

**IS THERE LIFE AFTER PUBLIC SERVICE: THE FATE OF RETRENCHED  
WORKERS IN CONAKRY, GUINEA**

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## ABBREVIATIONS

- PREF** - Programme de redressement économique et financier
- BARAF** - Bureau d'aide à la reconversion des agents de la fonction publique
- IMF** - International Monetary Fund
- MRAFP** - Ministry of Reform and Civil Service
- OLS** - ordinary least square
- ROG** - Republic of Guinea

## 1. INTRODUCTION

A combination of macroeconomic and microeconomic objectives have led donors and policymakers to emphasize reducing the role and improving the efficiency of the state as a key component in the reform of sub-Saharan Africa economies. Macroeconomic stabilization efforts have inevitably focused attention on the size of the wage bill and the attendant strain that is placed on the government's limited budgetary resources. However, public sector wage and employment policies also have important direct impacts on the efficiency of the sector, as well as numerous indirect impacts on the rest of the economy.<sup>1</sup> Thus, the retrenchment of government workers, as well as the rationalization of public sector pay scales and employment policies, have become essential components of structural adjustment programs in sub-Saharan Africa. This paper will focus on Guinea's retrenchment experience, which is particularly poignant because of the public sector's initial dominance of economic activity and severe institutional constraints to effective program implementation.

While there is a general consensus on the need for public sector reform, implementation of programs designed to reduce employment have been hampered by concerns about their political and social costs. Retrenchment programs are often perceived as politically costly because they risk alienating civil servants who form an important political base for most regimes. Furthermore, erosion of civil service support can cripple other reform efforts. Consequently, a number of regimes have lacked the political will to implement retrenchment programs as designed.

The social costs of retrenchment programs have also been an important source of concern and inhibited implementation efforts. Large layoffs have the potential of destabilizing private sector labor markets, especially since such programs often occur alongside demand-reducing stabilization policies. Retrenchment programs also raise equity concerns, particularly that women, who are less likely to face job and wage discrimination in the public sector, will be disproportionately hurt. However, perhaps of greatest concern is the impact of retrenchment programs on the welfare of households where a key income earner loses their public sector jobs. Will retrenched workers be able to find alternative employment and means of ensuring the basic needs for them and their families, or will they become a new class of poor? The goal of this paper is to address this concern.

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<sup>1</sup> Examples of indirect impacts include spillovers of public sector wage distortions to private sector labor markets; the deleterious effect of public sector rent-seeking on market transaction costs; and the impact of public sector wage flexibility on the effectiveness of nominal exchange rate devaluation.



However, before addressing this question, the next section of the paper presents a historical overview of the growth of the public sector in Guinea during the post-independence period and how this public sector growth precipitated the need for strong reform measures in the mid-1980s. Section 3 then describes the efforts of the new reform-minded government that took the reins of power in 1985 to reverse the growth of the public payroll. The section also discusses the effectiveness of the retrenchment program from a macroeconomic perspective, in terms of reducing the budget deficit, as well as from the perspective of institutional strengthening. The transition costs of redeployment are evaluated in Section 4, followed by a discussion of the adequacy of compensation programs in Section 5. The final section reviews the salient results of the paper and discusses the policy implications of the findings.

## 2. HISTORICAL CONTEXT

### THE FIRST REPUBLIC

Guinea's experience in reforming the civil service is particularly poignant because of the public sector's dominance of economic activity and the severity of institutional constraints at the outset of the economic recovery program in 1985. To understand the acute need for, and challenges of, reducing the size of the civil service and the role of the state in the economy, one needs to go back to 1958 when Guinea achieved independence from France. The new post-independence regime, the First Republic, proceeded to install a state apparatus that would control all aspects of political and economic life, even at the village level, for the next 26 years. The ruling political party became inseparable from the state apparatus and both were highly centralized under the head of state, Sekou Touré.

The state endeavored to eliminate all formal private sector activity and became the source of almost all formal sector employment. Furthermore, state guarantees of employment to all higher education graduates resulted in public sector growth of over 7 percent per year throughout the 1970s. The exact number of state employees under the First Republic is not known, but it is estimated that there were 140,830 government employees in 1979 out of a population of around 4,400,000 people. Most of these employees had very low skill levels due to the deteriorating education system and no resources for training programs inside the public sector. At the same time, the government continued to allocate a large portion of its resources to support the ballooning public sector. This was especially true during the early 1980s when the government financed large balance-of-payment deficits by depleting foreign exchange reserves and accumulating large payment arrears (Arulpragasam and Sahn 1991).

Severe administrative inefficiencies limited the public sector's ability to supply the essential goods and services that the private sector provided prior to independence. As a consequence, parallel markets developed to provide the majority of citizens, who did not have access to state channels of distribution and state-run services, with their basic needs. At the same time, institutional inefficiencies in the rapidly growing public sector caused the educational and legal systems to decay. The formation of human capital was stunted and the perceived legitimacy of public sector institutions and administration undermined. Perhaps most destructively, patterns of public sector rent-seeking were established, which significantly increased the costs of economic transactions.

The genesis of rent-seeking and related corruption was in the deteriorating conditions of public sector service throughout the First Republic. Nominal wages were frozen between 1965 and 1980 (de Mérode 1991), and remained constant in real terms between 1980 and 1984 (UNDP 1992). Furthermore, the wage structure

was rigid and compressed, leaving few wage incentives for advancement within the sector. By 1985 the average Guinean civil servant earned 5,500 FG per month base pay (about US\$ 18 at the parallel exchange rate).

Instead of receiving adequate on-budget wage payment, civil servants benefited through their positions from a number of additional allowances and in-kind transfers, especially access to ration shops, which sold goods at substantially below parallel market prices. However, to survive, public sector workers were forced to develop additional sources of income. Few mechanisms for accountability and the potentially severe consequences of making administrative decisions contrary to the whims of a despotic ruler were further incentives for civil servants to put minimal effort into the performance of public sector duties. Instead, many concentrated on using public resources at their disposal to seek rents.

In summary, by the end of the First Republic, the massive human resources devoted to the public sector were more than just a major component of the balance-of-payment deficit. These human resources were causing large deadweight losses in the economy through rent-seeking behavior and were increasing private sector transaction costs by imposing arbitrary and opportunistic regulations on market activities. Institutional constraints to governance and management of the public sector had become the main impediments to private sector economic growth in Guinea. Even without the macroeconomic disequilibria of the public sector deficit, reducing the role and size of the public sector was justifiable as a mechanism to increase economic efficiency.

## THE SECOND REPUBLIC

The Second Republic took power in a coup, shortly after the death of Sekou Touré in April of 1984. Economic, social, and political disintegration was acute, reserves had been depleted, and the level of debt untenable. Thus, the new military regime quickly moved to dismantle the state apparatus set up under the First Republic and then to implement liberal economic policies favorable to private enterprise and foreign investment. Economic reform measures were first proposed in 1985 under the *Programme Intérimaire de Redressement Nationale*, which was subsequently elaborated into a structural adjustment program for 1986 to 1988, *Programme de Redressement Economique et Financier* (PREF), supported by loans from the World Bank and the International Monetary Fund (IMF).

The PREF committed the government to a number of concrete actions to reduce the role of the state in the economy and liberalize markets. Included were steps to drastically devalue the exchange rate to reflect the true value of the currency; eliminate price controls and state marketing agencies to liberalize trade; and shut down state banks and promote commercial banking. However, most germane to this paper was the mandate to reduce the number of public sector employees and privatize or liquidate parastatals.

### 3. THE CIVIL SERVICE REFORM PROGRAM

#### INTENT AND ACTION

As part of the initial economic recovery program outlined in 1985, three targets were set to reduce the number of public sector employees and increase the efficiency of the sector: total public sector employment was to be reduced by 25,000 persons; a new pay and benefits framework was to be introduced; and the skill levels of remaining public sector employees were to be increased. The second phase of PREF, commencing late in 1988, focused on increasing the efficiency of the remaining public sector employees through institutional reform.

The first major step to realize the ambitious objectives of the reform program was a census, conducted between December 1985 and April 1986, to determine the number of public sector employees on the payroll. The census results indicated that 70,989 individuals were employed directly by the civil service; 17,111 were employed in parastatals, state banks, or attached to mining companies; 12,700 were enrolled in the military; and 2,000 were employed without a specified sector.

The following actions were then initiated to achieve public sector staff reduction targets. First, guaranteed employment for university graduates was terminated. Second, a hiring freeze for civil service positions was imposed. Third, retirement of civil servants over the age of 55 and those with more than 30 years of service was mandated. Fourth, a large number of public sector enterprises and banks were closed and their employees were removed from the public sector payroll. Fifth, employees attached to mining companies were removed from the public sector payroll (although some would be reemployed on a contractual basis). Sixth, optional early retirement and voluntary departure with substantial benefit packages to civil servants were offered. Finally, mandatory skill testing of all civil service employees was instituted, to be followed by the release of those found to lack required skills.

Three accompanying programs were developed to lessen the social and political impact of the proposed reductions by enticing employees to voluntarily leave the public sector, and making it less painful for those forced out of their jobs. First, the Administrative Reserve Status program (*Disponibilité spéciale*) was instituted in December 1985. The program placed individuals redeployed as part of liquidation or privatization of public sector enterprises on administrative reserve status. This status entitled them to continued payment of base salary for six months after termination of their employment. Under political pressure salary payments were later extended until December 1988. Subsequently, civil servants who failed the skills test were also placed on administrative reserve status and delays in the confirmation process of test results allowed

some of them to remain on reserve status and continue to draw civil service salaries for up to two years after the December 1988 deadline.

Second, as a complement to the forced departures of those from closed enterprises and those who failed skills tests, the Voluntary Departure program was created to encourage civil servants to leave the employment of the state. Incentives for departure, of between 500,000 FG and 1,000,000 FG paid over 30 months, were provided. The deadline for enrollment in the Voluntary Departure program was December 1988 and those who opted to take the civil service skills test, regardless of whether the outcome was favorable or not, forfeited their eligibility for the program.

Third, individuals participating in the Voluntary Departure program were also eligible to receive private enterprise development loans and training from the *Bureau d'aide à la reconversion des agents de la fonction publique* (BARAF) to facilitate their transition into the private sector.

## **RESULTS OF THE PROGRAM**

Next, we briefly discuss the effectiveness of the retrenchment program in meeting three basic criteria: reducing the number of civil service workers; improving the institutional structure of the civil service; and instituting budgetary savings.

### **Reduction in Civil Servant Employment**

To verify reductions in the size of the public sector, a second census of public sector employees was taken at the end of 1989. According to the census results, 32,639 workers had been taken off the public sector payrolls since 1985. Table 1 shows the number of departees, by sector and departure program, for the period in 1985-1989. Departures of ministry civil service staff accounted for a little over half of all reductions, and redeployments from state banks, parastatals, and mining companies accounted for the remaining departures. Over the same period, the size of the military actually increased from 12,700 to 15,000 persons. Of the 32,639 departures, 10,120 departed under the Voluntary Departure program; 4,700 retired; 6,526 retired early; 4,245 were removed from administrative reserve status; and 5,617 were mining sector civil servants removed from the civil service and rehired on a contractual basis.

Clearly, in terms of exceeding its target of removing 25,000 persons from the public sector, the census information suggests the redeployment program was successful. However, as we shall see, this success was tempered by the questions about the reliability of payroll information and high rates of new hirings.

Table 1 - Redeployment Between 1985 and 1989, by Sector and Reason for Departure

	Number of workers							Total
	Mining Companies	State Banks	Public Enterprise	Ministry Staff	Military	Indeterminate		
Staff at end of 1985	6,517	4,394	6,200	70,989	12,700	2,000		102,800
Reason for departure								
Retirements		-610		-4,090				-4,700
Early retirements		-380		-6,146				-6,526
Voluntary departures		-2,391	-5,985	-1,744				-10,120
Removed from administrative reserves				-4,245				-4,245
Reemployed on contract	-5,617							-5,617
Staff to be retrained				-4,061				-4,061
Recruitments				1,330	2,300			3,630
Staff at end of 1989	900	1,013	215	52,033	15,000	2,000		71,161

Source: World Bank, Country Economic Memorandum 1990.

## Improving the Institutional Structure of the Civil Service

It is difficult to provide objective indicators of institutional improvements in the public sector. Nonetheless, the government has clearly taken a number of bold and difficult actions in this area, including the retrenchment of workers, increased pay for those remaining on the state payroll, and various measures to strengthen institutional structures. To amplify, between 1985 and 1990, the government privatized or liquidated over 70 percent of state enterprises and removed their employees from state payrolls. At the same time, employment within the civil service was reportedly cut by 27 percent.

To boost morale and productivity, wages were increased dramatically during the course of the reform program. In 1986 the civil service salary base was increased by 80 percent, and cost of living and transport allowances were added to compensation packages. This followed an even larger pay increase that had occurred in 1985 and resulted in real salaries approximately four times higher in 1986 than in 1980 (Table 2). Salary bases were again increased by over 80 percent, in 1988, along with additional increases in allowances and premia. Then in April 1989, a new compensation plan was instituted under which the base salary was determined by an index calculated on the basis of individual's education and experience levels. Previous allowances for cost of living and transportation were abolished and a comprehensive set of new allowances was defined. These changes resulted in an average increase in real remuneration of 23 percent. More importantly, they represented a first attempt to explicitly link promotions and pay increases to performance.

However, the trend of salary increases was not ended by the new framework, as real compensation was increased again in 1990. Then in 1991, partially as a result of a nationwide strike, the nominal base salary was increased 145 percent, far exceeding the rise in the price level. These latest increases, though politically necessary, had severe budgetary repercussions and were strongly opposed by the international lending community.

In addition to the retrenchment program and efforts to rationalize pay for those who remained, a number of positive steps were taken to improve the institutional structure of the civil service. In late 1988 the Ministry of Reform and Civil Service (MRAFP) was created to institutionalize the civil service reform process. Two departments within the MRAFP and a department within each ministry with links to the MRAFP were created to address institutional organization, skill development, and financial management needs.<sup>2</sup>

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<sup>2</sup> The Office of Administrative Reform Strategies and Programs was set up to provide the rationale and outlines for ministry bureaucratic reorganization and to develop job descriptions and organizational charts within each ministry. The Center for Administrative Improvement was established to improve the efficiency of civil servants. Its specific mandate included: evaluating retraining needs; developing training programs; developing a computerized database on employees; and, developing a standardized system of evaluation and advancement. Finally,  
(continued...)

**Table 2 — Government Expenditure and Wage Statistics for 1980 to 1992**

Year	Wage/Total Public Expenditures (Percent)	Recurrent/Total Public Expenditures (Percent)	Wages/Recurrent Public Expenditures (Percent)	Real Government Wage (1986=100)	Real Government Expenditures (1986=100)
1980 (Estimated)	39.9	76.7	50.1	23	123
1986	15.6	58.9	26.5	100	100
1987	11.7	58.2	22.0	93	101
1988	18.9	55.3	29.8	172	112
1989	19.4	54.0	32.3	212	105
1990	18.7	49.1	34.2	252	122
1991	24.2	52.0	42.2	NA	NA
1992 (Projected)	22.7	44.1	48.7	NA	NA

**Sources:** 1980-1986, UNDP (1992), African Development Indicators.  
 1987-1990, IMF (1991), Staff Report for 1991.  
 1991-1992 (Projected), Republic of Guinea (1991).  
 Real government wage figures, World Bank (1990).

**Note:** NA is not available.



However, despite these accomplishments, there is a common perception that civil service reforms have lost momentum and even eroded after 1988. After the initial round of radical reforms in 1986 and 1987, the civil service has become more effective at stalling and subverting the implementation of policies with potentially negative impacts on their well-being. For example, the coverage of the testing program has been incomplete and often the results have not translated into appropriate employment decisions. More than 26,000 civil servants, mostly in the Ministries of Education and Health, were not tested, and some of those failing the test were never officially notified and continue to work in the civil service.

Transparency and truth in payroll and personnel information has also proved difficult to maintain despite two public sector censuses in four years. A verification exercise in Conakry in 1987 suggested that five percent of payroll records were improper and the second public census in 1989-1990 showed further erosion in the accuracy of payroll information since the 1987 exercise. This inability to maintain payroll information has led to strong suspicions that the actual number of civil servants may be higher than reported. Under pressure from the World Bank and the IMF, outside technical assistance was provided in 1992 to overhaul and computerize the civil servant roster and payroll system. Yet, progress in establishing a clear system of accounting for public sector workers continues to move slowly.

### **Reducing the Budget Deficit**

The effectiveness of public sector retrenchment programs in reducing the government budget deficit was limited by the concurrent increases in real wages. Nonetheless, results indicate that efforts to reduce the size of the public sector have had some impact on total government expenditures. A major portion of total government expenditure in the last years of the First Republic was devoted to public sector wages. It is estimated that wage payments comprised 39.9 percent of total government expenditures in 1980 (UNDP 1992). However, by 1987 wage payments as a share of total expenditures had fallen to only 11.7 percent of total public spending (Table 2).

Yet, as the costs of compensation and civil service real wages continued to increase, so did the wage bill and its importance in total spending. Between 1987 and 1991, both the real wage bill and wages as a percentage of total public expenditures more than doubled. Along with the rapid growth in real wages, one important contribution to the higher wage bill has been the growth in salaries to the military, which currently account for roughly 30 percent of the public sector wage bill. Soldiers have been particularly effective in resisting civil service reform efforts and actually increased in numbers over the PREF program

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<sup>2</sup>(...continued)

a Department of Administrative and Financial Affairs, with links to the MRAFP, was established in every ministry to monitor and administer the ministries' personnel, material, and financial resources.

period. Recently other groups have also exerted pressure on the government to increase public sector employment and in 1990, 2,204 new civil service employees were hired on top of the doubling of real civil servant base pay.

There have been, however, some positive budgetary movements between 1987 and 1991. Particularly, the government was relatively successful in reallocating overall government expenditure into investment. The portion of total government expenditures going to recurrent expenses decreased between 1987 and 1991. This improvement is partially attributable to large inflows of foreign capital from international donors, and redeployment programs were crucial in obtaining and continuing the flow of this assistance. Thus, from a budgetary standpoint, perhaps the greatest impact of the redeployment programs has been to facilitate the procurement of foreign assistance by sending a strong signal to the international donor community of the government's commitment to economic reform.

## **SUMMARY**

In terms of the reported number of reductions in public sector employment, the retrenchment program appears to have been very successful. Yet, primarily due to wage increases, budgeting gains have not accompanied reductions in the number of workers. These reductions have also substantially contributed to the creation of the conditions of service and organizational framework, which are prerequisites for institutional reforms. However, there is still little empirical basis for arguing whether or not the efficiency of the public sector has increased. The fact remains that institutional relationships do not change with policy pronouncements and the behavior patterns of civil servants will change only over time if the proper incentive structure is instituted. Promoting changes in the behavior of civil servants is especially challenging in a country like Guinea where, during the First Republic, a number of institutional mechanisms developed to promote rent-seeking behavior. In particular, centralized decisionmaking, poor monitoring and control of resources, and cumbersome bureaucratic rules inhibited the transparency of actions. These institutional characteristics have been particularly resistant to reforms since a large portion of civil servants benefit by perpetuating the status quo. Currently it is unclear if the government has the political will to confront these interests. However, if the government can stay the course of institution reform, public sector efficiency gains have the potential to outweigh the social and political costs of the redeployment program, even without an accompanying budgetary gain.

#### 4. THE IMPACT OF RETRENCHMENT PROGRAMS ON REDEPLOYED WORKERS

Public sector employment reductions were part of a larger effort to decrease the role of an inefficient public sector in the economy and, thereby, rely on ensuing growth in a liberalized private sector to drive economic development and absorb redeployed state workers. Short-term compensation was justified to cover the costs of transiting to the private sector, but over the long term redeployees were expected to face higher potential earnings in the private sector. This section of the paper will examine the difficulties retrenched public sector employees have faced in transiting into the private sector.

#### THE DATA

Until now little information has been available on the impact of redeployment programs on those most affected — public sector workers who lose their jobs. Therefore, based on a self-weighted representative sample of 1,728 households conducted in Conakry in 1990-1991, we conducted a survey of the subsample of individuals who were redeployed or left a public sector job between 1979 and the time the survey was conducted. The subsample comprised all the individuals initially surveyed who were (1) currently unemployed and had previously held a job in the public sector, (2) currently employed in either the public or private sector who indicated they had left the public sector for an extended period of time in the last decade, and (3) those currently employed in the public sector who transferred from one public sector position to another, without a long spell of unemployment, because of the redeployment program. This supplemental "retrenchment" survey collected additional information on labor history, including reason for transition, duration of unemployment accompanying the transition, the level of pre- and post-transition wages, and compensation received after departure.

The subsample is biased by the lack of representation of individuals who died or migrated from Conakry after transitions from public sector positions, but before implementation of the survey. No specific information is available on the bias introduced by the exclusion of these groups, and no means of correcting for this censoring problem are available. As a result, retirees and other cohorts of older redeployees are probably underrepresented in the subsample because of death. On the other hand, urban to rural migration during the period was extremely limited due to poor economic opportunities in villages and is probably not a significant source of bias in the sample.

## TRANSITION PATHS OF PUBLIC SECTOR WORKERS LEAVING BETWEEN 1979 AND 1992

Individuals leaving the public sector may follow one of five paths. First, they may leave the public sector and not take other work, at least through the time that the survey was conducted.<sup>3</sup> Second, an individual may leave the public sector, spend a period without work, and then take a private sector position. Third, an individual may leave a public sector position and immediately take a private sector position. A fourth type of transition involves leaving a public sector position, spending a period without work, and then entering another public sector position. Finally, an individual may leave a public sector position due to retrenchment but immediately take another public sector position.

Transitions of type five are qualitatively different from the other transitions listed because the individual never actually leaves the public sector. However, the motivation for such transitions is the same: one's job is terminated because an enterprise is closed, or the number of workers in a ministry is reduced. To the extent that these circumstances precipitate the transition, they should be treated like the other types of transitions discussed above. In fact, only 1 percent of the transitions are from one public sector job to another without a spell of unemployment. Thus, transition type five is not of great importance.

### Transitions

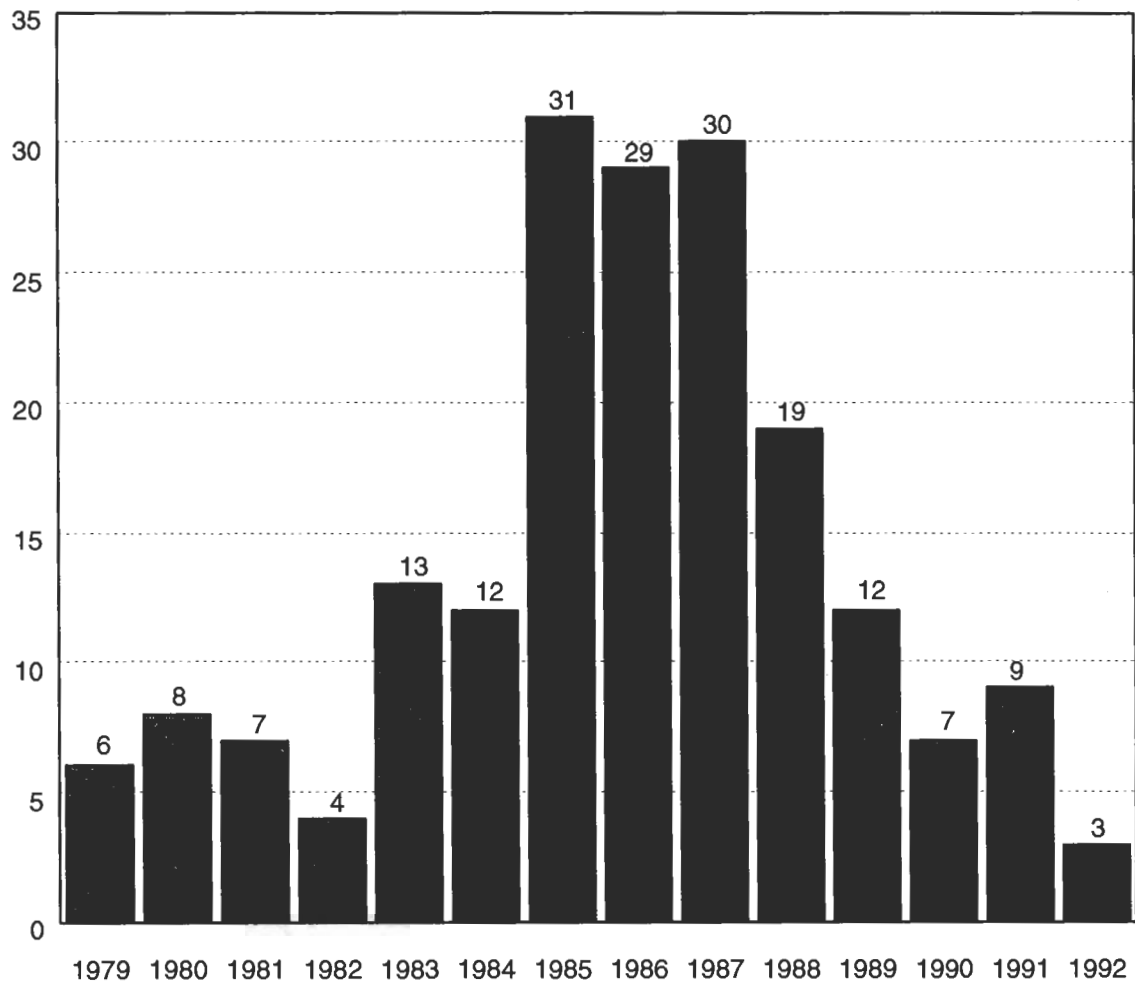
The majority of public sector departures (55 percent) occurred between 1985 and 1988 — the period that the formal redeployment program was in full implementation (Figure 1). However, both prior to 1985 and subsequent to 1988, individuals were leaving the public sector. Throughout the remainder of the analysis, a distinction will be made among the three time periods that roughly correspond to before, during, and after the formal redeployment program in an effort to determine whether and how the experience of job leavers differed among these periods.

First, we examine the current status and specific transition paths taken by those who left the civil service between 1979 and 1990 (Figure 2). The data must be evaluated recognizing that this is a heterogeneous group of workers in terms of the date that they left the public service and the reasons for departure. The center pie chart shows the 1992 status of those who made a transition from a public sector position since 1979. Of those who exited the public sector after 1978, 43 percent were not working at the time of the survey in 1992 (not working includes both those who are seeking, and those who are not seeking employment), 52 percent were employed in the private sector in 1992, and 5 percent exited a

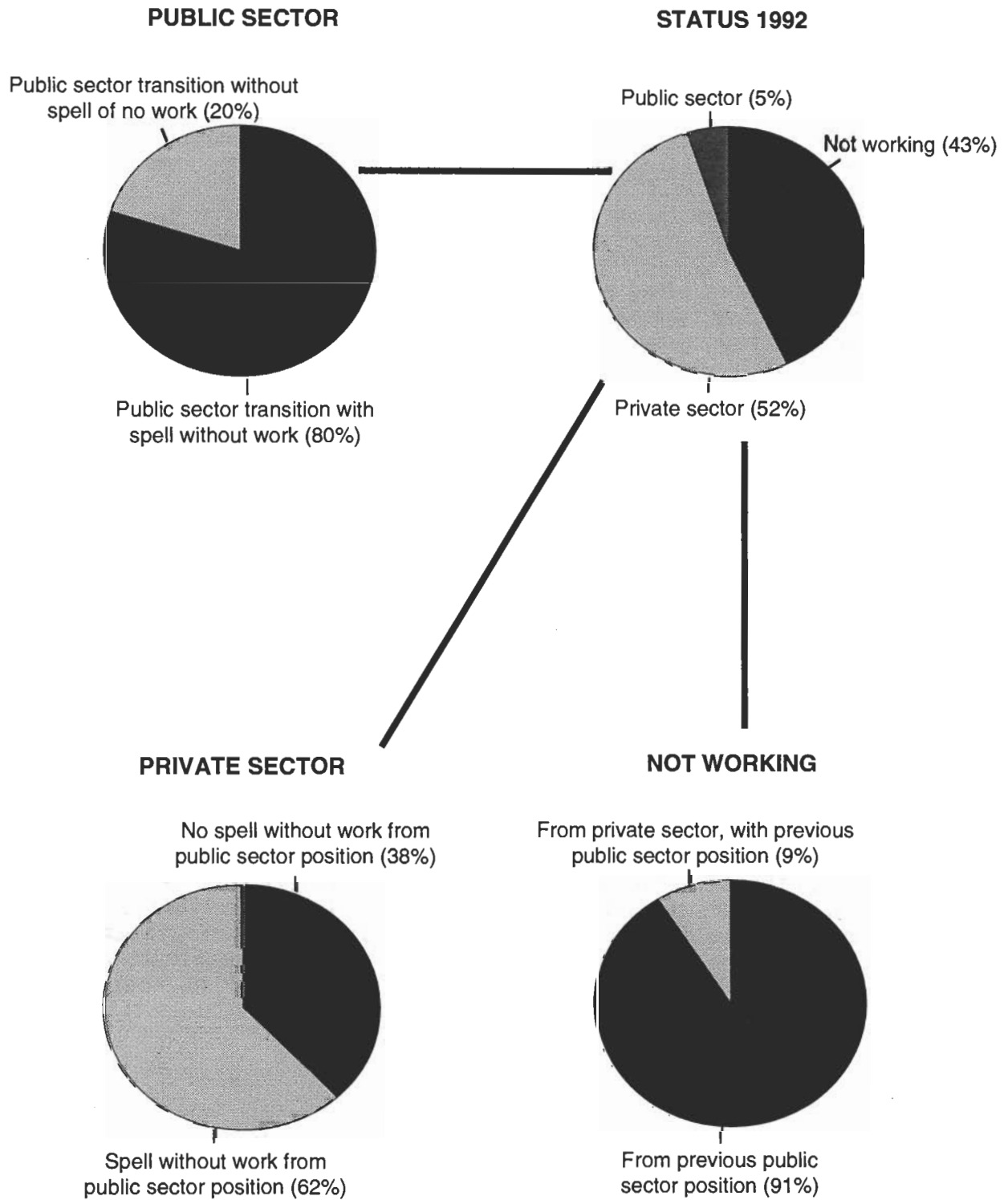
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<sup>3</sup> There is a sample truncation problem here. Just because someone has not yet found another job at the time of the survey does not mean that at some future time he will not reenter the labor force.

Figure 1 — Number of Individuals Leaving the Public Sector, by Year of Departure



**Figure 2 — Current Status of Individuals Leaving a Public Sector Job after 1979 and Their Employment Histories**



public sector position but were currently employed in another public sector position in 1992.

The three perimeter charts show the transition paths followed by individuals to arrive at their 1992 status. The pie chart on the lower right partitions those currently not working by their employment history. The overwhelming majority (91 percent) of those who left the public sector and were not working at the time of the survey had never reentered the labor market. In contrast, only 9 percent of the persons leaving the public sector and presently not working temporarily held a position in the private sector.

The pie chart on the lower left depicts the labor history of individuals who left the public sector after 1979 and were employed in the private sector at the time of the survey. The results indicate that 62 percent of individuals employed in the private sector in 1992 had undergone a spell without work between leaving the public sector and finding a new job. Finally, the pie chart on the upper left depicts the labor history of the small number of individuals who left a public sector position but reentered the public sector by 1992. Transitions between public sector jobs with a spell of no work accounted for 80 percent of these cases.<sup>4</sup>

The above analysis of individual labor histories suggests, first, that movements out of the public sector to other positions tend to be permanent — 95 percent of transition paths involved leaving the public sector for a private sector position or unemployment. Second, there was a relatively high frequency of individuals without work at the time of the survey (43 percent). However, it is important to keep in mind that not all individuals without work are structurally unemployed (unable to find suitable jobs); instead, some are retirees and other categories of nonparticipants including those not searching due to illness, household duties, poor economic opportunities, and other causes. In the next part of the analysis we examine the reasons for the departure from the public sector and its relationship to the subsequent job search and employment outcomes.

### Reasons and Characteristics of Those Leaving Public Sector Positions

The reason that a public sector employee leaves his/her job has an important influence on **their subsequent** transition path. In the following analysis, reasons for **leaving public sector** positions are **divided into** three categories: **found other employment; retirement; and redeployment.** The redeployment category includes **individuals released** during the **closing of public sector firms**, **individuals laid off because of government cutbacks,** **individuals laid off for**

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<sup>4</sup> It should be emphasized that the 20 percent that had no spell of not working between public sector positions clearly indicated that leaving their earlier position had been motivated by retrenchment.

failing the government skills test, and individuals leaving the civil service as part of the voluntary departure program.

Figure 3 shows the frequency of reasons for transitions from public sector employment for 1979-1992, as well as the three disaggregated redeployment periods. Overall, slightly more than half of the transitions were motivated by redeployment. Retirements accounted for 39 percent of transitions and finding other work represented roughly 6 percent of transitions. It is important to remember, however, that these latter categories may well include those motivated to retire early or find other work, because of the expected reduction in the size of the public service.

An examination of transitions by period shows that the frequency of redeployment is much higher during, but not limited to the years 1985-1988, when the redeployment program was most active. However, layoffs from public sector enterprise closings began in the early 1980s prior to the implementation of formal redeployment programs. Likewise, many individuals placed on the roles of "disponability special" were released from the public sector after the official termination of redeployment programs in December of 1988. It should also be noted that the frequency of reasons for transitions in the pre- and post-redeployment program periods are very similar. This suggests that a base rate of departure from the public sector existed prior to the implementation of the formal redeployment programs, and that this rate has not appreciably changed in the period after the formal termination of these programs.

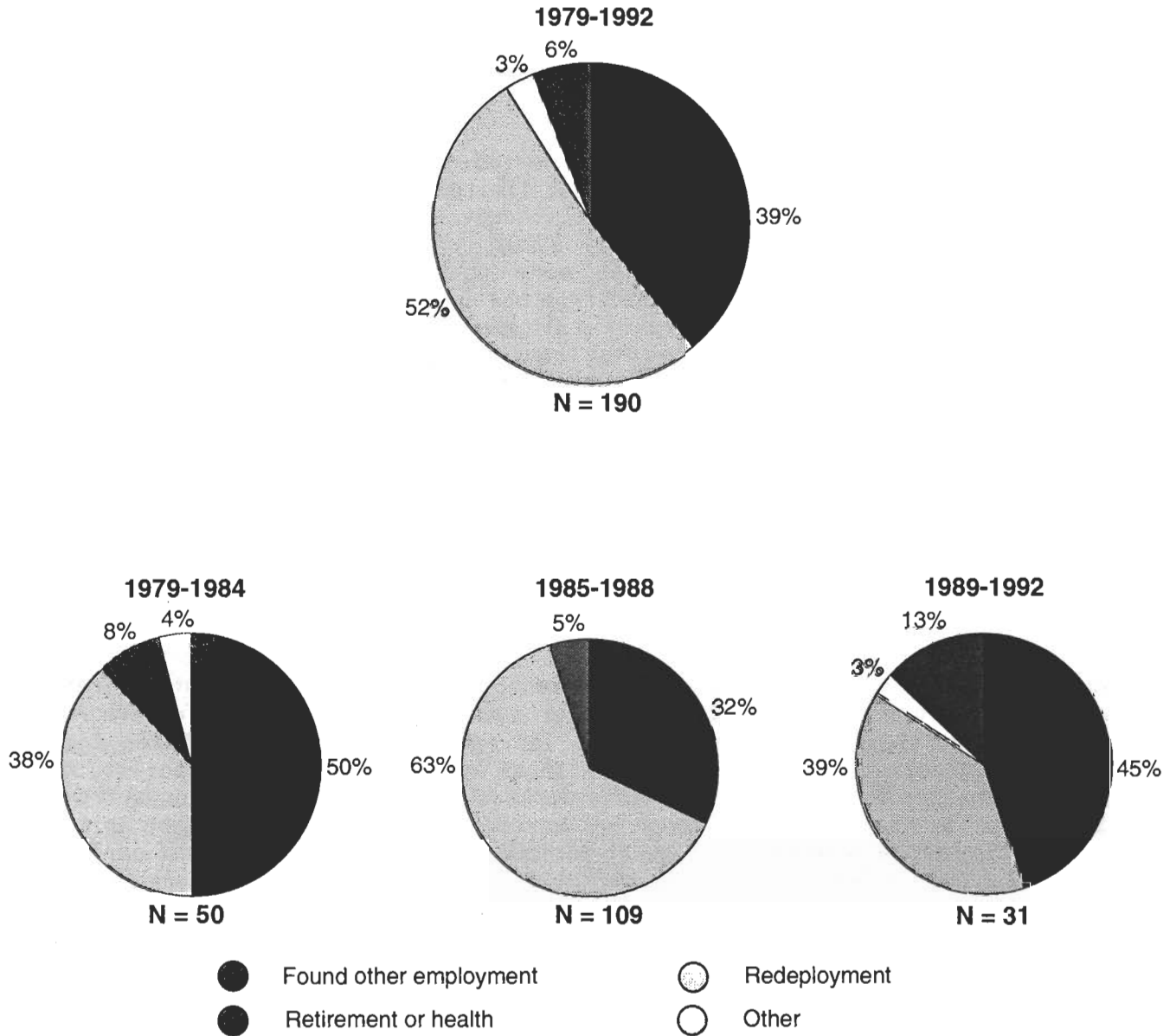
Table 3 shows that by 1992, 70.5 percent of those who left the public sector as redeployees between 1979 and 1990 had found another job. The comparable figure for retirees is only 45.6 percent, a considerably lower share than redeployees, as expected.

It would be a mistake to suggest that those who are not working are unemployed since nearly 40 percent of the redeployees and 84 percent of retirees not working are nonparticipants (no longer seeking employment). Furthermore, overall nonparticipation rates decrease for redeployees over the three time periods, suggesting that longer spells without work increase the probability of nonparticipation for these former state workers. Among retirees, nonparticipants comprise 83.8 percent of those not working. This figure is higher in the pre-redeployment and post-redeployment periods than in the redeployment period, reflecting the influx into the job market of former public sector workers who wished to remain active in the labor force, but were forced to retire under the redeployment program. From these results, the overall unemployment rate among persons leaving public sector jobs is calculated at 17 percent. This is higher than the overall unemployment rate for Conakry of 12 percent despite the fact that the majority of redepartees reside in age and gender cohorts with the lowest rates of unemployment (Glick et al. 1992). Furthermore, redeployees appear to have a slightly higher rate of unemployment overall (20 percent), and during each time period, than for retirees or other departees.

A number of factors, in addition to reason for leaving the public sector, influence the observed frequency of nonparticipation, unemployment, and



Figure 3 — Reasons for Leaving the Public Sector, by Period



**Table 3 — Participation and Nonparticipation Rates, by Reason of Departures**

	Time Period			
	1979-1990	1979-1984	1985-1988	1989-1990
Redeployees	N=95	N=19	N=69	N=7
% Working	70.5	89.5	65.2	71.4
% Not working	29.5	10.5	34.8	28.6
of which:				
% Participants	60.7	50.0	58.3	100.0
% Nonparticipants	39.3	50.0	41.7	0.0
Retirees	N=68	N=25	N=35	N=8
% Working	45.6	40.0	51.4	37.5
% Not working	54.4	60.0	48.6	62.5
of which:				
% Participants	16.2	6.7	23.5	20.0
% Nonparticipants	83.8	93.3	76.5	80.0
All	N=178	N=50	N=109	N=19
% Working	63.5	66.0	62.4	63.2
% Not working	36.5	34.0	37.6	36.8
of which:				
% Participants	35.4	88.2	43.9	42.9
% Nonparticipants	64.6	11.8	56.1	57.1

employment. A simple multinomial logit model is developed to infer the relationship between these factors and employed and nonparticipant categories relative to a base unemployment category.

Individual characteristics include individuals' position in their household, gender, education level, ethnicity, and payment received upon retirement. The household head is traditionally responsible for providing for household needs, thus their income stream is more critical to household welfare than the income streams of other family members (Dioubaté 1992). As a result, household heads are willing to search more intensely for new work and are less likely to accept nonemployment alternatives. Thus, being the household head is hypothesized to increase the probability of residing in the employment state relative to the unemployment state.

Gender is also hypothesized to influence the relative probability of labor market states. In the traditional household structure, the women's responsibility for almost all daily household activities increases the nonmarket value of their time, relative to men's. Hence, women are more likely to spend their time outside the labor market, and thus be nonparticipants. Old age, and if the individual left because of retirement, is also hypothesized to be positively related to the nonparticipation state. In addition, the receipt of severance is expected to reduce the probability of seeking and finding acceptable new employment since it provides an alternative source of income, at least for the period over which it is disbursed. Educational level, on the other hand, increases the human capital of the worker and presumably productivity as well. Thus, the expected wage offer increases. At the same time, individuals with greater human capital have a higher probability of being offered a position, in part due to greater skills of the searcher and in part due to the signaling of ability to the prospective employees. Hence the probability of residing in the employment state is hypothesized to increase with education.

Finally, two dummy variables for the period in which the individual left the public sector are included in the model to control for the sample censoring problem that arises due to the fact that more recent departees from the public sector had less time to either find a job, or give up the job search in the face of frustration or other precipitating factors such as illness. The coefficients on dummy variables are therefore expected to have a negative sign for both employment and nonparticipation relative to the base case unemployment. Furthermore, the magnitude of the parameter estimates is expected to be greater in the most recent period.

The estimated results of the model are reported in Table 4. Overall, the model explains a large portion of the variance in employment states and is robust under a number of estimated, but unreported, interactive specifications. Examining the individual parameter estimates, the positive and significant estimate for the household head dummy variable on employment supports the hypothesis that heads are more likely to reside in the employment state than other household members. Likewise, the significant parameter estimates for the dummy variable for persons over age 54 and the retirement variable support the

**Table 4 – Multinomial Logit: A Labor Force Participation Model for Individuals Leaving the Public Sector**

Variables	Base: Unemployed, N = 36			
	Employed, N = 108		Not participating, N = 45	
	Parameter Estimate	T-Statistic	Parameter Estimate	T-Statistic
Period leaving public sector (Base = 1979-1984)				
1985-1988	-0.98	-1.29	-1.73	-2.04**
1989-1992	-2.27	-2.78**	-3.70	-3.67**
Position in household (head = 1, other = 0)	1.62	1.71*	-0.32	-0.24
Gender (female = 1, male = 0)	1.38	1.52	2.68	2.37**
Age ≥ 55	-1.63	-1.77*	2.30	1.80*
Age ≥ 40, < 55	-0.74	-1.09	1.25	1.15
Education level (none = 0)				
Primary	-0.54	-0.91	-0.72	-0.98
Secondary	0.09	0.14	-0.48	-0.51
University	1.12	1.07	-0.78	-0.49
Ethnicity				
Fulani	0.31	0.53	0.59	0.83
Malinke	0.79	1.32	1.46	1.97*
Retired (yes = 1)	0.33	0.54	1.85	2.37**
Severance pay (yes = 1)	-1.25	-2.19**	0.13	0.16
Constant	1.58	1.56	-0.78	-0.61
Model statistics				
Log likelihood value			-139.29	
Chi-square statistic			90.85**	
Number of observations			N = 189	

\* Significant at the 0.10 level.

\*\* Significant at the 0.05 level.

hypotheses that older persons, as well as those that left the civil service as retirees, are more likely to be nonparticipants. The severance pay variable also assumes a significant and negative sign in relation to the employment state, suggesting that there may be some disincentive effects to finding a job associated with the severance payments that were provided for up to 30 months after leaving the job. Furthermore, while none of the education level variables significantly influence the probability of residing in the employment state, the parameter estimate for university education is positive and large.

The dummy variables for the redeployment period (1985-1988) and post-redeployment period (1989-1992) correspond to our expectation. All estimates are negative for the probabilities of residing in the employment and nonparticipation states, and larger in magnitude during the latter period. This supports the assertion that observed higher rates of unemployment among later departees of the public sector are due largely to censored transition paths. The influence of period, controlling for this censoring problem, will be examined for unemployment to employment transitions with a transition intensities model in the following portion of the analysis.

#### **Duration of Spells Without Work**

The previous discussion has shown that spells without work are an important component of most transitions. We now examine the incidence and duration of spells without work. In Table 5 we distinguish between the pre-redeployment and redeployment program subperiods but do not present data on the post-redeployment period because of the severity of the censoring problem from incomplete transitions. These censoring problems also apply to comparisons between the 1979-1984 and 1985-1988 periods and caution should be used in interpreting the data. However, the subsequent model of transition intensities from unemployment to employment controls for censored observations and, therefore, includes the post-redeployment period data.

Table 5 shows that during the 1979-1984 period, 22 percent of transitions did not include a spell without work, compared to 18 percent in the redeployment period. This difference is primarily due to the fact that redeployees leaving in the 1985-1988 period were more likely to experience a spell without work (84 percent versus 68 percent in the pre-reform period). Furthermore, 64 percent of redeployees from the 1985-1988 period did not find a position within two years of leaving their public sector position, and nearly half had not reentered the labor force four years after being redeployed. In fact, nearly one-third had not reentered the labor market at the time of the survey, although, as discussed in the previous section, many of these individuals were no longer actively searching.

Retirees also show a very low frequency of immediate transfer to other positions upon departure from the public sector and usually a prolonged period before reemployment, if it occurs. However, uptake of retirees into employment is clearly higher in the 1985-1988 period. The fact that retirees from this period were more likely to continue active involvement in the labor market is

**Table 5 — Duration of Spell Without Work upon Leaving the Public Sector, by Reason and Period of Departure**

	Period of Departure						
	1979-1984			1985-1988			
	Retirees	Redeployees	Found Other	All	Retirees	Redeployees	Found Other
Percentages							
Duration without work							
≤ 1 month (i.e., no spell)	8.0	31.6	100.0	22.0	11.4	15.9	100.0
> 1 month to 1 year	4.0	10.5	0.0	6.0	8.6	8.7	0.0
1 to 2 years	12.0	5.3	0.0	8.0	17.1	11.6	0.0
2 to 4 years	4.0	10.5	0.0	8.0	11.4	15.9	0.0
4 to 6 years	8.0	10.5	0.0	10.0	0.0	13.0	0.0
6 to 8 years	4.0	10.5	0.0	8.0	2.9	0.0	0.0
> 8 years	0.0	10.5	0.0	4.0	NA	NA	NA
% not re-entering work force by 1992*	60.0	10.5	0.0	34.0	48.6	34.8	0.0
Total	100	100	100	100	100	100	100
Number of individuals*	N = 25	N = 19	N = 2	N = 50	N = 35	N = 69	N = 5
							N = 109

**Notes:** Figures in bold are biased by the truncation of the sample period in 1992; NA means not applicable.

\* In the 1979-1984 period, four individuals listing 'other reasons' for leaving the public sector are included in the "All" sample.

likely a reflection of the incentive for early retirement during the redeployment program.

For individuals who left the public sector into unemployment, a number of personal characteristics similar to those discussed above influence the rate of transition back into employment. Perhaps the most important characteristic in determining the duration of unemployment among those who experience such a spell is the searcher's human capital assets. Individuals with higher levels of education can more quickly adapt to changing labor market conditions and therefore search more efficiently for employment. Correspondingly, employers prefer individuals with higher educational levels because they believe education is highly correlated with workers' ability. Hence, it is expected that unemployed individuals with higher education levels have a higher probability of leaving unemployment within a given time period. Previous employment experience also increases human capital if the experience is relevant in the private sector labor market. However, most public sector experience has little transferability to the private sector and is therefore expected to have little impact on the probability of finding other employment. Social networks are also extremely important in the job search process. In Conakry, one's social network is heavily influenced by ethnicity. Two ethnic groups, the Fulani and Malinké, are commonly perceived to disproportionately control private sector commerce. Therefore, members of these ethnic groups are expected to have higher probabilities of finding employment in a given period relative to the rest of the population.

As discussed, the responsibility of the household head to contribute to the primary source of income is also expected to increase the intensity of search and therefore increase the probability of finding other employment. By contrast, severance pay is expected to lengthen the duration of the search by allowing individuals to prolong their job search while still contributing to household consumption needs. Finally, one objective of the structural adjustment program was to increase the demand for labor in the private sector and thus make it easier for former public sector workers to move into private sector positions. It is expected that the probability of leaving unemployment within a given period of time is greater after 1984.

A Cox proportional hazard model is used to empirically test the relationship between these characteristics and the probability of exiting unemployment for the subsample of 107 individuals who underwent a spell of unemployment but either transitioned to another position, or continued to actively search for employment up until the survey. Table 6 presents the proportional hazard ratio estimates of the transition intensity model. The hazard ratios in the table imply the ratio of the probability of finding employment with an additional unit of the variable to the probability without the additional unit, during a given period of time. For example, individuals with a university level education are more than twice as likely to find employment in a given period as the rest of the population. However, individuals with primary and secondary education levels do not show significantly higher probabilities of finding employment. In addition, years of experience in the public sector is estimated to have no significant impact on the

**Table 6** — Estimated Cox Proportional Hazard Ratios for Individuals with an Unemployment Spell

Variables	Hazard Ratio Estimate	T - Statistic
Education levels, (none=0)		
Primary	0.95	-0.16
Secondary	1.02	0.05
University	2.07	1.76*
Experience, (years)	1.00	0.27
Ethnicity		
Fulani	1.11	0.28
Malinke	2.24	2.61**
Household head	2.21	1.83*
Severence pay, (Yes=1)	0.72	-1.13
Period of leaving the public sector (base = 1979-1984)		
1985-1988	1.18	0.50
1989-1992	1.62	0.82
Model Statistics		
Log likelihood value		-278.37
Chi-square statistic		21.6**
Number of observations		N = 107

\*\* Significant at the 0.05 level.

\* Significant at the 0.10 level.



probability of finding employment within a given time period, suggesting that experience gained in public sector positions is of limited value in finding private sector employment.

In terms of social networks, the data support the hypothesis that members of the Malinké ethnic group are more likely to find employment relative to other ethnic groups. But the probability of finding employment among Fulani is not statistically different from that of other groups. Household heads are also found to be significantly more likely to find employment within a given time period. The sign on the severance variable is negative, keeping with expectations, although the parameter estimate is not significant at the 10 percent level. Finally, the period in which individuals left the public sector does not appear to affect the probability of finding employment. Thus the data do not support the assertion that the reform programs have eased the expected duration of transition facing departing public sector workers.

#### **Current Earnings in the Wage and Self-Employment Sectors for Public Sector Departees**

Public sector departees face alternative employment opportunities in the wage and self-employment sectors. The choice of sector depends largely on the probability of finding employment in that sector and the expected earnings once employed. In the following analysis we first compare the present earnings in the wage and self-employment sectors for former public sector departees. We then compare individual's current earnings in the two sectors to the earnings, inflated to current levels, for the same individual in his or her last public sector position. Overall, 65 percent of public sector departees who found another position reentered the wage sector, with the remaining 35 percent undertaking self-employment (Table 7). This was not expected since only 49.5 percent of persons in Conakry are engaged as wage workers, and most employment created during the past few years has been in the informal nonwage sector. Furthermore, current mean monthly earnings were lower for wage sector employees (104,447 FG per month) than for those self-employed (148,228 FG per month). However, the distribution of earnings in the wage sector is far more compressed, leaving the median individual in the wage sector with significantly higher revenue than the median person in the self-employment sector.

In Table 8 current earnings for individuals who left the public sector after 1984 are compared with the same individuals' public sector wages, inflated to 1992 prices, at the time of their departure. We compare these earnings for both wage workers and the self-employed. On average, real earnings of public sector departees who were able to find other employment were found to be more than twice their previous levels in the public sector. However, there is a great deal of dispersion in changes, particularly in the self-employment sector, where 52 percent of departees actually had lower real earnings in 1992 than at the time of departure.

**Table 7** — Wage versus Self-Employment Earnings for Individuals Leaving the Public Sector

	Sector			
	Wage		Self-employment	
% of Re-entrants in sector	64.5	N = 69	35.5	N = 38
Mean monthly revenue (GF)	104,447	N = 66	148,228	N = 32
Distribution of monthly revenue, GF (percentiles)				
90%	207,460		345,000	
75%	140,000		156,000	
50%	82,500		50,000	
25%	49,152		21,250	
10%	30,000		15,300	

**Table 8** — A Comparison of 1990 Private Sector Earnings with the Most Recent Public Sector Earnings in 1990 Terms for Individuals Departing the Public Sector after 1984

	Sector	
	Wage Workers	Self-employment
Average % change in salary	118	102
% of individuals with increased earnings	63	48
Distribution of percentage change in earnings		
> 90	365	452
75-90	166	159
50-75	51	-29
25-50	-35	-62
10-25	-64	-77
Number of individuals	N = 46	N = 21

**Notes:** 1985-1986 wages deflated using "Enquete sur les depenses menages de la ville de Conakry," Ministere du Plan et de la Cooperation Internationale (1987).

1987-1991 wages deflated using CPI from IMF Guinea Staff Report (1992).

While the majority of departees who find other work in the wage sector have higher earnings in 1992 than at the time of their departure from the public sector, the same is not true of self-employees. If wage employment is the preferred sector, as the data suggest, the high variability of earnings in self-employment probably contributes to the unattractiveness of the sector relative to the more compact distribution of the wage sector. Thus, the observed long duration of unemployment may be due to queuing for a limited number of available formal sector positions.

### Estimation of Wage and Nonwage Earnings Functions with Endogenous Sector Choice

Above we have proposed a premia for wage sector employment as a possible cause of the observed long durations of unemployment in the transition paths of redeployees. We now use data from the larger sample of all wage and nonwage sector workers in Conakry to test for the existence of a premia.

A switching regression system of equations is estimated to determine the wage sector and nonwage sector returns to individual characteristics. The system consists of wage and nonwage earnings equations and an endogenous sector selection equation. The wage and nonwage sector earnings equations are specified, respectively, as:

$$\ln W_{wi} = X_i B_w + \epsilon_{wi}, \quad (1)$$

$$\ln W_{si} = X_i B_s + \epsilon_{si}, \quad (2)$$

where  $\ln W_{wi}$  and  $\ln W_{si}$  are the logs of reported hourly wage and self-employment earnings,  $X_i$  is the vector of individual characteristics believed to be related to earnings, and  $\epsilon_{wi}$  and  $\epsilon_{si}$  are the normal error distribution terms.

If (1) and (2) are estimated separately, the parameter estimates can be interpreted as returns to an individual's earnings characteristics conditional upon the individual's employment in the observed sector. However, the individual's choice of sector is endogenously determined by available wage offers and the costs of searching employment in the two sectors. If nonwage sector employment is not rationed, the primary cost of searching for wage sector employment may be foregone earnings. Wage sector employment will then be accepted only if the premia exceeds the cost of search:

$$\ln W_{wi} - \ln W_{si} > Z_i \Gamma + u_i, \quad (3)$$

where  $Z_i$  is the vector of employee characteristics that determine the probability of finding wage sector employment, and  $u_i$  is a normally distributed error term.

The sector selection rule is then:

$$\begin{aligned}
 I &= 1 \text{ (wage sector) if } I^* \geq 0; \\
 I &= 0 \text{ (self-employment) if } I^* < 0; \\
 I^* &= z_i \Pi + V_{ci},
 \end{aligned} \tag{4}$$

where  $z_i \Pi$  is a vector combining wage determinants and search costs and  $V_{ci}$  is a normally distributed error term with mean zero and covariance of matrix:

$$\Sigma = \begin{bmatrix} \sigma_{ww} & \sigma_{ws} & \sigma_{wv} \\ \sigma_{sw} & \sigma_{ss} & \sigma_{sv} \\ \sigma_{vw} & \sigma_{vs} & 1 \end{bmatrix}$$

The system of equations (1), (2), and (4) is estimated by the full information maximum-likelihood method.<sup>5</sup>

The relationship between individual characteristics and earnings are hypothesized to vary between the two sectors. In the wage sector hourly earnings are expected to be related to formal measures of the human capital, which serve as signals to the employer about the employees' ability. Therefore, the returns to schooling levels are expected to be positive and larger at higher degree levels. The returns to age, a proxy for experience, are also expected to be positive, but decreasing, and the returns to duration of employment in the current job are expected to be positive. Furthermore, if wage sector labor markets are rationed, variables such as gender and ethnicity, which are important in the stratification of labor markets in Conakry, will not influence wage determination, but rather influence the probability of finding wage sector employment and thus the sector selectivity equation.

In the nonwage sector, earnings are expected to be strongly related to direct measures of the productivity of the worker. Therefore, functional measures of human capital, such as literacy, are expected to be positively

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<sup>5</sup> Estimation of the wage equations by ordinary least square (OLS) methods is equivalent to imposing the restriction  $cov(w,v) = cov(s,v) = 0$ .

related to nonwage earnings. The duration of the current enterprise is also expected to yield positive returns to nonwage earnings since individuals accumulate human capital through learning by doing. Similarly, age is expected to have a positive but decreasing return as a proxy for general experience. Returns to physical assets, particularly capital, are also believed to be an important component of nonwage earnings and expected to show a positive return.

Nonwage sector earnings will also be affected by gender and ethnicity through their influence on the opportunity set of enterprise or occupation types available to nonwage workers. Specifically, capital and labor time constraints tend to restrict females to the operation of very small retail enterprises, which have lower earnings than other types of enterprises. On the other hand, three ethnic groups not indigenous to Conakry — the Fulani, Malinke, and Foresters — are generally perceived to be predominantly involved in large-scale wholesaling and to have extensive commercial linkages with accompanying access to capital. Therefore, the nonwage earnings to these three ethnic groups, after controlling for other factors, are expected to be greater than those of the predominant ethnic group in Conakry, the Suso.

Since one of the benefits of wage sector employment is a more stable expected stream of earnings over time, seasonality parameters are expected to show greater fluctuations in nonwage earnings functions than in the wage earnings functions. Finally, a redeployee dummy is added to see if redeployees' earnings tend to be higher or lower than the general population, given the same returns on other earnings characteristics.

In terms of sector selection, the cost or probability of obtaining wage sector employment is hypothesized to be related to formal measures of human capital, as well as proxies for access to job information networks and household variables, which determine the flexibility of labor time. Thus, older individuals and those with higher educational degrees are expected to be more likely to work in the wage sector. Furthermore, the educational levels of other household members are believed to be important in sector selection because they expand the network of employer contacts and thus increase the probability of finding employment in the wage sector. Residing in the city center is also expected to increase the network of employer contacts and be positively related to wage sector employment. Dummy variables for ethnic groups not indigenous to Conakry are also included in the selectivity equation. However, it is difficult to identify the expected sign of the parameter estimates for these groups. As discussed, increased access to capital may make these groups more likely to undertake nonwage employment. On the other hand, they may also have a greater access to wage employer contacts, which would increase the probability of finding wage sector employment. Furthermore, since wage sector employers and employees are predominantly male, female workers are expected to have less access to information on wage employment opportunities and a lower probability of working in the wage sector.

Gender, marital status, and number of children are also expected to affect the probability of entering the wage sector through their impact on the

individual's flexibility in the allocation of labor time. Since females traditionally have a greater responsibility to household duties, their labor time would be expected to be less flexible and therefore they would be less likely to take wage sector employment. Allocation of labor time is also expected to be less flexible for individuals in households with small children and for married individuals.

The results of the switching regression models are reported in Table 9, and the results of the likelihood ratio tests for structural differences in earnings equations estimates between sectors are shown in Table 10. Overall, the data support the hypothesis that the returns to an individual's earnings characteristics in the wage and nonwage sector differ significantly. However, the likelihood ratio tests indicate that the overall structure of returns to education is not significantly different between sectors. In the wage sector, returns to secondary and university schooling are positive and greater at the higher levels. Further, the estimated returns to literacy are significantly greater than zero. By contrast, the nonwage sector estimated returns to primary and secondary schooling are lower than wage sector returns and not significantly different from zero, while the estimated returns to university education in the nonwage sector are comparable to those in the wage sector but show a large variance, suggesting that the impact of university education is unevenly distributed. Most interestingly, the returns to literacy are larger, suggesting actual abilities may play a greater role in earnings determination in the nonwage sector.

The overall structure of returns to experience differs significantly between sectors. While the estimated returns to age are positive but decreasing in both sectors, estimated initial returns to age are smaller in the wage sector than in the nonwage sector but decrease less rapidly with age. As a result, estimated returns to age peak at 48 years of age in the wage sector as opposed to 44 years of age in the nonwage sector. The estimated returns to duration of work at the individual's last job or enterprise are also significant in both sectors and larger in the nonwage sector, while the estimated returns to capital are also positive in the nonwage sector.

The influence of ethnicity and gender on earnings also differs significantly between sectors. As expected, ethnicity has little impact on estimated earnings in the wage sector. However, in the nonwage sector there is an estimated positive relationship between earnings and the Malinke and Foresters ethnic groups versus the baseline ethnic group, Suso. Correspondingly, females have significantly lower earnings in the nonwage sector but show no difference in the wage sector. Thus, gender and ethnicity appear to be important determinants of earnings in the nonwage sector, but not the wage sector. In addition, the data support the assertion that the nonwage sector is more susceptible to seasonal variations in income since seasonal variations in earnings are significantly larger in the nonwage sector.

The parameter estimates for the redeployee dummy variables included in both earnings equations are positive, supporting our previous findings that redeployees who have found other employment in either the wage or nonwage sector

**Table 9 — Earnings Equations Estimates from a Switching Regression System of Equations**

Dependent variable: ln (hourly earnings)				
	Wage Sector		Nonwage Sector	
	Parameter Estimate	t-Statistic	Parameter Estimate	t-Statistic
Intercept	4.3808	(16.243)	4.4033	(10.56)**
Age	0.04544	(3.89)**	0.0795	(4.63)**
(Age) <sup>2</sup>	-0.0005	(-3.61)**	-0.0009	(-4.26)**
Education				
Primary	0.1541	(1.57)	0.1333	(0.83)
Secondary	0.2687	(1.84)*	0.1946	(0.59)
University	0.5817	(3.56)**	0.8339	(1.75)*
Literate	0.1349	(2.26)**	0.3145	(2.68)**
Duration last employment	0.0093	(3.96)**	0.0163	(3.85)**
Ethnicity				
Fulani	-0.0163	(-0.36)	-0.0865	(-1.10)
Malinke	-0.0579	(-1.25)	0.1513	(1.77)*
Forester	0.0545	(0.73)	0.3509	(2.79)**
Gender (female = 1)	-0.0854	(-0.74)	-0.4979	(-2.84)**
Quarter (1st = 0)				
2nd	0.0651	(1.38)	-0.1109	(-1.44)
3rd	0.1808	(3.99)**	-0.3211	(-3.83)**
4th	0.0338	(0.68)	-0.4739	(-5.50)**
Redeployee	0.1876	(2.23)**	0.4180	(1.69)*
Capital (1,000,000)			0.1600	(11.24)**
$\alpha_w$	0.5956	(51.86)		
$\sigma_{ss}$	1.0309	(59.63)		
$\rho_{wv}$	-0.0678	(-0.24)		
$\rho_{sv}$	-0.0370	(-0.14)		
Log likelihood	-4267.97			
No. of individuals	2,565			



**Table 10** — Likelihood Ratio Tests for Sectorial Differences in Earnings Equations

	Log Likelihood
Base model	-4267.965
All parameters equal <sup>a</sup>	-4506.829**
Education parameters equal (primary, secondary, university, literacy)	-4269.623
Experience parameters equal (age, [age] <sup>2</sup> , duration)	-4271.982**
Ethnicity and gender parameters equal (Fula, Malinke, Forester, female)	-4278.021**
Quarter parameters equal (2nd, 3rd, 4th)	-4290.328**
Redeployee parameters equal	-4268.518

<sup>a</sup> Capital is not included in wage equation.

\*\* Different from base at 0.05 level.

obtain earnings greater than those received by individuals with similar characteristics in the general population. Finally, the correlation of the error structures of the earnings equations and the sector selection equation,  $\rho(wv)$  and  $\rho(sv)$ , are both not significant, suggesting that the estimation of single earnings equations would not have significantly biased the earnings equations parameter estimates.

The estimated results of the sector selection equation, (4), are given in Table 11. The results for a structural selection equation, which includes the difference between the predicted log of expected wage and the predicted log of expected nonwage earnings from earnings equations (1) and (2) as instrumental variables, are also presented in Table 11.

The parameter estimates of the two equations are similar, as is expected, since little correlation was found between the error structure of the earnings and sector selection equations. Age and formal education are positively related to the probability of residing in the wage sector. The educational levels of other household members also appear to be important in sector selection, with university education for other male members and secondary education among other female members having a positive impact, and primary education among other male household members having a negative impact on the probability of residing in the wage sector. In addition, for the structural sector selection equation, the difference between the log of predicted wage and nonwage sector earnings is positively related to the probability of being in the wage sector, suggesting that perceived sectorial returns do play an important role in sector selection.

Perhaps most strikingly, being female has a very strong negative impact on the probability of participating in wage sector employment, even after controlling for expected earnings differences and the negative impact of the presence of young children in households. One ethnic group, the Fulani, is also negatively related to wage sector employment; however, residence in the central city area and marriage do not show significant relationships with the probability of working in the wage sector.

In Table 12, predicted wage and nonwage earnings are calculated for all individuals and for the subset of redeployees using the earnings equations and the average characteristics of each group. Based on average characteristics of the population, predicted earnings from wage sector employment are 290 FG per hour versus 505 FG in the nonwage sector. Furthermore, for the majority of individuals, there is a negative premia to wage sector employment, suggesting that individuals may also receive significant unobserved payoffs from wage employment. One possible unobserved payoff is utility from the lower variability in wage earnings. Furthermore, since nonwage workers must invest their own physical assets, they should be expected to receive an additional return from these investments.

Predicted wage and nonwage earnings are also generated from the average characteristics of redeployees. For redeployees, the average predicted hourly wage is 349 FG and average nonwage hourly earnings is 1,187 FG. The larger average negative premia for wage sector employment is primarily motivated by two

Table 11 — Switching Regression Equation Estimates (Wage Sector = 1)

	Parameter Estimate	t-Statistic (1)	Parameter Estimate	t-Statistic (2)
Intercept	-0.2063	(-1.49)	-0.1378	(-0.98)
Age	0.0093	(2.80)**	0.114	(3.52)**
Education				
Primary	0.7663	(10.36)**	0.8125	(11.00)**
Secondary	1.4723	(14.75)**	1.5384	(14.79)**
University	1.8980	(14.58)**	2.0652	(13.39)**
Ethnicity				
Fulani	-0.2342	(-3.11)**	-0.2610	(-3.57)**
Malinke	-0.1310	(-1.58)	-0.0491	(-0.58)
Forester	-0.0682	(-0.56)	0.4166	(0.32)
Sex (female = 1)	-1.1563	(-15.30)**	-1.3173	(-16.11)**
Redeployee	0.0547	(0.37)	0.1699	(1.08)
No. primary men	-0.0442	(-1.66)*	-0.0472	(-1.76)*
No. secondary men	0.0563	(1.09)	0.0646	(1.24)
No. university men	0.2210	(2.29)**	0.2184	(2.34)**
No. primary women	0.0357	0.87	0.0387	(0.97)
No. secondary women	0.1584	(2.04)**	0.1571	(2.02)**
No. university women	0.0797	(0.48)	0.0764	(0.45)
Center City	-0.1369	(-1.48)	-0.1244	(-1.37)
Married	-0.0762	(-0.95)	-0.0466	(-0.57)
No. children < 6	0.0454	(-1.97)**	-0.0443	(-2.03)**
No. children <1 ≤, ≥6	-0.0180	(-0.89)	-0.0167	(-0.85)
Premia			0.3387	(3.63)
Log likelihood				-1244.14

**Table 12 — Predicted Wage and Nonwage Sector Earnings for the Average Characteristics of the General Population and of Redeployees**

	General Population		Redeployees	
	Wage Sector	Nonwage Sector	Wage Sector	Nonwage Sector
Expected earnings (FG)	289.88	505.47	349.09	1,187.24
Average characteristics				
Age	37.722		48.724	
Primary	0.2133		0.26437	
Secondary	0.1209		0.17241	
University	0.0889		0.034483	
Literate	0.4144		0.56322	
Duration of last employment	9.4347		5.9885	
Fulani	0.28226		0.21839	
Malinke	0.20078		0.31034	
Foresters	0.05536		0.034483	
Sex	0.37076		0.16092	
Period 2	0.21715		0.1954	
Period 3	0.2347		0.18391	
Period 4	0.21559		0.25287	
Redeployee	0.033918			
Capital (1,000,000 FG) in nonwage sector only	0.2523		2.4321	

factors: (1) the high estimated redeployee specific returns in the nonwage earnings equations, and (2) the large returns to self-employment capital, which nonwage sector redeployees possess in abundance compared to the general population. Like the general population, these results suggest redeployees will only queue for wage sector employment if there are significant benefits on top of expected earnings, such as a steady income stream, or if there are constraints (such as capital) to nonwage sector employment, which prevent a number of individuals from pursuing nonwage sector opportunities with the above estimated returns.

In conclusion, the model suggests that the wage and nonwage sectors have two distinct sets of earnings determinants. In the wage sector, formal measures of human capital that are observable to the employer, such as educational degrees, age, and duration of last position, are of primary importance in earnings determination. By contrast, in the nonwage sector, direct human capital measures, such as literacy, are more important as are gender and ethnicity, which may reflect differences in the access to capital and flexibility of labor time. Furthermore, the model suggests that being a redeployee has a positive impact on both wage and nonwage earnings.

While the results do suggest a positive relationship between an individual's predicted premia for wage sector employment and the probability of being employed in the wage sector, the predicted premia for the vast majority of individuals, particularly redeployees, is negative. The result suggests that expected earnings alone would not motivate redeployees to remain unemployed while waiting for rationed wage sector positions. However, several factors may make the wage sector a preferred sector, even though expected earnings are lower. Particularly important factors may be the lower risk and associated lower variability in earnings associated with wage sector employment. Also, as the results indicate, capital constraints may seriously limit the earnings opportunities available in the nonwage sector for some groups.

#### **A COMPARISON BETWEEN INDIVIDUALS LEAVING PUBLIC SECTOR POSITIONS AND THE GENERAL POPULATION OF PUBLIC SECTOR EMPLOYEES**

Next we compare the characteristics of individuals who left public sector positions between 1985 and 1990, with the sample of all individuals employed as public sector workers at the time of the 1990 CFNPP survey. Among public sector workers we distinguish between those who entered their position before 1985 and those who entered during or after 1985.

#### **Personal Characteristics of Departing Public Sector Employees and the General Public Sector**

Despite the government's commitment to reducing the size of the public sector, 22.1 percent of public sector employees in the 1990 household survey were hired after 1985. A comparison of the size of this cohort with those leaving the public sector after 1985 is difficult because, as discussed, a portion of

individuals who exited public sector positions have died or migrated from Conakry and are not represented in the households sample. However, assuming two-thirds of those exiting the public sector after 1985 did not migrate from Conakry or die, the survey results suggest that over half of the public sector exodus between 1985 and 1992 was offset by new hiring.

Columns one and two of Table 13 display the average ages, percentage of females, and position in the household for 1990 public sector employees who entered the public sector before and after 1985. The latter columns then present the same information for individuals leaving the public sector between 1985 and 1990, distinguishing the reasons for transition. Among public sector workers employed at the time of the 1990 survey, those that entered since 1985 were more likely to be female, and less likely to be the household head. The same holds true when comparing these more recent public sector employees to all the individuals that transited from the public sector between 1985 and 1990. However, when one disaggregates transitions by reason, a disproportionate number (31 percent) of the redeployees were female. While gender bias may be a factor, this difference is at least partially due to the predominant representation of women in the lower age groups that were more heavily affected by redeployment. Furthermore, the share of female redeployees closely corresponds to the share of women among new entrants during the same time period, suggesting that proportional representation of women in the public sector did not change dramatically over the period.

The composition of the public sector also appears to have changed in terms of experience and education. Table 14 shows, as expected, that those entering the public sector after 1985 had, by 1990, less experience than those leaving public sector positions. Retirees had accumulated the most experience — 26.0 years in their last position and 28.5 years overall. Redeployees had also accumulated a significant, albeit smaller, amount of experience before termination of their employment — an average of 12.3 years experience in their last public sector position and 14.9 years accumulated public sector service.

More importantly, the average level of education in the civil service was increased through redeployment and retirement of individuals with lower levels of education and hiring of individuals with higher levels. Among those who left the civil service, only 38 percent of redeployees and 7 percent of retirees had completed a secondary level of education. Contrast this with the 51.8 percent who completed secondary school among those civil service workers who entered before 1985 and were not redeployed, and the 57.8 percent of the new entrants since the beginning of the redeployment program who completed secondary school. These findings suggest that while the hiring of new employees did significantly reduce the gains of retrenchment programs in terms of reducing the size of the public sector, the turnover significantly increased overall public sector educational levels. The improved educational attainment of the average public sector worker, coupled with the large pay increases discussed above, have laid important preconditions for increasing the potential productivity of the sector.

Table 13 — Age, Sex, and Household Position of Individuals Leaving and Entering the Public Sector

	Public Sector Employees in 1990		Individuals Leaving the Public Sector between 1985 and 1990			
	Entered Present Position Before 1985	Entered Present Position Since or During 1985	Found Other Employment	Retired	Redeployed	All Transitions
Average age at transition						
Percent female	22.2	29.2	38.8	53.5	39.5	44.1
Position in household (percent distribution)						
Head	74.8	48.7	88.9	93.0	69.7	78.9
Spouse	16.9	21.4	11.1	4.7	21.1	14.8
Other	9.0	29.9	0.0	2.3	9.2	6.3
All	100.0	100.0	100.0	100.0	100.0	100.0
Number of individuals	540	154	9	43	76	128

Table 14 -- Duration of Service and Level of Education, by Reason for Leaving

	Public Sector Employees in 1990		Individuals Leaving the Public Sector Between 1985 and 1990				
	Entered Present Position Before 1985	Entered Present Position Since or During 1985	Reason for transition				
			Found Other Employment	Retired	Redeployed	All Transitions	
Duration of service (years)							
All previous public sector positions	N.A.	N.A.	15.5	28.5	14.9	19.5	
Last position	14.5	3.0	13.4	26.0	12.3	17.0	
Level of education (percent distribution)							
None	23.5	18.8	22.2	65.1	31.6	42.2	
Primary	25.9	23.4	22.2	27.9	30.3	28.9	
Secondary	25.9	29.2	44.4	7.0	21.1	18.0	
University	24.6	28.6	11.1	0.0	17.1	10.9	
All	100.0	100.0	100.0	100.0	100.0	100.0	
Number of individuals	540	154	9	43	76	128	



## The Impact of Transitions on Household Welfare

Ideally, we would compare per capita expenditures of households at the time of the survey with their per capita expenditures at the time of departure from the civil service to determine how household welfare changed. This, however, is not possible owing to the lack of data on household welfare at the time of redeployment. Yet, we can address the important question of how the welfare of households with redeployees compares with the general population's.

To begin, we compare individuals transiting the public sector with the household per capita consumption quintiles for the general population.<sup>6</sup> The first row of Table 15 shows that in 1990, 49.3 percent of the individuals working in the public sector were from households that fell in the upper two per capita consumption quintiles, while only 23.5 percent of individuals resided in households in the lower 30 percent of the per capita consumption distribution. In contrast, 37.1 percent of the individuals who transited public sector positions between 1979 and 1990 were in the lower 30 percent of the per capita consumption distribution. Individuals leaving the public sector due to redeployment and retirement were particularly vulnerable, with 35.1 percent and 43.9 percent, respectively, falling into the lower 30 percent of the distribution.

However, the subsequent transition path of individuals appears to be far more important than reason for leaving in determining the probability of the household falling into the lower 30 percent of the per capita household consumption distribution. Among redeployees who successfully transited into the private sector before the 1990 survey, 31.4 percent resided in households in the lower 30 percent compared to 38.3 percent for redeployees who were not working in 1990. Similarly, among retirees who found other positions in the private sector, 34.6 percent were from households in the lower 30 percent versus 50.0 percent of retirees who remained without work.

Caution is required in interpreting the above numbers. They do not mean that the households of public sector workers who were laid off and remained unemployed in 1990 were worse off than they were when they were working for the state. It is feasible that loss of employment income among former state employees caused lower household consumption; however, it is also feasible, given the lower educational levels we have observed among these workers, that public sector job losers were poor when they were still working for government.

A reduced form household welfare model is specified for the general population to test whether the welfare of former public sector workers households is lower than that of the general population, after controlling for human capital and other social variables important in the determination of household welfare. The exogenous determinants of welfare in the model are age and education of the household head, the educational profile of other members between 15 and 65 years

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<sup>6</sup> The distribution of household per capita consumption by quintile for the general population is, by definition, 20 percent for each quintile group.

**Table 15** — Household Consumption Quintiles in 1990, by Reason for Leaving the Public Sector and 1990 Employment Status

	Quintile					Total	Number of Individuals
	Bottom 30%	Lowest	2nd	Middle	4th		
Total 1990 public sector	23.5	14.7	18.4	17.9	25.8	100	694
Total leaving public sector between 1979 and 1990	37.1	25.7	23.4	17.7	16.0	100	175
By reason:	Percent						
Redeployment	35.1	25.5	23.4	17.0	16.0	100	94
Not working	38.3	34.0	21.3	14.9	14.9	100	47
Working	31.9	17.0	25.5	19.2	17.0	100	47
Retirement	43.9	28.8	25.8	19.7	13.6	100	66
Not working	50.0	37.5	22.5	20.0	12.5	100	40
Working	34.6	15.4	30.8	19.2	15.4	100	26
Found other work	9.1	9.1	9.1	18.2	27.3	100	11

of age, the demographic makeup of the household, assets, and ethnic and seasonal dummy variables. Our major concern, however, is to test the hypothesis that redeployment is not a significant determinant of household welfare. Therefore, the household welfare model is specified to include a single variable of total number of public sector departees in the household.

In the model, per capita household expenditures are shown to increase with the schooling of the household head, as well as with the educational achievements of nonhead female members (Table 16). The parameter estimates for the contributions of nonhead male members' educational levels to household per capita expenditures were also positive but smaller than the corresponding estimates for females and not statistically significant in the case of primary education. Furthermore, the contributions of the number of individuals in all age-sex categories are negative, as expected, reflecting the increasing demands of additional household members on available resources. Nonetheless, the education of the household head and other members, not the age-sex composition of the household, is the primary determinant of household welfare. Business and financial assets are also positively correlated with household expenditures, as are the three ethnic groups not indigenous to the Conakry area — Fula, Malinke, and Forestiere. Most importantly for our analysis, the parameter estimate of the relationship between the number of public sector departees in the household and per capita household expenditures is close to zero and not statistically significant.

These results indicate that after controlling for human and physical capital, as well as other determinants of household welfare, overall per capita expenditure of households with public sector departees are not different from those of the general population. Thus, the redeployment program has not created a new class of poor; rather it has released into the labor market some individuals who, by the nature of the low human and physical capital assets in their households, tend to spend less per capita.

Table 16 - A Reduced Form Model of Household Welfare

Dependent Variable: ln (per capita household expenditures)		
	Parameter Estimate	T-Statistic
Household head		
Age	-0.0743	-2.63**
Age <sup>2</sup>	0.0013	2.24**
Age <sup>3</sup>	-0.000007	-1.99**
School	0.0359	5.34**
School <sup>2</sup>	-0.00074	-1.82**
Other household members		
No. of males with primary education	0.0181	0.78
No. of males with secondary education	0.0520	1.70*
No. of males with university education	0.0827	1.53
No. of females with primary education	0.1049	5.08**
No. of females with secondary education	0.1543	4.38**
No. of females with university education	0.2338	3.62**
No. of children under 6	-0.1095	-9.62**
No. of children between 6 and 14	-0.0720	-7.60**
No. of males between 15 and 20	-0.0685	-3.34**
No. of females between 15 and 20	-0.0562	-2.91**
No. of males between 21 and 65	-0.0497	-2.57**
No. of females between 21 and 65	-0.0670	-4.03**
No. of elderly	-0.0556	-1.11
Season (July-September = 0)		
January-March	0.0782	4.01**
April-June	0.1481	6.43**
October-December	-0.0415	-1.85*
Assets (100,000 GF)		
Farm	-2.77E-8	-0.01
Business-financial	0.00011	3.05**
Ethnicity (Susu, Other = 0)		
Fula	0.0505	1.69*
Mandinka	0.1138	3.32**
Forestiere	0.2751	4.81**
Number of public sector departees	0.0196	0.48
Intercept	11.7335	26.16**
Model statistics		45.32**
F-ratio		0.419
R-square		
		N = 1725

\* Significant at the 10 percent level.  
 \*\* Significant at the 5 percent level.

## 5. COMPENSATION PROGRAMS FOR DEPARTING PUBLIC SECTOR WORKERS

This section examines the effectiveness of government compensation programs in assisting workers leaving the public sector. We first present statistics on the targeting of assistance and then briefly analyze the utilization of compensation.

### TARGETING OF COMPENSATION TO DEPARTING PUBLIC SECTOR WORKERS

There are two primary forms of compensation for workers leaving the public sector: pensions and severance pay. Pension schemes have been in place since before the Second Republic and all public sector workers over 55 years of age or with over 30 years of public service are eligible. As discussed in Section 2, severance pay programs were instituted after 1985 as part of the redeployment program and sought to induce the voluntary departure of public sector workers through payments of between 500,000 and 1,000,000 FG over 30-month periods. These payments were justified to minimize public sector opposition to reductions and ensure the welfare of departing public sector workers.

Those leaving the public sector through the voluntary departure program were also, in principle, eligible for loans from BARAF. However, only 3.2 percent of voluntary departees actually secured loans under the program. BARAF also provided technical assistance in starting private enterprises to a number of those securing loans, but provided no training or assistance to the 96.8 percent of voluntary departees who did not secure loans or to the larger population of redeployees.

The effectiveness of targeting is clearly shown in Table 17 where compensation from the last public sector position is examined by reason for leaving the position. Retirees appear to be effectively targeted by pension plans: 87.8 percent received pensions, and relatively few (8.1 percent) received severance benefits. Interestingly, coverage is slightly higher among retirees who moved into the private sector than those who remained without work. By contrast, redeployees compensation comes primarily from severance pay, 63 percent, with only 6 percent receiving pensions and 34 percent receiving no compensation. The proportion of redeployees receiving compensation was slightly higher among those who did not find another job than those who found other work. However, as the results of the previous section show, the relationship between severance pay and the duration of unemployment is not statistically significant. Finally, 86 percent of all workers leaving a public sector position for another job usually received no benefits. But, 14 percent who left because they found other work in the private sector received severance payments from the voluntary departure program.

Table 17 — Compensation for Leaving the Public Sector, by Reason of Departure and 1992 Employment Status

	Compensation Type				Total	Number of Individuals
	Pension	Severance Pay	Pension and Severance Pay	Nothing		
Percent						
All	33.7	33.2	3.7	29.5	100	190
Retirees	82.4	2.7	5.4	9.5	100	74
Not working	79.1	4.7	4.7	11.6	100	43
Working	87.1	0.0	6.5	6.5	100	31
Redeployees	3.0	60.0	3.0	34.0	100	100
Not working	2.6	65.8	5.3	26.3	100	38
Working	3.2	56.5	1.6	38.7	100	62
Found other work	0.0	14.3	0.0	85.7	100	11

A multinomial logit model is specified to test the relationship between type of compensation received and the personal characteristics of departees. If compensation has been fairly and equitably disbursed, the probability of receipt should be related solely to the selection criteria for each type of compensation. Specifically, receipt of pensions should be related to age and the duration of public service but not to other personal characteristics such as gender and education level. Similarly, all civil servants should be equally eligible for severance payments, particularly for voluntary departure benefits. Thus, the primary factor influencing the receipt of severance payments should be whether the individual left the public sector during the redeployment program period.

The estimated relationships are given in Table 18, using individuals receiving no compensation as the base group.<sup>7</sup> As expected, the dummy variables for persons with 55 years or more of age, and the variable for years in the public service, increase the probability of receiving retirement benefits. However, the gender parameter is negative and significant. This implies that females, even after controlling for age and duration of service, are less likely to receive retirement benefits. At the same time, the individual's education had no statistically significant impact on receipt of pensions.

No relationship between the probability of receiving severance pay (compared to the no compensation base) and personal characteristics is inferred from the data. However, as expected, departure of the public sector during the redeployment period strongly influences the probability of receiving severance pay. Overall, with the exception of gender bias in disbursement of pensions, the results support the assertion that compensation payments have been equitably disbursed.

## UTILIZATION OF COMPENSATION

The median compensation payment, including two large loans by BARAF to initiate private sector activities, was 700,000 FG. Severance compensation was primarily used for consumption although, averaging across households, 29.4 percent was allocated for investment in income-generating activities (Table 19).<sup>8</sup> However, a higher percentage of compensation is allocated to investment at higher total compensation levels. Further, male median compensation was 33 percent more than median female compensation. Correspondingly, males are observed to invest a greater percentage of their compensation.

With the subsample of 69 individuals receiving severance payments, the significance of the above relationships is tested with a simple regression model of the percentage of compensation invested on age, sex, and total level of

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<sup>7</sup> The small group of individuals receiving both pensions and severance pay is included in the severance pay categories.

<sup>8</sup> Investment may have been partially inhibited by the payment of severance benefits over a 30-month period.

**Table 18** – Multinomial Logit: A Model of Type of Compensation Received for Individuals Leaving the Public Sector

Variables	Base: No compensation, N = 56			
	Pension Only, N = 64		Severance Pay, N = 69	
	Parameter Estimate	T-Statistic	Parameter Estimate	T-Statistic
Sex (Female = 1)	-2.132	-2.355**	-0.093	-0.183
Age ≥ 55	2.584	1.993**	-2.002	-1.954
Age ≥ 40, < 55	1.114	0.875	-0.524	-0.809
Public service (years)	0.240	4.468**	0.046	1.364
Education level (none = 0)				
Primary	1.184	1.557	0.054	0.092
Secondary	0.314	0.361	-0.505	-0.820
University	-0.489	-0.371	0.319	0.419
Left in redeployment period	-0.066	-0.110	2.278	4.952**
Constant	-6.856	-4.556**	-1.514	-2.345**
Model statistics				
Log likelihood value			-122.46	
Chi-square statistic			170.98**	
Number of observations			N = 189	

\* Significant at the 0.10 level.

\*\* Significant at the 0.05 level.



**Table 19** — Utilization of Severance Compensation, by Size of Payment, Sex, and Age

	Mean Saved and Invested (Percent)	Mean Consumed (Percent)	Median Compensation (FG)	Number of Individuals
All payments	29.4	70.6	700,000	66
By size of severance payment				
≤ 500,000 FG	22.5	77.5	300,000	12
> 500,000 FG, ≤ 700,000 FG	22.3	77.7	696,000	23
> 700,000 FG, ≤ 900,000 FG	32.5	67.5	850,000	21
> 900,000 FG	47.2	52.8	1,056,000	10
By sex				
Male	33.6	66.4	800,000	47
Female	18.6	81.4	600,000	19
By age				
≤ 40 years	30.1	69.9	800,000	37
> 40 years	28.3	71.7	700,000	29

**Note:** Means calculated across households.

compensation. The results are presented in Table 20. Total compensation shows a significant positive relationship to percentage of compensation invested. However, the total compensation parameter estimate suggests that a 100,000 FG increase in compensation increases allocation to investment by less than 1 percent. In addition, age and sex, after controlling for compensation level differentials, do not have a statistically significant impact on the utilization of compensation. Thus, observed discrepancies in compensation allocation by gender are likely driven by differences in amounts received, rather than actual behavioral differences in compensation allocation.

**Table 20** — Estimated Relationship Between Utilization of Compensation and Compensation Size, Age, and Sex

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Dependent variable: % compensation invested		
	Parameter Estimate	T-Statistic
Independent variables		
Compensation (100,000's FG)	0.850	2.57**
Age (years)	0.001	0.24
Sex (female=1)	0.051	0.97
Model statistics		
F-ratio	2.98**	
R-square	0.128	
Number of observations	N = 65	

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\*\* Significant at the 0.05 level.

## 6. CONCLUSIONS

The Government of Guinea was clearly successful in achieving the specific objective of reducing the number of public sector workers. However, due to unplanned wage increases and rehiring, the expected macroeconomic benefits from this action have been only partially realized. On the other hand, the retrenchment program has enabled the government to improve the conditions of service and level of education among the public sector work force, suggesting some gains have been made in overall public sector efficiency.

The main focus of this paper has been on the social costs accompanying these gains, particularly to workers departing the public sector under the retrenchment program. The analysis has shown that those who were able to find other employment are now, on average, earning at least as much as before leaving the public sector. Furthermore, a disproportionate number of former public sector workers have found jobs in the formal wage sector, relative to the general population. Still, for many of those who lost their jobs, the transition from public to private sector work has been extremely costly. Even among those finding other work, a long duration of unemployment usually followed departure from the public sector. As of 1992, 24 percent of redeployed workers from the peak 1985-1988 period remained unemployed, a rate far higher than the rate of the population at large, while still others were no longer searching and had left the labor market. Econometric analysis of worker transitions revealed that younger workers and males were much more likely to remain economically active after departing the public sector, while a university education, social networks, and being the head of the household significantly reduced the expected duration of unemployment.

Finally, while compensation programs have generally been well targeted and equitably distributed, they have not spurred significant investment in self-employment activities. The fact that most of the compensation was used for consumption comes as no surprise given the prolonged period of payment disbursement, coupled with the lengthy spells of unemployment. The model of labor market participation also suggests that severance pay has actually acted as a disincentive to taking another job. This corresponds to other labor market studies showing that unearned income reduces the probability of working by raising the employment reservation wage.

One possible reason for the long duration of unemployment among redeployees is queuing for other wage sector employment opportunities. This may be due to perceived low returns to self-employment or other physical or psychological barriers to entering the self-employment sector. However, the results presented in this study suggest that most individuals, especially redeployees, receive greater expected returns from nonwage employment. Given that the creation of wage sector jobs has lagged, and is expected to continue to lag, behind informal sector opportunities, policymakers must focus on identifying and removing

barriers to self-employment as well as increasing the expected returns to the self-employment sector if they wish to reduce the transition costs associated with reducing the size of the sector work force.

## REFERENCES

- Arulpragasam, J., and D. Sahn. 1991. *Economic Reform in Guinea: Adjusting for the Past*. Working Paper. Washington, DC: CFNPP.
- de Merode, Louis. 1991. *Implementing Civil Service Pay and Employment Reform in Africa: The Experiences of Ghana, The Gambia, and Guinea*. Washington, DC: The World Bank.
- Dioubaté, Youssouf. 1992. *Pauvreté et marché du travail à Conakry (République de Guinée)*. Genève: Organisation Internationale du Travail.
- Glick, Peter, David E. Sahn, and Carlo del Ninno. 1992. *Labor Markets and Time Allocation in Conakry*. Washington, DC: CFNPP.
- International Monetary Fund. 1992. *Staff Report for the 1991 Article IV Consultation and Request for Arrangements under the Enhanced Structural Adjustment Facility*. Washington, DC: IMF.
- \_\_\_\_\_. 1991. *Staff Report for the 1991 Article IV Consultation and Request for Arrangements under the Enhanced Structural Adjustment Facility*. Washington, DC: IMF.
- République de Guinée. 1991. *Note de présentation du projet de loi de finances pour 1992 à l'attention du conseil des ministres*. Conakry: Republic of Guinea, Ministère de l'Économie et des Finances.
- \_\_\_\_\_. 1987. *Enquête sur les dépenses des ménages de la Ville de Conakry*. Conakry: Republic of Guinea, Ministère du Plan et de la Coopération Internationale.
- United Nations Development Programme and The World Bank. 1992. *African Development Indicators*. New York and Washington, DC: UNDP and The World Bank.
- World Bank. 1990. *Republic of Guinea Country Economic Memorandum; Volume I: Main Report: The Guinean Economy*. Washington, DC: The World Bank.