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Universal social insurance for Mexico: Modeling of a financing scheme☆

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ABSTRACT

The provision of social insurance (SI) for the population in many developing countries is typically uneven in terms of both coverage and financing sources. In particular, contributory SI financed through payroll taxes generally covers a wider range of services but it is only available to formal workers and their families. This paper examines the effects of introducing universal SI coverage in health, disability, and retirement for a typical, large developing country such as Mexico. Through the lens of a dynamic, computable general equilibrium model, we evaluate the economic effects of increasing the value added tax and/or eliminating subsidies to energy as alternative revenue sources for the provision of universal social insurance. Our results suggest that providing social insurance coverage for the entire population may, in this case, be feasible from a revenue point of view even when payroll taxes are eliminated. The model suggests that alternative sources for the financing of social insurance may also be efficient, and that the reallocation from energy subsidies to social insurance subsidies may be, in fact, a more sensible policy.

1. Introduction

The widespread lack of access to social insurance (SI) services remains a severe, and, of as yet unresolved problem in many parts of the developing world. Currently it is estimated that between 52% and 85% of the elderly in middle-income and low income countries do not receive pensions while this number falls to below 20% in high income areas. Furthermore, whereas only 60% of the population in developing countries has access to affordable health care, such access is available to 86% and 100% of the population in North America and Western Europe respectively (ILO, 2014). Concerns over this issue have been recently raised in various international and multinational forums (see, for example, IDB, 2013; ILO, 2014; OECD, 2009; WHO, 2010; and World Bank, 2012). The possibility of increasing social insurance coverage in developing areas, however, remains largely dependent upon stable and reliable sources of public funding.

The goal of this paper then is to examine the economic impacts of alternative methods of financing universal coverage for health, disability, and retirement (henceforth universal social insurance or USI) in the highly important developing country of Mexico. More specifically, in this article we explore two sets of options: (1) an increase in Mexico's value-added tax (VAT) rates, and (2) the reduction of its existing subsidies to basic industries. The VAT is chosen because it has become one of Mexico's main revenue generators. We also look at the possibility of eliminating current high cost consumer subsidies, particularly in Mexico's large energy sector, and funneling those resources into the USI. The elimination of energy subsidies effectively reduces transfers to the wealthiest 20% who presently spend six times as much on fuel than the poorest 20% in Mexico (IMF, 2013).[1]

As with many other developing countries, the SI system in Mexico is uneven in its coverage and divided into contributory (CSI) and non-contributory social insurance (NCSI) components.[2] The former is financed through contributions from employers and workers and the latter through other revenue sources. The limited SI coverage, combined with a new push to reform many areas of the Mexican economy, have recently led to increased discussion among economists and policy makers about ways to improve the current situation. In a seminal piece, Levy (2008) proposed a significant overhaul in the provision of SI funding. The basic of his proposal is to provide USI coverage to all workers and their families, regardless of their income source by linking its funding to general sources of revenue rather than employee wages. Given that the current SI benefits available to workers in Mexico's informal sector are less generous in scope than those in the formal sector,

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[1] Remarkably, in countries like Jordan, Iran, and various African countries, energy subsidies have been used toward more targeted social protection programs (IMF, 2013).
[2] According to the national statistics office, approximately 70% of the total occupied labor force in the private sector in Mexico is not enrolled into a contributory social insurance scheme.

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this proposal would not only provide SI to all workers and their families but also provide a broader set of SI services to those recipients.

To evaluate the economic impacts of such policies, we utilize a dynamic, computable general equilibrium (CGE) model developed by Boyd for the Mexican economy (Ibarrarán and Boyd, 2006). The model has several features that make it suitable to examine the issue at hand: (1) a careful disentangling of the energy sector; (2) the existence of different tax rates and subsidies across sectors; (3) the substitution between formal and informal workers; and (4) the presence of heterogeneous households in terms of income. Incorporating different types of households into the analysis is crucial, given the typical regressive nature of the VAT. Hence, the model we use allows us to analyze the impact of the alternative tax schemes on different income groups as well as the effects of such policies at the sectoral and macroeconomic levels.

After carrying out several sets of simulations, we find that a combined fiscal program with a 1 percentage point increase in the current level of the VAT (excluding the taxation of some sensitive goods such as food and medicines), and the elimination of energy subsidies, generates enough resources to finance the USI package. Here, total revenue would not be as great as when the VAT is extended to food and medicines, but the levels of investment, GDP, and manufacturing output would be above their pre-reform levels in the long run. In fact, the increase in GDP would yield higher consumption levels for most of the sectors, thus eliminating the adverse effects due to the higher VAT. Interestingly, the model also reports that the combined fiscal program plus the USI scheme would bring nearly uniform welfare gains across all households. This suggests that the reform would not only be welfare improving but also would have no adverse effects on inequality. Furthermore, the scheme would have the additional benefit of curtailing the use of fossil fuels at both the consumption and production levels because subsidies to energy use would no longer exist.

Our paper is divided into five sections. Section 2 presents a literature review that situates our research in the context of current work. Section 3 explains the status of social insurance provision and expenditures in selected social programs in Mexico. Section 4 discusses the main features of a universal social insurance scheme, including coverage and financing issues. Section 5 describes the model we use to simulate these policies. Section 6 discusses the simulations and results, and the last section concludes providing some policy implications.

2. Literature review

Currently there are several papers which deal with formal and informal labor markets within an applied general equilibrium framework (see, for example, Antón et al., 2012; Bovenberg et al., 2000; Carneiro and Arbache, 2003; Estrades and Terra, 2011; Fortin et al., 1997; and Hernandez, 2012). With the exception of Carneiro and Arbache (2003), these papers examine the effects of changes in payroll taxes on labor markets and other macroeconomic variables of interest.[3] In particular, Bovenberg et al. (2000) consider alternatively decreasing labor tax rates and increasing tax credits for households to evaluate the effects of such policies on unemployment and labor supply. In contrast to what is done here, the fall in government revenue in such cases is not compensated with increases in other tax rates for purposes of balancing the budget.

Our paper is closely related to Fortin et al. (1997), Estrades and Terra (2011) and Hernández (2012) in the sense that these authors consider simultaneous changes in different taxes (including labor and payroll taxes) in order to evaluate the effects of such policies on variables such as unemployment, informality and poverty. In contrast to our model, these papers use a static CGE framework. Thus, while these analyses are highly useful, they are not designed to address the long-run effects of changes in payroll taxes. More importantly, none of the papers cited above evaluate the efficiency and equity effects of implementing a tax reform to fund a universal social insurance (USI) program like the one presented here. Our paper is also related to Antón et al. (2012), who evaluate the effects of implementing a USI program on variables such as output, formal and informal employment, wages and government revenue. However, they abstract from equity issues and the elimination of energy subsidies to finance USI.

There is also currently a strand of literature that evaluates the efficiency and (typically) equity effects of a tax reform under which an income tax is replaced with a consumption tax in a revenue-neutral manner (see, for example, Altig et al., 2001; Ballard et al., 1987; Correia, 2010; Fullerton et al., 1983; Heer and Trede, 2003; Krusell et al., 1996; Lehmus, 2011; Nishiyama and Smetters, 2005; Okamoto, 2005; and Ventura, 1999). A tax reform of this sort is based on the idea that consumption taxes are in principle more efficient at raising revenue than income taxes. However, raising consumption taxes may exacerbate income inequality as poor households spend a higher fraction of their income on consumption goods. Depending on the model, these papers examine the effects of a fall in labor or capital income taxes, or both. However, the scenarios considered by these authors, while highly informative, do not include a fall in payroll taxes in the context of formal and informal labor markets which is a central aspect of the case considered here. Also, none of the papers cited above contemplate a tax reform to implement a USI program like the one proposed here.

3. Social insurance and public expenditures

3.1. Current status of social insurance provision

The provision of SI in Mexico is based on a dual system. On the one hand, firms and workers engaged in a salaried contractual relationship must contribute to the own worker's social insurance in accordance with the law. This is called the CSI scheme.[4] For the majority of employees, this is the only relevant labor tax that must be paid by firms and workers.[5] On the other hand, non-salaried workers (such as workers in family firms and the own-account) are not obliged by law to contribute to social insurance. Instead, they may receive social insurance benefits from the State financed through the federal budget.[6] This is called the NCSI scheme. The CSI and NCSI schemes are mutually exclusive in the sense that a worker cannot simultaneously belong to both systems and receive benefits from both programs. For the purposes of

[3] In a similar vein, Bohringer et al. (2005) analyze the effects of a labor tax cut on unemployment in a static, general equilibrium framework. Lehmus (2014) examine to what extent the fall in labor income taxes could explain the increase in both employment and inequality in Finland during the period 1996–2008. However, these papers abstract from informal labor markets.

[4] The CSI scheme in Mexico is fragmented and complex. This is because the law makes a distinction between private and public sector workers, and mandates different SI institutions for each type. In addition, the provision of SI for public employees depends on whether the worker is affiliated to the federal or state government. On the other hand, the state-oil company (Pemex) and the Armed Forces have their own SI institutions. In general, SI benefits for public employees are more generous than those available to private sector workers (for details, see Albo et al., 2008). In this paper we concentrate on the CSI scheme for private sector workers for two reasons. First, the majority of public employees (about 90%) are affiliated to their own CSI scheme but the opposite is true for private sector workers, as pointed out later in this section. Thus the problem of SI coverage is particular to private sector workers. Second, we are interested in evaluating the efficiency and equity effects of the USI program, which is designed to tackle the problem of SI coverage among the population. For these reasons, henceforth CSI refers to the insurance program applying to the private sector only.

[5] Firms must report the personal income tax (PIT) of their workers to the government. However, low-income workers are entitled to receive a government subsidy on their PIT. In practice, workers earning slightly less than 3 times the minimum wage do not pay the PIT. According to the National Statistics Office, approximately 70% of subordinated workers earn 3 times the minimum wage or less. The remaining 30% of employees face a progressive PIT rate. Currently, the maximum marginal tax rate is 35%.

[6] For a detailed explanation of the social insurance system in Mexico and how the law makes a distinction between salaried and non-salaried workers, see Levy (2008).

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