



## **The incidence of social spending and taxes in Peru**

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### *Background*

Despite considerable progress in recent decades, poverty and inequality remain deeply entrenched in Peru. Approximately one-third of the population lives below the poverty line, and the post-taxes and transfers income Gini is at 0.47—high for international standards (López-Calva and Lustig 2010; Jaramillo and Saavedra 2010).

Peru has transitioned from being a financially destitute state in the late 1980s to an example of fiscal responsibility today. In the early 1990s, the government began to expand social expenditures following a reconstruction of the tax system. Larger scale social protection programs have been implemented over the last decade, as the fiscal situation of the country continued to improve. Spending by the social sectors also increased during this period, more than doubling social spending. Also, the government introduced a cash-transfer program during the second half of the last decade.

### *Methodology*

In *The Incidence of Social Spending and Taxes in Peru*, we estimate the effects of fiscal policy on poverty and inequality through a tax and benefit incidence analysis. We employ different income definitions in order to observe the effects of distinct taxes and social expenditure programs across the income distribution.

The main data source used throughout the analysis is the 2009 version of the *National Household Survey* (ENAHO), produced annually by the National Institute of Statistics (INEI). We also use data from other public sources, such as the Finance Ministry's National Financial Information System (SIAF) and the Education Ministry's Statistics Unit (ESCALE) to assign dollar amounts to in-kind health and education benefits. To estimate indirect taxes, we use detailed consumption data from the household survey, as well as data from the National Superintendence of Tax Administration (SUNAT) for scaling-up.

The social benefits considered in our research are those included in the Commitment to Equity (CEQ) methodology's definition of social spending,<sup>1</sup> which aggregates social assistance,

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<sup>1</sup> CEQ social spending is a definition put forth by the CEQ initiative. Led by Nora Lustig and Peter Hakim, the "Commitment to Equity" (CEQ) initiative is a joint project of the Inter-American Dialogue (IAD) and Tulane University's Center for Inter-American Policy and Research (CIPR) and Department of Economics. CEQ is designed to assess the progressivity of social spending and taxes, their impact on poverty reduction, and their redistributive effects.

education, and health spending. In the benchmark scenario (see Table 1, below), contributory pensions are included in the households' market income, and in a sensitivity analysis they are treated as a government transfer. Non-contributory pensions in Peru were introduced only in 2012, so they are not included in the analysis.

### *Analysis*

Social spending made up 8.4 percent of Peru's GDP in 2009, while the national pension system represented 0.9 percent. The pension system has been in deficit since the late eighties, as hyperinflation liquidated its assets, and has required public transfers over the years in order to fund its liabilities. In 2009, the subsidy these transfers represent amounted to 0.4 percent of GDP.

Taxes in Peru fall under three main categories: direct (income), representing 5.2 percent of GDP; indirect (VAT and excise), representing 8.6 percent of GDP; and an "other taxes" category, representing 1.8 percent of GDP. VAT and income taxes make up the majority of tax revenue, with only a third of the latter coming from personal income. The excise tax (ISC) is primarily composed of a tax on fuels. Finally, the 'other taxes' category includes mainly import tariffs and property taxes that are collected at the local level.

Table 1 presents indicators that measure the extent to which direct transfers are effective and efficient in reducing poverty. The first column lists estimates of the "Headcount Poverty Effectiveness Indicator," which measures the effect of the transfer divided by its relative size as a portion of GDP. The "Vertical Expenditure Efficiency" (VEE) indicator measures the amount of direct transfers that go to the poor. The "Spillover Index" (S) indicates how much of the spending that reaches the poor is in excess of the strictly necessary amount required for the beneficiaries to reach the poverty line. The "Poverty Reduction Efficiency" (PRE) indicator is calculated by subtracting the product of VEE and S from one. The "Poverty Gap Efficiency" (PGE) measures the transfers' effectiveness in reducing the poverty gap.

Table 1. Peru: Coverage and Effectiveness of Direct Transfers, 2009

#### **Direct Transfers Poverty Reduction Efficiency and Effectiveness Indicators (Benchmark Case)**

	<b>Headcount Poverty Effectiveness Indicators</b>	<b>Vertical Expenditure Efficiency (VEE)</b>	<b>Spillover (S)</b>	<b>Poverty Reduction Efficiency (PRE)</b>	<b>Poverty Gap Efficiency (PGE)</b>
<b>\$2.5 PPP</b>	20.09	0.47	0.09	0.43	0.16
<b>\$4 PPP Poverty Line</b>	7.39	0.71	0.05	0.68	0.08
<b>Extreme National Poverty Line</b>	18.35	0.49	0.08	0.45	0.15
<b>National Poverty Line</b>	5.53	0.72	0.04	0.70	0.06

Source: Author's calculations based on *Encuesta Nacional de Hogares (ENAHOG)* 2009 and National Accounts.

The results indicate that direct transfers are effectively targeted, though more effective in reducing extreme poverty than total poverty. Further, PGE suggests that direct transfers were far from sufficient to close the poverty gap.

Direct transfers achieve much greater reductions in inequality (0.014 versus 0.002 points of Gini) and poverty (2.9 and 1.9 versus 0.2 and 0.1 percentage points in extreme poverty and total poverty, respectively) in rural areas than in urban areas. This result reflects both the fact that direct transfers are concentrated in rural areas and that they are means-tested, resulting in better targeting results. In effect, according to our estimates, 71 percent of the benefits provided as direct transfers (CCT Program *Juntos* and food programs) go to rural areas.

Table 2 presents the results of the incidence analysis corresponding to the benchmark scenario. As expected, direct taxes impact only the income of the richest deciles, reflecting the progressive tax rate structure. In contrast, indirect taxes have a significant effect on incomes across the distribution. Counter-intuitively, the effects are higher among those with higher incomes. This may be the result of a large informal sector, as richer households are more likely to buy from formal establishments, while poorer households are more likely to buy from informal sellers, such as street vendors or informal markets.

Table 2. Peru: Incidence of Taxes and Transfers, 2009

	Share of Market Income	Incidence by Market Income Deciles									
		1	2	3	4	5	6	7	8	9	10
<b>Market Income</b>	<b>100.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
Direct Taxes	-1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.5%	-3.3%
<b>Net Market Income</b>	<b>98.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>-0.2%</b>	<b>-0.5%</b>	<b>-3.3%</b>
Benefits	0.5%	11.4%	3.9%	2.2%	1.2%	0.6%	0.3%	0.2%	0.2%	0.0%	0.0%
CCT	0.2%	5.6%	1.7%	0.8%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Food Programs	0.3%	5.8%	2.2%	1.5%	0.9%	0.5%	0.3%	0.2%	0.1%	0.0%	0.0%
<b>Disposable Income</b>	<b>99.1%</b>	<b>11.4%</b>	<b>3.9%</b>	<b>2.2%</b>	<b>1.2%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.4%</b>	<b>-3.3%</b>
Indirect Taxes	-7.6%	-5.2%	-5.0%	-6.2%	-7.1%	-7.2%	-8.3%	-8.4%	-8.0%	-8.3%	-7.4%
<b>Post-Fiscal Income</b>	<b>91.5%</b>	<b>6.3%</b>	<b>-1.1%</b>	<b>-4.0%</b>	<b>-6.0%</b>	<b>-6.6%</b>	<b>-8.0%</b>	<b>-8.4%</b>	<b>-8.0%</b>	<b>-8.7%</b>	<b>-10.7%</b>
In-kind Education	2.7%	31.2%	14.9%	10.2%	7.2%	5.3%	3.6%	2.4%	1.9%	1.1%	0.3%
In-kind Health	1.4%	11.8%	6.4%	4.5%	3.6%	2.6%	2.0%	1.6%	1.0%	0.8%	0.3%
Public Health Insurance (SIS)	0.1%	2.1%	1.0%	0.6%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
Contributory Health Insurance (EsSalud)	1.4%	0.3%	0.5%	0.9%	1.4%	2.0%	1.9%	2.0%	2.0%	1.8%	0.9%
<b>Final Income</b>	<b>97.1%</b>	<b>51.5%</b>	<b>21.7%</b>	<b>12.2%</b>	<b>6.6%</b>	<b>3.4%</b>	<b>-0.4%</b>	<b>-2.3%</b>	<b>-3.0%</b>	<b>-5.0%</b>	<b>-9.3%</b>

Source: Author's calculations based on *Encuesta Nacional de Hogares (ENAHOG)* 2009 and National Accounts.

Finally, the table shows that after direct taxes, direct transfers, and indirect taxes, households in the first two deciles are net transfer receivers, while households from the third decile on are net tax payers. The analysis changes significantly when health and education transfers are

included. Those who receive in-kind education and health transfers, as well as public health insurance, are concentrated among the poorest deciles. The public health contributory system is the only transfer with a higher impact on the income of richer deciles.

### *Conclusion*

The results of our analysis indicate that the extent of inequality reduction induced by fiscal policy in Peru is small, due primarily to low rather than inefficient social spending. Although in-kind transfers have the largest impact, direct transfers are the most effective per dollar spent. This effect is most important among the extreme poor.

Most of Peru's social spending components are progressive, although social benefits tied to the formal labor market (health and pensions) are either relatively progressive or regressive. Taxes, on the other hand, have positive, though small, effects on inequality. Counter-intuitively, indirect taxes are neutral, due to extensive informality.

The results indicate four important policy lessons:

1. Targeted transfers are the most effective way to reduce poverty in the short run.
2. Targeted transfers are significantly more effective in rural areas than in urban areas.
3. Benefits that are linked to formal employment relationships tend to exclude the poor.
4. Taxes have equalizing effects, though they are small.

In the last two decades, Peru has gone a long way toward restoring public finance. However, there is still a lot to do to eliminate extreme poverty and reduce inequality through public policies. The CCT program *Juntos* has proven effective, so its recent expansion in coverage is well justified. Introducing targeted non-contributory pensions also seems a pertinent step in the direction of reducing poverty and inequality. Also, expanding the experience of *Juntos* seems like a good strategy to keep reducing extreme poverty. One possibility would be to transition the country's poorly targeted and corruption-prone food programs into cash transfer programs, starting with a new registry of beneficiaries that employs a more rigorous targeting mechanism.

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