

THE SHARE OF THE PRIVATE SECTOR IN THE MACEDONIAN ECONOMY IN 2000/01



Executive Summary

- There are two sources of data on the public and private shares of economic activity in Macedonia : national income statistics (NIS) and the Labor Force Survey (LFS).
- Findings from the two sources are summarized in the following table:

| | Public Sector Share | Private Sector Share |
|--|---------------------|----------------------|
| National Income Statistics : 2000 | | |
| Employment | 29% | 71% |
| Value-Added (GDP) | 33% | 67% |
| Labor Force Survey : 2001 | | |
| Employment | 49% | 51% |
| Value-Added (GDP) | 51-57% | 43-49% |

- The two sources give substantially different pictures on the private-sector share of economic activity. The NIS suggests that roughly two-thirds of the economy was in the private sector in 2000. The LFS suggests that slightly less than half of the Macedonian economy was in the private sector in 2001.
- Some Macedonian statistical experts believe that NIS data give a more accurate picture than LFS data. The LFS surveys roughly 7000 households and asks them a range of questions related to their job. The respondents must classify themselves as working in the private or public sector, and some analysts believe that a significant number of respondents actually working for privately-owned concerns mistakenly classify themselves into the public sector. NIS data were gathered through a variety of sources, including the business register and the former payments bureau (ZPP), and misclassification is much less likely.
- The private-sector share has in all likelihood increased since 2000. In 2000, the Macedonian Telecommunications company was in the public sector, but in 2001 it was privatized. This company is large and profitable and generates a significant

amount of value-added. Its privatization alone has probably had a detectable positive impact on the private-sector share.

Detailed Analysis

1. There are two sources of data on Macedonian economic activity that distinguish between the public and private sectors: national income statistics (NIS) and the Labor Force Survey (LFS). Construction of the NIS relies on a variety of sources and techniques; the data presented here are for the year 2000, and in this year, the Macedonian State Statistical Office (SSO) introduced a variety of methodological improvements designed to bring NIS compilation more in line with the principles of national income accounting as outlined by EUROSTAT. The Labor Force Survey is a separate activity of the SSO that regularly samples several thousand Macedonian households in order to gather data on employment and pay. The LFS is conducted according to international standards. Although compilation of NIS data in 2000 did make use of data gathered in the LFS, the two sources are quite distinct and rely on largely different underlying sources of information.

2. The LFS gives data on public-sector and private-sector employment only. The NIS gives public-sector and private-sector data on gross output, value-added, and employment. The NIS data presented here are for the year 2000, and the LFS data are for October 2001.

National Income Statistics

3. NIS data on value added, gross output, and employment are given broken down by institutional sector and branch of the economy:

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*The views expressed are those of the authors and do not necessarily represent those of the Ministry of Finance

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| For year 2000 | Value Added | Gross Output | Employees and self-employed |
|--|------------------|---------------|-----------------------------|
| | (million denars) | | (number) |
| Public Sector | 64061 | 104990 | 140724 |
| Public nonfinancial corporations | 28260 | 46437 | 41276 |
| General government | 31900 | 53304 | 96206 |
| Financial corporations** | 3901 | 5249 | 3242 |
| Private Sector | 127971 | 316199 | 350114 |
| Domestic private non-financial corporations | 81520 | 214356 | 257447 |
| Foreign-owned private non-financial corporations | 10376 | 34732 | 11307 |
| Financial corporations** | 3901 | 5249 | 3242 |
| Households | 31106 | 59359 | 75767 |
| Non-profit institutions serving households | 1068 | 2503 | 2351 |
| Total | 192032 | 421188 | 490838 |
| Public sector share | 33% | 25% | 29% |
| Private sector share | 67% | 75% | 71% |

** : We allocate half of the financial corporations branch to the public sector and half to the private sector. In 1999, financial institutions in the public sector included the National Bank, the ZPP (payments bureau), the Macedonian Bank for Development, and Stopanska Bank. Together, these institutions employed roughly 3000 people. In 2000, the financial corporations branch employed a total of 6484 people. We thus assume that the branch was roughly half in the public sector and half in the private sector in 2000 and split value-added, gross production, and employment accordingly. Because the financial corporations branch is so small, results on the public-private shares of activity are very little affected by assumptions about this branch.

Source : Table P 5, "Gross Domestic Product of the Republic of Macedonia, 2000," Republic of Macedonia State Statistical Office, Skopje, 2000.

| For year 2000 | Gross operating surplus per employee | Net operating surplus per employee | Wage/salary compensation per employee |
|--|--------------------------------------|------------------------------------|---------------------------------------|
| Public Sector | | | |
| Public nonfinancial corporations | \$5.646 | \$3.236 | \$4.743 |
| General government | \$837 | нема податоци | \$4.195 |
| Private Sector | | | |
| Domestic private non-financial corporations | \$1.215 | \$624 | \$3.590 |
| Foreign-owned private non-financial corporations | \$7.710 | \$6.490 | \$6.215 |
| Households | \$5.965 | \$5.643 | ** |
| Non-profit institutions serving households | \$1.278 | нема податоци | \$5.609 |
| Financial corporations | \$10.950 | \$9.696 | \$7.309 |

** : The household sector relies almost exclusively on self-employment and thus registers very little wage/salary compensation.

Calculated using the 2000 average yearly exchange rate of 65.9 denars per dollar.

Source : Calculated from data given in table P 5, "Gross Domestic Product of the Republic of Macedonia, 2000," Republic of Macedonia State Statistical Office, Skopje, 2000.

The public sector consists of public nonfinancial corporations (state-owned enterprises), the government sector, and half of the financial corporations branch (see footnote to the table.) The private sector consists of domestic- and foreign-owned nonfinancial corporations, half of the financial corporations branch, non-profit institutions serving households, and the household sector (which covers production by individual households.) In 2000, the private-sector share of value-added was 67%, of gross production 75%, and of employment 71%. If value-added is taken to be the most important indicator of economic activity because it is the main component of GDP, then the NIS data suggest that roughly two-thirds of the Macedonian economy was in the private sector in 2000.

4. NIS also gives data on gross operating surplus (equivalent to gross profits), net operating surplus (profits minus capital depreciation), and wage/salary compensation by branches. It is interesting to compare the levels of these three variables in US dollars per employee:

Per-employee gross and net operating surplus was highest in the financial corporation branch, followed by the private foreign-owned enterprise branch and the household branch. Interestingly, the private domestically-owned enterprise branch had the lowest level of profitability of any commercial sector of the economy. It also had the lowest level of average employee compensation in the economy. There are several explanations that could be given to explain these differences, and because we cannot distinguish between these explanations, we cannot say why, for example, profitability is higher in the foreign-owned private branch than the private domestically-owned sector or the state-owned enterprise branch.

5. An important reason why operating surpluses and wage/salary compensation per employee were so high in the public nonfinancial corporations (state-owned enterprise) branch in 2000 was because the Macedonian Telecommunications company was in the public sector in that year. This company was sold to a foreign owner in 2000 and will subsequently appear in the foreign-owned private corporations sector. The private sector share of economic activity will thus have increased further in 2001, and operating surpluses and wage/salary compensation per employee in the public corporations branch are likely to fall.

Labor Force Survey

1. The Labor Force Survey (LFS) periodically samples over 7,000 Macedonian households in order to gather data on employment and pay. The LFS cited here sampled 7,200 households in the first week of October 2001. The sampling methodology of the LFS conforms to ILO and Eurostat standards. To quote the LFS report, "The sample is two-stage stratified. Primary sampling units are the enumeration districts used in the 1994 census of the population, and secondary sampling units are the addresses of households." The sampling biases that continue to plague surveys in some CIS countries are thus not going to be present in the Macedonian LFS.

2. Data gathered on employment in the LFS gives the number of employees in the public and private sectors. In October 2001, the share of employees in the public sector was 49%, and in the private sector 51%. The public sector is defined in the labor force survey as the "social, mixed, collective, state, and indefinite sectors."

3. Workers sampled in LFS declare whether the organization for which they work is in the public or private sector. This self-declaration is subject to error on the declarer's part. It is believed that more errors are made by those working in the private sector who erroneously believe that their organization is in the public sector. This helps explain the substantial difference between the NIS and LFS private-sector employment shares.

4. The LFS does not collect data on national income and does not give a public-private breakdown of GDP. It is possible to use data on GDP by branch of the economy (agriculture, industry, construction, etc.) for 2001 together

with the LFS employment data to calculate the share of the private sector in GDP if certain assumptions are made. A first estimate of GDP private-sector share is made by assuming that labor productivity in each branch is identical in the public and private sectors. The first table below gives data on GDP, employment, and labor productivity across branches of the economy in 2001. If it is assumed that labor productivity in each branch is identical in the public and private sectors, then the share of the private sector in GDP in 2001 was 42.5%. This is significantly less than the share in employment of 51%. The reason for this difference is that employment in the private sector is concentrated in branches of the economy with low levels of labor productivity.

5. The assumption of identical levels of labor productivity in the public and private sectors is clearly not going to hold in most or all branches. One would expect that in most cases, labor productivity would be higher in the private sector. The private-sector GDP share can be recalculated assuming that private-sector labor productivity differs from public-sector labor productivity by a percentage difference that is identical across branches. We recalculate the private-sector GDP share for scenarios in which private-sector labor productivity is 10%, 25%, 50%, and 100% higher than public-sector labor productivity. Results are given in the second table. The private-sector GDP share increases with the difference between productivity levels. It seems implausible that productivity in the private sector is generally more than 50% higher than in the public sector. We thus use as a range for the private-sector GDP share a lower bound of 42.5% (identical productivity levels) and 49% (productivity in the private sector is 50% higher than in the public sector.)

| | GDP in 2001 (mil. denars; 1997 prices) | Labor force survey, October 2001 | | | Employment share of: | | GDP in: ** | | Labor producti- vity (denars/ person) | As % of overall labor productivity |
|---|--|-------------------------------------|--------------------|-------------------|-------------------------|-------------------|--------------------|-------------------|--|---|
| | | Total employ- ment | Private- Sector | Public- sector | Private- Sector | Public- sector | Private- Sector | Public- sector | | |
| Agriculture, hunting, fishing and forestry | 18407 | 149466 | 132208 | 17258 | 88% | 12% | 16282 | 2125 | 123153 | 44% |
| Mining and quarrying | 2324 | 9314 | 662 | 8652 | 7% | 93% | 165 | 2158 | 249468 | 89% |
| Manufacturing | 38516 | 149224 | 59874 | 89350 | 40% | 60% | 15454 | 23062 | 258107 | 92% |
| Electricity, gas, and water supply | 8765 | 16507 | 153 | 16354 | 1% | 99% | 81 | 8683 | 530966 | 189% |
| Construction | 11207 | 35620 | 15921 | 19699 | 45% | 55% | 5009 | 6198 | 314640 | 112% |
| Trade and vehicle repair | 20157 | 66653 | 54886 | 11767 | 82% | 18% | 16599 | 3559 | 302418 | 107% |
| Hotels and restaurants | 2786 | 12438 | 9115 | 3323 | 73% | 27% | 2042 | 744 | 223976 | 80% |
| Transport and communications | 17347 | 33180 | 13650 | 19530 | 41% | 59% | 7137 | 10211 | 522828 | 186% |
| Financial intermediation | 6785 | 8776 | 3251 | 5525 | 37% | 63% | 2514 | 4272 | 773149 | 275% |
| Real estate | 6837 | 10432 | 5523 | 4909 | 53% | 47% | 3620 | 3217 | 655412 | 233% |
| Public administration and defence | 14569 | 33937 | 0 | 33937 | 0% | 100% | 0 | 14569 | 429299 | 152% |
| Education | 7855 | 26991 | 571 | 26420 | 2% | 98% | 166 | 7689 | 291032 | 103% |
| Health and social work | 8154 | 26907 | 2006 | 24901 | 7% | 93% | 608 | 7546 | 303031 | 108% |
| Other community, social and personal services | 4711 | 18567 | 7390 | 11177 | 40% | 60% | 1875 | 2836 | 253738 | 90% |
| Total | 168421 | 598012 | 305210 | 292802 | | | 71551 | 96870 | 281634 | |
| Private sector share | 42.5% | 51.0% | | | | | | | | |
| Public sector share | 57.5% | 49.0% | | | | | | | | |

** : Calculated assuming that labor productivity is identical in public and private sectors.

| Labor productivity in private sector compared to public sector is:** | Share of private sector in GDP | Share of public sector in GDP |
|--|--------------------------------|-------------------------------|
| Identical | 42.5% | 57.5% |
| 10% higher | 44.0% | 56.0% |
| 25% higher | 46.1% | 53.9% |
| 50% higher | 49.0% | 51.0% |
| 100% higher | 53.4% | 46.6% |

** : Differential between labor productivity private and public sectors is assumed to be identical across branches.