

Fiscal Policy Reforms and Inequality: The Cases Of Honduras, Guatemala, and the Dominican Republic

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INTRODUCTION

The experience of some Central American countries shows that persistent income inequality can provoke social unrest, political instability, and macroeconomic imbalances. Pursuing higher growth, however, does not entail a tradeoff between less inequality and higher growth. In theory, less inequality can foster better social cohesion and promote political stability—essential ingredients for higher growth. Stability and social cohesion thus help promote long-lasting growth-enhancing economic reforms and avoid short-term populist policies that could threaten macroeconomic stability. Some studies have shown that countries with less income inequality have had longer growth spells than countries with wide disparities (Ostry, Berg, and Zettelmeyer 2012).

The design of fiscal policies to tackle inequality covers multiple dimensions and requires considering the unique characteristics of Central American countries. On the revenue mobilization front, for instance, efforts to improve the progressivity of taxes—a policy measure to reduce income inequality—requires analyzing the effects of informality on the potential tradeoff between making income taxes more progressive versus generating higher revenues by increasing indirect taxes. On the spending side, granting a minimum level of direct transfers to support a reduction in extreme poverty—in the rural sector, for instance—needs to be matched by plans to upgrade human and physical infrastructure capacity to support higher growth.

More generally, in the presence of fiscal imbalances, the question is how fiscal consolidation can be designed to reduce income inequality. This chapter seeks to tackle this by analyzing the experiences of fiscal policy reforms adopted in Honduras during 2014–17, and the fiscal reforms that Guatemala and the Dominican Republic have been considering since 2016. The analysis uses a

dynamic general equilibrium simulation model, where income distribution matters and agents are heterogenous. The model structure is broadly similar for the three country cases and it is calibrated for each to represent idiosyncratic features. A simulation model has the advantage of creating counterfactual scenarios to analyze the effects of policies and its dynamic feature brings up additional effects that could not be illustrated under static analysis.¹ The model is for a small open economy with multiple sectors (agriculture, manufacturing, and services), whose production is generated by rural and urban households (Annex 9.1).

Several lessons from the simulation exercises can be obtained. First, well-designed social programs are essential at the outset of the consolidation strategy. Second, greater reliance on direct taxes, which are typically progressive—in some cases through lower income thresholds to capture more high-income households in the tax net—would help mobilize tax revenues with less distributional cost. In this context, greater tax progressivity can be pursued by scaling back exemptions and preferential treatment that benefit high-income households, and combating tax avoidance by the same individuals. Third, a successful consolidation that reduces (or stabilizes) debt and reduces the risk premium could generate savings from lower interest payments not only to the public sector but also to the private sector. Using these savings to reduce social and infrastructure gaps could offset the demand drag from fiscal consolidation and reduce inequality. In other words: consolidation measures that are not progressive per se could efficiently redistribute resources if the revenues generated by those measures are spent in a progressive way.

CASE STUDIES

Honduras

In 2013, Honduras² experienced growing economic and social imbalances. The fiscal deficit rose to 7 percent of GDP and public debt reached 45 percent of GDP. Economic growth slowed, poverty increased and, crime rates skyrocketed. In 2014, when a reform program was adopted, the key consideration was to correct fiscal imbalances. The reform, among other aspects, included revenue mobilization efforts and policies to bring government spending to an optimal level of efficiency. On the revenue side, reform of value added tax (VAT) included a 3 percentage point rise in the rate to 15 percent. Since VAT increases are typically regressive, the package included a program to allocate some of the additional revenue collected to expand a targeted cash transfers program. In 2017, four years after the reform, sovereign spreads declined by about 400 basis points from their 2013 peak of 700 basis points, reducing bank lending rates, while economic growth reached 5 percent, the fiscal deficit fell to 1 percent, and the security situation improved considerably.

¹See for instance the incidence analysis in Lustig and Higgins (2013).

²The analysis draws on IMF (2016).

To quantify the impact of the fiscal reform on output, poverty, and inequality, a counterfactual exercise is conducted, tailored to the main characteristics of the Honduran economy. The model used for this exercise reproduces—qualitatively and quantitatively—key macroeconomic and distributional features of Honduras household level data, drawing on the Honduras household expenditure survey. It also captures the effective collection of VAT, personal income, and other taxes as fractions of total government revenues. To match these characteristics, the differences in total factor productivity across sectors in the economy, the sector-specific parameters of production functions, and implicit tax rates are calibrated. By simulating thousands of individual households with diverse incomes, the model produces insights into income, wealth, and consumption distributions. The persistence and variance of the households' particular income shocks are calibrated to reproduce measures of inequality (Gini of 0.55) and poverty (rates of about 60 percent) observed in Honduras' household surveys. In addition, the model is calibrated to match household consumption patterns with the objective of capturing the distributional implications of the policy changes.

The counterfactual exercise reveals a positive impact of the reform on macroeconomic fundamentals (Figure 9.1)³. On its own, an increase in VAT is potentially regressive. It may depress aggregate demand and worsen poverty and inequality. However, if the reform is combined with compensatory measures such as cash transfers, private consumption expands, and poverty is reduced. Cash transfers are assumed to have modest positive impact (1 percent) on the productivity of households that receive them. These households tend to have a large marginal propensity to consume, which boosts private consumption. Although the increase in private consumption is not large enough to compensate for the depressing effect on overall aggregate demand that results from the taxes in isolation, once a decrease in the marginal cost of capital (due to macroeconomic stability) is incorporated, private investment substantially increases. This creates a virtuous cycle that translates into higher GDP (2 percent), private consumption (1.5 percent), and private investment (9 percent), which improve household incomes and bring additional tax revenue to finance cash transfers. Urban poverty and inequality fall by more than 2 percentage points. These results are complemented by a more efficient and competitive financial sector. Productivity growth in agriculture, combined with targeted training, could increase labor mobility and further improve overall gains from the reform.

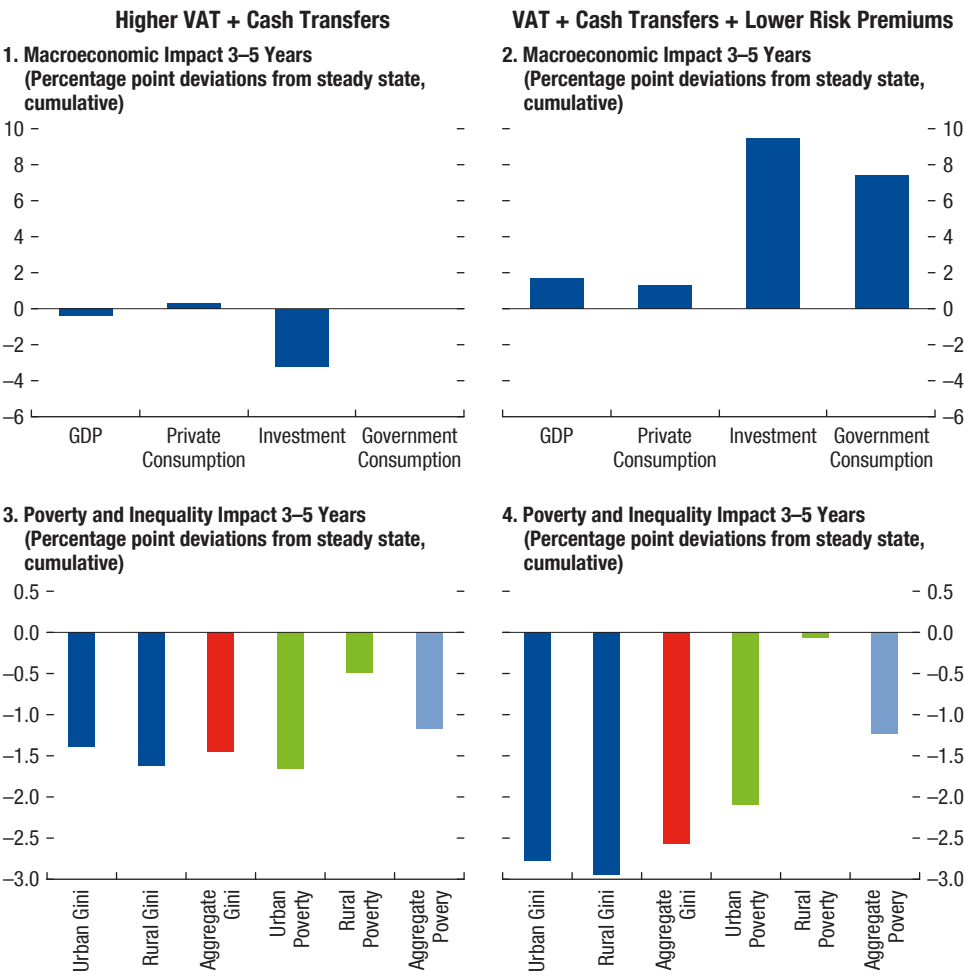
Guatemala

Guatemala⁴ has significant poverty and inequality, expressed by distinct patterns in the rural-urban and ethnic divide. At the same time, persistently low tax revenue constrains the size of the budget and limits the government's capacity to

³The ex-post counterfactual exercise consists of simulating what the effects of the policies could have been considering the initial conditions.

⁴The analysis draws on IMF (2016b).

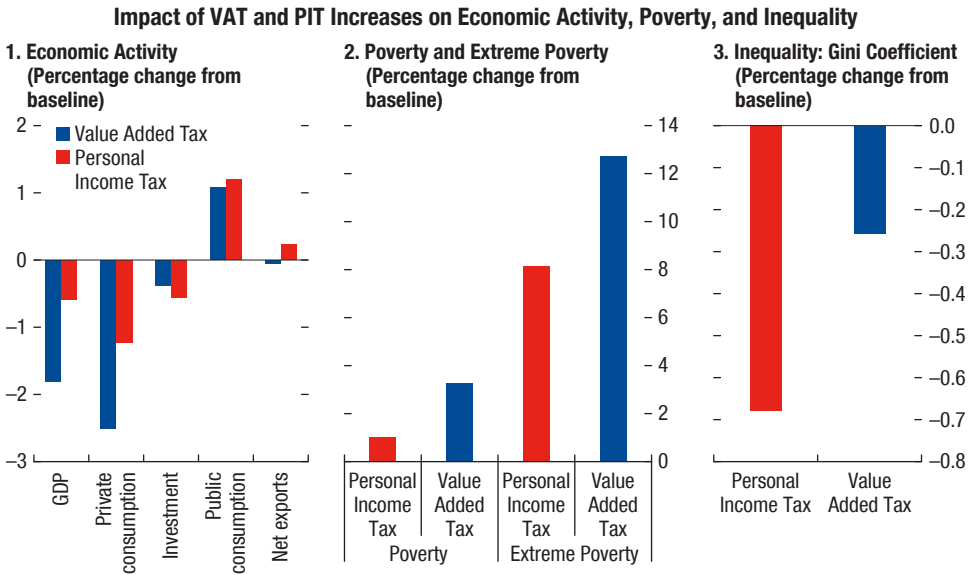
Figure 9.1. Honduras: Fiscal Reform Scenarios



Source: IMF (2016).

pursue social objectives. At 10.2 percent of GDP in 2017, tax revenues are among the lowest in the world, which limits the size of government and its spending capacity. As a result, social spending is very low, even compared to countries with similar per capita income.

In Guatemala, the modeling exercise consists of simulating the redistributive and macroeconomic effect of alternative combinations of tax and spending policies. In particular, the general equilibrium model described in Annex 9.1 is used to simulate the growth and redistributive effect of a tax increase worth 1 percent of GDP through higher VAT and personal income tax with alternative spending

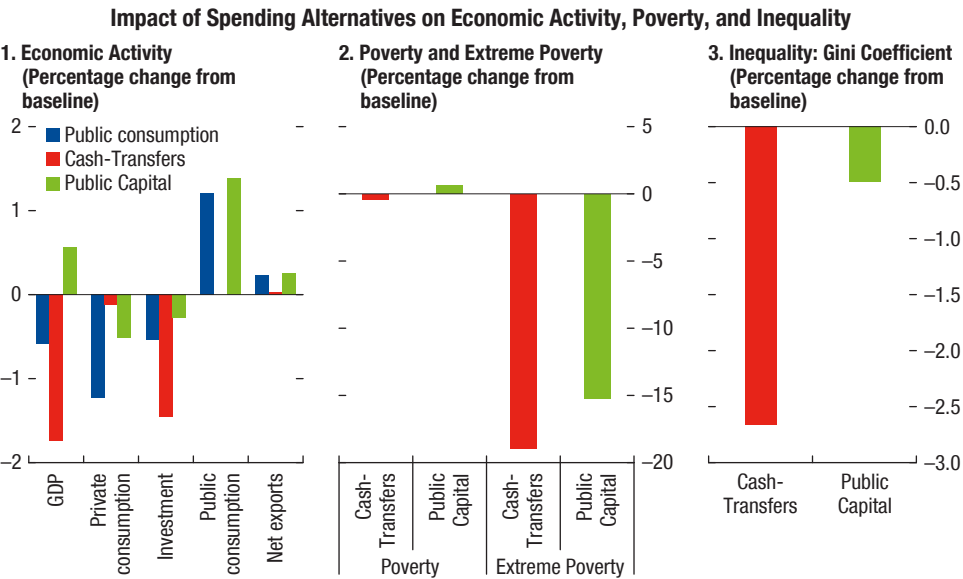
Figure 9.2. Guatemala: Fiscal Reform Scenarios

Source: IMF (2016).

options including: (1) untargeted public consumption, (2) public investment, and (3) cash transfers.

Compared to personal income tax, VAT has a stronger negative impact on consumption and GDP, and is regressive, resulting in worse overall poverty and inequality outcomes (Figure 9.2). The model results indicate that revenue mobilization through VAT would have a stronger contractionary effect on output than through taxing personal incomes. While GDP decreases by less than 1 percent compared to the baseline in the income tax scenario, it would fall by almost 2 percent if the additional revenues were raised through VAT. The effect on the GDP is unconventional. VAT is usually considered less distortionary than taxing personal income, particularly because of its neutral impact on investment. However, conventional wisdom may not apply for Guatemala due to the presence of a large informal sector. The informal sector may be able to escape taxation, including levies on intermediate goods, in part because VAT controls are weak and in part because many goods are unsophisticated and do not have multiple production stages. At the same time, many of the goods produced by the formal and informal sectors are close substitutes. Under these circumstances, VAT penalizes the consumption of goods produced in the formal sector, reduces their demand, and depresses their prices, so reducing marginal returns for firms in the formal sector. As the prices of goods shift to favor the less productive informal sector, which performs only a fraction of the formal sector's investment

Figure 9.3. Guatemala: Fiscal Reform Scenarios



Source: IMF (2016).

in the economy, VAT becomes distortive both in consumption allocations and for investment decisions. Hence, while personal income tax is always distortive with or without the informal sector, VAT can become distortive in the presence of the informal sector. This, however, does not automatically guarantee that VAT is more distortive than personal income taxation. It is the particular structure of personal income tax in Guatemala, with extremely low rates and little progressivity, along with a relatively high VAT rate that help explain the result.⁵ At the same time, VAT is regressive, and so tends to increase poverty and widen inequality more.

Given its superior growth and distributional outcomes, the focus for the analysis of spending scenarios is on increasing personal income tax. If the additional revenue was used to finance untargeted government consumption, GDP would shrink following a reduction in private consumption and investment. In addition, since government consumption is in part spent on tradable goods, some of the expenditure would leak from the economy in the form of imports, thus exacerbating the distortionary effect of higher taxation.

⁵An empirical study by Acosta-Ormaechea and Yoo (2012) also finds that in low-income countries PIT does not significantly affect growth, likely due to the low level of personal income tax collection in such countries (1.5 percent of GDP on average). This result is relevant for Guatemala, where personal income tax collection is only 0.4 percent of GDP.

Additional spending on cash transfers would significantly reduce extreme poverty and inequality but result in a more pronounced fall in GDP. The model proportionately expands cash transfers according to the distribution of the *Mi Bono Seguro* Program in the ENCOVI 2014 database, which covered 36 percent of households in extreme poverty, but leaked about 20 percent of its benefits to households that were not poor. Given the limited additional funds and imperfect targeting, the effect on poverty overall is trivial, but extreme poverty would drop by almost 20 percent, from 23 percent to 19 percent of the population. Inequality as measured by the Gini index would decrease accordingly by about 2.5 percent, to 0.52.⁶ Moreover, since cash transfers support the consumption of poor households, private consumption drops less than in the public consumption scenario. However, cash transfers shift resources away from groups that save and invest, resulting in a bigger drop in private investment. In addition, cash transfers are not treated as government consumption in the model, resulting in lower government expenditure—as the revenue becomes a transfer—which further depresses private investment. If cash transfers induce labor productivity gains from households receiving them, the effects on investment can be reduced. The reduction in poverty therefore comes at the expense of growth.

Using the additional funds to finance infrastructure would result in moderate economic expansion. The model assumes that public investment is efficient, resulting in a higher stock of public capital, which improves private sector productivity. Better infrastructure generates higher private sector productivity and a smaller decrease in private investment, which boosts total output. Higher productivity also increases demand for labor and raises wages, resulting in higher labor income for poor households. Higher productivity also makes food cheaper, further reducing extreme poverty. Therefore, both extreme poverty and inequality are reduced, although less than in the cash transfer scenario.

Dominican Republic

The Dominican Republic has been among the fastest-growing countries in the region since its 2003–04 financial crisis, but progress in improving social indicators has yielded only recent results. Amid relatively high poverty and inequality, fiscal adjustment is needed to reverse the upward debt dynamics. This ought to be designed to keep its growth and distributional effects to a minimum. An adjustment of 2½–3 percent of GDP during the next two years is estimated to be needed to reduce debt to around 45 percent of GDP over the next five years. About a third of the adjustment may need to fall on reducing generalized and regressive subsidies on electricity, with the rest on revenue mobilization. With tax rates in the Dominican Republic broadly in line with international averages, revenue mobilization should focus on broadening the tax base by streamlining tax

⁶The Gini coefficient is a measure of income inequality and ranges from 0 to 1, where 0 represents perfect equality.

exemptions and incentives, closing administrative tax loopholes, and tackling informality, among other measures.

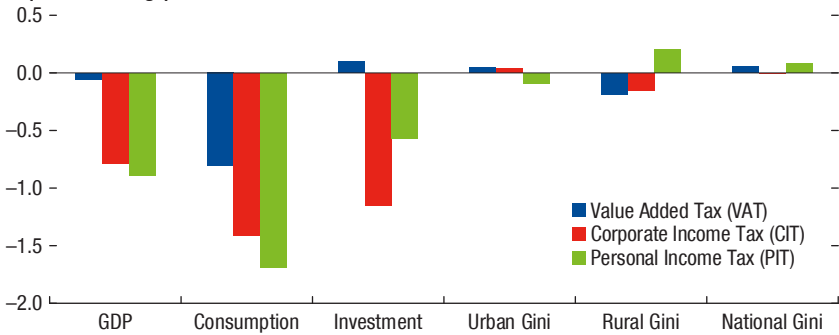
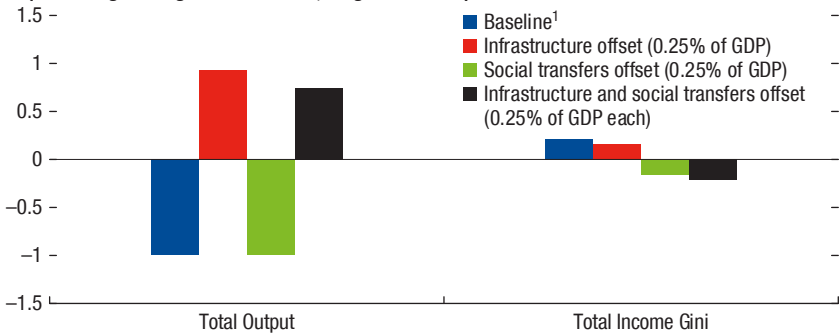
The dynamic effects of fiscal policies on macroeconomic aggregates and income distribution are explored with a general equilibrium model described in Appendix 9.1.⁷ Focusing on revenue mobilization, for which the model is well suited, the results suggest that fiscal tools show different tradeoffs between growth and equity effects. In particular, (1) VAT taxes in the model have a relatively limited cost in terms of growth and overall inequality, (2) in line with theory, personal income taxes have the least favorable effects in the model, although in practice this effect is likely to be muted by the strong progressivity of the tax in the Dominican Republic, and (3) corporate income taxes have the most benign social effects, but their impact on growth could be relatively strong.

The need to mobilize an additional 1½–2 percent of GDP in revenues would require broad contribution from all taxes. The exercise consists of simulating the effects of two packages: one with contributions from indirect (VAT) and corporate income taxes, given the theoretically less favorable effect of personal income taxes on growth and inequality, and the other as a package where all revenues contribute, in light of the small corporate income tax base. Results show that the two packages do not produce meaningful differences in growth and inequality, and therefore the second package is the most practical. In both cases, a 2 percentage point revenue mobilization could reduce output by nearly 1 percent (a fiscal multiplier of close to 0.5).

The drag on growth and social outcomes of the adjustment should be offset with a combination of higher investment and targeted transfers. It is estimated that a fiscal adjustment of 2½–3 percent of GDP would reduce the interest bill by 0.5 to 0.8 percent of GDP over the medium term. This space should be used to boost infrastructure investment and social spending. Simulations with the dynamic model suggest that investment spending is an efficient way to achieve a significant pickup in growth, thereby offsetting the demand drag from the adjustment, but it does not contribute meaningfully to better redistribution of income. Social transfers, on the other hand, may not contribute to better growth outcomes through their positive impact on human capital (at least this longer-term effect is not captured by the model) but are very potent at reducing inequality. A combination of infrastructure investment (0.25 percent of GDP) and higher targeted transfers to rural area or equivalent spending on health/education (0.25 percent of GDP), all within the envelope of fiscal resources freed by the adjustment, would provide the optimum offset to the growth and social effects of the adjustment (the gray scenario in Figure 9.4, panel 2).

In sum, considering the size of the needed fiscal adjustment, the exercise suggests there is scope to use all tax instruments. The bulk of the adjustment would rely on VAT and other indirect taxes, because (1) their size allows a larger contribution to the adjustment effort, (2) they account for a large share of exemptions,

⁷See also Peralta-Alva and others (2018).

Figure 9.4. Dominican Republic: Fiscal Reform Scenarios**1. Comparative Impact of Tax Increases
(Percent change)****2. Growth and Distributional Effects of Fiscal Consolidation Package
(Percentage change from baseline, long-term effect)**

Source: Authors' estimates.

Note: In panel 1, the effect on macrovariables of raising 0.5 percent of GDP in revenues from VAT, CIT, and PIT separately (through base broadening by 5.6, 18.8, and 23.2 percent, respectively). In panel 2, the effect on macrovariables of raising 2 percent of GDP in revenues (1.5 percent of GDP from VAT, 0.25 percent from CIT, 0.25 percent from PIT), through base broadening by 16.7, 9.4, 11.5 percent, respectively.

¹Baseline assumes mobilized revenue is used in non-productive current spending.

and (3) because they achieve a good balance between efficiency and equity. The equity effects of the adjustment package can be improved through reliance on taxing corporate income (which has good equity performance) and personal income (which in the case of the Dominican Republic is progressive). The drag on growth from such an adjustment can be fully reversed by a 0.25 percent of GDP increase in public investment, which in practice could be financed by savings on the interest bill. However, even such an expansionary adjustment would be insufficient to reduce inequality notably, given that consumption will remain depressed. Large social transfers, on the other hand, are efficient in reducing inequality but are a drag on growth, as discussed above. An overall package that

combines both infrastructure increases and social transfers (0.25 percent of GDP each) would therefore be optimal for ensuring the fiscal adjustment brings beneficial growth and social effects over the medium term.

CONCLUSION

The way resources are mobilized and spent matters. Since alternative taxes and spending strategies have different macroeconomic and redistribution impacts, careful analysis of growth and poverty effects is required when designing tax/spending policies. The analysis in this chapter suggests that in general personal income taxation would generate a larger reducing effect on inequality and less distortionary impact on growth, likely due to its current low rates and relatively neutral structure in Central America. Design, of course, matters too, and any policy measure can be designed to mitigate the negative effect on growth and people living in poverty.

When it comes to spending, there are tradeoffs between growth and redistribution objectives. While cash transfers are more efficient in reducing extreme poverty and inequality, well-targeted public investment generates better growth outcomes. Hence, both government transfers and public investment will need to rise to spur growth and reduce poverty and inequality. However, growth and social objectives are not necessarily incompatible if a virtuous cycle can be started where economic growth improves living conditions and a better-off, more productive labor force contributes to faster economic growth. In this respect, effective targeting and efficient public investment spending are key to maximizing the social and growth returns of higher tax yields.

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ANNEX 9.1. THE TOOLKIT MODEL: A SUMMARY

The toolkit model used is from Peralta-Alva and others (2018), which is a hybrid of the standard multisector neoclassical growth model and the Aiyagari (1994) heterogeneous agent model (hereinafter “the toolkit”).⁸ It features a small open economy, with four interdependent sectors (domestic and exporting agriculture, manufacturing, and services), whose production is generated by rural and urban households.

Labor markets in rural and urban areas are segmented, and migration is prohibited. The production for each type of good involves labor (measured in effective hours), capital, and land, in different combinations. The production functions include idiosyncratic productivity shocks, which capture the difference in labor productivity across households and are caused by factors that are not modeled explicitly. The shocks are modeled as AR(1) processes.

All households share the same preference, but poor households spend more of their total income on food consumption due to subsistence requirements. Each household is endowed with one unit of time, which they allocate between working in the formal labor market, where they earn wages subject to income tax, and working informally. Because different households have different realizations of idiosyncratic productivity shocks, total disposable income (which is either consumed or saved) and savings would be different, generating a nondegenerate distribution of households in the model.

The government collects revenues (VAT on domestic agricultural and manufacturing consumption, income tax on formal wages, and corporate profit taxes on manufacturing firm revenues and large farmers’ sales profits), which can be used to finance government consumption, cash transfers (targeted or universal), and/or infrastructure investment.⁹

Put together, given manufacturing goods are the numeraire, the model consists of five endogenously cleared markets: capital, domestic agricultural goods, service goods, rural labor market, and urban labor market. Demand and supply curves in these markets are characterized by the optimization problems of different economic agents, as specified above. Aggregate demand and supply curves are then constructed by integrating these individual policy functions using the stationary joint distributions of savings and current income shocks for urban and rural areas. These demand and supply curves can be solved under different prices, and the solution concept of the equilibrium is a vector of the prices that clears all the markets (equilibrium prices).

The model is calibrated by choosing the parameters of the model in a way that reduces to a minimum the difference between the values of key macro variables generated in the model and their real data counterparts. This parameterization,

⁸For a more detailed discussion of the model see Appendix 1 in Fabrizio and others (2017).

⁹Government consumption refers to expenditures like public service or national defense that are not valued directly by individuals. We use government consumption interchangeably with “nonproductive expenditure” in this section.

ANNEX 1.

The Toolkit Model: A Summary				
	Urban households		Rural households	
	High productivity	Low productivity	High productivity	Low productivity
Domestic agriculture			Informal labor (self-employed)	Formal labor (hired by large farmers)
Exporting agriculture			Formal (hired by large farmers)	
Manufacturing (and formal services)	Formal labor			
Domestic services		Informal labor		

which replicates stylized facts of the economy under current policy, is a benchmark. In using the model to evaluate the effect of different policies, the parameters of the model are changed to reflect policy features that are to be implemented (for example, increasing the tax base), with the solution of the model under this new parameterization yielding a set of prices and allocations that reflects the general equilibrium effect of the new policies.