

# **Downsizing in the Public Sector: Background Paper**

**World Bank Institute**

*Prepared by Alberto Chong and Martín Rama  
Development Research Group*

*Washington, DC*

## **Downsizing in the Public Sector**

© *All Rights Reserved*. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the written permission of the World Bank Institute.

## **About This Background Paper**

This Background Paper aims to promote a better understanding of the need for downsizing, its impact, and the methods related with retrenchment in the civil service or in state-owned agencies. It is aimed at a wide range of stakeholders engaged in public sector reform – politicians, policymakers, public servants, officers from international organizations. It provides material suitable for both interactive learning in countries and for presentations by leaders of reform to stakeholder groups.

The Background Paper draws from an special issue on retrenchment from The World Bank Economic Review (January 1999) and covers the key themes related with downsizing in the public sector, focusing particularly on issues related with the recent experience that the World Bank and other organizations have had with this issue. Examples are given for a number of countries. Each section is followed by a summary of key communication objectives in the form of a set of slides or overheads that can be used to illustrate and promote discussion on the key points. These materials complement a hands-on exercise that intends to replicate typical retrenchment exercises.

## **Table of Contents**

1. Introduction
  2. Lessons From Previous Downsizing Operations
    - 2.1. The Cross-Country Evidence
    - 2.2. Do Financial Returns Tell the Whole Story ?
    - 2.3. The Need To Target Separations
  3. Workers Losses From Separation
    - 3.1. “Before and After” Methodology
    - 3.2. “Stayers and Leavers” Methodology
    - 3.3. “In versus Out” Methodology
    - 3.4. What Determines Welfare Losses ?
  4. How To Design a Separation Package ?
    - 4.1. First Step: Earnings Equations
    - 4.2. Second Step: Present Value of Earnings
    - 4.3. Third Step: Loss in Benefits
    - 4.4. Fourth Step: Loss in Intangibles
    - 4.5. Fifth Step: A Compensation Formula
  5. Assessing the Returns to Downsizing
    - 5.1. The General Case
    - 5.2. Adverse Selection and Downsizing
    - 5.3. Externalities: One-Company Towns
  6. How To Help Laid-Off Workers Find a Job ?
    - 6.1. Are Active Labor Market Policies Worth Their Cost ?
    - 6.2. A Demand-Driven Approach
  7. Final Remarks
- References  
Figures and Tables

## 1. Introduction

Years of mismanagement in the public sector of many developing countries have contributed to a legacy of:

- (i) *Overstaffing.* In Africa, Latin America, and the Transition Economies high levels of public sector employment have been an important feature for decades. In part, these reflect the once popular belief that the state should be at the center of the economic activity. Political patronage and cronyism have also been an important motivation.
- (ii) *Burgeoning Payrolls.* Excessively high wages and benefits often help increase fiscal deficits and crowd out other spending, especially in the development and operations and maintenance accounts. Deficits have become unsustainable and governments have not been able to deliver on their basic activities such as, education, health, infrastructure, or poverty reduction.
- (iii) *Inefficiency.* Attempts to reduce payrolls by wage compression, and declining real wages frequently lead to absenteeism and the departure of more skilled staff, and this contributes to public sector inefficiency.

### Box 1: Labor Market Characteristics of State-Owned Enterprises

In India and Turkey, state enterprises were estimated to be overstaffed by nearly 35 percent in the early 1990s. Of the approximately 120,000 people employed in Sri Lanka's state enterprises, 40-50 percent are estimated to be redundant. In Ghana and Uganda estimates of overstaffing levels commonly run to 20-25 percent. Overstaffing usually occurs in administrative and clerical positions, not in the more technically skilled jobs for which there is high demand. Overstaffing is most pervasive in enterprises that have operated as monopolies with heavy government subsidies and other forms of protection. These typically include large industrial loss-makers and infrastructure enterprises. Overstaffing in some Egyptian steel companies reached 80 percent in 1991, while Turkey's loss-making steel enterprises were overstaffed by as much as 30 percent. State-owned railway companies, burdened with excess capacity and declining demand as a result from competition from other transport modes, are commonly overstaffed by 40-60 percent. In Brazil, about 20,000 of the railways enterprise's 42,000 employees were surplus with lower productivity levels than those in industrial countries as well as in neighboring countries such as Argentina and Chile. State telecommunications companies fare no better. By the end of 1988, employment in Mexico's Telmex had reached 50,000, and by the end of 1990 labor productivity was about half the international standard (10.5 workers per 1000 lines).

Source: Kikeri (1998)

All over the world technological progress is making natural monopolies disappear, thus confronting formerly somnolent public enterprises with competition. Increasingly, authorities are correcting the employment excesses as more modern and democratic ways replace traditional and authoritarian ones. In this context, public sector reform, and in particular, civil service and state-owned enterprise downsizing have become a harsh reality in many developing countries. As the rate of natural attrition is not high enough and outright layoffs are politically too costly, some of the options governments have used in order to downsize overstuffed civil services and state-owned enterprises are:

- (i) Voluntary Departure Schemes. This mechanism uses an arbitrary rule typically based on seniority and current earnings so that workers are offered a higher compensation packages the longer the tenure on the firm. For instance, separated workers receive two years of salary, or one month of salary per year of service, or some other combination of these two variables. This mechanism helps by-pass the legal obstacles in countries where outright layoffs are not allowed. This 'buying out' scheme greatly minimizes political costs. However, two common problems have diminish the effectiveness of this mechanism: (a) wrong targeting, as sometimes only the best public sector workers leave, and (b) overpayment or underpayment, as the resulting compensation amount may bear little relation with the loss experienced as a result of separation

**Box 2: Severance Overpayment and Soft Budget Constraints in Tanzania**

The experience of the Tanzanian parastatal retrenchment has to date been very mixed. Initially, retrenchment in parastatals were limited to the payment of statutory benefits, with no "ex-gratia" element. However, in 1994 some parastatals set a precedent by organizing and funding generous retrenchment schemes. Largely through its inaction, the government allowed this ex-gratia payments based on the ability to self-finance costs. This has allowed the parastatals an element of discretion in establishing and negotiating severance packages that has resulted in huge disparities in payments to retrenchees. For instance, while the package offered by the National Insurance Corporation (NIC) provided a golden handshake of six years salary on top of five months of salary, the package from the National Milling Corporation (NMC) was barely above the required minimum under the statutory minimum. Moreover, in the case of insolvent parastatals, such as Sumgura Textiles, where liquidation has been the only option employees received the minimum bankruptcy payment required under law, six dollars. In summary, despite the existence of legislation stipulating the provision of a statutory minimum severance payment, retrenchment payments in practice have greatly diverged from the legal minimum.

Source: Chong and Radwan (1999)

- (ii) **Involuntary Retrenchment Schemes.** Depending on the results of the voluntary program and on the political leverage, redundant staff may still need to be involuntarily laid off. Similar to the voluntary case, a rule-of-thumb involving salary and perhaps seniority in the public sector is used for compensation.

**Box 3: Involuntary Retrenchment in Argentina and Brazil**

In Argentina the last 6,000 railway workers who did not accept voluntary retirement were declared redundant on the basis of performance and laid off. 3,000 additional workers were sent home with 50 percent of their salaries. In Brazil railways, employees who did not accept the voluntary scheme were laid off with legal entitlements plus a separation package equivalent to 80 percent of the incentive offered under the voluntary program. Such employees were selected on the basis of performance, attendance record, frequency of penalties, suspensions, and family situation.

Source: Ramamurti (1997), and Kikeri (1998)

- (iii) **Contracting-Out Schemes.** A way to minimize labor redundancies is to contract activities previously carried out within the enterprise to private cooperatives formed by former state enterprise employees.

**Box 4: Contracting Out Proposal in The Context of a Voluntary Separation Scheme**

In the context of a planned structural adjustment program the government of Guinea-Bissau considered suppressing all government positions in occupational categories "O" to "Z", which roughly corresponded to unskilled personnel working on services such as cleaning, maintenance, and surveillance. These activities were expected to be subcontracted to private firms to be selected through competitive bidding. The bidding mechanism was to be designed so as to favor those firms which hire a larger number of separated public sector employees. It was estimated that roughly four fifths of the separated employees were not going to be hired by the new private contractors. The idea was to assist the separated public sector workers so that those who were not to be taken by the private contractors were to receive a higher severance package. Unfortunately, because of unrelated factors, the program could not be carried out.

Source: Chong and Rama (1999)

- (iv) **Employee Ownership.** To build support for privatization, some governments have reserved shares for employees in to-be-privatized enterprises. This mechanism has been used in several sectors in Peru, Chile, Argentina, Bangladesh, Bolivia, Ghana, Mexico, Morocco, Ghana, Pakistan, Turkey, and others. In addition to the financial gains, employee ownership gives employees a direct stake in the performance of the company.

**Box 5: Employee Ownership Programs In Latin America**

Employee share ownership schemes often have produced large financial gains for employees thanks to share appreciation resulting from the investment and management changes implemented by new owners. In one electricity generating company in Chile, 85 percent of the workers bought 5 percent of the company's shares at the time of privatization; between December 1987 and December 1990 the stock price quintupled. In Mexico, the union of Telmex bought 4.4 percent of the company's shares at 0.70 dollars compared with 0.77 paid by the buying consortium and a 1.36 initial offer price in the public bid. Similarly, at the time of privatization, employees of Argentina's Entel received shares in the company at one-sixth the price paid by the winning consortium. Based on the market value of them in 1994, the average worker realized capital gains of 25,000 dollars.

Source: Kikeri (1998), Shirley (1994), and Gates and Saghir (1995)

A review of the nature of the World Bank's lending operations by Chen (1999) shows that since 1987 a total of 88 Bank operations in 47 countries have contained assistance to redundant workers related to enterprise restructuring or privatization. Of the nearly 200 labor components identified in the reviewed projects the three major components used were (i) training, (ii) labor market information mechanisms, (iii) and severance pay. In fact, nearly twenty percent of the programs reviewed had some training or retraining component; about 12 percent included a job information module, and nearly 11 percent had a severance pay component. Many of these projects involved World Bank support in the context of industrial restructuring and privatization. Typical sectors were ports, postal facilities, power plants, railways, or the telecommunications sector. Also, additional support was directed towards capacity building in order to help governments develop the institutional framework needed to assist redundant workers. These activities ranged from labor market development to social security enhancement, employment promotion, social safety nets and enterprise housing divestiture.

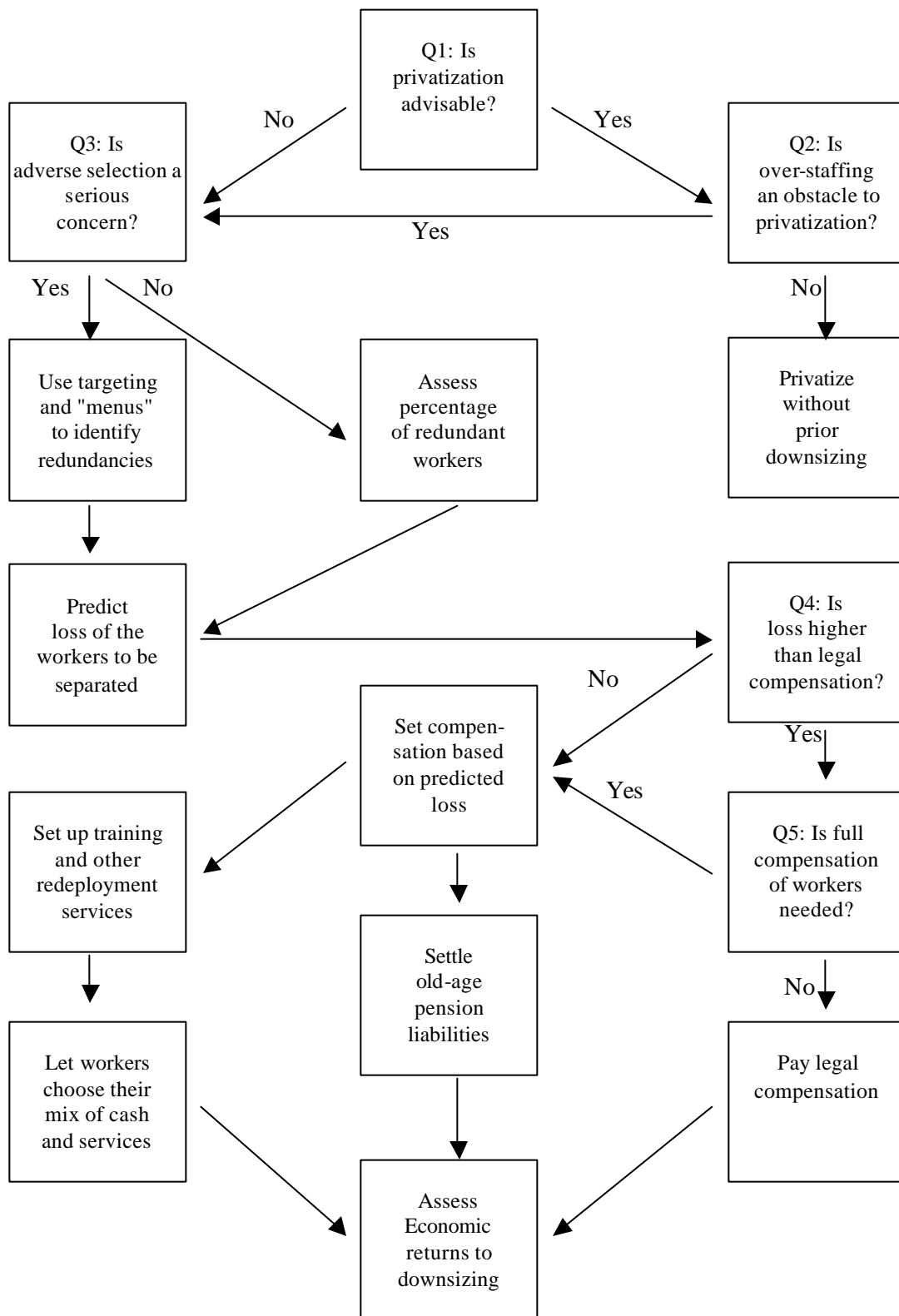
In terms of regional distribution, about half of the lending for labor assistance in developing and transition economies has gone to Latin America and Eastern Europe. However the regional composition of the programs applied varied greatly depending on the regions. For example, of the reviewed projects, more than forty percent of the severance programs were applied in Latin America and the Caribbean; thirty-five percent of training and unemployment insurance programs were implemented in Eastern and Central Europe and seventy percent of the labor market information mechanisms components were applied in East Asia and the Pacific and Eastern Europe.

Examples of severance pay in Latin America are those in Argentina (1991) and Brazil (1996), where severance for laid-off state enterprise employees was financed largely by funds from the World Bank's Public Enterprise Reform Loans. Examples of training and unemployment insurance schemes are those applied in a variety of sectors in Croatia (1998), Hungary (1997), Russia (1996), and Ukraine (1998). Finally, examples of labor information mechanisms are those in the industrial sector in China (1994), and as part of social protection reforms in Korea (1998).

Table 1 presents a decision tree intended to assist policy makers in developing countries and task managers in multilateral organizations and donor countries. A first question (Q1) refers to the appropriate private sector counterfactual. In some cases, the choice is not between downsizing or not downsizing, but rather between downsizing by the government or by the private sector. The answer involves efficiency considerations and public interest issues that need to be carefully evaluated in each case. But whether downsizing should precede privatization when the latter is advisable is an issue that needs to be addressed.

If downsizing was not carried out by the government prior to privatization, the new private owners would have to deal with labor redundancies. The amount and composition of labor shedding would probably differ in both cases, and the average compensation per worker would be different too. Moreover, the price the potential buyers would be willing to pay for a state-owned enterprise would vary depending on how over-staffed the enterprise is. Because of the ensuing differences in the extent of labor shedding, in the amount of compensation and in the privatization price of the enterprise, assessing the net gains from downsizing prior to privatization may be difficult. But a net loss is likely.

Table 1



Source: Rama (1999)

To begin with, the total number of displaced workers is probably larger when downsizing is managed by the government prior to privatization than when it is left to the new owners. There are examples from various countries where the new owners kept the labor force more or less intact, and claims that net reductions in employment have been generally small in privatized firms. Based on a systematic comparison of employment patterns across Polish firms during the transition to a market economy, Frydman *et al.* (1997) show that employment cuts were larger in state-owned enterprises than in otherwise similar privatized firms. It thus seems that the government may get rid of workers the new owners would prefer to keep.

Furthermore, when the government is in charge of downsizing, the “wrong” workers may be separated from their jobs at an excessively high cost. A “wrong” composition of the separations is possible because governments are usually not good at managing human resources. If they could make the right decisions regarding whom to retain and whom to lay-off and, in addition, they were able to deliver on those decisions, the rationale for privatization would be seriously weakened. An excessively high cost of separation is likely because governments can shift part of the downsizing costs to the tax-payer, for instance under the form of early retirement programs, while in principle the new owners cannot. The temptation to resort to golden handshakes should therefore be stronger when downsizing takes place prior to privatization. Case studies suggest that this has happened in practice (see Galal *et al.*, 1994).

Box 6: Downsizing Prior to Privatization in Mexico

At the empirical level, there is some evidence that the increase in privatization prices resulting from downsizing prior to privatization may not be worth its cost. In a study of the determinants of auction prices for 263 Mexican enterprises that were privatized between 1983 and 1992. The data cover a wide array of sectors (banks, telecommunications, airports, utilities, and several others) and economic and financial indicators (sales, assets, financial flows, liquidity and so on). It was found that downsizing had a marginal impact on privatization prices. The effect was actually insignificant in one specification, and only weakly significant in another. If the significant estimate is taken literally, a 5 percent reduction in employment prior to privatization increases the price of the enterprise by 6 percent. Given how substantial the cost of prior restructuring policies is, the key lesson from this study is “do not do too much, simply sell”.

Source: Lopez de Silanes (1997)

Unnecessary downsizing costs cannot be recovered through a higher privatization price of the state-owned enterprise. At the theoretical level, the privatization price would of course increase every time a redundant worker is separated from his or her job. But getting rid of workers who are not redundant would not increase that price. And even for the genuinely redundant workers, the increase would be equal to the amount of resources the new owners would have spent to secure their separation, not to the amount of resources actually spent (directly and indirectly) by the government. Therefore, the net proceeds from downsizing prior to privatization can be expected to be negative.

One reason why downsizing may be justified prior to privatization, and that is the credibility of the reform process. The ability to overcome labor resistance and trim employment could indeed be seen as a signal that the government is committed to privatization. This signal, in turn, would reduce the uncertainty faced by potential investors, thus making privatization possible. If no action was taken to overcome the opposition of those who stand to lose from privatization, chances are there would be no bids for the enterprise to be privatized. The irreversibility of investment decisions would thus provide a rationale to “buy out” the workers as part of the preparation for privatization. Hence the second question (Q2) in the decision tree. In this regard, Section 2 gives an overview of downsizing operations in recent years. In particular, Section 2.1 and Section 2.2. provide comprehensive cross-country evidence on downsizing operations and some lessons from experience.

A third important question (Q3) concerns the adverse selection problem. The willingness of multilateral organizations and donor countries to lend substantial amounts of money for severance pay may create a bias in favor of voluntary separation schemes.

Moreover, “buying out” the workers is a simple and convenient way to defuse the opposition to public sector reform. But severance pay creates an incentive for the most productive workers to leave the public sector, and for the least productive ones to stay. This may not be socially desirable in the case of public sector units producing valuable services. In this case, it is better to target separations based on the observable characteristics of the workers, and to use a more appropriate method to deal with their unobservable differences.

While the efficiency gains from public sector downsizing are potentially large, the chances of mishandling it are considerable too. It is quite obvious that the

public sectors of developing countries are plagued with workers who contribute little to aggregate output, if anything at all. The issue is whether the use of severance pay packages really helps to chase the low productivity workers. The frequently observed “revolving door” syndrome, whereby separated workers are lately re-hired, suggests that some downsizing operations lead to the departure of the few who make the public sector work. Damaging the ability of the government to get things done would do little to spur economic development. The issue of adverse selection is explained in Section 2.3 of this background paper and, in fact, details the need to target separations in order to avoid such an outcome.

Finally, the last two questions (Q4 and Q5) concern the assistance to be provided to the separated workers. Whatever the combination of cash, re-training and redeployment services to be offered, there is no justification to spend more than would be needed to “buy out” the redundant workers. The expected losses from separation thus provide a benchmark against which to judge both the existing laws on compensation and the ad hoc packages that can be proposed in the context of downsizing. Labor market data can be used to predict those losses based on observable characteristics of the workers, such as education, seniority or gender. The predicted losses may be higher than the legal compensation workers are entitled too. In this case, given that public sector workers are usually not poor, not even after separation, it is preferable to apply the law. But the predicted losses can also be lower than legal compensation. The concept of losses from job separation are described in Section 3. On the other hand, Section 4 provides the basic steps towards the design of a compensation package using labor market data, and Section 5 gives the tools to properly assess the returns to downsizing.

Re-training and other redeployment programs deserve especial attention when assessing the cost of the assistance to be provided to separated workers. More resources may be spent on this component than on direct compensation. However, the evidence on the effectiveness of re-training and other redeployment programs is mixed at best. If these programs are to be part of the downsizing operation, a safeguard should be introduced to minimize the potential waste of resources. Basically, separated workers should be allowed to choose between enrolling in any of the programs offered and cashing in the equivalent of their cost. This demand-driven approach would make it more difficult for vocational training and other (often ailing) government agencies to divert resources from the downsizing operation.

Section 6 in this background paper provides an overview of active labor market programs.

**Box 7: Downsizing in the Central Bank of Ecuador (BCE)**

In the early 1990s the Central Bank of Ecuador had 5800 relatively well-paid workers on its payroll. Political patronage and bad management were partly to blame for the overstaffing. Apart from this, other redundancies were necessary owing to financial liberalization which had reduced the scope for direct credit allocation by the BCE. Whatever the causes, a crude assessment done by management suggested that half of the employees were redundant. A reduction of personnel was believed warranted. It took place in two distinct phases.

A first round in 1992 led to the departure of 1400 employees on a strictly voluntary basis. Severance pay packages amounting to the equivalent of up to 30 years of national per capita income were offered to everyone below the minimum retirement age. Chaos ensued, as most employees thought this package was too good to last, and therefore rushed to apply for severance. Work effort dropped. Despite the widespread perception that the offer was too generous, the BCE employees' union fought to improve it. Meanwhile, BCE employees above the minimum retirement age lobbied to obtain access to the new package. Not everyone was pleased though. The Congress considered it an abuse of government funds. A parliamentary commission was created to investigate the issue and the chairman faced the possibility of trial. He eventually lost his job. In the meantime, the productivity of BCE decline further, owing to the lack of selectivity in the personnel reduction.

The second phase took place in 1994, in a very different context. It was decided that job separations had to be explicitly based on the role and functions of the BCE, as defined by the 1992 law on "monetary regulation and state banking". In practice, this entailed the classification of all personnel into three groups, labeled A, B, and C. Employees in Group A were those the BCE could not afford to lose; they were therefore denied access to the new severance pay package. At the other end employees in Group C were clearly redundant. The problem was that they could not legally be fired. So, on a case-by-case basis, they were informed that new laws in preparation would eliminate job security for government employees, and that the BCE's next offer of compensation (that is, after the relevant laws were enacted) would be much less generous than this one. The use of this threat was successful, in that all of the employees in Group C agreed to leave. Finally all employees in Group B were given the choice of staying in BCE or taking the severance pay offer. In this instance, the severance pay offer made to Groups B and C did not exceed the equivalent of ten years of national per capita income. Overall, 1400 employees left during the second phase. Those who stayed have subsequently experienced a thorough overhaul of the wage structure and working conditions at BCE. Job descriptions and performance evaluations have been introduced. Nine BCE buildings, out of a total of 14 have been sold in order to facilitate regrouping of the remaining personnel. Reportedly, the morale of those who stayed with the BCE has improved.

This sequence of a downsizing program, with the first phase accounting for almost all of the mistakes and the second phase being considerably more effective, is not specific to the BCE. Many other governments agencies around the world have gone through a similar, two-phase downsizing process. The challenge is, of course, to get it right the first time.

Source: Rama and Maclsaac (1997)

Assessing the returns to downsizing operations is also difficult. The typical evaluation compares the cost in terms of severance pay packages, re-training and redeployment programs to the savings in terms of public sector wages. But this comparison is misleading. Overstaffing is only one among several distortions characterizing the public sector and, consequently, financial returns are not a good measure of economic returns. Just to mention another distortion, public sector wages usually differ from private sector wages and, therefore, are not a good indicator of the opportunity cost of labor. Furthermore, the externalities from mass retrenchment should not be ignored. The most obvious externalities arise in the context of one-company towns, which may easily become ghost towns after downsizing takes place. But public sector downsizing leads to fiscal externalities too, because it reduces the equilibrium level of government expenditures, hence the burden from distortionary taxes. Because of all these other distortions, economic returns to public sector downsizing can be either higher or lower than suggested by financial returns.

## **2. Lessons From Previous Downsizing Operations**

### **2.1. The Cross-Country Evidence**

More than 80 attempts to downsize the public sector of developing countries have been carried out with the support of the World Bank between early 1991 and today. . The units targeted included government administration, state-owned enterprises and, in the context of post-conflict demobilization, the military. These operations provide a unique opportunity to assess how successful public sector downsizing has been so far. Haltiwanger and Singh (1999) provide a review of downsizing operations around the world that received support from the World Bank. Some of their basic findings are described below.

Table 1 shows that total separations are greater than the total reduction in employment, reflecting rehiring and new hires. Most programs did not experience rehiring of the same workers who had departed, but a nontrivial fraction (20 percent) experienced significant rehiring. New hires were also relatively rare (about 13 percent of programs) Some programs represented only good intentions, with no workers actually separated. This table divides the method of employment reduction in three basic categories: involuntary-hard, refers to layoffs, involuntary-soft, refers to employment reductions generated by strict enforcement of rules (such as mandatory retirement and the removal of ghost workers), and voluntary refers to programs in which reductions were achieved through workers that quit voluntarily. The involuntary-hard reductions dominate total reductions in employment. However, this is primarily driven by the massive involuntary reductions in Eastern Europe in the nineties. By contrast, the use of voluntary and involuntary-soft measures is the prevailing pattern in Latin America, Asia, and Africa (also see Table 2)

Table 3 indicates that the total financial costs of the retrenchment programs were large (exceeding 12 billion dollars). The average downsizing operation led to the separation of 125 thousand workers at a cost of 400 million dollars, of which 87 millions were spent in severance pay. Variation across operations was considerable though. For instance, the smallest one affected 247 public sector workers only, compared to more than 1.6 million workers for the largest one.

The financial costs of the programs took a variety of forms, including severance payments, higher pension liabilities, and enhancements to the worker safety net (worker assistance programs, such as unemployment benefits, job search assistance, training, and relocation assistance designed to aid in the process of reallocation). The scope and the mix of packages varies considerably. As the pattern across continents show, the transition economies in Eastern Europe relied heavily on the worker safety net. Countries in the Southern Hemisphere and Asia relied much more heavily on direct compensation to workers, such as severance pay and enhanced pensions. The latter pattern is particularly striking for severance pay, which was 92 percent of total costs in Asia, 74 percent in Latin America, and 51 percent in Africa (also, see Table 4).

Figures 1-15 provide summary information on the method used to reduce employment, the nature of the compensation provided, and the degree of targeting. Many programs (but less than half) used both involuntary and voluntary reduction methods. Relatively few programs used all three methods. Although, voluntary programs appear to be the most popular in terms of the percentage of programs with a voluntary component, most reductions in employment were achieved through involuntary methods. The removal of ghost workers played a relatively minor role in the employment reductions but was quite prevalent in Africa. Figure 3 indicates that targeting on the basis of skills or age (in the latter case primarily through early retirement programs) was important but not pervasive. Almost 20 percent of the programs did not use targeting of workers.

On the other hand, the primary form of direct compensation to workers was severance payment. Relatively few programs offered no direct compensation. Most programs involved some enhancement of the overall safety net intended to assist unemployed workers and workers attempting to relocate. An important component of the safety net enhancement was often the stipulation of some form of training assistance.

## **2.2. Do Financial Returns Tell the Whole Story ?**

A straightforward way to assess the success of downsizing operations is to look at their financial returns. Downsizing leads to a reduction of public sector expenditures, and particularly of the public sector wage bill. When the present value of this reduction is higher than the up front cost in terms of severance pay and enhanced safety nets, downsizing has positive financial returns. However, a more precise assessment has to be based on economic

returns. Downsizing leads to a reallocation of workers across sectors. When aggregate welfare increases as a result of this reallocation, downsizing has positive economic returns.

In the simplest case, where labor productivity in the public sector is zero, downsizing projects are likely to exhibit non-negative economic returns. In the general case, however, economic returns could be either positive or negative.

**:Box 8: When Bureaucrats Move Out of Business: The Case of China**

Currently, China is experiencing new and growing unemployment and labor problems. About 50% of SOEs face losses and bankruptcy. The government has focused on the misallocation of labor between the public and private sectors and has announced a plan to encourage 30 million workers to transfer to the private sector (30 percent of SOEs workers and 15 percent of the urban labor force). Also, it has initiated reforms to shift the delivery of key services to new providers in the private sector, public enterprises, and local governments. Using data for 1996 Chen and Diwan (1999) argue that 43 percent of labor (and 70 percent of capital) needs to be transferred to the non-state sector to ensure efficient resource allocation and overall higher productivity growth in industry. Using 1997 data they find that even larger amounts need to be transferred (57 and 74 percent of state industrial labor and fixed capital assets, respectively). The estimated gains are large. A 43 percent transfer of labor to the non-state sector produces a gain of 2.56 percent of 1996 GDP, and a 70 percent of capital transfer produce a 8.29 percent of 1996 GDP. The gains are available year after year, and thus, the present value is many-folds larger. Chen and Diwan argue that even much larger gains may be obtained if the reform focuses at the same time on the financial aspect of the problem. A transfer of 10 percent of labor and capital achieves a greater efficiency gain than the transfer of the full 43 percent of redundant workers from the public to the private sector. This because (i) capital is more efficiently used in the private sector, and (ii) the non-state sector needs access to capital in order to employ laid-off workers.

Source: Chen and Diwan (1999)

Haltiwanger and Singh evaluate the financial returns of the surveyed operations based on the number of years it takes to recover their direct financial costs under the form of lower expenditures, using a 10 percent annual discount rate. This indicator is called the break-even period hereafter. Figures 10-12 show the results for the 15 downsizing operations for which the required information was available. Based on these results, the performance of downsizing operations was remarkably good.

The average break-even period was two years and four months, and it exceeded four years in less than 10 percent of the cases. Few investment projects display such high financial returns. However, these results should not surprise. If, say, two years of salary are offered to whoever is willing to leave the public sector, the up front spending is recovered under the form of a lower wage bill in a mere two years. But this calculation does not tell whether the workers who took this offer and left the public sector were really redundant.

Economic returns to downsizing are much harder to evaluate than financial returns. An indirect measure is the percentage of the displaced workers who were subsequently re-hired by the restructured units. Note that re-hires are different from new hires. The latter are not necessarily an indication of failure, because the new recruits might have skills that were missing among the displaced workers.

Re-hires, in contrast, indicate a poorly handled downsizing process. In the best case, they imply that workers who were essential to the operation of the restructured units were mistakenly considered redundant. In the worst case, they suggest that workers who had no intention to leave the public sector were able to cash in golden handshakes. It is difficult to believe that downsizing projects that were characterized by substantial re-hiring did a good job at reallocating workers across sectors. Other things equal, a high percentage of displaced workers re-hired can therefore be seen as an indication of low economic returns to downsizing.

The percentage of displaced workers who were subsequently re-hired in the downsizing operations surveyed is shown in Figures 13-15. These percentages refer to the 20 operations for which the required information was available. According to the figure, re-hiring was observed in 40 percent of the operations, and was substantial in 20 percent of them. If anything, these results under-estimate the extent of labor misallocation. In many cases re-hiring was forbidden to prevent the displaced workers from abusing the system by getting a golden handshake first and returning to their jobs later. Consequently, the fact that 60 percent of the operations display no re-hiring does not imply that essential workers did not leave. Moreover, re-hiring provides no information on a second type of error, which consists of retaining public sector workers who are redundant. This second type of error is likely to be present even in programs that display no re-hiring at all. Figures 13-15 thus suggests that economic returns to downsizing may have been low.

**Box 9: Retrenchment and Rehiring in Peru**

With the support of external donors, Peru initiated two labor adjustment programs in 1991, one for the civil service and one for the Tax Administration office. They were completed in 1993 and 1992, respectively. The first used a wide variety of voluntary and involuntary reduction methods, separating 250,000 workers over three years. Induced departures used both lump-sum severance and pension enhancements. Targeting by skill was not common. Targeting by age was implicit in the use of pension enhancements to induce voluntary separation. Poor targeting aggravated the shortage of human resources. This led to the significant re-hiring of separated workers. In total, 163,000 of the originally retrenched workers were rehired. Severance packages of about 1000 dollars were provided to less than half (112,000) of the workers separated. This limited the direct financial losses associated with the significant rehiring. The break even period was 2.6 years. In contrast, the other program (SUNAT) appears to have been a model of good targeting. It also used a mix of voluntary and involuntary reduction methods. Voluntary separations came with an enhanced pension. Involuntary workers were selected on the basis of a written test. Thus, targeting was worker-specific and objectively determined. Two-thirds of the work force (2034) was separated. Subsequently, SUNAT hired 1309 new workers, again based on a written test. Because SUNAT established objective levels of productivity and competence, little basis remained for rehiring (skilled but severance-induced) separated workers. Rehiring was barred for ten years and none was found. The average salary for affected workers increased from 50 dollars to 1000 per month. Tax collections more than doubled and so did SUNAT's revenues (2 percent of tax collections). This highlights the importance of evaluating program performance along multiple dimensions, evaluating not just organization-level financial costs and benefits but also the broader impact of the program

Source: Haltiwanger and Singh (1999)

### **2.3. The Need To Target Separations**

Public sector workers usually differ in their productivity. Some of the difference is associated with observable worker characteristics, such as educational attainment. But part of it is genuinely unobservable. Two public sector workers may look identical to a policy maker, but one of them may be much more productive than the other.

Although productivity differences of this sort also exist in the private sector, they are exacerbated in the public sector. Troubles start at the recruitment stage, where the weaknesses of screening mechanisms, coupled with widespread patronage and favoritism, allow large numbers of hardly

competent or devoted individuals to land a public sector job. But they get worse at the monitoring stage, where seniority-based promotions and job security suppress any incentive to good performance. As a result, only those workers who have a high work ethic may be productive in the public sector.

Standard voluntary separation programs, on the other hand, usually lead to the departure of the workers with high productivity, because they are the ones who have the best prospects out of the public sector. Of course, some severance pay packages may be so unattractive that no public sector worker would leave, whereas others may represent such a windfall that everybody, including workers with low productivity, would take them. But except in these two extreme cases, voluntary separation programs can be expected to be more attractive to those who stand to lose less from separation, and those are typically the workers with higher productivity in the public sector.

The fact that these programs were used quite systematically in the past could be one of the reasons why so many separated workers were re-hired in the aftermath of downsizing operations. A comparison between the use of voluntary separation programs and previous efforts at cutting government expenditures may be warranted.

We have seen that from a financial point of view, shrinking bloated governments appears to be a very profitable operation, even when employees get substantial severance pay. If employees are given two years of salary to leave, then in a mere two years the money spent is recovered. However, from an economic point of view, it is also important that individuals work where they are more productive. In their new assignment, their productivity must exceed that of their current public sector job by more than the cost of the transition to a new job. Unfortunately, productivity in the public sector is difficult to measure. In state-owned enterprises (e.g., railways), engineering ratios can be used to identify redundancies. But it is difficult to identify the more productive workers in the administration of government. If the more industrious workers leave while the less productive employees stay, the payoffs to downsizing are lost, or even negative. Ironically, we have seen that severance pay packages often have the adverse effect of inducing the most productive people to leave. Quite often, the best civil servants have to be rehired, an expensive way of getting back to square one. Substantial rehiring occurred in about a quarter of the surveyed retrenchment operations.

How do you decide who should leave? Too often, severance pay is offered indiscriminately: Some public sector employees take the package, others

stay, and only later do governments see who they've got left. The sequence should be reversed, first identifying the services to cut, the overstaffed jobs, and meanwhile enforcing work hours to chase away "ghost" workers. Those targeted to leave should then be offered severance pay.

### 3. Workers Losses From Separation

The welfare loss a separated public sector worker experiences can be disaggregated in three components. The first is the present value of the resulting change in earnings, including bonuses and other cash benefits. In general, it appears that for skilled workers salaries in the public sector tend to be higher than labor earnings out of it. Moreover, it may take a long time for some of the separated workers to find a new job, and earnings can be close to zero during that period. The second component is the present value of the loss in non-wage benefits. Public sector jobs usually provide health coverage and old-age pension, among others. In most developing countries, the jobs available to separated public sector workers do not carry such benefits. Finally, there are other, more intangible losses from separation. For instance, effort levels tend to be lower in the public sector than out of it, whereas job security is almost invariably higher. The possibility of taking bribes or using government facilities also falls into this category.

Formally, the total welfare loss is:

$$WL_i = EL_i + BL_i + OL_i \quad (1)$$

where  $WL_i$  measures the welfare loss,  $EL_i$  is the present value of the earnings loss,  $BL_i$  is the present value of the loss in non-wage benefits such as old-age pension, and  $OL_i$  is the loss of other, more intangible benefits. In preparation for a downsizing operation, it is important to assess the welfare loss separated workers might experience. This assessment may help predict the cost of the downsizing operation in terms of severance pay and may provide a cost benchmark. There are three alternatives to measure this welfare loss depending on a variety of observable characteristics of the workers. These characteristics include salary and seniority in the public sector, which are the two variables most commonly used when designing severance. But they also include gender, age, education, level, and province, and others.

To better understand why these other variables should be considered when assessing welfare losses, think of the case of years of education. In fact, an empirical regularity is that in most developing countries, the more educated the individual, the more he or she will be able to make. If this is the case, the welfare losses of the more educated will typically be lower than the welfare losses of the less educated. Thus, when designing a compensation package it should not be surprising that the resulting severance for males could end up

being lower than the severance for females, everything else the same. Gender, province, religion, number of children, and other factors, may influence the resulting welfare losses of an individual in similar ways.

In the following sections we present three approaches that help understand this idea of welfare losses and how they could be measured. For all practical purposes, the first two approaches cannot be used in preparation for downsizing, but still may be useful to grasp the concept as well as to gain additional analytical tools.

### **3.1. “Before and After” Methodology**

The first strategy was to interview separated workers, for example one year after separation, and to ask them to evaluate the change in their well-being. The subjective evaluation of well-being depends of course on the amount of compensation received at the time of separation. Some objective indicators may also be used.

#### **Box 10: “Before and After” Methodology: Lessons from Ecuador and Turkey**

In Turkey, severed workers between 1990 and 1995 were interviewed on the circumstances of their pre-layoff and post-dismissal labor experiences, in particular, on their welfare losses. It was found that there were significant earnings losses upon reemployment. These were an average of 61 percent for the cement workers and 57 percent for petrochemical workers. Unsurprisingly, the less educated suffered higher losses regardless of the sector. Other characteristics, such as region and gender appeared to matter, too. .

A similar ex-post-subjective evaluation of well-being was applied to study the downsizing process of the Central Bank of Ecuador. Similar to the Turkish case, it was shown that earnings and welfare losses were correlated with some observable characteristics of the individual, such as education, dependents, and not just with salary and seniority in the public sector, which are the typical variables used compensation packages. Similarly savings from better-tailored compensation were shown to be substantial.

Source: Tansel (1997), and Rama and Maclsaac (1999), respectively

### **3.2. “Stayers and Leavers” Methodology**

A second empirical strategy relies on the welfare loss predicted by public sector workers before separation. The idea is to compare the workers that accepted an offer with those that rejected it. Those who accepted expected their net welfare loss to be positive, whereas those who rejected it expected the net welfare loss to be negative. The probability of acceptance can therefore be estimated as a function of all the individual characteristics of the workers and the severance pay they were offered. This is in turn used to infer the amount of severance pay that would have made each worker indifferent between accepting or rejecting the offer. That amount is an indicator of the welfare loss expected by each worker.

#### **Box 11. “Stayers and Leavers” Methodology in Argentina**

Argentina began restructuring its public administration and public enterprises in November, 1990. Voluntary exit programs were implemented to downsize companies. According to law severance pay was computed based on the wage and tenure of workers. The total amount of severance pay was calculated using the wage of the last month and using different percentages for years of tenure: from 1 to 5 years of tenure, 80 percent, from 6 to 10 years, 75 percent, from 11 to 15, 65 percent, and more than 20 years, 50 percent. This total would be paid in 12 equal amounts over one year. Workers accepting voluntary retirement could not be rehired by the public administration for the following five years. Robbins and co-authors (1996) apply a ‘stayers and leavers’ strategy to analyze voluntary separation programs in seven public enterprises. They estimate the impact of differing variables upon the chances of accepting severance pay packages. They show how similar estimates can be used to determine the appropriate level and structure of the packages. Consistent with this, their estimates of stayers and leavers find that younger workers are more likely to leave, though the evidence is not clear with respect to education. The analysis of leavers shows that their levels of unemployment are higher than the average labor force, that young women were particularly prone to it, and that being male, older, and receiving a higher severance package increased the chances of self-employment after leaving the state.

Source: Robbins, Gonzalez Rozada, and Menendez (1996)

### **3.3. “In versus Out” Methodology**

In the third empirical strategy the idea is to compare the present value of earnings for workers in and out of the public sector. Typically, this comparison

shows that some public sector workers earn less, over their work life, than similar workers out of the public sector. If these workers do not voluntarily quit, it is probably because they derive other benefits from their jobs. The gap in earnings observed for the most disadvantaged group of public sector workers can thus be used to infer the value of non-wage and other intangible benefits from public sector jobs. For less disadvantaged workers, it is assumed that the loss of non-wage and intangible benefits is proportional to the public sector salary. Under the hypothesis that a stable relationship exists between welfare losses and earnings losses from displacement, studies dealing with the latter can be expected to provide information on the former. From above it may be inferred that if the worker earns less either in the private or the informal sector once separated, the resulting net present difference between "in and out" will be negative and a welfare loss will have occurred. Similarly, if the worker earns more in the private or the informal sector, the resulting "in and out" net present balance will be positive and in this case a net welfare gain would have occurred.

**Box 12: "In and Out" Methodology Applied to Egypt**

In Egypt, only voluntary retrenchment programs are feasible because of legal limitations that preclude layoffs and strong organized labor groups that oppose any weakening of job security protections. Overpayment with respect to welfare losses is a common problem with voluntary schemes. Assaad (1999) estimates the losses that public sector workers would incur if they were displaced from their jobs and simulates several voluntary severance schemes to determine how well the schemes match compensation payments to these estimated losses. The main result of the simulations is that severance programs that provide higher payments to long-tenure workers are likely to overpay in order to achieve the desired exit targets because losses tend to decline as workers approach retirement. Early retirement schemes that target older workers with separate plans are likely to be cheaper than plans that apply to the entire workforce. Also, the losses of workers with secondary education and above are significantly higher than those of workers with lower levels of education. The plans that seem to approximate the estimated displacement losses most closely are early retirement plans that offer workers who are age 50 and older a multiple of their current monthly wage until retirement such that 80 to 90 percent of these workers voluntarily exit the public sector.

Source: Assaad (1999)

### **3.4. What Determines Welfare Losses ?**

Table 6 summarizes the findings of some studies on the determinants of welfare losses and earnings losses from displacement in developing countries and transition economies. It reports the signs of the impact of workers' characteristics on their welfare and earnings losses. Several regularities emerge from this table. First, it appears that the wage level in the public sector is a poor predictor of welfare losses, at least as long as other observable characteristics of the workers are taken into account. Second, with the exception of Egypt, where government hiring and compensation policies strongly distort the payoffs to schooling, the loss from displacement is usually smaller the higher the education level of the workers. Third, while higher seniority in a public sector job may lead to larger losses from displacement, there is no clear link between total work experience and losses from displacement. And fourth, female workers and those with bigger families may be bound to suffer more from displacement.

## **4. How To Design a Separation Package ?**

The rationale to compensate displaced workers stems from the welfare loss they may experience as a result of separation. In cases where public sector workers cannot be legally dismissed, any compensation that falls short of this welfare loss will fail to encourage their voluntary departure. But even in cases where dismissals are legally feasible, an insufficient compensation may make the restructuring program derail. Public sector workers are indeed among the most vocal and influential interest groups in any society. Finally, absent these legal and political constraints, compensation can also be justified on fairness grounds.

Compensation may however contradict the broader objectives of economic policy reform in developing countries and transition economies. Many efforts by multilateral organizations and donor countries are aimed at reorienting public expenditures towards the most needy. Consequently, there is some conflict between the efforts to tilt the budgetary process in favor of the poor, and the willingness to lend generous amounts of money to finance severance pay packages for workers who are usually not poor, not even after separation. From this perspective, full compensation would be justified only when legal or political constraints make it absolutely necessary.

While the decision to fully compensate displaced workers should be made on a case-by-case basis, there are clearly no circumstances that would justify over-compensation. This is, however, a potential bias of downsizing operations. To some extent, this bias is inevitable when downsizing is based on voluntary separations. Workers who are offered less than full compensation will prefer to stay in the public sector, whereas those who are offered more than full compensation will accept the offer and leave. Therefore, mistakes in the direction of excessively low compensation will have no practical implications, whereas mistakes in the direction of excessively high compensation will materialize. Ill-designed compensation mechanisms exacerbate this second type of mistake.

In a typical downsizing operation, the amount of compensation displaced workers get is based on a rule-of-thumb involving their salary and perhaps their seniority in the public sector. The implicit assumption is that their welfare losses from displacement can be accurately predicted based on these two observable characteristics of the workers. But the discussion in the previous section suggests that a better prediction could be obtained if other observable

characteristics were considered as well. As a result, fewer workers would be either under-compensated or over-compensated.

Tailored compensation would not only contribute to the fairness of the downsizing process, but it would also reduce the total cost of downsizing in the context of voluntary separations, where over-compensation is more likely to materialize than under-compensation. Based on the analysis in the previous section, a five-step procedure can be proposed to tailor compensation. This procedure relies on the “in and out” methodology used to estimate losses from displacement, because this is the only one that can be applied before any retrenchment has taken place.

#### **4.1. First Step: Earnings Equations**

The first step in the proposed procedure is to estimate an earnings function for workers who are out of the public sector. The data should come from individual records in labor force surveys, or in living standards surveys. The right-hand-side variables include individual characteristics which are also observable for workers who are in the public sector. Ideally, the list of variables should be the exactly the same as in the records the public sector has about its own employees. The left-hand-side variable, in turn, measures the labor earnings of all individuals who work out of the public sector, including the self-employed and those in the informal sector. The goal of this first step is to predict the potential earnings of the public sector workers who are bound to be separated.

#### **4.2. Second Step: Present Value of Earnings Loss**

The second step is to calculate the present value of the earnings loss to be experienced by the public sector workers when they lose their jobs. This calculation compares, for each worker to be separated, his or her public sector salary with the potential earnings estimated in Step 1. The difference between the two is discounted over the duration of the contract the worker has with the public sector. In most cases, this duration is the number of years to retirement. Thus the second step is to calculate the present value of the earnings loss  $EL_i$  to be experienced by the public sector workers to be separated. This may be formalized as:

$$EL_i = \sum_t \frac{S_{it} - E_{it}}{(1+r)^t} \quad (2)$$

where  $r$  is a discount rate to account for the temporal preference of the worker and the sum refers to all the years until retirement age, or to the expected length of the contractual relationship with the worker. Data on the public sector salary  $S_i$  and on the number of years to retirement should be obtained from public sector records. Data on earnings after separation are from the previous step in this procedure.

### 4.3. Third Step: Loss in Benefits

The third step is to assess the loss in benefits. In many developing countries, the most important component of this loss concerns old-age pension. An actuarial calculation of the present value of the foregone old-age benefits can be used to quantify this loss. As a simpler alternative, the calculation can rely on the present value of past contributions to social security, plus accrued interest when applicable.

Whatever the chosen approach, previous experience with downsizing suggests that the loss in benefits needs to be dealt with separately. Explicitly canceling outstanding social security obligations is important to avoid misunderstandings (or opportunistic behavior) that can eventually lead to legal and political wrestling.

### 4.4. Fourth Step: Loss in Intangibles

The fourth step is to evaluate the loss in other, more intangible benefits. Once an estimate of the loss in earnings and the loss in benefits have been computed for the public sector workers to be separated, it is possible to identify whether there are groups of workers for whom the average sum of the earnings and benefits loss is substantially negative. If these workers stay in the public sector, it is because they derive some other benefits from their jobs. These other benefits can be estimated based on the absolute value of the earnings loss plus the benefits loss. The monetary value of these other benefits is at least equal to the sum of the earnings and benefits losses. The ratio between this monetary value and their public sector salary can be used to infer the intangible benefits enjoyed by other, less disadvantaged public sector workers.

#### **4.5. Fifth Step: A Compensation Formula**

Finally, the fifth step is to develop a simple formula to calculate compensation based on a few observable characteristics of public sector workers. Under the assumption that the losses related to old-age pension are settled separately, the problem is to identify a relatively small set of information allowing to predict the loss of earnings and intangible benefits in a convenient and non-controversial way. For instance, making compensation depend on individual characteristics such as gender or ethnicity would not be legally or socially admissible in some countries. Other characteristics, such as marital status or the number of dependants, may be subject to manipulation in countries where common law marriages and extended families are widespread.

##### **Box 13: Downsizing the Health Sector in Nicaragua**

In 1998 the Ministry of Health embarked in a downsizing operation using a voluntary retrenchment scheme in order to reduce the number of medical doctors in the public sector in a context of a long strike and bitter disputes. The government estimated that there was grossly overstaffing of medical doctors in certain, mainly urban areas, and at the same time, considerable understaffing in the rural areas and in specific provinces. As certain specific areas were ring-fenced, a limited voluntary severance package was offered in cities, in particular hospitals in Managua. The compensation packages were initially designed to take into account individual characteristics such as education and gender, additional to seniority and wage. Policymakers decided to increase the estimated severance compensation package and stick with a conventional rule-of-thumb based on seniority and wage, only. However, the basic compensation estimates were still used as benchmarks. The final compensation package offered was rather generous. It averaged 5,500 dollars, which is quite high given that Nicaragua is a country where the gross domestic product per capita is less than 1000 dollars a year. After much negotiating and initial reticence it was estimated that 30 percent of doctors took the offer. The reason why doctors were slow in accepting the deal was attributed to the existence of some important intangible benefits received by them. For all practical purposes, they were allowed to use the public facilities for their private practice (operating rooms, medicines, equipment, and others), moonlight (second jobs or private practice), and refer potential patients from the public system to their private practice. Additionally, they were not well monitored, which allowed a rather large group of doctors to become "ghost" workers.

Source: Chong (1999)

The compensation formula developed in step five differs from the typical rules of thumb used to design severance pay packages in two important ways.

First, the information set may or may not include salary and seniority in the public sector, depending on how useful these two variables are to predict the loss of earnings and intangible benefits.

Second, the coefficients multiplying these two variables, as well as the other variables in the relevant information set, are not arbitrary. They are the coefficients of a regression explaining the predicted loss of earnings and intangible benefits as a function of observable characteristics of public sector workers.

Box 14: A Proposed Compensation Formula For Guinea-Bissau

Compensation for earnings Loss:

Base:	955000	CFA Francs per worker
	- 18000	x Years of age (18 to 60)
	+ 80000	if female
	+ 135000	if 8 years of education or more
	+ 270000	if 7 years of education
	+ 405000	if 6 years of education or less
But:		no less than 6 months of salary
Minus:	40 %	if taken by new private contractors

Refund of social security contributions

6 % x Annual salary  
Accumulated at a 5 % annual rate  
Over all the years of service

Source: Chong and Rama (1998)

## 5. Assessing the Returns to Downsizing

Downsizing operations bear some similarities with investment projects. In both cases, a considerable amount of resources is spent in the short run in order to reap some gain in the longer run. Consequently, the decision to undertake a downsizing operation should be based on its payoff, much the same as an investment decision. The problem is how to measure the payoff to downsizing. The most common approach is to focus on financial returns, i.e. on the impact of downsizing on the budget deficit. This approach can be justified when downsizing is part of a broader adjustment program. However, it is equally important to evaluate the economic returns to downsizing, i.e. on their impact on aggregate output or welfare.

### 5.1. The General Case

The first, and most obvious financial gain from downsizing results from the cut in the wage bill. In government administration, this cut directly reduces budget expenditures. The budgetary impact may be smaller in state-owned enterprises if their wage bill is only partially subsidized by the budget. A second financial gain results from the reduction in long-term liabilities as separated workers lose all or some of their entitlement to old-age pensions. A third potential gain is the increase in privatization prices when downsizing is done in preparation for privatization and contributes to its success. The upfront cost is the amount of resources spent in compensation, retraining, and other redeployment programs for separated workers.

In analytical terms, the financial returns (FR) to a downsizing operation can be measured based on the formula:

$$FR = \sum_t \frac{\delta S_t}{(1+r)^t} + BL + \Delta P - C \quad (3)$$

The first term in the right-hand-side of this formula is the present value of the savings in salaries resulting from downsizing. Parameter  $\delta$  measures the fraction of the wage bill of the overstaffed unit that is paid for by the budget. It is equal to one in the case of most government administration units; it

increases with the size of government subsidies in the case of state-owned enterprises. The second term,  $BL$ , is the present value of the reduction in old-age pension liabilities. The third term,  $\Delta P$ , is the increase in privatization proceeds, when downsizing is to be followed by divestiture. This term is equal to zero if downsizing is not done in preparation for privatization, or when is not conducive to a higher privatization price. Finally, the last term,  $C$ , is the amount of resources spent in compensation, re-training and other redeployment programs for the separated workers. Financial returns can be assessed according to equation (2) for any number of workers to be separated. In the limit, the formula could be applied to an individual separation.

When assessing financial returns, it is important to focus on the consolidated budget, and not just on the budget of the overstuffed unit. Examples abound where the fiscal burden is simply shifted to another government body. Consider, for instance, the social services provided by state-owned enterprises in many transition economies. The cost of these services is often paid for by taxpayers under the form of explicit or implicit subsidies. Because downsizing reduces the number of beneficiaries of these services, it also appears to reduce the burden to taxpayers. However, there is no such reduction if downsizing leads to a mere transfer of these services to central or local governments. Another example is provided by redeployment programs allowing the redundant workers to take another public sector job elsewhere. In this case, the payroll is cut in the restructured public sector unit only to be inflated elsewhere.

**Box 15: Unconsolidated Budgets and Downsizing in Brazil.**

The fiscal illusion of downsizing may be particularly severe when downsizing affects entitlements to old-age pension and other social security benefits. Downsizing in Brazilian states provides an interesting example. A federal government's voluntary separation program was launched in 1996 and it was the first one to be implemented in the public administration at the federal level. The program was part of a broader modernization project aimed at increasing efficiency in the public sector and reducing public expenditures. The redundancy program was designed and implemented by the Ministry of Federal Administration and Reform of the State, which had identified an excess of public civil servants in almost all areas of the federal administration. Out of 327,000 workers in the eligible group, 30,000 were expected to join the redundancy program. In a preliminary assessment of this operation, Carneiro and Gill (1997) show that the savings from downsizing are substantially smaller for the consolidated government than for the individual states. This is because of the pension benefits granted to the 9500 displaced workers, which increase the long-term liabilities of the federal government. As a result of the implicit transfer of obligations, budget savings are 15 to 25 percent lower than it appears at a first glance.

Source: Carneiro and Gill (1997)

Economic returns (ER) focus on aggregate output or welfare, rather than on budget revenue and expenditures. In fact, they focus on aggregate output or welfare, rather than on budget revenue and expenditures. Downsizing affects aggregate output or welfare in two different ways: it reduces the equilibrium level of taxes, and it relocates public sector workers to activities where they are supposedly more productive.

These returns can be measured as follows:

$$ER = \sum_t \frac{E_t - Y_t}{(1+r)^t} + \lambda FR \quad (4)$$

This formula introduces a distinction between the budget savings from downsizing, FR, and the value of these savings to society,  $\lambda FR$ . The value of society of a lower taxation level should not be confused with the financial returns to downsizing. If transfers were costless, financial returns would be totally irrelevant when assessing economic returns. In practice, however, when the government raises one additional dollar of revenue, there is a net loss to society due to inefficiencies created by distortionary taxation. This loss, known as the marginal tax burden, can be quite large in developing countries.

Box 16: Marginal Taxation Burden in India

India is a federal country in which some tax revenues accrue to the center and some to the states, so that effects of taxes levied by the states (or by the center) on the revenue of the center (or the states) are of considerable interest. As in typical developing countries, " $\lambda$ " (see formula 4 above) can be quite large. In India, for example, raising one rupee from all state taxes results in a loss of five paise in state tax revenue. This finding is confirmed by an examination of the individual taxes, where we discover only small differences when two alter the source of the marginal rupee. Raising one rupee from the sales tax, for instance, would also cost approximately 0.07 rupees in central tax revenue. Raising one rupee from either the excise tax or import duties, however, would cost 0.046 rupees or 0.041 rupees, respectively, in terms of state tax revenue. Central and state taxes thus do interact. In summary, the estimated marginal taxation burden is quite high. Overall, 80 cents of output are lost per dollar of revenue raised.

Source: Ahmad and Stern (1987)

For every dollar of revenue the government raises there is a net loss of  $\lambda$  dollars due to the inefficiencies created by distortionary taxation. Consequently, a downsizing operation that saves  $FR$  dollars in tax revenue increases aggregate output by  $\lambda FR$ . Output also increases if the productivity of the separated workers is lower in the public sector than out of it. In equation (4), productivity in the public sector is measured as  $Y$ , whereas productivity out of the public sector is assumed to be equal to the labor earnings  $E$ . The overall assessment of a downsizing operation can be quite different depending on which of the two formulas is used. As an example, consider a downsized unit that cannot be privatized (implying that  $\Delta P$  is equal to zero) and whose wage bill is entirely paid for by the budget (implying that  $\delta$  is equal to one). Assume that compensation is tailored so as to exactly offset the loss in earnings and old-age benefits the separated workers are bound to experience:

$$C = \sum_t \frac{S_t - E_t}{(1+r)^t} + BL \quad (5)$$

Under these assumptions, the returns to downsizing are:

$$FR = \sum_t \frac{E_t}{(1+r)^t}, \quad ER = \sum_t \frac{(1+I)E_t - Y_t}{(1+r)^t} \quad (6)$$

On purely financial grounds, the downsizing operation appears to be successful, given that  $FR$  is positive. Because the potential earnings of at least some of the separated workers are positive, the government spends less in compensation than it saves in salaries and benefits. Financial returns are thus positive. But this conclusion is not warranted on economic grounds. The sign of  $ER$  actually depends on whether public sector productivity is higher than the opportunity cost of resources, which includes foregone output as well as the deadweight loss from taxation. More specifically, economic returns to downsizing are more likely to be positive when productivity in the public sector is low and when potential earnings out of it are high. Some government departments are. The possible discrepancy between financial returns and economic returns is an illustration of the second-best principle.

The initial situation of the public sector unit to be downsized is one where several distortions and imperfections prevail. Overstaffing is one of them. But this public sector unit is also likely characterized by a distorted pay scale, compared to the private sector. And it is at least partially financed out of taxes that create distortions and reduce aggregate output. Downsizing operations usually tackle one of these distortions and imperfections only, namely overstaffing. This may not result in improved economic efficiency.

**Box 17: Diverging Financial and Economic Returns in Algeria.**

The potential discrepancy between financial and economic returns is shown by the assessment of the Algerian retrenchment system. The Algerian system was devised to allow state-owned enterprises to retrench part of their personnel. It has been shown that the system is financially sound under a wide range of assumptions. However, its impact on aggregate output depends very much on how efficient or inefficient these state-owned enterprises are. One may consider two extreme cases. In one of them, the productivity of the retrenched workers is equal to zero, and economic returns are high. At the other extreme, state-owned enterprises are on their labor demand curve, so that the marginal productivity of labor is equal to the public sector salary. But the salary is probably much higher than the labor earnings in Algeria. The unemployment rate there is 28 percent, which suggests that searching for a “good” job in the public sector is much more attractive than taking a “bad” job in the informal sector. As a result of the huge earnings gap there is a trade-off between the reduction in distortionary taxation from downsizing, and the parallel fall in aggregate output. Under plausible assumptions, economic returns can be either positive or negative.

Source: Ruppert (1999)

## **5.2. Adverse Selection and Downsizing**

Adverse selection can dramatically affect the economic returns to downsizing, without modifying its financial returns much. If the retrenched workers were genuinely redundant, their productivity in the public sector is probably very low. However, if the retrenched workers were essential for the operation of a unit producing a socially valuable service, productivity in the public sector can actually be quite large. Good civil servants can contribute to society much more than they cost. If they leave, public sector downsizing may have negative economic returns, in spite of positive (and possibly high) financial returns.

**Box 18: Wage Compression Versus Retrenchment**

One of the most common criticisms to those efforts is that they had an adverse impact on the effectiveness of governments. By compressing the pay scale, the argument goes, budget cuts encouraged skilled workers to leave, thus jeopardizing the ability of governments to deliver on basic services. And there is little doubt that better outcomes could have been achieved by getting rid of genuinely redundant public sector workers and offering better wages and working conditions to the others. Standard voluntary separation programs can lead to the departure of skilled public sector workers too, much the same as budget cuts did in the past, except that in substantially larger numbers.

Source: Rama (1999) and Van Ginneken (1991); Rama and Maclsaac (1999)

### **5.3. Externalities: One-Company Towns**

Public sector downsizing may affect the rest of the economy not only through its impact on the budget and the allocation of labor, but also because of its direct impact on private sector output. An obvious illustration of this productive externality is provided by the one-company town setting. The main feature of this setting is the large share of jobs in a particular region (the town, for short) provided by the public sector unit to be downsized (the company). As a result, many of the other jobs in the town also depend on employment and wage levels in the company. For instance, the company's employees are probably the most important customers of the town's private shops. A drastic employment reduction in the company is therefore likely to depress private sector activity in the town. It follows that the level of earnings and productivity out of the public sector cannot be taken as given.

Productive externalities from downsizing may also occur at the nation-wide level. Mass retrenchment programs, affecting a substantial fraction of the urban labor force, can increase unemployment rates over long periods of time. For instance, in some sub-Saharan African countries, where the public sector represents a large share of the modern economy, downsizing may depress economic activity in the short run. Productive externalities of this sort cannot be ruled out in more developed economies either, as suggested by the substantial increase in unemployment rates that followed the massive public sector downsizing program of Argentina.

Externalities like those arising in the one-company town setting provide a justification to retain some of the redundant workers. Limiting the extent of downsizing certainly entails a cost to the rest of the society, which has to pay for these redundancies under the form of higher taxes or lower social expenditures. But retrenching the redundant workers entails a cost to the population that surrounds the company, and depends on it to sustain their economic activity. The optimal extent of downsizing involves a trade-off between these two costs.

**Box 19: Downsizing in One-Company Towns: Kazakhstan**

Kazakhstan is a country that has dozens of one-company towns. They are quite isolated, both for geographic and for institutional reasons. On the geographic side, the country has a relatively small population but is the ninth largest country on earth. On the institutional side, the housing market is poorly developed, and the unemployed need to hold a local passport to draw their benefits. Consequently, the externalities from downsizing could be stronger in Kazakhstan than elsewhere. By using community characteristics additional to typical earnings determinants (such as education, gender, or experience) in order to capture the extent of the monopsony power of a company it has been found that in this country the externality from downsizing can be substantial: retrenching the equivalent of one percent of the town's population would reduce the average labor earnings of the town by roughly 1.5 percent. Completely shutting down the average company, in turn, would reduce those earnings by more than 11 percent. These results imply that compensation should not be restricted to the retrenched workers and that transfers of resources to the community as a whole are justified. Whatever the compensation strategy adopted, the calculation of the economic returns to downsizing needs to take this productive externality into account.

Source: Rama and Scott (1999)

## 6. How To Help Laid-Off Workers Find a Job ?

It has been estimated that for every dollar spent in severance pay, on average more than two dollars are spent on safety net enhancements. These enhancements included early retirement packages but also a wide range of active labor market programs, such as counseling and placement services, wage subsidies, public works programs and, more importantly, the re-training of displaced workers. Active labor market programs are common in transition economies, but they can also be found elsewhere. Almost two thirds of the downsizing operations surveyed by Haltiwanger and Singh included some enhancement of the safety net, and re-training was a feature in more than half of the operations.

Box 20: Some Examples of Training Programs

<b>Country</b>	<b>Sector</b>	<b>Training and Redeployment Scheme</b>
Argentina	Steel	Financial support
Bangladesh	Jute	Training, Self-employment
Brazil	Railways	Retraining, Outplacement help
Cape Verde	General	Job search, Training
Ghana	Agriculture	Subsidies, Matching Programs
Malawi	Railways	Job counseling, Skills training
Peru	General	Vocational training, Job search
Turkey	General	Job counseling, retraining, services

Source: Kikeri (1998)

### 6.1. Are Active Labor Programs Worth Their Cost ?

Retraining programs aim to assist displaced workers in making the transition to alternative jobs in growing sectors of the economy or in becoming self-employed. In some cases retraining programs have been developed explicitly for redundant state enterprise employees. In others, support is provided as part of the broader active labor market programs developed for the long-term unemployed. In general, these mechanisms have yielded mixed results. Worse, because of vested interests many times the same overstaffed

government agencies that get low grades in terms of quality and delivery of its own vocational education programs also end up in charge of the re-training component of downsizing operations.

An evaluation of the public sector downsizing operation implemented by Spain in the 1980s showed its limited ability to reallocate workers to alternative industries, in spite of its extremely large re-training program (Campa, 1996). This failure was partly due to re-training being focused on the update of previous skills, rather than the acquisition of new ones. A case study of downsizing in the Central Bank of Ecuador, in turn, found that only 12 percent of the displaced workers took the re-training courses they were offered, in spite of these courses being free of charge (Rama and Maclsaac, 1999). In both cases, the value of the re-training program seemed quite limited.

**Box 21: Active Labor Programs in Hungary, Poland, and the Czech Republic**

In the context of public sector downsizing, preliminary results for Hungary and Poland show that active labor programs have had a positive net impact on separated workers. . However, there is also strong indication of non-random assignment of programs. This signals the need to examine the preliminary findings in more depth. . Further estimates of the impact on re-employment and earnings of the two most popular active labor programs used during the economic transition in Hungary (retraining and public service employment) suggest that retraining may improve the chance for re-employment, but it is unlikely to improve re-employment earnings, although may improve job durability. It seems that net societal benefits could be improved by retraining relatively more males, older persons, and those with less education. Public sector employment does not appear to provide a reliable path to a regular non-subsidized job, and may even lower re-employment earnings. . Similarly a study for the Czech Republic, Hungary, Poland, and Turkey finds that some of the active labor market programs made it more likely for sub-sets of workers to find a job after separation. But the programs do not appear to have had a significant impact on labor earnings of those who did find a job.

Source: O'Leary (1997), Fretwell, et.al., (1998), O'Leary, et.al. (1998)

## **6.2. A Demand-Driven Approach**

Training programs can certainly be useful, but their cost is often too large to be warranted. The conceptual framework used in this background paper helps understand why. Every time a training or assistance program is implemented, the cash equivalent of its cost could be given directly to the separated public sector worker. After all, each additional dollar available can be used to reduce the welfare loss of the separated worker (by increasing earnings after separation) or compensate for the welfare loss of the worker. . There is of course no general rule to identify the alternative with the highest payoffs. But training and other assistance programs can be used for political purposes, and are often managed by outdated and ineffective government agencies. In some opportunities, they also entail a wrong “reading” of the market, leading to the provision of useless skills.

### **Box 22: How Effective are Active Labor Market Programs ?**

In a survey of about 100 active labor market programs from both OECD countries, and some transition and developing economies, it is shown that some programs can be useful to some workers in some cases. Design matters. A good program in one country can prove to be a bad one in another. Some of the programs, such as wage subsidies or training for youth are unlikely to be cost effective. Some other programs, such as job search assistance, are likely to have some positive impact on the probability of finding employment if they are well-designed and implemented. However, the impact and cost-effectiveness of most of the active labor market programs depends not only on their design, but also on the overall macro and labor market framework. The following policy approach has been suggested: (i) start with modest programs, (ii) use sound impact evaluation techniques to evaluate them; (iii) programs should be tightly targeted according with cost-effectiveness, otherwise they should be amended or discarded

Source: Dar and Tzannatos (1999)

Consequently, it may be wiser to allow the separated civil servants to decide, on an individual basis, which fraction of their compensation package they want to spend in training and other support programs. It makes perfect sense for the government to prepare a “menu” of such programs and make it available to the separated workers. But workers know better what is best for them. After they are informed about the amount of compensation they are entitled to, the workers themselves should choose the training and redeployment services they want to benefit from, and the cost of these services should be deducted from their compensation package. This approach would avoid wasting large amount of resources in activities that are not valued by the workers.

(POSSIBLE BOX 23: MADAGASCAR)

## **7. Final Remarks**

Public sector downsizing may become a major reform endeavor in developing countries in the coming years, much the same as trade liberalization and financial liberalization were in the past two decades. These reforms can substantially improve economic efficiency. But the risks are considerable, too. The comparison between the successful experience with trade liberalization and the more mixed record with financial liberalization shows the importance of a well-designed reform protocol. This background paper and, more generally, the recent public sector retrenchment effort by the World Bank, represent an attempt to sketch a protocol for public sector downsizing. This attempt should be interpreted with great caution. Some of the findings and policy recommendations may need to be adjusted, and some are possibly wrong. More research and experimentation are certainly needed to move in the direction of a more comprehensive and reliable protocol. Forthcoming downsizing operations provide an ideal opportunity to test and evaluate some of the hypotheses and recommendations. A strong interaction of policy and research in the immediate future could contribute to the success of public sector downsizing endeavors over the long run.

But even a carefully designed protocol could prove ineffective if the mechanisms that led to overstaffing in the first place remain unchallenged. The equilibrium level of public sector employment is probably determined by political forces operating in the context of a particular institutional setting. Temporary incentives to downsize, such as financing for severance pay packages, will probably evolve in the direction of increased professionalism and efficiency. Downsizing operations should therefore be part of a broader effort to reform and modernize the public sector, not just isolated endeavors.

## References

- Ahmad, Ehtisham and Nicholas Stern “Alternative Sources of Government Revenue: Illustrations from India, 1979-80”, In: Newbury, David and Nicholas Stern, *The Theory of Taxation in Developing Countries*, World Bank: Oxford University Press, 1987
- Alderman, Harold, Sudharshan Canagarajah and Stephen Younger: “A Comparison of Ghanaian Civil Servants’ Earnings Before and After Retrenchment”, *Journal of African Economies*, 4(2), p. 259-288, 1996.
- Assaad, Ragui (1999) “Matching Severance Payments with Workers Losses in the Egyptian Public Sector”, *The World Bank Economic Review*, January 1999
- Banerji, Arup and Richard H. Sabot: “Barriers to Labor Reform in Developing Country Public Enterprises”, *unpublished manuscript*, Williams College, 1995.
- Campa, José Manuel: “Public Sector Retrenchment: Spain in the 1980s”, *unpublished manuscript*, New York University, Stern School of Business, 1996.
- Carneiro, Francisco and Indermit Gill: “Effectiveness and Financial Costs of Voluntary Separation Programs in Brazil: 1995-1997”, *Economic Notes*, 25, Country Department I, Latin America Region, The World Bank, 1997.
- Chen, Yi, “The World Bank and the Provision of Assistance to Redundant Workers: Experience with Enterprise Restructuring and Future Directions”, *Social Protection Discussion Paper*, The World Bank, 1999.
- Chong, Alberto “Plan de Movilidad Laboral” Ministerio de Salud, Republica de Nicaragua, 1999.
- Chong, Alberto and Ismail Radwan: “An Application of Alternative Retrenchment Schemes to State-Owned Enterprises in Tanzania”, The World Bank, 1999.

- Chong, Alberto and Martín Rama: "A Compensation Package for Separated Public Sector Workers in Guinea-Bissau", *unpublished manuscript*, The World Bank, 1998.
- Dar, Amit and Zafiris Tzannatos "Active Labor Market Programs: A Review of the Evidence From Evaluations" , Social Protection Discussion Paper, January 1999.
- Diwan, Ishac: "Public Sector Retrenchment and Severance Pay: Nine Propositions", in Shahid Amjad Chaudhry, Gary James Reid and Waleed Haider Malik (eds.): "Civil Service Reform in Latin America and the Caribbean", *World Bank Technical Paper 259*, 1994.
- Diwan, Ishac and Yi Chen, "When Bureaucrats Move Out of Business: A Cost-Benefit Assessment of Labor Retrenchment in China. Manuscript, The World Bank, 1999.
- Fallick, Bruce: "A Review of the Recent Empirical Literature on Displaced Workers", *Finance and Economics Discussion Series 95-14*, Federal Reserve Board, 1995.
- Fiszbein, Ariel: "An Opportunity Cost Approach to Redundancy Compensation: an Application to Sri Lanka", *Estudios de Economía*, Special Issue on Labor Economics in Less Developed Countries, p. 115-126, 1994.
- Fretwell, David , Jacob Benus, and Christopher O'Leary "Evaluating the Impact of Active Labor Programs: Results of Cross Country Studies in Europe and Central Asia, The World Bank, 1998.
- Frydman, Roman, Cheryl Gray, Marek Hessel, and Andrzej Rapaczynski "Private Ownership and Corporate Performance: Some Lessons from Transition Economies, The World Bank, 1994
- Galal, Ahmed, Leroy Jones, Pankaj Tandon, and Ingo Vogelsang: *Welfare Consequences of Selling Public Enterprises: An Empirical Analysis*, The World Bank, New York: Oxford University Press, 1994
- Gates, Jeffrey and Jamal Saghir, "Employee Stock Ownership Plans: Objectives, Design, Options and International Experience" The World Bank, 1995

Haltiwanger, John and Manisha Singh: "Cross-country Evidence on Public Sector Retrenchment", *World Bank Economic Review*, January, 1999.

Kikeri, Sunita: "Privatization and Labor: What Happens to Workers when Governments Divest", *World Bank Technical Paper* 396, 1997.

Kouamé, Auguste-Tano: "Workers' Severance Pay Packages in Privatization of State-Owned Enterprises in Bangladesh, Pakistan and Sri Lanka: Options for the Future", *Internal Discussion Paper*, South Asia Region, The World Bank, 1997.

Lopez de Silanes, Florencio: "Determinants of Privatization Prices", *Quarterly Journal of Economics*, vol. 112, n. 4, 1997

Macgregor, John, Stephen Peterson and Claudio Schuftan: "Downsizing the Civil Service in Developing Countries: the Golden Handshake Option Revisited", forthcoming in *Public Administration and Development*.

Mills, Bradford and David Sahn: "Life after Public Sector Job Loss in Guinea" in David Sahn (ed.): *Economic Reform and the Poor in Africa*, Clarendon Press, p. 203-229, 1996.

O'Leary, Christopher, A Net Impact Analysis of Active Labour Programmes in Hungary, *Economics of Transition*, 5(2), 1997

O'Leary, Christopher, Piotr Kolodziejczyk, and Gyorgy Lazar "The Net Impact of Active Labour Programmes in Hungary and Poland", *International Labor Review*, 137(3), 1998

Orazem, Peter, Milan Vodopivec and Ruth Wu: "Worker Displacement during the Transition: Experience from Slovenia", *Policy Research Working Paper*, 1449, The World Bank, 1995.

Rama, Martin, "Efficient Public Sector Downsizing", *The World Bank Economic Review*, vol.13, n.1, January 1999.

Rama, Martín and Donna Maclsaac: "Earnings and Welfare After Separation: Central Bank Employees in Ecuador", *World Bank Economic Review*, January, 1999

- Rama Martín and Kinnon Scott: "Labor Earnings in One-Company Towns: Theory and Evidence from Kazakhstan", *World Bank Economic Review*, January, 1999
- Ramamurti, Ravi: "Testing the Limits of Privatization: Argentine Railroads", *World Development*, vol 25, n.12, 1993
- Robbins, Donald, Martin Gonzales Rozada, and Alicia Menendez: "Public Sector Retrenchment and Efficient Severance Pay Schemes: A Case Study of Argentina", *unpublished manuscript*, Harvard Institute for International Development, 1996.
- Ruppert, Elizabeth: "The Algerian Retrenchment System: a Financial and Economic Evaluation", *World Bank Economic Review*, this issue.
- Shirley, Mary "Privatization in Latin America: Lessons for Transitional Europe", *World Development*, Vol 22, n. 9, 1994
- Svejnar, Jan and Katherine Terrell: "Reducing Labor Redundancy in State-Owned Enterprises", *PRE Working Paper* 792, The World Bank, 1991.
- Svejnar, Jan and Katherine Terrell (1993) "Exceso de Empleo en el Sector Transporte: El Caso de Chile" *Estudios de Economía*, 20(1), June: 103-51.
- Tansel, Aysit "Public Sector Retrenchment and the Impact of Labor Shedding Programs on Workers in Turkey" Department of Economics, Middle East Technical University, Ankara. 1997
- Van der Hoeven, Ralph and Gyorgy Sziraczki (eds.): *Lessons from Privatization: Labour Issues in Developing and Transitional Countries*, International Labour Organization, 1997.
- Van Ginneken, Wouter: *Government and its Employees: Case Studies of Developing Countries*, Avebury, 1991.
- World Bank "Civil Service Reform: A Review of World Bank Assistance", Operations and Evaluation Department, World Bank, 1999.
- Younger, Stephen: "Labor Market Consequences of Retrenchment for Civil Servants in Ghana" in David Sahn (ed.): *Economic Reform and the Poor in Africa*, p. 185-202, Clarendon Press, 1996.



