borrowing, regulation of public services and public infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Approval of regional development plan</li> <li>• Regional infrastructure</li> <li>• Development of tourism circuits</li> <li>• Modernization of PYMES</li> <li>• Approval of changes in territorial limits within the region</li> <li>• Promotion of agriculture, handicrafts, forests, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Urban and rural municipal development</li> <li>• Management and regulation of local public services</li> <li>• Execution and monitoring of local public infrastructure</li> </ul>
Shared	<ul style="list-style-type: none"> <li>• To be defined by the Organic Law of the Executive Power or with sectoral legislation</li> </ul>	<ul style="list-style-type: none"> <li>• Education (management of basic, primary, secondary and technical education)</li> <li>• Public health</li> <li>• Regulation of economic activities (agriculture, industry, tourism, energy, etc.)</li> <li>• Environment</li> <li>• Culture and arts</li> </ul>	<ul style="list-style-type: none"> <li>• Education</li> <li>• Public health</li> <li>• Culture, tourism and sports</li> <li>• Civil security</li> <li>• Monument restoration</li> <li>• Public transport and traffic</li> <li>• Housing</li> <li>• Management of social programs</li> <li>• Waste management</li> </ul>

Source: Framework Decentralization Law of 2002.

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### III. PERU'S EXPERIENCE WITH PARTIAL DOLLARIZATION AND INFLATION TARGETING<sup>1</sup>

#### A. Introduction

1. *Peru has been very successful at maintaining low rates of inflation in recent years.* Inflation has remained well within the inflation target band (1.5–3.5 percent). During most of this period, Peru has benefited from a favorable external environment, and the authorities have taken advantage of these circumstances to increase their stock of foreign reserves and use reserve management to smooth out exchange rate variations. In this context, economic growth over the last years has been strong and relatively stable by Peruvian standards. In addition, dollarization—historically high, especially in financial assets—has decreased since inflation targeting (IT) was introduced in February 2002. Given that the financial systems of some of the countries that are considering moving to IT are partially dollarized, this makes Peru a remarkable case study for understanding how to implement an independent monetary policy and maintain price stability in highly dollarized economies.<sup>2</sup>

2. *This paper discusses Peru's experience and examines its policy agenda on de-dollarization, drawing policy lessons for economies that intend to reduce dollarization and adopt IT.* The paper is divided in six sections. Section B defines dollarization and offers a summary of the literature on this topic. Section C reviews the Peruvian experience with dollarization and briefly reviews the policies implemented to promote de-dollarization, at both the macro and micro levels. Section D contains a brief presentation of IT. Section E explains the consequences of dollarization for the transmission of monetary policy. Section F reviews Peru's de-dollarization agenda. Section G draws more general implications for policy and research.

#### B. What is Dollarization?<sup>3</sup>

3. *Dollarization is common in many emerging market economies, particularly those that have experienced high and volatile inflation.*<sup>4</sup> There are three different types of dollarization, which can be partial or total, and different type of dollarization can co-exist.

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<sup>1</sup> Prepared by Adrián Armas (Manager, Economic Studies Department, Banco Central de Reserva del Perú), Nicoletta Batini (IMF Resident Representative in Peru), and Vicente Tuesta (Research Chief, Banco Central de la Reserva del Perú). The views expressed in this paper are those of the authors.

<sup>2</sup> Batini and Laxton (2005), Batini and others (2005), and IMF (2005).

<sup>3</sup> In what follows we refer to “dollarization” as a phenomenon related to preferences for holding or storing dollars. In practice, the same phenomenon occurs with other currencies, e.g. euros, as is the case in several countries in Central and Eastern Europe.

<sup>4</sup> Reinhart, Rogoff and Savastano (2003), and Batini and others (2005).

It is common that transaction dollarization is accompanied by financial dollarization and vice versa, although to varying degrees:<sup>5</sup>

- ***Transaction dollarization***—also known as ‘monetary substitution’: in this case dollars are accepted as a means of payment. This type of dollarization is typical in economies with high levels of inflation, where there is a great opportunity cost of holding domestic currency. In these economies, dollars can remain the preferred means of payment even when inflation has been reduced to low levels, due to hysteresis and to the fact that once dollars become the most used currency, they continue to be the most convenient currency to carry around for transaction purposes—in turn promoting the use of dollars for all payments.<sup>6</sup>
- ***Real dollarization or dollar indexation***—in this case, prices and salaries are indexed to changes in the exchange rate between the domestic currency and the dollar. Real dollarization is a milder form of transaction dollarization because it offers protection against exchange rate volatility without requiring the actual use of dollars as a means of payment or as the currency for price denomination. Real dollarization is related to a high degree of exchange rate pass-through, as agents attempt to isolate the effects of exchange rate changes on their real income levels by linking price and wage contracts to changes in the value of the domestic currency vis-à-vis the dollar. On similar grounds, countries with high inflation and little indexation to consumer price inflation also tend to experience high levels of real dollarization. Real dollarization is also often accompanied by financial dollarization (see below).
- ***Financial dollarization***—also known as “asset substitution”: in this case, dollars are the preferred currency for storing wealth. Contrary to transaction or real dollarization, financial dollarization is usually a response to high variability in inflation—not to high inflation levels per se, and interest rate controls or “financial repression”.<sup>7</sup> Since it reflects a portfolio choice between domestic-currency and dollar-denominated assets, financial dollarization depends on agents’ consideration of the variability of returns on different currency-denominated assets (risk), as well as on the differential itself (return). If the differential is on average zero or close to zero, the degree of financial dollarization is merely a function of the ratio of the total volatilities of inflation and the real exchange rate (that is, the sum of variances and co-variances). Financial dollarization is also seen as a way to minimize credit risk because it favors the currency that most reduces the probability of capital losses by financial

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<sup>5</sup> Ize (2001).

<sup>6</sup> For an early discussion see Goldfeld (1976). More recent analysis includes Guidotti and Rodriguez (1992), and Uribe (1997), among others.

<sup>7</sup> Ize and Levy Yeyati (1998 and 2006); and Ize (2001).

institutions. Likewise, households see it as the safest way to store their savings, in that it avoids losses associated with repressed interest rate levels and protects from sudden and unanticipated bouts in domestic inflation. It follows that, typically, financial dollarization is practiced both by banks and non-bank financial institutions.

### C. How Severe is Dollarization in Peru?

4. ***Peru is one of the most highly financially dollarized emerging market countries (Table 1).*** Among Latin American emerging market economies, Peru is the third most highly dollarized after Bolivia and Uruguay, excluding those that are fully dollarized (Ecuador, El Salvador, and Panama). Peru is also, by far, the most highly dollarized country among the emerging market countries that target inflation.

Table 1. Dollarization Ratios in Emerging Market Countries <sup>1/, 2/</sup>  
(Ratio of foreign currency deposits to total deposits, in percentage)

Degree of Dollarization	Emerging Market Countries
Below 10 percent	China, <b>Korea</b> , Malaysia, Morocco, Nigeria, <b>South Africa, Thailand</b> , Tunisia, Venezuela
10–30 percent	Algeria, Argentina, <b>Chile</b> , Dominican Republic, Egypt, <b>Hungary, Indonesia, Mexico</b> , Pakistan, <b>Poland</b>
30–60 percent	Bulgaria, <b>Philippines</b> , Russia, <b>Turkey</b> , Ukraine, Vietnam
Over 60 percent	Croatia, Lebanon, <b>Peru</b> , Uruguay

Source: Ramón-Ballester and Wezen (2004).

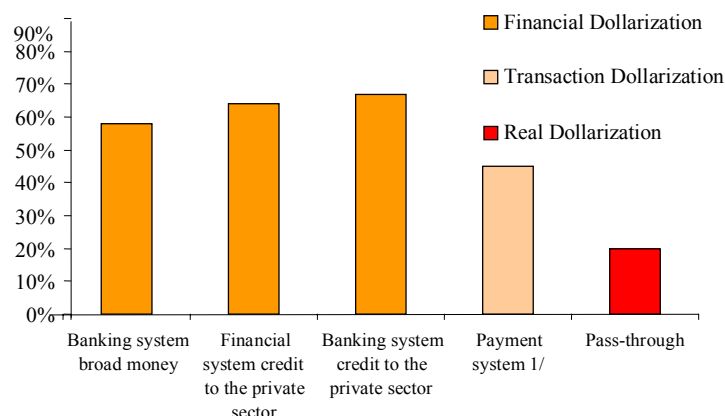
<sup>1/</sup> Emerging markets countries include all countries included in the JP Morgan EMBI Global index as of September 2006. Dollarization data for Brazil, Colombia, Côte d'Ivoire, and Serbia and Montenegro are not available, and thus these countries are not included in the table. Ecuador, El Salvador and Panama are excluded from the table because there dollarization is the official and government-supported monetary policy regime, rather than a habit among economic agents.

<sup>2/</sup> Countries in bold are inflation targeters. Brazil and Colombia are inflation targeters but are excluded from the table because of lack of data on dollarization. The Czech Republic and Israel are inflation targeters and are widely considered emerging market countries, but are not part of the JPMorgan EMBI Global Index and thus are excluded from the table as well.

5. ***Dollarization of financial assets in Peru is by far the most important form of dollarization.*** Transaction dollarization is less strong but non-negligible. Figure 1 shows percentages of dollar-denominated private debt, the percentage of cash and check payments made in dollars (a proxy measure of transaction dollarization),<sup>8</sup> and, finally, estimates of the percentage of exchange rate pass-through to inflation (a proxy for real dollarization).

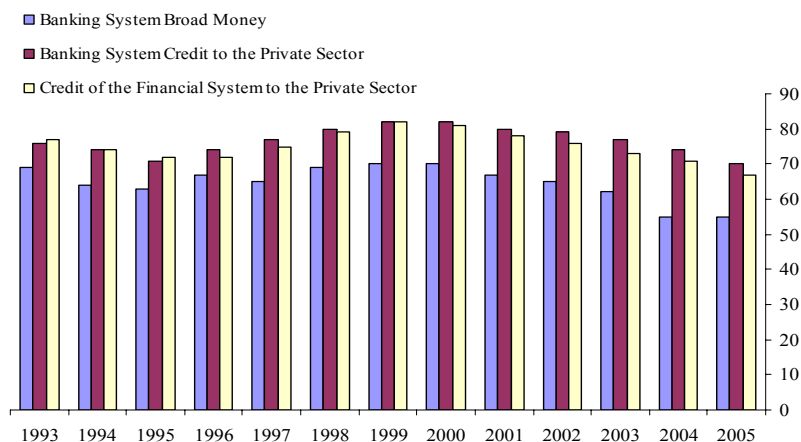
<sup>8</sup> This percentage approximates the share of transactions in dollars relative to total transactions by combining data on (i) ATM dollar withdrawals; (ii) dollar checks; (iii) dollar interbank transfers; and (iv) direct debits in dollars,

Figure 1: Degree of Transaction, Real and Financial Dollarization in Peru, 2006



6. *Financial dollarization has been steadily declining in Peru in the last few years, although it remains significant (Figure 2).* By the end of 2005, 55 percent of broad money and 70 percent of credit to the private sector were denominated in foreign currency. The latter continued to decline in 2006, as domestic agents borrowed more in soles to benefit from the reduction in lending rates in soles relative to lending rates in dollars.

Figure 2: Banking and Financial System Dollarization Ratios in Peru, 1993–2005 (In percentage)



7. *The decline of dollarization in Peru is the result of macro and micro policies.* At the macro level, Peru's main macro-monetary reform involved adopting a strong and independent monetary policy based on IT in early 2002, with the aim to strengthen its residents' trust in monetary policy, and thus in the domestic currency. Since the introduction of IT, Peru has enjoyed the lowest inflation in South America without adverse consequences for economic growth—which has been record-high—or for exchange rate or interest rate volatility. Importantly, the switch to IT has been associated with declines in the exchange rate pass-through (Leiderman, Maino and Parrado, 2006).

8. ***In addition to macro-monetary reforms, Peru has issued a series of micro regulations aimed at increasing the relative attractiveness of the national currency.*** Peru's approach has been more gradual and market-friendly than that of other countries, which have directly prohibited the use of foreign currency.<sup>9</sup> The most prominent measures include:

- ***Regulations directed at non-financial intermediaries.*** A 2004 law forces retailers and wholesalers to list prices in domestic currency (the law leaves agents free to list prices also in dollars).
- ***Regulations directed at financial intermediaries.*** In July 2006, the Superintendency of Banks and Insurance Companies (SBS) established that banks have to carry out a routine evaluation of currency risks of their credit in foreign currency, or alternatively, set up a reserve ranging from 0.25 percent to 1 percent of the credit in foreign currency that has not been evaluated. The methodology used to evaluate risk can differ among banks, but needs to be approved by the SBS in all cases.
- ***Finally, Peru has been actively developing its domestic debt markets in local currency in the last years.***<sup>10</sup> Private bond issuances in local currency have increased in the first half of 2006, in line with a trend started in recent years. Although private sector issuances of fixed income securities are still primarily in foreign currency, the percentage of domestic currency securities is rising steadily (Table 3).

#### **D. What is Inflation Targeting?**

9. ***Inflation Targeting (IT) is one of the operational frameworks for monetary policy aimed at attaining price stability.*** In contrast to alternative strategies which seek to achieve low and stable inflation through targeting intermediate variables, such as the growth rate of a money aggregate or the exchange rate against an “anchor” currency, IT targets inflation directly.

10. ***The literature offers several definitions of IT.***<sup>11</sup> In practice, however, IT has two main characteristics that distinguish it from other monetary policy strategies:

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<sup>9</sup> Hardy and Pazarbaşıoğlu (2006) compare market-friendly with aggressive de-dollarization micro-policies, contrasting the case of Peru with that of Bolivia.

<sup>10</sup> This is also true on the public debt front. In recent years, Peru has been pre-paying external debt and lengthening maturities of government-issued paper to 20 years. The longest maturity available two years ago was five years, while five years ago the longest available maturity was just two years ago.

<sup>11</sup> See, among others, Leiderman and Svenson (1995); Mishkin (1999); and Bernanke and others (1999).

- ***The central bank is mandated, and commits to a unique numerical target in the form of a level or range of annual inflation.*** The requirement under IT of a single target emphasizes that monetary policy has a main objective which receives priority over other objectives. The nature and numeric specification of the objective provides a guide to what the authorities ultimate policy objective is—price stability—and what they mean by it in practice.
- ***The inflation forecast over some horizon is the de facto intermediate target of policy.*** For this reason, IT is sometimes referred to as “inflation forecast targeting” (Svensson, 1998). Since inflation is partially predetermined in the short term because of existing price and wage contracts, indexation to past inflation or inertia in inflation expectations, monetary policy can only influence future and expected inflation. By altering monetary conditions (in response to new information), central banks influence expected inflation and bring it in line over time with the inflation target, which eventually leads actual inflation to the target.

11. ***To date, IT has been adopted by 24 countries—including five in Latin America.*** In these countries, which include industrial and emerging market countries alike, the experience with IT has been positive (IMF, 2005). The IT framework is one of constrained discretion, where central banks adopt or are mandated a target and can choose the operational strategy that they deem most appropriate to achieve it, taking into account the short-run tradeoffs faced by monetary policy—namely between inflation and output, and between inflation and the real exchange rate. Under dollarization, both tradeoffs are typically harsher, as discussed in the next section.

#### **E. How Does Dollarization Affect Monetary Transmission?**

12. ***In an open economy, monetary impulses affect inflation mainly via three channels:*** (i) aggregate demand and supply—via the effect that changes in short-term money market rates exert on the disposable income of savers and borrowers, and on firms’ marginal cost of production through changes in the cost of capital; changes in monetary conditions also affect asset prices, which in turn affect agents’ financial wealth, with consequences for aggregate demand;<sup>12</sup> (ii) inflation expectations—through the effect of changes in official interest rates on the future course of real economic activity and on the confidence with which those expectations are held; and finally, (iii) the exchange rate—via changes in domestic relative to foreign monetary conditions.

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<sup>12</sup> See Kohn (2006) for a discussion.

13. ***Conducting an independent monetary policy aiming at price stability through IT is more complicated, but still possible under financial and/or real dollarization, given specific conditions.*** Table 2 summarizes the relationship between different types of dollarization and monetary policy considering extreme cases of dollarization.<sup>13</sup>

Table 2. Dollarization and Monetary Policy

Type of Dollarization	Impact on Monetary Transmission Relative to No Dollarization Case	Implications for Monetary Policy Relative to No Dollarization Case
Full Real	<ul style="list-style-type: none"> <li>• Complete exchange rate pass-through/stronger exchange rate channel</li> </ul>	<ul style="list-style-type: none"> <li>• Effective if prices and wages are sticky</li> <li>• Inflation expectations harder to anchor (more aggressive response to exchange rate shocks needed)</li> </ul>
Full Financial	<ul style="list-style-type: none"> <li>• Weaker output gap channel (borrowing is in dollars)</li> <li>• Strong exchange rate channel (because of additional balance sheet effects)</li> <li>• Large fraction of agents become illiquid/credit constrained at times of big exchange rate shocks</li> </ul>	<ul style="list-style-type: none"> <li>• Effective, but weaker output gap sensitivity to interest rates; therefore, works more through the exchange rate and inflation expectations channels</li> <li>• Loses effectiveness at times of big exchange rate shocks</li> <li>• Inflation expectations harder to anchor</li> </ul>
Full Transactions	<ul style="list-style-type: none"> <li>• No output gap, exchange rate or inflation expectations channel</li> </ul>	<ul style="list-style-type: none"> <li>• Not effective</li> </ul>

14. ***Under “full” real dollarization, the exchange rate pass-through to wages and prices becomes complete, since prices and wages are continuously and fully revised to incorporate exchange rate changes.*** This magnifies the impact of exchange rate shocks onto consumer price inflation following every such shock, if inflation expectations are not anchored. In these circumstances, monetary policy can still offset the impact of such shocks—if prices and/or wages are sticky due, for example, to time or state-dependent contracts, because in this case monetary policy can affect excess demand through the difference between the real consumption wage and the real product wage.

15. ***Under “full” financial dollarization, changes in the exchange rate have an additional (and opposite) effect on the output gap above the standard effect on net trade.*** This is due to the fact that they also affect firms and households’ balance sheets when these include assets and liabilities in different currencies and not perfectly matched—the open economy financial accelerator. In these circumstances, monetary policy continues to have real and nominal economic effects because it can still affect the amount of base money in

<sup>13</sup> Most countries for which Peru’s experience is useful have high but only partial dollarization. From a didactic point of view it is easier to describe the impact of extreme types of dollarization on monetary policy relative to a case of no dollarization, also because the effects of partial dollarization lie in between these two extreme cases, and are closer to one or the other depending on the degree of dollarization.

domestic currency—although it has now less control on money’s own rate of return, which under full financial dollarization is defined by the interest rate on dollar deposits. In addition, the ability of monetary policy to affect aggregate demand is reduced because exchange rate changes that would stimulate net trade now also have contractionary effects, and the economy is more vulnerable to exchange rate shocks.

16. ***For big enough depreciating shocks, financial dollarization can lead to severe credit crunches.*** In turn, these credit crunches can have contractionary effects on real activity as agents who have borrowed in dollars and earn their income in domestic currency may find themselves unable to service their debt. In this case, the effectiveness of monetary policy is reduced further because transmission through the output gap channel is impaired, as a large fraction of agents suddenly becomes credit constrained.

17. ***Both in the case of real and financial dollarization, inflation expectations are harder to anchor relative to the case of no dollarization.*** This needs not complicate transmission if monetary policy has a clear commitment toward price stability and acts consistently and transparently in the pursuit of its mandate—although it may require more aggressive and pre-emptive policy responses to keep expectations anchored at times of shocks. For example, following an inflationary shock, monetary policy in a real or financially dollarized economy may have to respond faster (i.e., use shorter feedback horizons) than what is the norm under no dollarization. This is necessary to pre-empt the development of secondary effects on actual inflation because they are larger and harder to control when expectations are not well anchored. Likewise, changes in the policy instrument may have to be larger and/or more sustained in a dollarized economy relative to what is optimum in an economy that is not dollarized, other things being equal.

18. ***It is considerably more difficult to target inflation successfully with transaction dollarization than with other forms of dollarization.*** In a theoretical case, in which dollars are the only accepted means of payment, agents hold and spend in dollars. In this case, the relevant interest rate for decisions on intertemporal consumption (and thus aggregate demand) becomes the interest rate paid on dollar saving. Although monetary policy can still determine the interest rate on saving in domestic currency, it cannot affect dollar interest rates. These largely depend on the existing stock of dollars in the economy. Additionally, in this scenario, inflation expectations are disconnected from changes in domestic monetary conditions, depending rather on expectations of exogenously-driven changes in dollar liquidity. Likewise—although monetary policy can still affect the exchange rate by opening interest rate differentials between domestic and dollar denominated assets—changes in the exchange rate no longer have material effects on domestic inflation since all nominal



variables are already expressed in dollars. It follows that the only monetary policy regime compatible in the short run with high or full transaction dollarization is a fixed exchange rate.

19. ***There is now a body of empirical literature analyzing the causes of dollarization and its consequences for policy management.*** The main finding—in line with Peru’s experience—is that financial dollarization has not been an impediment to achieving price stability. Financially dollarized countries do as well as non-dollarized countries in terms of inflation (Reinhart, Rogoff, and Savastano, 2003; Ize and Levy Yeyati, 2003; and Rennhack and Nozaki, 2006). In non-IT countries, these results appear to be associated with central banks’ extensive use of exchange rate anchors (Morales, 2006; Leiderman, Maino and Parrado, 2006). In Peru, where inflation is targeted directly, low inflation results in part from a timely response to demand and supply shocks, as well as from the success of the central bank at minimizing the adverse impact of exchange rate shocks on agents’ balance sheets (Armas and Grippa, 2006). It also results from the fact that, in Peru, the exchange rate has been relatively stable since IT was introduced, even if the central bank has not committed explicitly to any particular exchange rate parity.<sup>14</sup>

20. ***Existing studies suggest that, under financial dollarization, IT with flexible exchange rate is the best option for monetary policy.*** A policy of fixed exchange rates can exacerbate financial distress because it obliges the monetary authorities to raise domestic interest rates during contractionary episodes (Gertler, Gilchrist, and Natalucci, 2003). By contrast, commitment to an inflation target combined with floating exchange rates plays an insulating role against external real shocks, even when real depreciations alleviate the contractionary impact of the financial accelerator by shifting demand toward domestic goods (Céspedes, Chang, and Velasco, 2004). Similar findings are obtained using models of economies with transaction dollarization (Felices and Tuesta, 2006; Batini, Levine, and Pearlman, 2006). Simulations produced using these models also lend support to the view that under dollarization monetary policy needs to be more aggressive, and that the inflation-exchange rate tradeoff is harsher than under no dollarization.

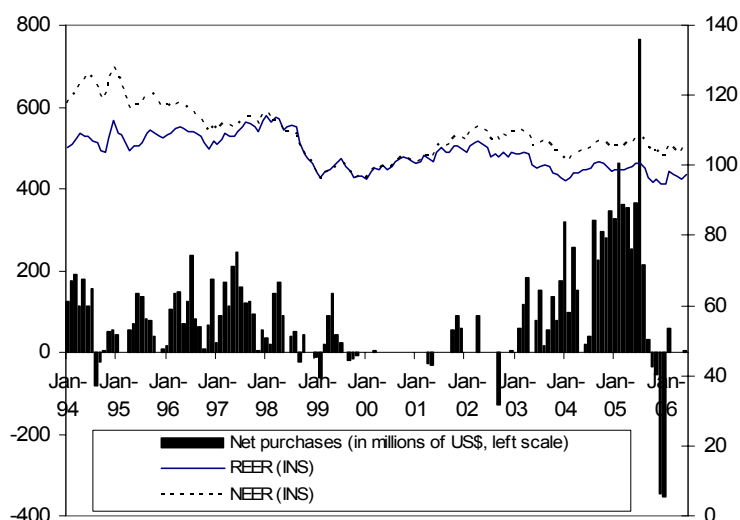
21. ***The adoption of the IT framework has certainly helped anchor inflation expectations by clarifying the mandate of the central bank.*** It has also helped make monetary policy more transparent and target-consistent with an interbank rate as an operative target. However, the central bank’s stronger emphasis on exchange rate stability, relative to non-dollarized inflation-targeting countries, has complemented that on price stability. In particular, Peru has (i) intervened by far more actively in the foreign exchange rate market than central banks in non-dollarized economies; (ii) kept a higher level of international reserves as a self-insurance mechanism against dollarization risks, as well as much higher reserve requirements on dollar than on domestic currency liabilities of financial

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<sup>14</sup> However, Peru is also a good example of bringing inflation rates down under floating exchange rate regimes during the 1990s.

intermediaries;<sup>15</sup> (iii) tended to select interest rate changes compatibly with the inflation target, but taking into account exchange rate pressures—like during the recent presidential election period. Figure 3 shows that foreign exchange rate interventions have been sizeable since the introduction of IT, resulting in a relatively stable exchange rate over the IT period. Peru’s NIRs are also among the highest in the region, independently of how they are measured.

Figure 3: Peru’s Real and Nominal Effective Exchange Rate and Central Bank Interventions, 1994–2006



## F. Peru’s De-Dollarization Agenda

22. *Peru needs to continue implementing policies that reduce dollarization to help reduce vulnerabilities in the economy and make the IT framework more effective.* Success in reducing further and permanently the level of dollarization requires an integrated approach that includes strengthening regulations at the micro level as well as promoting markets in local currency and hedging instruments. In this regard, a fast and efficient de-dollarization program requires coordination between the central bank, regulatory agencies, and the Treasury.

23. *With dollarization in Peru still high, policy actions on several fronts seem necessary.* Since there are important synergies between these actions, it would be important that all are implemented rather than only some. Key policy actions include:

<sup>15</sup> The reserve requirement for deposits in Nuevo Soles is 6 percent, while that for dollar deposits is 30 percent. Reserves in dollars beyond 6 percent are remunerated at a rate of 2.5 percent per year.

Table 3: Currency Composition of Fixed-Income Securities Issued by the Private Sector 1/  
(In percentage)

Year	Domestic Currency			Foreign Currency
	Nominal	VAC	Total	
1998	1	26	27	73
1999	1	22	23	77
2000	2	20	22	78
2001	11	17	28	72
2002	13	17	30	70
2003	17	18	35	65
2004	17	17	34	66
2005	20	14	34	66
April 2006	21	13	34	66

Source: BCRP.

1/ Includes bonds and short-term paper issued by private financial institutions.

### Monetary policy measures

- ***The decline in dollarization since the adoption of IT suggests that strengthening its credibility could further promote de-dollarization.***
  - ***Allowing for increased exchange rate flexibility would strengthen the credibility of IT and promote de-dollarization.*** A gradual but continuous effort to render the exchange rate more flexible can help agents internalize currency risks and minimize market perceptions of exchange rate “floors”, thus encouraging them to take cover against these, either via hedging or by holding more assets and liabilities in domestic currency.
  - ***The central bank should keep steering inflation in a transparent and consistent manner.*** In addition, strengthening the independence of the central bank would further solidify the credibility of the IT framework. For example, reforms could extend the tenures of central bank board members and de-link the appointment of BCRP president and board members from the political cycle—a common practice in many central banks—that can help buttress the anti-inflation credentials of the government and public trust in the domestic currency.

### Prudential regulation measures

- ***The incentives for banks to lend more in domestic currency need to be strengthened.*** The provisions required by the recently introduced regulation guarding against banks’ credit risk of foreign currency lending to unhedged borrowers may be set too low to prevent banks to lend in dollars, particularly in the market for mortgages. At their current level, these provisions can cover the expected risk at the

micro level—assuming that such a risk has been quantified correctly. However, the regulation may not offer protection against systemic risks or contagion, which would require an additional provision for generic risks. Building higher provisions against loans in foreign currency, particularly long-term loans like mortgages, would provide a more adequate coverage for currency risks and help discourage this type of lending in dollars.

- ***Continue evaluating the optimal system of reserve remuneration.*** The central bank had kept the rate of remuneration on required reserves on dollar-denominated liabilities fixed at 2¼ percent since June 2005, and raised it to 2½ percent in July 2006 and 2¾ percent in December 2006. Taking into account the rise in U.S. interest rates over the past two years, the central bank should continue to assess the tradeoff between efforts to promote de-dollarization and to internalize dollarization risks through the maintenance of a low rate and its possible adverse effects on financial intermediation in dollars. A small but negative spread between the rates of remuneration of reserves in dollars and the U.S. interest rates of deposits abroad may be good for de-dollarization purposes, yet more analysis is needed to understand how small such spread should be.
- ***The system of deposit insurance could better internalize dollarization risks.*** At present, the cost of this insurance is equal for soles and dollars and insurance premium is differentiated by overall bank risk. The latter should incorporate dollarization risks on the grounds that dollar deposits carry higher risks.<sup>16</sup>
- ***The government-sponsored MiVivienda mortgage program could serve as a potential vehicle for de-dollarizing mortgage lending.*** However, the efficiency and costs of MiVivienda should be carefully considered before more funding is arranged or efforts to securitize its assets are made. Under Peru's de-dollarization plan, MiVivienda will lend progressively more in domestic currency. However, MiVivienda own funds are relatively low due to large demand, and MiVivienda co-lending programs with private banks have become less attractive. As a result, private banks have preferred to proceed alone in expanding their secured lending in domestic currency. Now that banks are offering credit in Nuevo Soles to low income/high-risk borrowers, MiVivienda could complement the banks' credit supply in soles by targeting lower income borrowers to whom banks will not lend, including by expanding its operations in soles under the *Techo Propio* program. In either case, the government would have to recapitalize MiVivienda, and plans to do so should take into account the value added of MiVivienda in today's loan market in soles, as well as the opportunity cost of recapitalization.

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<sup>16</sup> Levy and Broda (2003) analyze the distortion of setting equal insurance costs for both foreign and domestic currency deposits.

- ***Regulation should be created to discourage or prohibit pricing of credit in soles at “fixed-but-readjustable” rates.*** Currently all fixed-rate lending contracts are accompanied by clauses giving banks discretion to readjust rates with no cause or anticipation—i.e., are “fixed-but-readjustable”—which impedes the writing of hedge contracts both by borrowers and lenders. This creates interest rate uncertainty among borrowers—and more so among borrowers in soles, since the trust in the long-run stability of the domestic currency is not yet total.
- ***The central bank, together with banks and the SBS, should develop a marketing strategy to teach unhedged agents the risks of lending and borrowing in dollars.*** It would be appropriate to do this through a professional marketing company that can explain such financial risks in simple terms to large audiences with various education levels. Lenders in dollars should be obliged by the SBS to have their clients sign a form stating that they understand the currency risk they will be facing if borrowing in foreign currency. The SBS should mandate lenders in dollars to market SBS-approved anti-dollarization campaigns within their branches and online.

#### **Financial markets measures**

- ***Develop markets for instruments to hedge currency risks.*** So far this market has been dominated by agents that hold domestic currency and want to cover themselves against a possible depreciation of the domestic currency going forward (*forward venta*). One way to boost the supply of *forward venta* (or equivalently, the demand of *forward compra*) is to ensure that private pension fund (AFPs) with foreign currency exposed portfolios take cover through the purchase of forwards, as is done, for example, in Chile (lifting or raising limits for AFP investment abroad would also help in this respect). Exporters are another category that should naturally be supplying forwards, although their participation in this market so far has been scant. More exchange rate flexibility would produce symmetric expectations and would encourage the development of a market for financial hedges; in particular, more exporters would seek cover in this market to avoid exchange rate risks.
- ***Domestic bond markets in soles should be deepened further.*** This includes measures to: (i) continue the process of solarization and lengthening of maturities of the public debt in Nuevo Soles; (ii) develop the interbank market for repurchase agreements, imposing uniform repo contracts and reforming the fiscal treatment of interest rates accrued on repos; (iii) publish the yield curve for private paper to help guide prices in the secondary bond market; (iv) continue developing market infrastructure, including the ongoing central bank project to set up a delivery versus payment system; and (v) reduce or eliminate limitations for issuance of paper in the capital market.

- ***Finally, more research is needed both at the macro and at the micro level.*** This would help continue support the design of optimal macro-monetary, prudential, and financial policies in the face of high dollarization.

## G. Conclusions

24. ***Dollarization is a widespread phenomenon in many emerging market countries.*** It is often a legacy from past episodes of high (or hyper) inflation and can persist long after inflation has been controlled.

25. ***Although it does not necessarily prevent a central bank from running an independent monetary policy, dollarization can severely affect the transmission of monetary policy.*** In particular, it can harshen the inflation-output variability trade-off—and pose serious vulnerability risks. The ultimate effects of dollarization depend on whether it is of the transaction, real or financial form, and/or whether these forms coexist but one of them predominates. Inflation targeting has been successful in better anchoring inflation expectations and lessening the inflation-output variability trade-off in Peru.

26. ***The experience of Peru teaches that sound macroeconomic policies are a precondition for de-dollarization.*** Committing to an explicit inflation target and gradually moving away from exchange rate fixity can help agents internalize currency risks. If monetary policy is successful through such strategy at keeping inflation low and stable, inflation targeting can increase economic agents' trust in monetary policy and thus in the domestic currency, inducing them to move out of dollars. However, recent practice in Peru and other dollarized countries also shows that monetary policy alone is not necessarily sufficient to eradicate high levels of dollarization.

27. ***Success in reducing the level of dollarization requires an integrated approach that includes regulations at the micro level, as well as the promotion of markets in local currency and for hedging instruments.*** In this regard, a fast and efficient de-dollarization program requires coordination between the central bank, regulatory agencies and the treasury.

28. ***Dollarization in Peru is still strong and more coordination is required on various policy fronts to reduce it to low levels, and thereby reduce the vulnerability of the economy to exchange rate shocks.***

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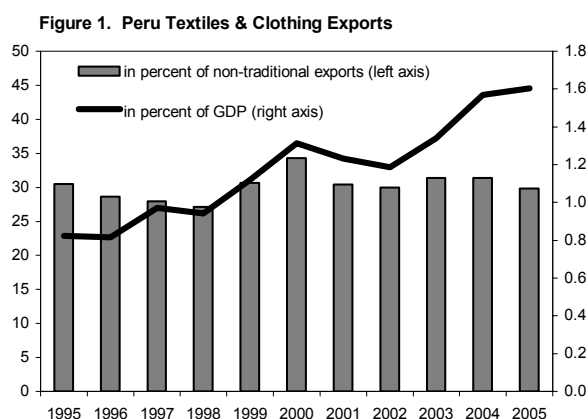
## IV. THE PERFORMANCE AND PROSPECTS OF THE PERUVIAN TEXTILES AND CLOTHING EXPORTS<sup>1</sup>

### A. Introduction

1. ***Peru's textile and clothing (T&C) exports have witnessed a strong and sustained growth over the past decade.*** As a result, the sector has become a significant source of foreign exchange and employment creation. Performance can be attributed to (i) broad based reforms to foster macroeconomic stability, trade openness, and an investment-friendly environment; (ii) micro reforms and investment at the sectoral level focused on value-addition and the modernization of operations and logistics; and (iii) indirect protection in key markets due to global textile quotas under the Multifibre Agreement (MFA) that contained competition from low-cost exporters.
2. ***Going forward, additional policies will be needed to secure a sustained growth in an increasingly challenging external environment.*** Since January 2005, MFA quotas have been eliminated, unleashing full global competition that poses challenges for small-scale producers such as Peru. While recent reforms have boosted the sector's resilience to price pressures, future prospects will hinge upon parallel measures to safeguard profitability. These include addressing bottlenecks in infrastructure and customs procedures, a mismatch between business needs and labor skills, rigidities in the labor market, and productivity in the domestic cotton sector.

### B. Stylized Facts

3. ***Peru's textile and clothing (T&C) exports have grown strongly over the past decade, at a rate similar to the country's total exports.*** T&C exports have grown by an annual average of 11 percent since 1995, doubling their share in GDP to 1.6 percent in 2005 (Figure 1). While impressive, this is similar to the trend in overall exports, suggesting a secular increase in the openness of the Peruvian economy during this period, driven by broad macroeconomic reforms. Sector-specific factors behind T&C export growth have been investment focused on value-addition, a robust external demand, trade preferences, and protection in key markets.



<sup>1</sup> Paper prepared by Katerina Alexandraki (Economist, PDR).

4. ***Peru's T&C sector has a visible contribution to the overall economy through direct and indirect linkages.***

- In 2003, the T&C industry contributed one percent of the total value-added and for 6.5 percent of manufacturing value-added. The sector has accounted for around 30 percent of non-traditional exports and 9 percent of total exports over the past decade.
- The sector is vertically integrated, encompassing most stages of the production chain from fiber to finished goods. The agriculture, livestock, and chemicals industries are those with the strongest links with T&C production.
- The number of workers employed directly in the T&C sector was recently estimated at 150,000, while jobs in the agriculture and livestock industries linked indirectly to the T&C sector were estimated to reach 120,000 and 80,000 respectively.<sup>2</sup>
- The sector comprises an increasing number of exporting companies, mostly SMEs. T&C export companies have almost doubled in number since 1996 to around 1,700. Most firms are small, with average exports of just US\$1.7 million each in 2005, or around 0.15 percent of the total.<sup>3</sup> Half of the export value remains in the hands of only 13 companies. However, smaller companies' exports have grown at a much faster annual rate during 1996–2005.<sup>4</sup> The majority of T&C companies in Peru are domestic, although many have direct links with foreign companies. Larger T&C companies are increasingly sub-contracting smaller ones at specific stages of the production chain.

5. ***Peru has diversified its markets for T&C exports, but its largest partner by far remains the United States.*** Over the past decade, the number of export markets has increased to 114 in 2005, from 83. The United States is Peru's largest partner, accounting for almost two thirds of export value in 2005, up from one third in 1995. The United States also absorbs exports with higher average unit prices than other export markets.

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<sup>2</sup> *Boletín de Economía Laboral* 32, Ministry of Labor and the Promotion of Employment, December 2005.

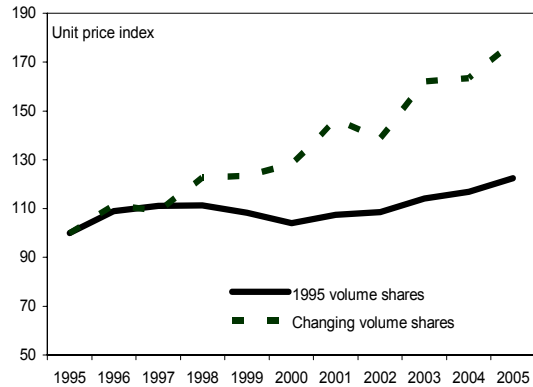
<sup>3</sup> Source: Sociedad Nacional de Industrias (SNI).

<sup>4</sup> Annual export growth of the top 100 T&C exporters has been 11 percent since 1996, compared with 25 percent for smaller T&C exporters. However, the trend was reversed in 2005, when exports of smaller companies *declined* 6 percent, compared to a 21 percent growth for the top 100 exporters.

### C. Factors Behind the Recent Performance: Private Initiatives

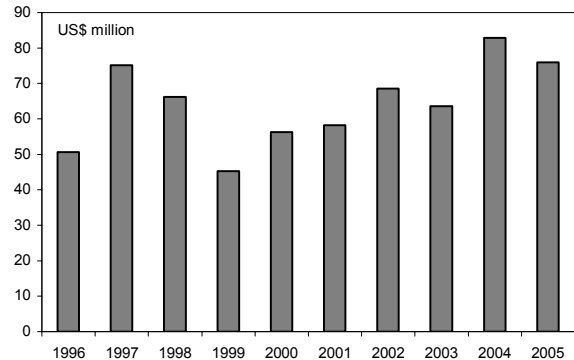
6. *A strategy of value-addition has raised unit export prices over the years.* To confirm this, we compare the change in the average unit price of T&C exports at constant (1995) volume shares with the change in the overall average unit price, using U.S. data for U.S. imports from Peru (Figure 2).<sup>5</sup> Over 1995–2005, the former has increased by just 2.1 percent annually—that is, the prices of the products exported the most 10 years ago have risen modestly. In contrast, the overall unit price has risen six percent annually, suggesting that the volume share of products with higher prices has increased.

Figure 2. Shift to Higher-priced Exports



7. *The shift to quality has been driven by private investment and revamped corporate management.* Peruvian companies have been increasingly involved in higher value-added, “full package” production—i.e., production that involves all stages of the chain, including product development, fabric sourcing, cutting, sewing, packaging, quality control, trade financing and logistics. This has been facilitated by significant private investments in technology and state-of-the-art equipment, as evidenced by the imports of T&C machinery, which amounted to an annual average of around US\$65 million during 1996–2005 (Figure 3). Anecdotal evidence suggests that, as a result, T&C companies can now better manage logistical aspects of their businesses, leading to higher quality standards, faster delivery and turn-around times, and more professional client management.

Figure 3. Imports of Machinery in the T&C Sector



### D. Factors Behind the Recent Performance: Public Schemes

8. *Since the 1990s, the government has implemented a number of broad reforms to improve productivity, encourage private investment, attract FDI, and promote exports.* These have included the privatization of state-owned enterprises, the strengthening of the financial system, and a reduction of tariffs on imports from 16.3 percent in 1995 to 8.3 percent in early 2006. Incentives for exports in general include:

<sup>5</sup> Data for U.S. imports from Peru, in value and volume terms, come from the Office of Textiles and Apparel (OTEXA) (<http://otexa.ita.doc.gov/msrpoint.htm#tradeact>). Volume is reported in terms of square meters.

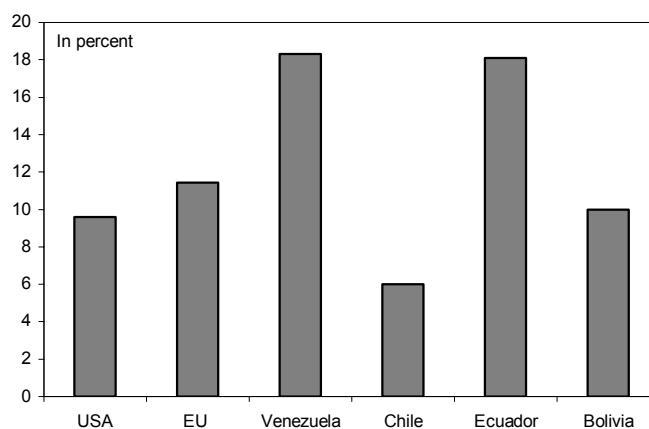
- **Refund of VAT<sup>6</sup>** paid on imported and/or local purchases of capital goods carried out by companies whose production activity is dedicated to export.
- **Duty drawback.<sup>7</sup>** This is a refund of tariffs paid on imported inputs. Under the scheme, funds reimbursed to exporters amount to 5 percent of the value of exports fob, as long as exports do not exceed US\$20m per tariff line and per exporting company.

9. **Other public initiatives to promote exports, including T&C, may have also played some role.** For example, under Peru's National Plan of Competitiveness, approved in mid-2005, steps have been taken to improve export performance and market access, including through the facilitation of companies' participation in international export fairs; the formation of a center of technological innovation (CITE) specifically for the textiles sector, that would organize courses to strengthen fashion-design skills; and a capacity-building bilateral cooperation plan with Argentina, organized by the National Alpaca Commission (CNC 2006). The approval in 2005 of a "National Plan for the Formalization, Competitiveness and Development of SMEs" could also help the T&C industry, given the large representation of SMEs in the sector.

#### E. External Factors Behind Performance: Trade Preferences and MFA Quotas

10. **Peru enjoys preferential access to all of its most important markets for T&C exports (Figure 4).** Preferences are granted under the United States' Andean Trade Promotion and Drug Eradication Act (ATPDEA), extended in 2002 to cover T&C exports; the Andean countries' customs union (CAN), the bilateral free trade agreement (FTA) with Chile, and the EU's GSP scheme.

Figure 4. Average MFN tariff on textiles and apparel



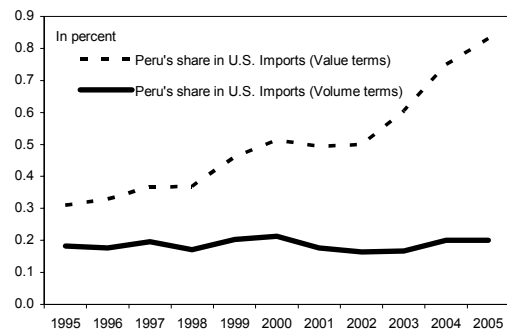
<sup>6</sup> VAT is refunded up to an amount equal to the VAT rate times the fob value of exports during the reference period. *Source: Proinversión (2005), p. 167.*

<sup>7</sup> The legal framework supporting the duty drawback system consists of 13 laws and regulations, the main one being the Texto Único Ordenado de la Ley General de Aduanas, Decreto Supremo N° 129-2004-EF.

11. ***Preferential access has been valuable for Peruvian exporters, as evidenced by its high utilization, and is likely to have boosted investment in the sector.***<sup>8</sup> For example, in the case of ATPDEA, the utilization rate in 2005 was more than 95 percent of Peru's T&C exports to the United States, while in the case of the CAN all exports enter duty-free. Trade preferences improve the profitability of exporters by allowing them to charge a higher price without undermining their market share. This likely boosted investment in the sector, raising product quality and corporate management.

12. ***The extent to which trade preferences have led to gains in export shares is difficult to assess.*** Econometric analysis using cross-country data is impeded by the different product composition of exports originating from different countries.<sup>9</sup> A less formal analysis focusing on the U.S. market shows a visible increase in the rate of Peru's market-share gains since 2002 (Figure 5).<sup>10</sup> The gains have been predominantly the result of increases in the unit price, given that Peru's share in the volume of U.S. T&C imports has remained more or less the same, confirming the ongoing process of modernization and value-addition in the sector.

Figure 5. Peru - Share in U.S. Textile and Clothing Imports



13. ***While the price advantage offered by trade preferences can be significant, it can be partly offset by the costs of complying with rules of origin (RoO) (Annex 1).*** These can be administrative as well as higher input costs. For example, under the ATPDEA, only those products that are made out of U.S. or Andean yarn and fabric can qualify for preferential access. Prices of these inputs can be significantly higher than those obtained from other partners in the region, such as Mexico, the CAFTA region, or Chile.

14. ***Until the end of 2004, Peru also benefited from restricted global competition due to quotas on T&C exports maintained by some industrialized countries under the MFA (Annex 2).*** These quotas were directed to low-cost exporters such as India and China, while Peru did not face quota restrictions under the MFA. By helping restrict the access of low-cost

<sup>8</sup> The "utilization rate" measures the extent to which exporters take advantage of a particular preference scheme. For a good *i* exported from country X, the utilization rate is equal to the exports of good *i* from X that enter the preference-granting country (Y) under the scheme divided by total exports of good *i* from X to Y. Low utilization rates can be common when the administrative costs of complying with rules of origin are high, when the MFN tariffs of Y on good *i* are very low or when awareness of preference schemes is limited.

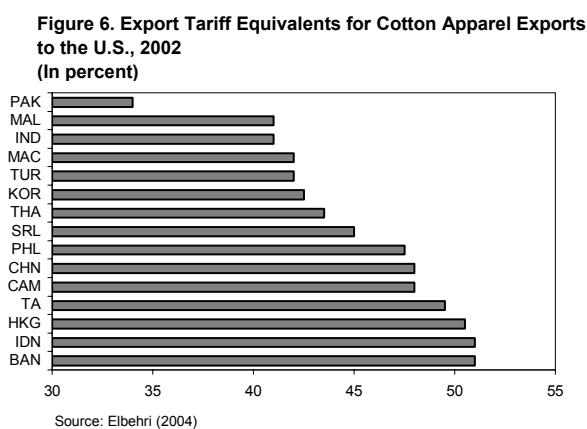
<sup>9</sup> Even disaggregation of T&C exports at the 10-digit level of the HTS classification does not distinguish between high-end and low-end products of the same type (e.g. branded vs. non-branded polo T-shirts).

<sup>10</sup> The annual average growth in U.S. import share rose from 7.1 percent during 1995–2002 to 7.8 percent during 2002–05.

exporters to the U.S. and EU markets, the quotas maintained global prices at higher than free-trade levels, to the benefit of unconstrained exporters. The vast majority of Peru's T&C exports to the United States remained indirectly protected by MFA quotas until January 2005.<sup>11</sup>

15. ***Studies suggest that the indirect benefits of the quotas to unconstrained exporters such as Peru can be much higher than those conferred by tariff preferences.*** This is

because quotas were considerably more restrictive than tariffs on T&C products, particularly for the some Asian exporters. For example, Elbehri (2004) estimates that the export tax equivalent (ETE) of U.S. quotas on different Asian exporters ranged from 20 percent to more than 50 percent, depending on how binding the quotas were for each exporter (Figure 6).<sup>12</sup> This compares with tariff preferences of 10–20 percent for most Peruvian exports under the ATPDEA.<sup>13</sup>



16. ***A number of studies in the literature have sought to estimate the impact of MFA quota elimination on export patterns and welfare at the global and country levels.*** The vast majority of these studies used computable general equilibrium (CGE) models that take into account linkages between different sectors and markets (i.e., product, capital, and labor) in an economy to simulate, *ex ante*, the impact of a specified “shock,” such as the MFA quota elimination.<sup>14</sup> Most studies do not focus on Peru in particular, but their conclusions can be used to draw lessons for Peru.

<sup>11</sup> We looked at the 40 product categories at the 10-digit level of the HTS classification that have accounted for around 85 percent of Peru's exports to the United States over the past decade. Of these, all but three remained protected by MFA quotas until January 1, 2005—that is, they were only liberalized in the last (fourth) phase of quota elimination.

<sup>12</sup> The ETE measures the degree of restrictiveness of a quota: In order to export, an exporter from a quota-constrained country needs to purchase a quota (or an export license). The more restrictive the quota (e.g. compared to a producer's capacity to export at a given price), the higher its price will be. This cost can be viewed as an export tax (collected by the exporting country's government).

<sup>13</sup> Based on the U.S. import tariff schedule (HTS classification, 2006).

<sup>14</sup> Caveats of CGE models include the reliance on a large set of data (sectoral, tariff, etc) that is arduous to collect and on simplifying assumptions (notably, full employment of resources). Specifically, results are sensitive to the choice of the base year for calibration and baseline projections; the level of product/region aggregation; the degree to which product differentiation is allowed for imports from different countries; the choice between constant or increasing returns to scale; the choice between a static or a dynamic analysis. (See OECD (2004)).

17. ***These studies indicate that cost-competitive countries that have been highly quota-constrained in the past are to benefit the most.*** These countries are predominantly China and India, but also other Asian countries (Annex 3). Latin American countries (notably Mexico or the Caribbean region) would likely experience a decline in prices and market share. At the qualitative level, studies suggest that the largest beneficiaries would be countries that can offer a diversified mix of T&C exports; engage in vertically integrated production; produce high-quality, high-value-added goods; and export to a diverse number of markets (Appelbaum 2004). Accordingly, Peru would be expected to experience downward pressures on its prices and export shares, although it could see increases in high-end, niche products where it maintains a competitive advantage.

#### F. Developments in the Aftermath of Quota Elimination

18. ***Peru's T&C exports have continued to grow since January 1, 2005.*** This is important, given that theoretical analysis predicted mixed results for exporters like Peru. However, the imposition of new restrictions against imports from China by the United States and the EU has complicated the assessment of Peru's resilience to full global competition (Box 1).

19. ***Peru has benefited from the U.S. and EU restrictions on China's exports, but the safeguards were not the only drivers of Peru's export performance.*** By May 2005, almost 90 percent of Peru's T&C exports (in value terms) to the United States were covered by safeguards, effectively prolonging their protection from full Chinese competition until 2008. While this has played a role, Peru has performed better than other exporters enjoying a similar level of protection.<sup>15</sup> For example, in the U.S. market, during 2005 Peru's share in U.S. T&C imports grew by 0.08 percentage points to 0.83 percent (Figure 7). This is considerably better than most exporters in the region, including preference beneficiaries such as Colombia, Mexico, and the CBI and CAFTA countries, which have been registering declines in their import shares in recent years. Value-addition has been critical, with Peru's unit prices growing steadily unlike most other countries in the region (Figure 8).

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<sup>15</sup> Around 87 percent of Peru's 2005 T&C exports to the United States remained shielded from Chinese competition by U.S. safeguards vis-à-vis Chinese goods. This compares with 65 percent for Colombia, 63 percent for Mexico and 87 percent for the CAFTA region.

**Box 1. U.S. and EU Restrictions on Chinese T&C Exports in the Aftermath of MFA Quota Elimination**

*Import restrictions were introduced by the United States under special safeguard clauses included in China's WTO accession protocol*—first in December 2003 and subsequently during 2004 and 2005 on more products. These safeguards limit the import growth of Chinese T&C products that are believed to cause market disruption to 7.5 percent annually, thus containing supply and preventing excessive drops in the price of these products.<sup>1/</sup>

*In November 2005, the U.S. and China signed a comprehensive bilateral textile agreement covering a broader range of products than those protected by safeguards up to September 2005.* Under the agreement, which came into effect on January 1, 2006, the products covered are restricted by quotas that will increase gradually, by 3.2 percent each year, through 2008—the year when the China World Trade Organization (WTO) Textile Safeguard expires. Specifically, for 2006, the quotas agreed were tighter than those that would have been permitted under the special WTO safeguards while in 2007 they would be about as restrictive as under the WTO safeguards. As a result, almost all of Peru's export remain protected in the U.S. market until 2008. It should be noted however that protection is only vis-à-vis China, and hence, competitive pressures will continue to be felt from other low-cost suppliers in East and South Asia.

*Earlier in the year (June), the European Commission had also negotiated a bilateral agreement with China to restrain its growth of T&C exports to the EU.* The agreement set growth rate limits on 10 T&C categories accounting for about half the volume of EU's imports of Chinese T&C. The agreement distinguished between three groups of products: The sharpest was the import increase in the first quarter of 2005, the lowest were the growth ceilings. Nonetheless, these growth ceilings were higher than the 7.5 percent annual growth that would have been imposed were the EU to impose WTO-compatible safeguard measures. In exchange, the EU agreed to refrain from imposing safeguards for categories not covered by the agreement.

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<sup>1/</sup> WTO members obtained the authority to implement textile safeguards as a condition of China's accession to the WTO in December 2001. Specifically, under China's Accession Agreement, WTO members judging that T&C imports from China are causing market disruption can request consultations with China with a view to easing or avoiding such market disruption. Upon receipt of the request, China has agreed to hold its shipments to a level no greater than 7.5 percent above the amount entered during the first 12 months of the most recent 14 months preceding the month in which the request for consultations was made. This provision remains in effect through 2008.



Figure 7. Shares in U.S. Imports of Textiles and Clothing

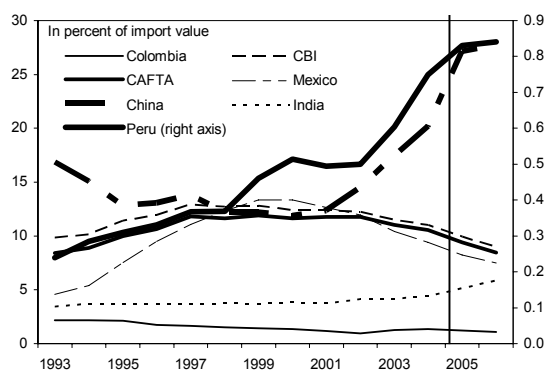
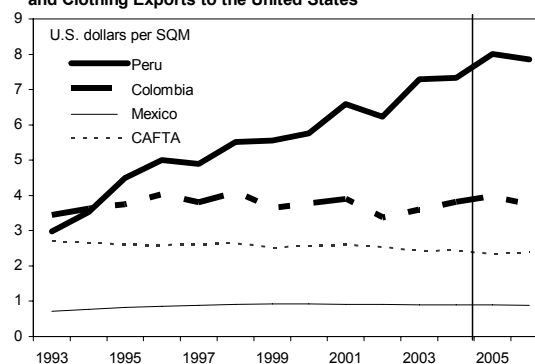


Figure 8. Cross-Country Comparison of Unit Prices of Textiles and Clothing Exports to the United States



### G. Prospects and the Need for Reforms

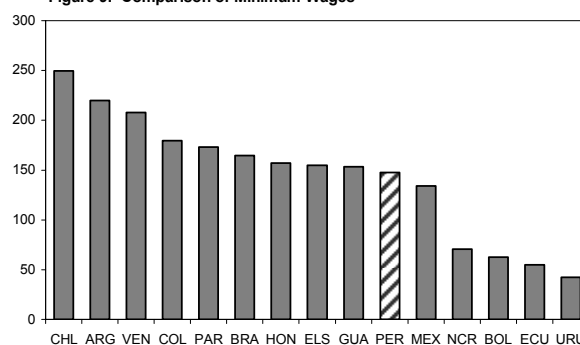
20. *Going forward, external factors will be less supportive for Peru's T&C exports, including due to the removal of U.S. and EU restrictions against Chinese goods after 2008.* Peru enjoys a number of advantages such as the local sourcing of high-quality inputs, a vertically integrated production, increasing value-addition and relative proximity to the United States. However, Peru lags behind when it comes to economies of scale and structural impediments that are a drag on competitiveness. Against this backdrop, Peru's performance will hinge upon reforms to ensure that external price pressures can be absorbed through gains in productivity.

21. *Available quantitative indicators are not conclusive on developments in Peru's competitiveness over the years.* For example, the CPI-based REER suggests that exchange rate developments have been favorable for competitiveness over the years. With regard to salaries, official data show a growth of around 13 percent between 2002 and 2005 in U.S. dollar terms<sup>16</sup> and of just below 20 percent in the minimum wage. However, with productivity rising, unit labor costs would be a more appropriate indicator of labor-cost competitiveness, but data to derive such a series are not available.

<sup>16</sup> These data are not necessarily representative of the broader labor market trends: They are based on surveys of enterprises base in Lima with 10 or more employees.

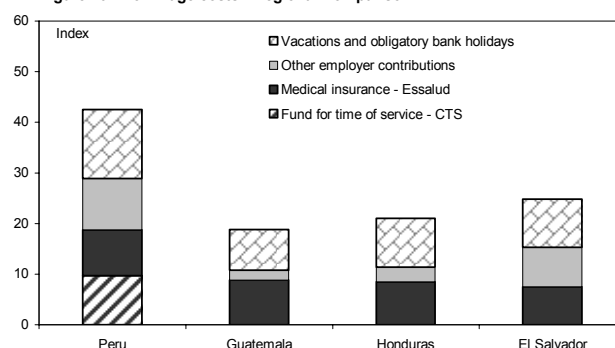
22. *A cross-country comparison of minimum wages suggests that Peru is well-placed vis-à-vis countries in the region, but less so vis-à-vis Asian competitors.*<sup>17</sup> Figure 9 shows a cross-country comparison of minimum wages in U.S. dollars in the manufacturing sector, set between mid-2004 and mid-2006, depending on data availability for each country. Peru compares relatively well with other countries in the region.<sup>18</sup>

Figure 9. Comparison of Minimum Wages



23. *Some Peruvian businesses cite non-wage costs as an important constraint to Peru's cost-competitiveness.* Cross-country data on non-wage costs are hard to collect and, therefore, the present paper limits the analysis to a comparison between Peru and Central America, with data provided by the Peruvian textiles company Industrias Nettelco. Such a comparison suggests that non-wage costs in Peru (as a proportion of absolute gross wages) exceed those in Central America by 17–27 percent<sup>19</sup> (Figure 10).<sup>20</sup> While Peruvian T&C exports do not compete directly with Central American ones (given their different product composition), the comparison remains useful for highlighting potential objectives of future policy action, particularly in the area of labor reform. Extending the—more flexible—labor regime for SMEs to all businesses would reduce non-wage costs from 62 percent of the gross wage to 17 percent.<sup>21</sup>

Figure 10. Non-wage costs - Regional Comparison



Source: Industrias Nettelco. Data on Guatemala have been confirmed by the Fund desk economist on Guatemala. Data for the other countries have not been confirmed.

<sup>17</sup> Minimum wage is a good indicator of labor costs in the sector as surveys suggest that, apart from managerial-level positions, wages in the sector tend to be at or close to the minimum wage. (See *Boletín de Economía Laboral 32*, Ministry of Labor and the Promotion of Employment, December 2005).

<sup>18</sup> Source: ILO minimum wage database. In the case of some of the countries, an average of the lowest and highest minimum wage reported was taken. For central American countries, the minimum wage applying to the manufacturing sector was considered.

<sup>19</sup> To the extent that the absolute wages are similar (according to the ILO minimum wage data), differences in non-wage costs translated into difference in absolute wage costs.

<sup>20</sup> Figure 10 compares non-wage labor costs in Peru with those in Central America, taking as a basis a “normalized” wage of 100 for all countries. For further details on the exact nature of these non-wage costs see table in Annex 4.

<sup>21</sup> Source: Calculations by textiles company Industrias Nettelco.

24. ***A key concern of Peruvian T&C companies appears to be the “deficit” in skilled labor.*** Indeed, in a survey covering 440 T&C companies, 47 percent of firms reported difficulties in recruiting workers with adequate qualifications, which was attributed to the mismatch between the sector’s needs and the skills of the labor force.<sup>22</sup> Particular difficulties were encountered in the cases of mechanics and operators of textiles machinery and of seamstresses. The strengthening of technical schools (e.g., the Instituto Superior Tecnológico (IST) or the Centro de Formación Sectorial (SENATI)) to better tailor their programs to the needs of the sector would be critical to this end. Closer participation by the private sector in the development of curricula, together with appropriate accreditation systems to facilitate assessment of the programs’ quality, would also help.

25. ***Higher efficiency in the domestic cotton sector would allow T&C exporters to maximize the benefits of local sourcing of quality cotton.*** Peru enjoys the advantage of local production and sourcing of high-quality pima cottons and tanguis wool. This can bring large competitiveness gains, as there are substantial logistical and operational advantages in using locally-produced cotton, such as faster delivery times, easier checks on quality standards, and closer and more frequent contact between T&C and cotton producers. However, there is a general perception that production remains inefficient, raising input costs for T&C producers.

26. ***The elimination of import tariffs on cotton could help improve competitiveness and accelerate improvements in productivity of the domestic cotton sector.*** Zero tariffs would give access to cheaper regional cotton, lowering the input costs of T&C production aimed at both the domestic and external markets.<sup>23</sup> Importantly, it would boost competition in the cotton sector and accelerate efforts to enhance productivity. This would be more effective if it occurred in parallel with more liberal RoO in the FTAs with Peru’s trading partners. For example, in the case of the FTA with the United States, RoO that permit “cumulation” would allow the use of cheaper inputs from non-U.S., non-Andean countries, without compromising the right to receive duty-free treatment in the U.S. market.<sup>24, 25</sup> The introduction of cumulation

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<sup>22</sup> *Boletín de Economía Laboral 32*, Ministry of Labor and the Promotion of Employment, December 2005

<sup>23</sup> In principle, duties on cotton are reimbursed under the duty-drawback scheme in the case of those products destined to export markets. However, tariff elimination would help producers aimed at the domestic market as well, putting pressure on local cotton producers to improve productivity.

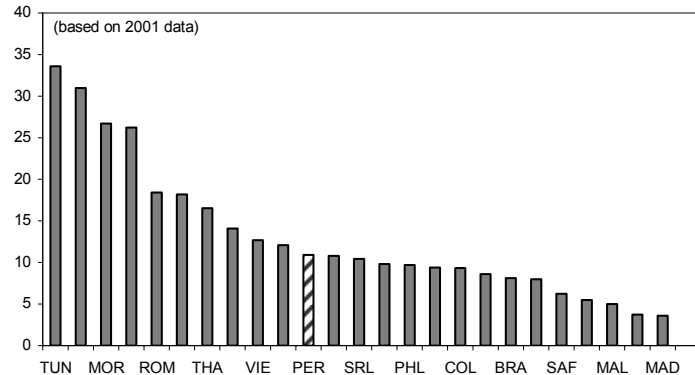
<sup>24</sup> Cumulation allows the sourcing of inputs from the entire FTA region, as opposed to only the country in question. See Annex 1.

<sup>25</sup> Currently, if Peruvian exporters use cheaper cotton imports, their products do not qualify for duty-free access to the U.S. market under the ATPDEA. This creates a disincentive to import cotton from abroad, effectively protecting the domestic cotton sector. Laxer rules of origin would permit the use of cheap foreign cotton, thus creating incentives for the domestic cotton sector to become more competitive.

provisions in the FTA with the United States will be negotiated between the two parties six months following the implementation of the FTA.<sup>26</sup>

27. **More generally, tariff and non-tariff barriers on imported goods create an anti-export bias.** Tariffs on imports can cause an anti-export bias because they lower the price of exports relative to those of domestically-produced goods and/or because of raising the price of imported intermediate goods used in the production of exports. The latter is usually not offset by duty-drawback schemes such as those applied in Peru, as these tend to be costly to administer. Tokarick (2006) estimates that, for Peru, the export tax equivalent of its import tariffs is 10.9 percent—that is, exporters suffer a “tax” of up to 10.9 percent as a result of Peru’s own tariffs on imports (Figure 11). Indicatively, this is more or less equal to the average tariff preference granted by the ATPDEA.

Figure 11. ETEs of Import Tariffs for Selected Developing Countries



28. **Logistical impediments to trade are another important factor dragging competitiveness.** While Peru compares favorably in this field with other countries in the region (Table 1), the potential for improvement is enormous—e.g., when compared with OECD countries. Exporters cite a number of areas that remain to be improved, including, *inter alia*, the documentation burden for imports and exports, a duty-drawback process that some perceive as burdensome, or delays in customs inspections and clearance. Undue delays in the latter can be particularly costly, notably when it comes to imported inputs for T&C production: First, they raise warehouse costs due to the additional days it takes for clearance, particularly given the high storage tariffs charged at Peruvian ports. Second, they can lead to overall production delays, often forcing producers to ship their goods by air, rather than by sea, in order to meet the delivery deadlines—and thus raising transport costs substantially.

<sup>26</sup> Peru favors cumulation with regional partners such as Mexico only if this is on a reciprocal basis—that is, if these countries can also cumulate with Peru (i.e. use Peruvian inputs) for their duty-free exports to the United States.

Table 1. Trading Across Borders

Region or Economy	Documents for export (number)	Time for export (days)	Cost to export (US\$ per container)	Documents for import (number)	Time for import (days)	Cost to import (US\$ per container)
<b>Peru</b>	<b>7</b>	<b>24</b>	<b>800</b>	<b>13</b>	<b>31</b>	<b>820</b>
OECD	5	11	811	6	12	883
Latin America & Caribbean	7	22	1,068	10	28	1,226
East Asia & Pacific	7	24	885	9	26	1,037
Middle East & North Africa	7	27	924	10	35	1,183
South Asia	8	34	1,236	13	42	1,495

Source: Doing Business 2007 (The World Bank)

## H. Outlook and Conclusions

29. ***The Peruvian T&C sector has made significant strides in increasing export market penetration in recent years.*** This has been achieved by re-orienting production towards higher value-added goods, restructuring companies' organizational and operational structures, establishing close production links with foreign clients, and taking advantage of trade preferences. Progress at the micro-level has been assisted by a favorable macroeconomic environment that has ensured price and exchange-rate stability, a strong economic and productivity growth, and declining financing costs. These developments have translated into a robust T&C export growth, which has thus far withstood the challenge posed by the elimination of textile quotas in 2005.

30. ***Looking forward, there are significant challenges, against a backdrop of enhanced global competition and continuing bottlenecks at the domestic level.*** In the absence of quota protection, other factors are becoming more significant, including geographic proximity and transport times, availability of low-cost skilled workers, reliability in the quality and delivery of finished goods, flexibility of production (e.g., to adapt to changing fashions), cheap and fast access to high-quality raw materials, and effective management.

31. ***Peru enjoys a number of advantages in these areas, but further steps need to be taken to realize its full potential. Specifically:***

- ***Measures to incentivize higher productivity in the domestic cotton sector.*** This would ensure that the full benefits of Peru's access to high-quality local cotton are realized. Unilateral tariff reduction could be one step in this direction, but this should ideally be combined with more flexible RoO in Peru's international trade agreements. More generally, unilateral tariff reduction would help reduce the "tax" on exporters due to Peru's own import tariffs.
- ***Address arduous infrastructure bottlenecks to remove undue costs to exporters, particularly those outside Lima.*** Delays in transport and delivery due to inadequate infrastructure erode the benefits of geographic proximity to the U.S. or other markets. Investment in new roads, and port and airport infrastructure is critical to ensure

progress in this area and the recently-awarded concession for the southern terminal in the port of Callao is a positive step in this direction.

- ***Simplify customs procedures.*** Cumbersome customs clearance procedures increase operating costs, undermine the exporters' ability to meet delivery deadlines, and impede the speedy and efficient sourcing of foreign inputs that may be necessary for meeting clients' product specifications. Measures that would bring Peru closer to industrialized country standards would give Peru an edge over competing suppliers and yield substantial gains for all Peruvian export industries.
- ***Ensure that labor costs (wage and non-wage) reflect labor productivity and address the skills deficit in the labor force.*** Workers' skills could be strengthened by tailoring existing national training schemes to the needs of the productive sectors and creating systems of accreditation that help assess the effectiveness of such schemes. Investment in human capital will be critical to ensure that Peru can take advantage of the opportunities opened by freer trade, in the context of bilateral and multilateral trade agreements. In addition, cross-country data suggest that non-wage costs in Peru can be high. Potential measures include reducing the upfront holidays granted to workers and increase them gradually in line with the length of service; and enhancing the flexibility of the labor market by streamlining firing procedures.
- ***Maintain a stable and transparent business climate and strengthen security.*** Stability in a country's commercial, regulatory, and legal system helps minimize uncertainties in investment decisions. Provision of public goods, notably security, is also critical to providing a safe environment for workers' commute and the transport of shipments. This can often outweigh the importance of other factors, including trade preferences or geographic proximity.<sup>27</sup>

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<sup>27</sup> The experience of Mexico is a case in point: As USITC (2004) reports, U.S. importers have been gradually switching away from Mexico despite the NAFTA preferences, due to concerns over the security of shipments. Rising labor costs and inconsistent quality and unreliability of production were other cited factors.

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## ANNEX 1. TYPES AND RESTRICTIVENESS OF RULES OF ORIGIN

Rules of origin (ROOs) define methods for establishing the origin of a product for trade purposes. A product is determined to originate from a particular country if it has undergone *sufficient processing* or a *substantial transformation* in that country.

Different FTAs or preference schemes vary in the level of restrictiveness of their ROOs. This generally reflects differences in the costs of complying with the ROOs—e.g., product documentation, verification of origin, administrative infrastructure at the borders, etc. Such costs could compromise the benefits from preference schemes or FTAs. In the case of European Free Trade Association (EFTA), these costs have been estimated to be 3–5 percent of the f.o.b. price of exports (Herin (1986)). In the case of NAFTA, Anson et al (2003) estimate that up to 40 percent of Mexico’s preferential margin to the US market in 2000 (estimated at 5 percent) was absorbed by ROO-related administrative costs.

ROOs can also give rise to efficiency costs: Rather than taking advantage of the global networks of production, producers are instead constrained to use local inputs, at the expense of efficiency and competitiveness. Indeed, Estevadeordal and Suominen (2004), using a gravity model covering 156 countries, find that aggregate trade flows fall the higher the restrictiveness and the degree of sectoral selectivity of the ROOs, while flexible ROOs—e.g., allowing cumulation<sup>1</sup>—facilitate aggregate trade flows. These results are confirmed by other empirical studies on ROOs.<sup>2</sup>

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<sup>1</sup> Cumulation allows the sourcing of inputs from the entire FTA region, as opposed to only the country in question.

<sup>2</sup> See Appiah (1999) on NAFTA; or Augier, Gasiorek and Lai-Tong (2004) on impact of cumulation rules for textiles trade in EU Partnership Agreements.

A summary table of the ROOs for T&C products under the ATPDEA is provided below.

<u>GROUP</u>	<u>SHORT DESCRIPTION OF PROVISION</u>	<u>YARN</u>	<u>FABRIC and KTS</u>	<u>ASSEMBLY</u>
A	Apparel assembled from U.S. formed, dyed, printed and finished fabrics or fabric components, or knit-to-shape components from U.S. or Andean yarns.	US, Andean	US	US/Andean
B	Apparel assembled from Andean chief value llama, alpaca or vicuña fabrics, fabric components, or knit-to-shape components, from Andean yarns.	Andean	Andean	US/Andean
C	Apparel assembled from fabrics or yarns considered as being in short supply in the NAFTA.			US/Andean
D	Apparel assembled from fabrics or yarns designated as not available in commercial quantities in the United States.			US/Andean
E	Apparel assembled from a combination of two or more yarns, fabrics, fabric components, or knit-to-shape components described in preference groups A through D.	US, Andean and Short Supply	US, certain Andean wool, and Short Supply	US/Andean
F	Handloomed fabric, handmade articles made of handloomed fabric, or folklore textile and apparel goods.			
G	Brassieres assembled in the U.S. and/or one or more Andean beneficiary countries.		75% US	US/Andean
H	Textile luggage assembled from U.S. formed fabrics from U.S. yarns.	US	US	Andean/US
I	Apparel assembled from Andean formed fabrics, fabric components, or knit-to-shape components from U.S. or Andean yarns, whether or not also assembled, in part, from yarns, fabrics and fabric components described in preference groups A through D. (Tariff Preference Level of 2 - 5% of total apparel imports)	Andean, US and Short Supply	Andean, US and Short Supply	Andean/US
	Special Rules: U.S. formed knit and woven fabrics used in groups A, E and I must be dyed, printed and finished in the United States. There is no fabric cutting requirement.			
	Special Rules: findings & trimming, certain interlinings and a 7% total weight de minimis yarn rule.			
	Special Rules: nylon filament yarn (other than elastomeric yarn) from Canada, Mexico and Israel may qualify if used in groups A, B, C, D, E and I.			

## ANNEX 2. ELIMINATION OF QUOTAS UNDER THE AGREEMENT ON TEXTILES AND CLOTHING

Before the Agreement on Textiles and Clothing (ATC) came into force, on January 1, 1995, a large portion of T&C exports was subject to quotas under the Multifibre Arrangement (MFA)—a special regime that lay outside normal GATT rules.

Under the ATC, WTO members committed to remove T&C quotas by January 1, 2005. At the same time, the ATC offered the right the use of safeguards to deal with cases of serious damage or threat thereof to domestic producers during the transition period.

Four WTO members (Canada, EU, Norway and the United States) had maintained MFA quotas and were subject to a progressive quota elimination over 10-years under the ATC. The process was “backloaded,” as countries could decide themselves which products to liberalize at each stage—thus leaving the most sensitive products highly protected until January 2005. As a result, before January 2005, only 20 percent of the products integrated into the WTO rules under the ATC had been subject to quotas<sup>1</sup>. The remaining 80 percent of quotas were left to be eliminated in the fourth phase. The text table below shows the four stages of U.S. and EU textile and clothing quota phase-out.

Stage	Incremental share of importing country's T&C trade to be quota-free  (in percent of 1990 import quantity)	Permitted Growth Rates in Remaining Quotas (in percent)	
		Major supplying countries	Small supplying countries
Jan 1995 – Dec 1997	16	16	25
Jan 1998 – Dec 2001	17	25	27
Jan 2002 – Dec 2004	18	27	27
Jan 1, 2005	49	No quota	No quota

Sources: WTO, Nathan Associates (2002)

Most other countries (that had no MFA quotas) chose to have the right to use the transitional safeguard mechanism in the ATC. Only nine countries (Australia, Brunei Darussalam, Chile, Cuba, Hong Kong, Iceland, Macau, New Zealand and Singapore) decided to integrate all of their T&C imports into the GATT rules at the outset.

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<sup>1</sup> Supachai (2003).

### ANNEX 3. RECENT STUDIES ON THE IMPACT OF THE ELIMINATION OF MFA QUOTAS

Authors	Methodology	Database	Policy Simulations	Results			
				China/Asia	Latin America (Non-NAFTA) Latin American	Peru	RoW
Avisse and Fouquin (2001)	Standard static GTAP model and parameters	GTAP 4 (Base year 1995)	Quota elimination	China's exports would rise by 87%. <b>South and Southeast Asia's</b> would rise by 36%.  China's welfare gains would amount to \$6bn (1995 US dollars). India's gains would be \$4.1bn.	(Non-NAFTA) Latin American exports would fall 39% and NAFTA by 27%		
Chadha et al (2001)	Simulations based on a special version of the NCAER-University of Michigan CGE model.	GTAP 4 (Base year 1995); 10-year baseline.	MFA phase-out simulated by bringing the export-tax-equivalents of the MFA-constrained developing countries down to zero (all at once).	China's exports would rise by \$3bn (1995 US dollars). Hong Kong, India and the Philippines would be among the other biggest winners. (Total Asian exports rise by \$10.5bn)	Mexico's exports forecast to rise marginally. Central and South American exports predicted to decline by \$102m (1995 US dollars)	n/a	Global exports forecast to rise by \$17bn (1995 US dollars).
Diao and Somwaru (2001)	Counterfactual analysis using an intertemporal version of GTAP	GTAP 5 (Base year 1997); 25 year baseline	MFA phase-out simulated by improving the efficiency of T&C exports from constrained countries. Other trade barriers on T&C are reduced by 30 and 40% in all countries.  China's welfare gains will be \$24bn (1997 U.S. dollars). India's gains will be \$11bn.	China would gain almost 3 percentage points of the world T&C market. Other Asian countries would capture more than 2 percentage points.			Non-quota constrained developing countries would lose about 20 percent of their markets (or 2.3 percentage points of the total world T&C market) to the constrained ones.  Global welfare gains will be \$203bn (1997 US dollars). Developing countries (incl Asian) will capture 72% of the total. US, Canada and Western Europe see their welfare rise by \$17bn in total (1995 dollars).
Francois & Spinanger (2001)	9-sector, 24-country/region. Updated quota rents for 1998/99. Standard static GTAP model	GTAP 4 (Base year 1995)	Uruguay Round liberalization in T&C, including tariff reductions and quota elimination. (China enters the WTO and faces MFN tariffs by all its partners)	<b>China:</b> Textile exports grow 4%. Apparel exports grow 46%. Welfare rises by \$13.9bn (1995 dollars). <b>India's</b> exports and welfare projected to <i>decline</i> , as is the case for most of the <b>rest of Asia</b> .	<b>Mexico:</b> Textile exports decline 2% and apparel exports by 8%. <b>Rest of Latin America:</b> Textile exports drop marginally; apparel exports drop 8.2%. Welfare drops \$630m (1995 dollars)	n/a	
Terra (2001)	Standard static GTAP model and parameters	GTAP 4 (Base year 1995)	MFA quota elimination without removal of tariff protection on T&Cs in Latin American countries  MFA quota elimination accompanied by removal of tariff protection on T&Cs in Latin American countries	n/a	Latin America loses. Mexico's apparel exports projected to decline by 64%, Brazil's by 18% and other LA countries (incl Andean and Caribbean) by 92%.	n/a	Quota-constrained developing countries will see their apparel exports rise by 32% and their textile exports rise by 4%.
				n/a	Latin America loses. Mexico's apparel exports projected to decline by 71%, Brazil's by 17% and other LA countries (incl Andean and Caribbean) by 36%.	n/a	Quota-constrained developing countries will see their apparel exports rise by 42% and their textile exports rise by 14%.

## ANNEX 4. CROSS COUNTRY COMPARISON OF NON-WAGE COSTS

	Perú		Guatemala		Honduras		El Salvador	
<b>Gross Remuneration to Employee</b>		<b>100</b>		<b>100</b>		<b>100</b>		<b>100</b>
<b>Employer Contributions</b>		<b>29</b>		<b>11</b>		<b>11</b>		<b>15</b>
a.- Allocations for family	10% of Min Wage	8						
b.- Fund for tim of service - CTS	1 salary/yr	10						
c.- Medical insurance - Essalud	9.00%	9		9		9	ISSS	8
d.- Contributions for national industrial training scheme - SENATI	0.75%	1	Training Centers	2	Training Centers	1	Insaforp	1
e.- Work-related accidents	1.00%	1						
f.- Life insurance - Other	0.53%	1			Bono Escolar	2	AFP	7
<b>Other Costs</b>		<b>33</b>		<b>26</b>		<b>28</b>		<b>13</b>
Holiday bonuses	2 salaries/yr	20	2 salaries/yr	18	2 salaries/yr	18	equiv to 10 days/yr	3
Vacations	30 days/yr	10	15 days/yr	5	20 days/yr	6	15 days/yr + 30%	6
Obligatory bank holidays	12 days/yr	4	11 days/yr	3	11 days/yr	3	11 days/yr	3
<b>Gross Labor Costs (to Employer)</b>		<b>162</b>		<b>137</b>		<b>139</b>		<b>128</b>