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POOLING, SAVING, AND PREVENTION: A COMPREHENSIVE INSURANCE APPROACH TO SOCIAL RISK MANAGEMENT

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Individuals and societies can respond in a variety of ways when faced with the prospect of economic losses from shocks like natural disasters, sickness, sudden death, disability and unemployment. Social risk management is a conceptual framework encompassing three broad categories of response: prevention, mitigation, and coping. The Comprehensive Insurance approach focuses on mitigation, offering a tool for determining which insurance instruments and preventive measures will be most effective given the size and frequency of various types of possible economic losses.¹ This article explains the comprehensive insurance framework, and uses it to assess recent reforms in Chile's unemployment insurance system.

The comprehensive insurance problem for individuals, households, or governments is to determine the optimal mix of "market insurance", "self-insurance", and "self-protection". Market insurance *pools* risks across individuals. Where it is available, it can be purchased at a price—the insurance premium. Self-insurance—essentially individual *saving*—does not involve risk pooling. While it has no explicit price, its cost can be imputed from the expense people incur to save, say in forgone consumption. Individuals without market or self-insurance must cope with whatever losses befall them. They can, however, mitigate risk through self-protecting, that is, taking preventive measures. *Prevention* reduces the probability that losses will occur, but does not reduce the size of a loss should one occur.



This framework has four main implications:

- 1 Risk pooling and savings are substitutes: an increase in the price of pooling increases the demand for saving.
- 2 Risk pooling covers rare losses more efficiently than savings since the price of an efficient pooling instrument should fall as the likelihood of loss decreases, while the implicit cost of saving does not change with the probability of the loss.

3 Pooling mechanisms do not inevitably lead individuals to spend less on prevention. In theory, insured people might reduce their safeguards against possible loss; when you insure your house against burglary, for instance, you may take less care to lock the house since

insurance coverage lowers the cost of replacing stolen goods. But this "moral hazard" is not inevitable. If preventive measures reduce the possibility of losses occurring, and if reduced risk is rewarded through lower insurance premiums, risk pooling and prevention can become complementary. To illustrate, premiums for private automobile accident insurance are typically higher for groups of drivers considered more risky (such as men under 25 who own red sport cars). In some publicly provided, "market-type" risk pooling such as unemployment insurance in the United States premiums are risk-

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rated — US employers in industries with frequent turnover pay higher unemployment insurance premiums than those with lower turnover.²

- Individuals are better off when all options are available. If only pooling and prevention are available, individuals would be forced to use risk-pooling mechanisms for losses that are not rare. If only pooling and savings are available, those who are good at prevention would be denied the opportunity to reduce the premium they pay for pooling. And if only saving and prevention are available, individuals would be denied the most cost-effective tool for protecting themselves against rare but very costly losses.

Figure 1 illustrates the prescriptions of the comprehensive insurance approach. It is more efficient for individuals to cope than to insure against small, rarely occurring losses (top, left corner of the figure). As prospective losses become more frequent, prevention and saving to mitigate losses become relatively more efficient. As prospective losses become less frequent but increase in size, risk pooling is more efficient. For frequent catastrophic losses (bottom right corner), individuals or households can do little on their own to mitigate the losses, and public intervention is needed to provide larger risk pools.

Figure 1 - Prescribed Mitigation Instrument According to Size and Frequency of Potential Loss

Size of Loss	Frequency of Loss (i.e. probability of occurrence)					
	Rare					Frequent
Small	do nothing (coping)					more saving more prevention
Medium	some saving					more prevention
	more pooling					less saving
Large	pooling					prevention
Catastrophic	pooling					

This usually takes the form of tax-financed social assistance, which in effect pools risks across all taxpayers. Covariate risks—those suffered by many individuals in the same potential risk pool at the same time—fall in the catastrophic and frequent lower right corner of the figure.

The Need for Public Intervention

The comprehensive insurance framework goes beyond analyzing risk management at household level. It also offers guidance for governments in examining the implications of economic management and fiscal policy for social protection. Governments have similar options to individuals and households facing risk. They can pool the risks of some possible losses through promoting pooling (eg. private disaster insurance or public standby facilities); they can save by accumulating surpluses in good times to spend on social programs during bad times (earmarking, stabilization funds, counter-cyclical spending policies); and they can help prevent losses by prudent monetary and fiscal policy, undertaking reforms that increase factor market efficiency and safety, and investing in increasing their administrative capacity. Often governments that are forced to cope do so badly, cutting investment in public education, health, and infrastructure.

The policies governments use to manage risk affect the instruments they can provide (or augment) for individuals and households. Governments that fail to prevent losses such as unemployment by exercising prudent fiscal and monetary policies and eliminating distortions in markets leave their citizens little alternative but to try to cope. That is partly because

profligate public spending and failure to remove market inefficiencies increase the likelihood of macroeconomic shocks, making them difficult to insure against, and partly because the same market inefficiencies keep prices of saving and risk pooling from adjusting to reflect risks accurately.

Where prices cannot adjust and administrative capacity to correctly price risk is low, the complementary link between prevention and risk pooling is broken, increasing the likelihood that social insurance will succumb to moral hazard and adverse selection.¹ Governments that have sound economic policies reduce the likelihood of future shocks, thus reducing the cost of pooling risks, and making social insurance more affordable.

Unemployment Insurance

Because employment earnings are typically the largest source of household income, job

loss and extended periods of unemployment can cause substantial, even catastrophic, losses. But where labor markets are relatively free of distortions and operate efficiently, the risk of losses from extended periods of unemployment are usually rare (although labor-market turnover may be high). In this happy situation, individuals are more likely to rely on savings to mitigate income losses from relatively frequent turnover and

movement from one sector of employment to another, while seeking other options to protect against relatively rare, but larger losses from extended periods of unemployment.

The job of providing insurance usually falls to governments because the risk of becoming unemployed can be highly systemic. When unemployment strikes, say in a recession, many individuals in the risk pool are affected at the same time. Since typically there are not enough employed people (“winners”) to compensate those who have lost their jobs (“losers”), it becomes too expensive for private insurers to cover losses. So unions and governments step in to provide insurance instruments. These include pooling at the firm level in the form of severance programs, pooling across the working population in pay-as-you-go unemployment insurance, and establishing systems based on individual savings accounts with minimum benefit guarantees backed by pooled funds.

The Case of Chile

With recent notable exceptions, analysis suggests that Chile’s labor market is relatively efficient and free of barriers to employment (compared with Argentina or Colombia). As a result, many individuals can afford to self-insure against the prospect of short-term unemployment, and the government is well positioned to provide pooling against some amount of longer-term joblessness. Both forms of protection increasingly appear to be needed: there is growing concern that job loss is becoming more frequent, and the average duration of unemployment may be rising. Unemployment remains high—10 percent in 2001—and may be rooted in lower aggregate demand, and in the realignment of relative prices. The cost of capital has been declining significantly, the cost of labor increasing. Since 1998 minimum wages have increased about 20 percent in real terms, affecting mostly small and medium-size enterprises, which are the major generators of employment in the private sector. Recent changes to the labor code may raise labor costs further through greater restrictions on employers in dealing with strikes and dismissals.

Against this changing macroeconomic backdrop, Chile is gradually replacing a very modest, non-contributory unemployment benefit—the *subsidio por cesantía*, available to all who can present proof of job loss, and financed out of general revenues—with a contributory unemployment insurance system based primarily on private savings accounts. The new system combines aspects of savings and market-type risk pooling. Employer and worker contributions accumulate in



privately managed individual savings accounts (similar to Chile’s retirement savings accounts), and covered workers are granted limited access to a government-financed pool of funds if they exhaust the balance in their accounts.²

Seen through the comprehensive insurance lens, Chile’s system is well designed. It effectively mitigates the more frequent losses from job turnover (through savings) as well as the relatively rare losses from extended periods of unemployment (through public risk pooling). Although not necessarily considered by the designers of the new system, the combination of savings and pooling into a single structure is key, as it provides greater flexibility of parameters for policy-makers facing the changing nature of unemployment. Should the magnitude or frequency of prospective losses from unemployment change with the economic cycle or changes in policy, the size of the savings component relative to the pooling component could be adjusted without requiring politically contentious structural changes to the whole system.

Drawbacks

While considered highly innovative, the new system has drawbacks. First, the maximum potential benefit duration—five months—is short, especially with the rising average duration of unemployment in recent years. For the many unemployed workers who may not succeed in finding work in that time, the end of their entitlement (as well as the fact that replacement rates decline with each successive month) will result in hardship. This problem will be especially apparent during downturns when the private labor market

generates fewer new job openings than during periods of growth.

Second, the new system does nothing to protect workers in the informal sector against losses from unemployment. Previously, informal and formal workers could qualify for benefits simply by offering proof of unemployment. By shifting to employer and worker contributions as the main source of financing, the system now draws a sharp distinction between the protection enjoyed by workers with legal contracts and those without them, including the self-employed. And the creation of individual accounts is unlikely to lead to greater formalization, as it did in Chile’s 1981 pension reform. Then, individual savings accounts replaced a pay-as-you-go payroll-tax financed system and actually led to a reduction in payroll tax rates. The new unemployment accounts do not replace a payroll-tax financed system and will add to payroll taxes rather than reduce contribution rates.

All this suggests that Chile is missing an important instrument to address the losses from unemployment. Self-targeting, public employment programs – essentially, another form of publicly provided risk pooling that donot require formal proof of unemployment and that pay well below the private market wage) have been found to be the best “unemployment insurance” governments can offer to informal sector workers, whether they have lost a non-contracted job, or their small business has failed in a recession. Although not explicitly aiming to help such workers, noncontributory unemployment assistance and employment creation programs such as *Trabajar* in Argentina³ may fit the bill because access to benefits does not depend on whether workers have paid premiums or contributed to individual accounts.

Notes

¹ Based on Isaac Ehrlich and Gary Becker, “Market Insurance, Self-Insurance and Self-Protection,”

Journal of Political Economy 80: 623–648 (1972); Indermit Gill and Nadeem Ilahi, “Economic Insecurity, Individual Behavior, and Social Policy” (Office of the Chief Economist, World Bank, Latin America and the Caribbean Region, Washington DC, 2000). For an empirical application of the framework to the risk of poverty in old age see Truman Packard, “Pooling, Saving and Prevention: Mitigating Old Age Poverty in Chile”, World Bank Policy Research Working Paper No. 2849, Washington, DC, and Indermit Gill, Truman Packard and Juan Yermo, “Keeping the Promise of Old Age Income Security in Latin America and the Caribbean” Conference Edition, Office of the Chief Economist,

Latin America and Caribbean Region, World Bank, Washington D.C. 2003. For more on the comprehensive insurance approach, see “Securing Our Future in a Global Economy” by David de Ferranti, Guillermo Perry, Indermit Gill, Luis Servén and others, Latin America and the Caribbean Region, World Bank, June 2003, available at <http://www.worldbank.org>

² Risk pooling and prevention can only be complementary if the price of pooling accurately reflects the probability of loss. Administrative and political reasons make this difficult to achieve, especially for large government social insurance schemes. The result is widespread moral hazard.

³ Adverse selection arises from imperfect information. Since the individuals most likely to purchase insurance are those more likely to need it, risk pools may include many bad risks—people more likely to suffer the shock and need a pay-out. Too many bad risks in a pool means not enough good risks to cover possible losses effectively.

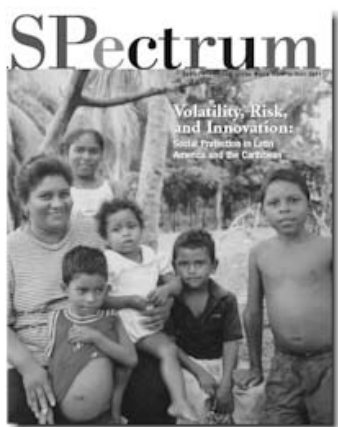
⁴ The new system became effective in May 2002, and applies to all new employment contracts. Workers with existing contracts will have to join upon negotiating a new contract, and can choose to participate earlier. The noncontributory subsidio por cesantia will be phased out, and its current government funding will go to the pooled component of the new system

⁵ “Working in Partnership to Protect the Vulnerable,” page 42.

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We believe social protection tools and strategies have a key role to play in reducing poverty and improving human development. They address the needs of vulnerable populations, generate tools for risk management through social insurance, and provide a springboard for poor people to improve their lives in the face of crisis. As important, the multisector, dynamic nature of social protection allows for integrated approaches to key areas of development, including health, education, finance, and infrastructure. Finding such synergies is crucial if we are to address extreme poverty and hunger, achieve universal primary school completion, and tackle a multitude of health challenges, all key elements of the Millennium Development Goals endorsed by the international community in 2000.