

Republic of Poland: Selected Issues

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REPUBLIC OF POLAND

Selected Issues

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Approved by European Department

June 30, 2005

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Earlier versions of these papers were presented at a seminar that was held at the Ministry of Finance in Warsaw on April 25, 2005. The authors would like to thank seminar participants and Polish authorities for helpful comments.

I. WHAT IS DRIVING INVESTMENT IN POLAND?¹

A. Introduction

1. **Investment as a share of GDP rose sharply in Poland in the late 1990s, followed by a rapid decline during 2000–03.** The decline remains somewhat of a puzzle, despite a number of competing hypotheses that have been offered. The objective of this paper to answer the following questions: (i) What factors were driving the broad movements of investment over the past decade? (ii) Did investment in the late 1990s exceed the amount suggested by fundamentals so that an investment overhang subsequently had to be worked out? and (iii) What are the prospects for investment recovery in the medium term—that is, can investment relative to GDP be expected to return to peak levels of the late 1990s? The structure of the paper is as follows. Section B provides a historical perspective on the evolution of economywide and sectoral investment in Poland and briefly summarizes possible determinants of investment. Section C analyzes the determinants of investment more systematically, using panel regressions based on sectoral data, and reports the results of in-sample and out-of-sample simulations. Section D offers concluding remarks and policy recommendations.

B. Historical Perspective

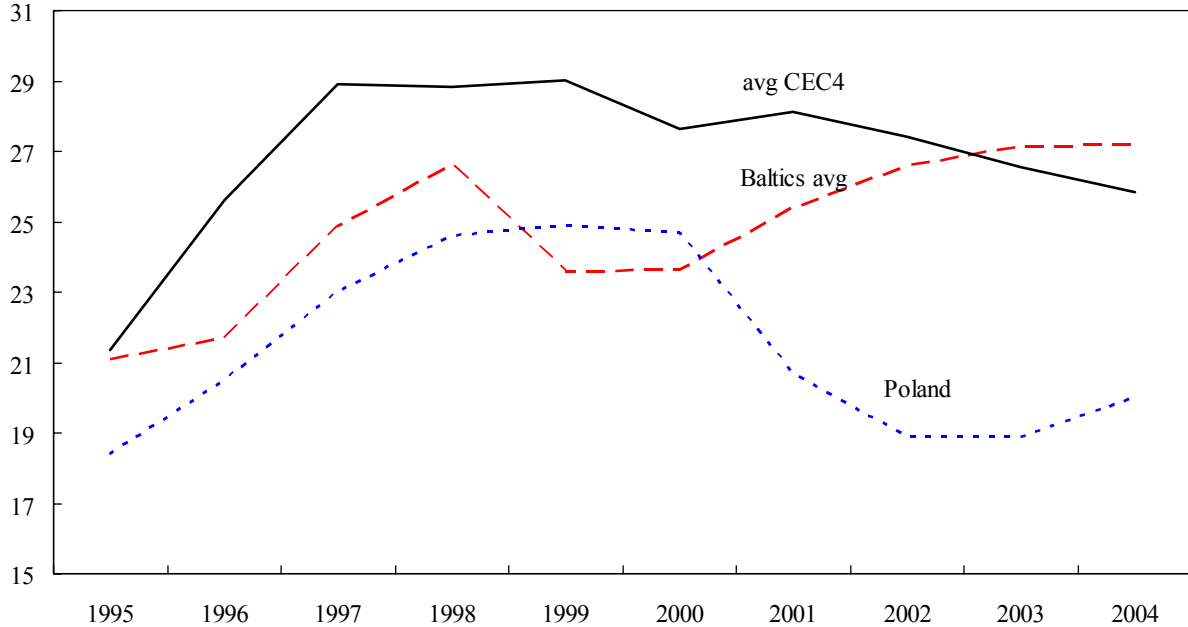
2. **The early transition period saw a dramatic shakeup of the economy, followed by a rapid rise in investment during the second half of the 1990s (Figures 1 and 2).** Prior to 1990, growth in Poland—a planned economy—had primarily taken place through fixed capital investment in heavy industry (Doyle, Kuijs and Jiang, 2001). By the eve of the transition, the stock of capital was fundamentally misallocated. In the early phase of the transition, as the liberalization of prices and international trade exposed inefficiencies, a sizable part of the capital stock became obsolete overnight. The ratio of investment to GDP fell throughout 1993–94, before staging a strong revival in the second half of the 1990s. Between 1995 and 1999, investment increased substantially in most of the RAM8 countries, but was especially rapid in those with a low initial investment-to-GDP ratio, including Poland.² Despite this relatively rapid increase, Poland’s investment-to-GDP ratio remained substantially lower than in the other RAM8 countries throughout this period—except in 1999 and 2000, when investment in the Baltics declined sharply in response to the Russia crisis.

3. **After booming for half a decade, Poland’s investment plummeted during 2001– 03 and has recovered only marginally since (Figures 1 and 3).** This pattern has

¹ Prepared by Zuzana Murgasova.

² RAM8 countries include eight of the recently acceded members (RAM): the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Republic and Slovenia.

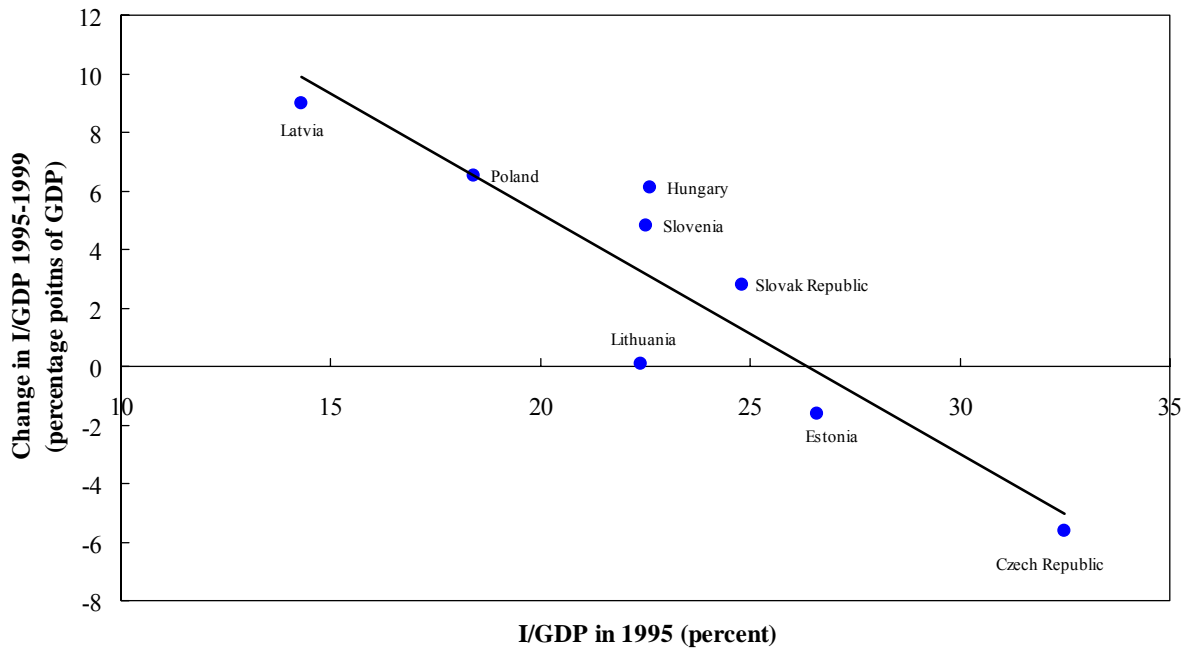
Figure 1. RAM-8: Gross Capital Formation, 1995-2004 1/
(in current prices, in percent of GDP)



Sources: Eurostat; and IMF staff calculations.

1/ RAM-8 comprises the Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Rep. and Slovenia.

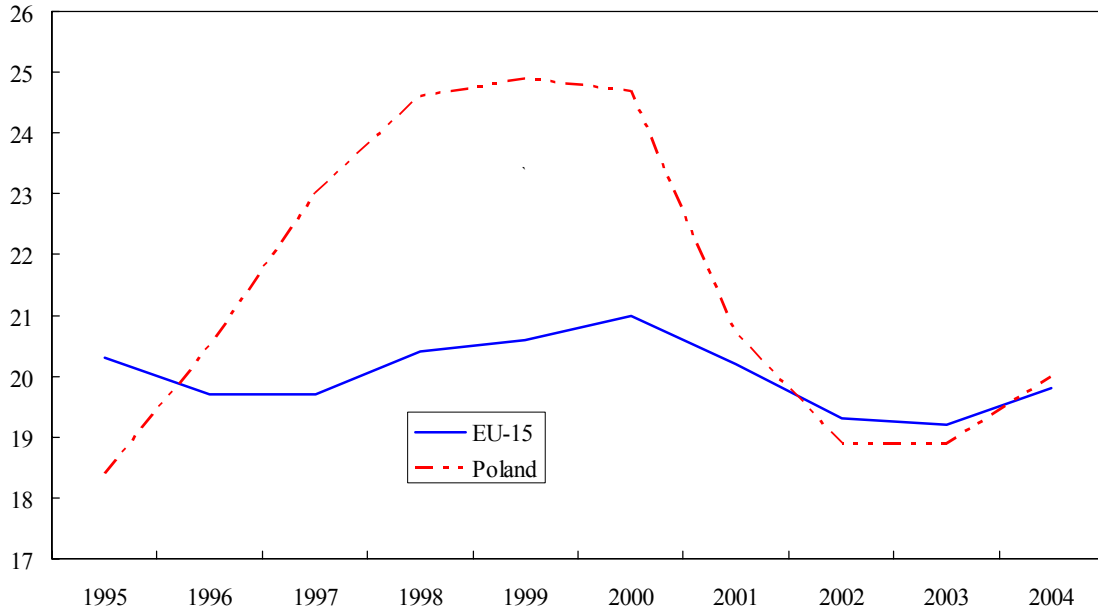
Figure 2. RAM-8: Change in the Investment-to-GDP Ratio, 1995-99 1/



Sources: Polish authorities; and IMF staff calculations.

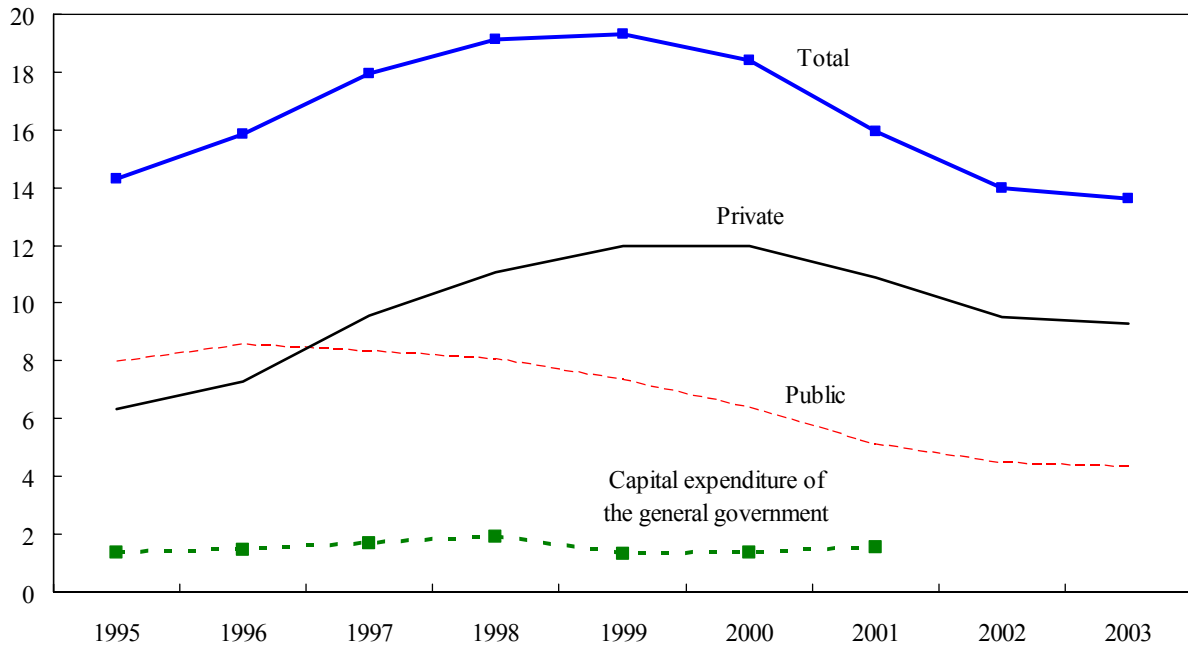
1/ RAM-8 comprises the Czech Rep., Estonia, Hungary, Latvia, Lithuania, Poland, the Slovak Rep., and Slovenia.

**Figure 3. EU-15 and Poland: Investment, 1995-2004
(in percent of GDP)**



Sources: Eurostat; and IMF staff calculations.

**Figure 4. Poland: Public and Private Investment Outlays,
1995-2003 (in percent of GDP)**



Sources: Polish authorities; GFS; and IMF staff calculations.

diverged considerably from those observed in the other RAM-8 countries, and has resembled more closely developments in investment in the EU-15 (Pelgrin, Schich, and de Serres, 2002).³ The remainder of the paper focuses solely on investment in Poland.

4. **Developments in Poland's total investment over the past decade were largely driven by changes in private sector investment (Figures 4 and 5).** The sharp increase in the latter in the second half of the 1990s was to some extent accentuated by the privatization process, which led to the reclassification in the official statistics of a large number of public enterprises as private sector firms. This is consistent with the increasing share of the private sector in total output. Yet it is also likely that, once privatized, enterprises truly increased their investment activity.

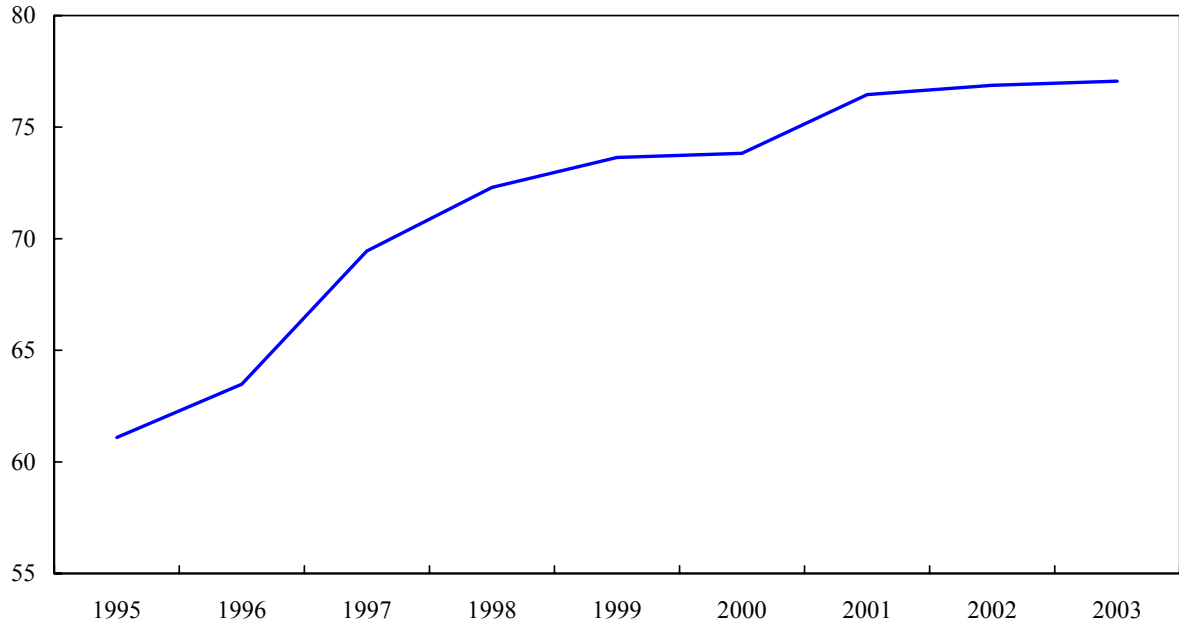
5. **Privatization significantly changed the sectoral composition of public sector investment (Figure 6).** Public investment continued to be concentrated heavily in sectors providing public goods, such as public administration, education, health, utilities, and mining, the latter two reflecting delays in the privatization process. In other sectors with historically large public involvement, such as transportation and manufacturing, public investment fell to low levels.

6. **Changes in the sectoral composition of investment outlays coincided with the ongoing structural changes in the economy (Figures 7, 8, 9, and 10).** Investment in manufacturing was by far the largest among all sectors, as the rapid structural changes in production led to a greater orientation toward western markets and increased the share of manufacturing in total production. Investment in real estate and the trade sector was relatively high, reflecting the underdeveloped nature of these sectors in the early stages of the transition. Substantial investment in the power and telecommunications sectors was the outcome of the modernization of these sectors. Investment growth was most rapid in the financial intermediation sector because of restructuring, privatization, and modernization. On the whole, those sectors whose real investment grew most rapidly in the late 1990s also experienced the most rapid decline of investment after 2000. This might be due to higher procyclicality in such sectors, but could also reflect overinvestment and related excess capacities. The effects of investment on output (as represented by the incremental capital-output ratio—ICOR) varied across the sectors, ranging from very low in some of the sectors with large shares of public investment (electricity, construction, and other community services) to very high in some of the most underdeveloped sectors (transportation, trade, and hotels).

7. **A number of hypotheses have been put forward to explain the rapid growth of investment in the late 1990s and the subsequent sharp drop (Figures 11 and 12).** The rapid investment growth until 1998 has been viewed by some as fueled by strong economic

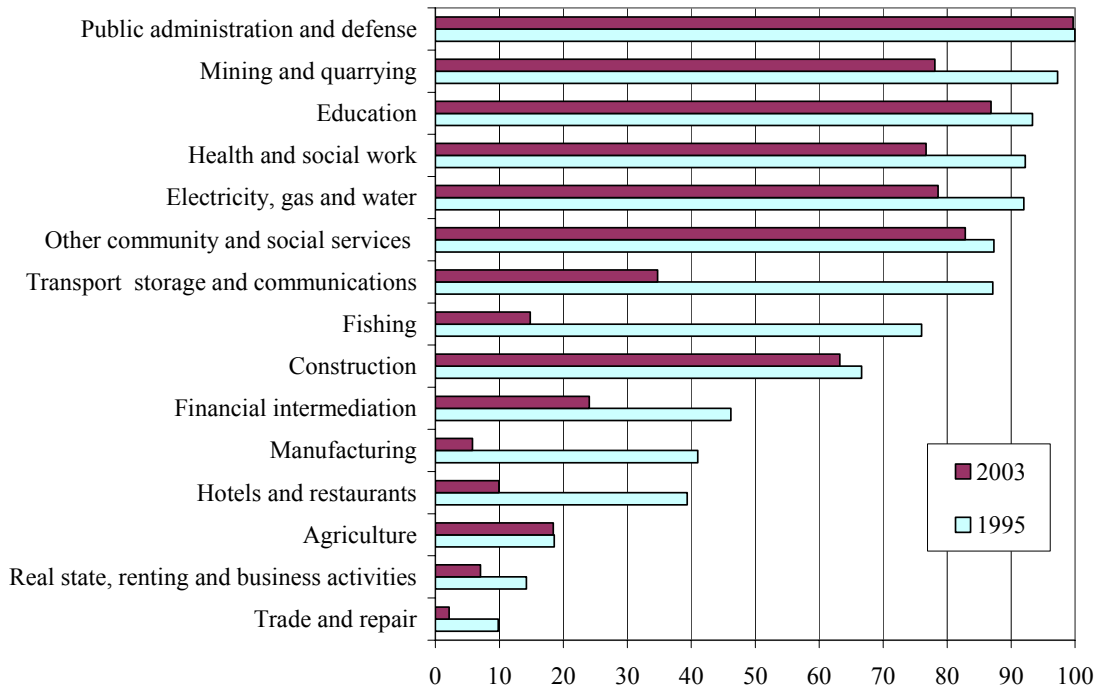
³ EU-15 is defined as the EU prior to the 2004 enlargement.

Figure 5. Poland: Private Sector Output as a Share of Total, 1995-2003 (in percent)



Sources: Polish authorities; and IMF staff calculations.

Figure 6. Poland: Public Investment by Sector, 1995 and 2003 (in percent of total investment)



Sources: Polish authorities; and IMF staff calculations.

Figure 7. Poland: Investment by Sector, 1991-2003
(in millions of constant 2001 zloty)

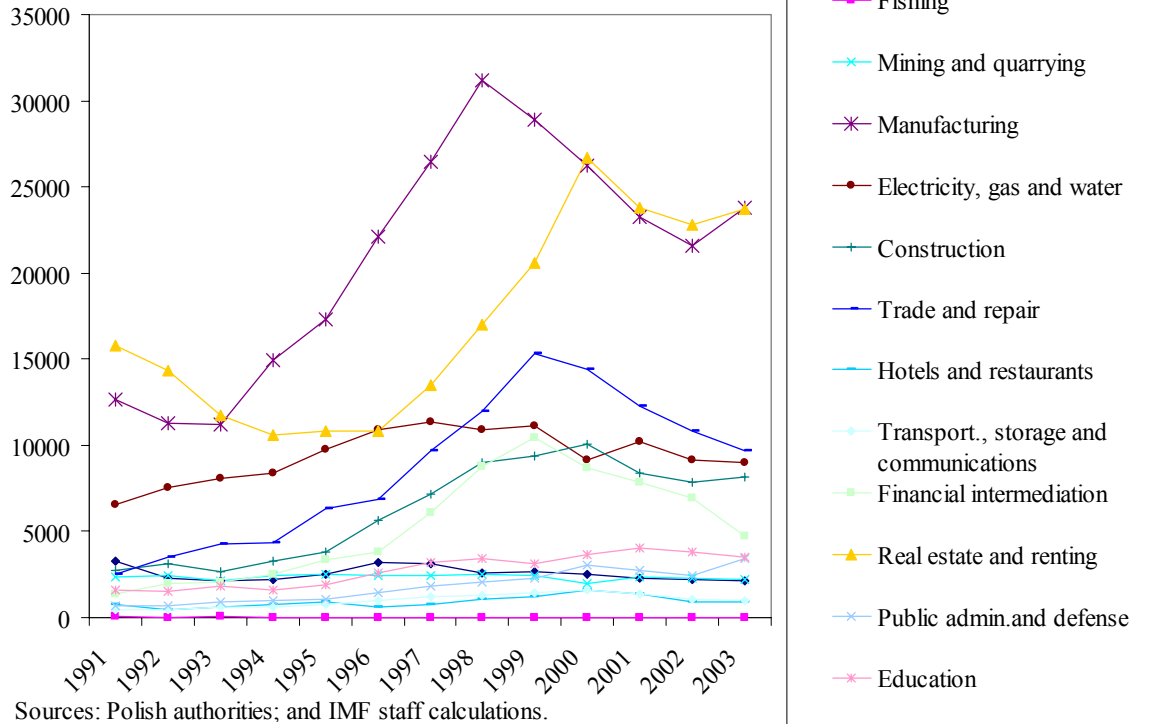


Figure 8. Poland: Index of Real Investment Outlays by Sector, 1991-2003
(1991=100)

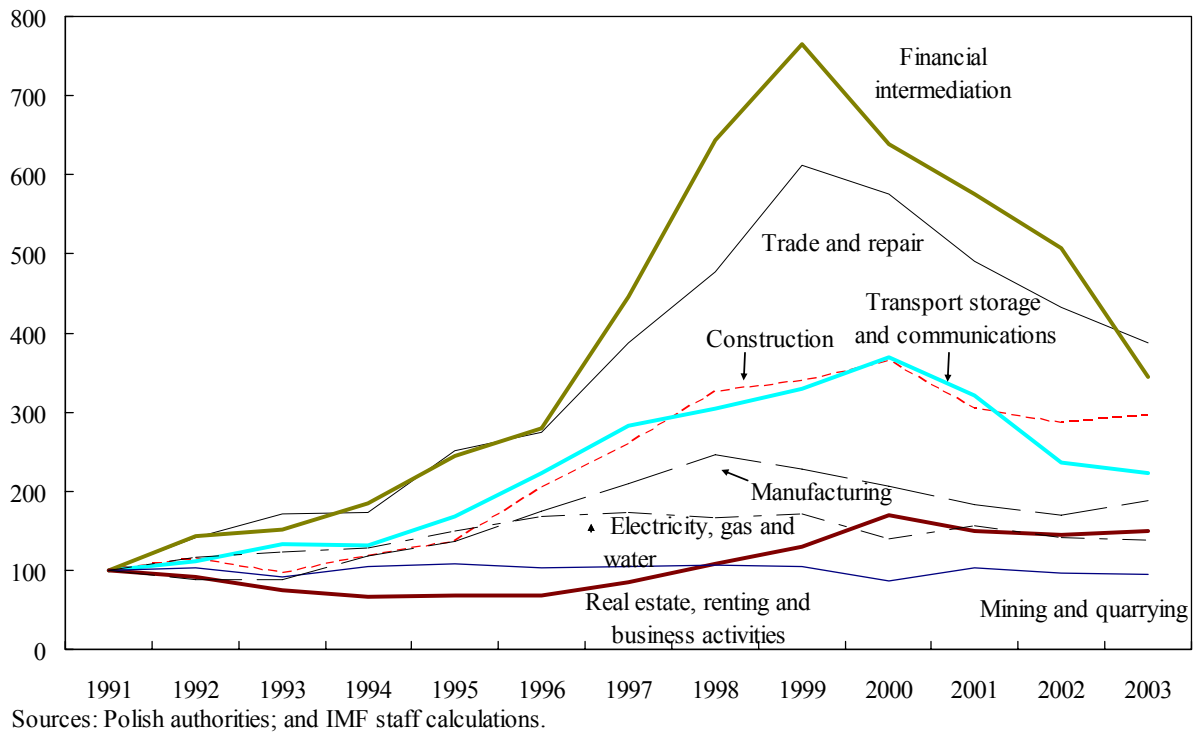
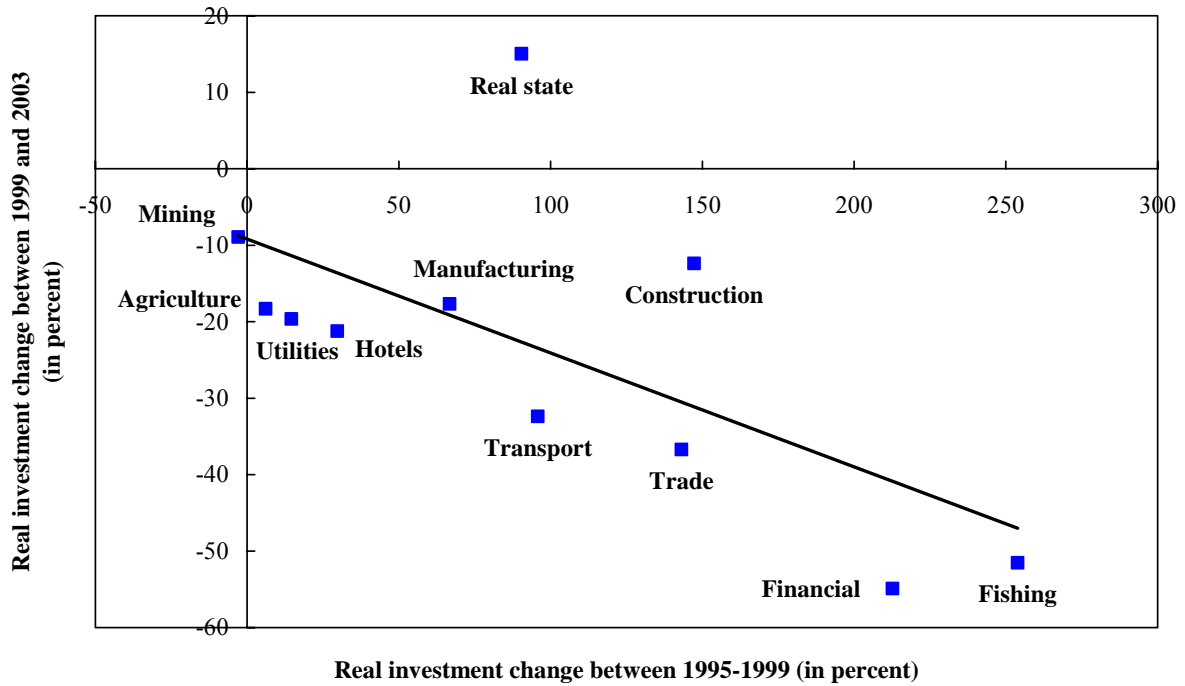
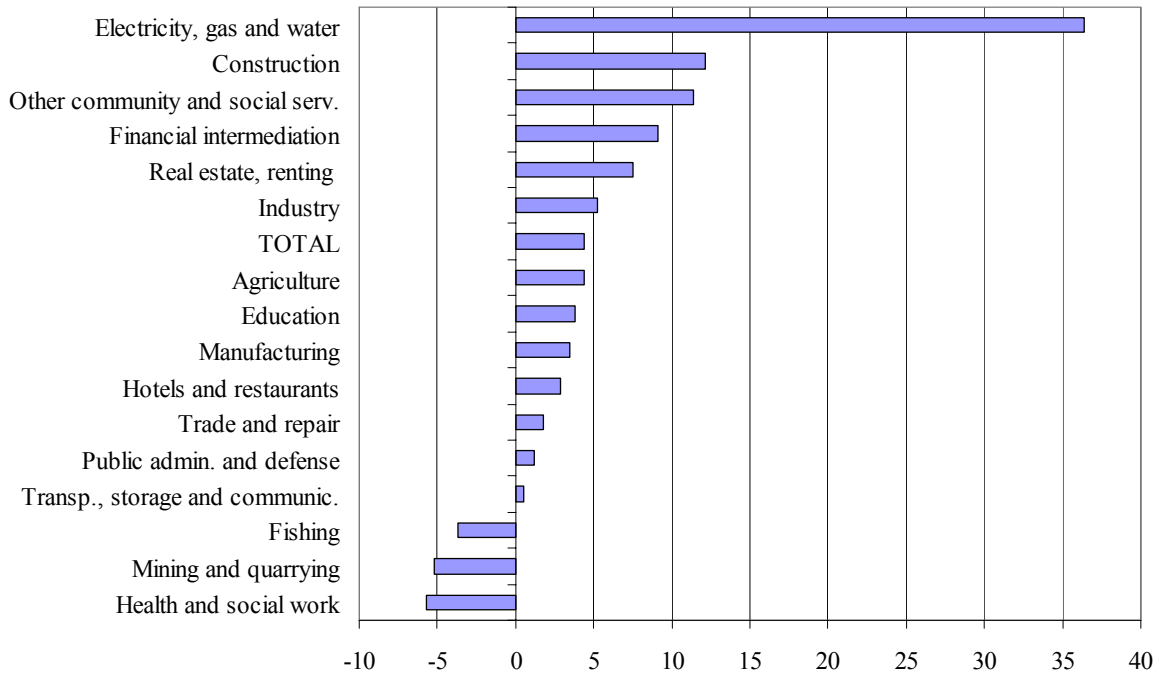


Figure 9. Poland: Change in Investment by Sector (in percent)



Sources: Polish authorities; and IMF staff calculations.

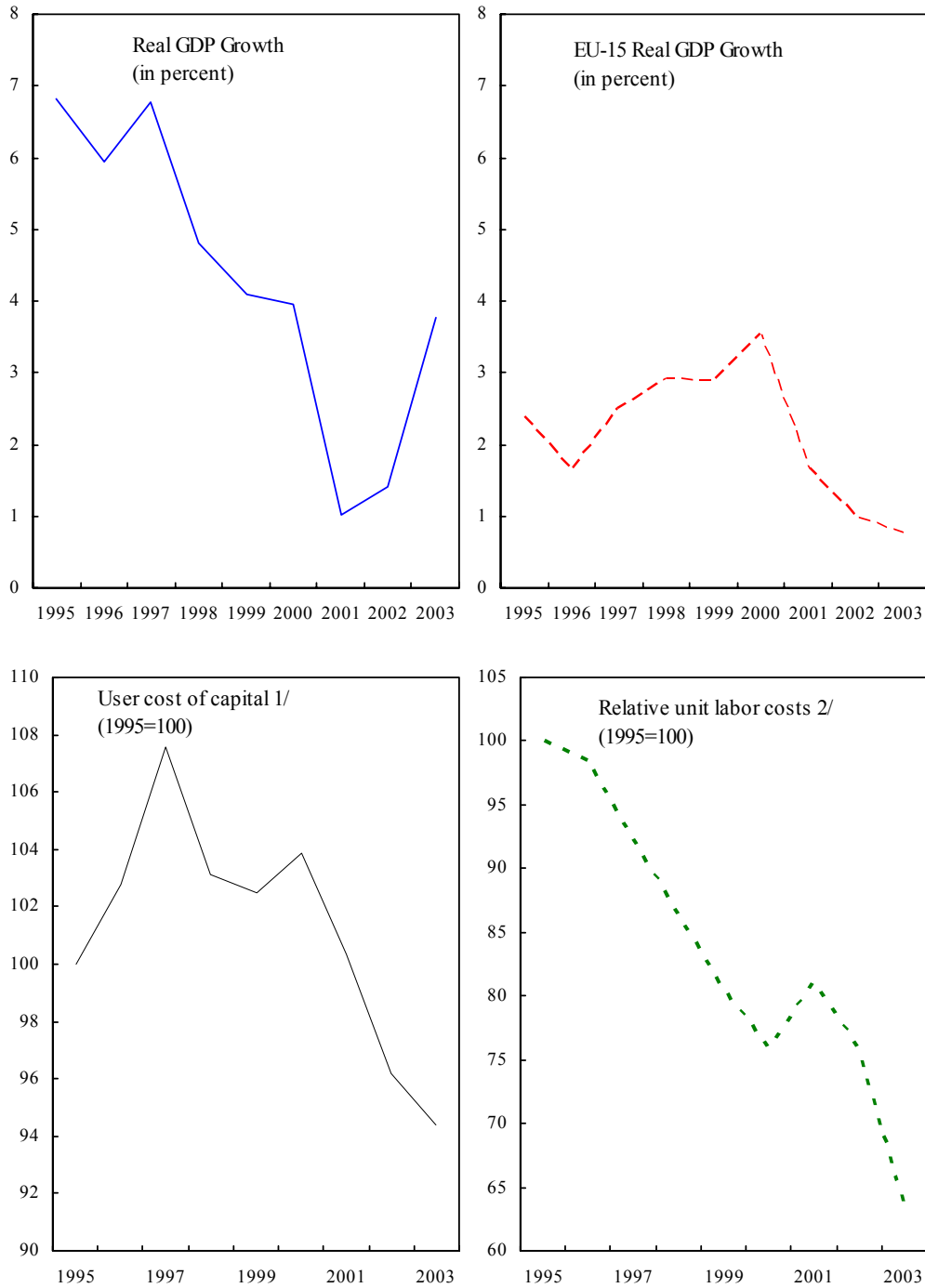
Figure 10. Poland: Incremental Capital-Output Ratio by Sector, 1995-2003 1/



Sources: Polish authorities; and IMF staff calculations.

1/ ICORs are the sum of real investment over the change in real output between 1995 and 2003.

Figure 11. Poland: Factors Affecting Investment Growth, 1995-2003

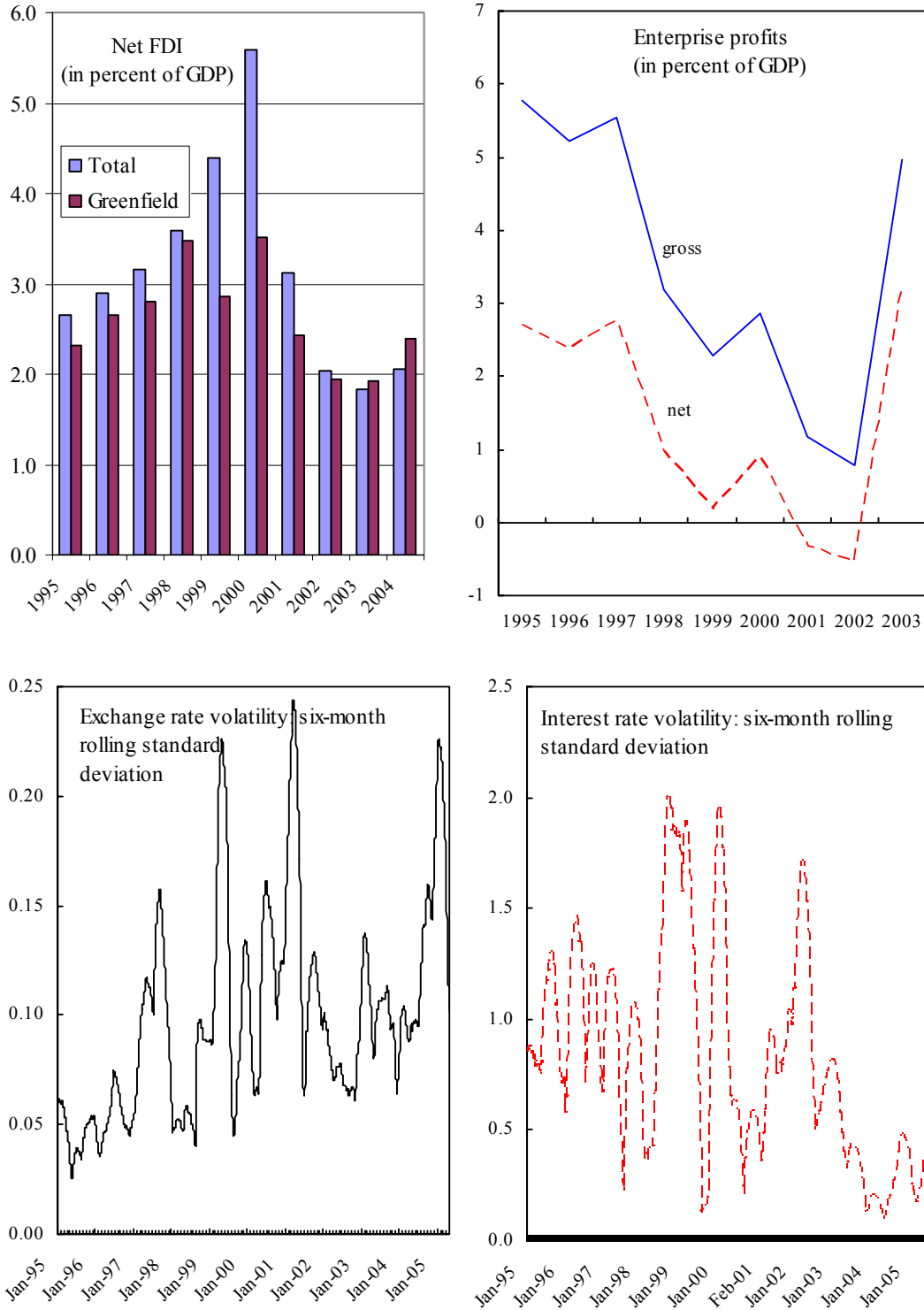


Sources: Polish authorities; Eurostat; Datastream; and IMF staff calculations.

1/ Product of the real interest rate and the relative price of capital (the ratio of the investment deflator to the GDP deflator).

2/ Unit labor costs in Poland relative to the EU.

Figure 12. Poland: Factors Affecting Investment Growth, 1995-2005



Sources: Polish authorities; Eurostat; Datastream; and IMF staff calculations.

growth not only in Poland, but also in the EU—Poland’s main trading partner—possibly creating overly optimistic expectations about future demand growth for Poland. Other factors that could be behind the strength of investment in the 1990s include falling economywide unit labor costs relative to those in the EU, and FDI inflows, which played a crucial role in restructuring previously state-owned enterprises, creating competitive pressures, and upgrading managerial and technical expertise. FDI inflows also had important second-round effects on overall investment activity by promoting development of domestic suppliers’ networks. User cost of capital, which rose through 1997 while inflation was dropping, may have been a mitigating factor. The subsequent reversal in investment growth could have been related to the slowdown in the EU and the sharp tightening of monetary policy, which resulted in a substantial real appreciation of the zloty during 1999–2002. Additional factors that could have contributed to weaker investment in the early 2000s include institutional factors, such as elimination of tax breaks on investment from 2001, a more uncertain business environment as the number of economic areas requiring administrative permission to pursue economic activity increased and the number of legislative acts related to business activity (of which less than one-fourth can be attributed to requirements related to EU accession) rose (Paczocha and Rogowski, 2005). These institutional factors are difficult to quantify and thus are not included in the quantitative analysis of investment determinants below.

C. Panel Data Econometric Analysis of the Potential Determinants of Investment

8. **In order to address the questions outlined in the introduction, it is necessary to estimate a relationship between investment and a number of its potential determinants.** In the case of Poland, long-run time series are not available. Therefore, this study relies on panel estimation, drawing on a relatively underexplored data set on sectoral investment, output, and unit labor costs, as well as a variety of additional controls. This approach allows us to analyze investment in individual sectors, as well as the whole economy, and to build a simple model that can be used to simulate a future investment path. As investment in Poland is an underresearched area, the objective of this paper is to explore general hypotheses about the factors that determine investment.

Theoretical considerations

9. **Theory suggests a number of possible determinants of investment:**

- *Lagged real investment* (sectoral). Investment is autocorrelated (investment inertia) because investment projects often span a number of years.
- *Lead real production* (sectoral). A proxy for expectations of economic activity in the sector is used under the assumption of perfect foresight—higher expected domestic production would require additional investment.

- *Relative unit labor costs* (sectoral). A proxy is used for cost effectiveness, defined as the unit labor cost (ULC) in Poland relative to those in the EU, and captures effects of exchange rate changes on competitiveness. Higher relative unit labor costs reduce competitiveness and thus investment.
- *Economic activity in the EU* (aggregate data for the economy). This variable represents broader prospects for developments in the global environment not captured by the expectations of future production of each individual sector. A higher domestic demand in the EU leads to higher investment in Poland, which in turn will increase the country's export potential in the tradable sectors. In the non-tradable sectors higher EU effect likely promoted investment via a positive confidence effect.
- *Real greenfield FDI* (aggregate data for the economy). FDI inflows not only directly finance investment but also have important spillover effects for domestic investment, possibly with a lag.
- *User cost of capital* (aggregate data for the economy). This represents the opportunity cost of investment. The user cost of capital is defined as the product of the real interest rate and the relative price of capital (the ratio of the investment deflator to the GDP deflator); lower user cost of capital tends to increase investment.
- *Profitability of the enterprise sector* (aggregate data for the economy). It is measured in real zloty. To the extent investment is financed out of firms' own resources, higher profitability leads to higher investment. In addition, large profits may attract new investment.
- *Exchange rate and interest rate volatilities* (aggregate data for the economy). They serve as proxies for uncertainty. High volatility lowers the risk-adjusted rate of return and thus may hamper investment activity.
- *Dummy variable for the change in monetary policy regime* (D). This is set equal to 1 for 1999–2003, when inflation targeting was in place. This dummy variable is used interactively with the user cost of capital, policy interest rates, and the relative investment-to-GDP deflator to test the hypothesis that the switch to inflation targeting instilled greater confidence.

Data

10. **The estimations are based on a panel of 11 sectors of the economy for 1995–2003.** Data sources and the construction of variables are explained in greater detail in Appendix I. The list of sectors included in the analysis is presented in Appendix II. Sectors with a majority share of public investment were excluded from the analysis because investment decisions would seem unlikely to be based on market incentives. The series are in logarithms of constant prices, with the exception of dummy variables, and exchange rate and interest rate volatilities.

Panel estimation—fixed effects

11. **The estimation results using the fixed-effects method are presented in Table 1.** The endogenous variable is the log of real investment. In equation (i) all right-hand side (RHS) variables have the expected signs, although not all are significant. Equation (iii) indicates that the individual components of the user costs of capital—the real interest rate and the relative cost of capital—were not significant determinants of investment either. Equations (ii) and (iv) suggest that the change in the monetary policy regime (represented by a dummy variable) did not have an impact on investment through the confidence effect. Exchange rate volatility did not have an important effect either.⁴ Equations (v)-(ix), which test for the significance of a subset of explanatory variables, suggest that lagged investment, future production, financial results, and current and lagged greenfield FDI were, in various specifications, all significantly related to investment developments. EU demand was significant at about 20 percent in equations (viii) and (ix), relative ULCs at about 25 to 30 percent in equations (vi) and (vii). While in theory relative ULCs should be more important for tradable sectors, including a multiplicative dummy variable with the ULCs distinguishing tradable and nontradable sectors did not improve the significance. Because production technologies could differ across sectors, formal tests were conducted to see whether the statistical relationship between investment and production across sectors differs. The null hypothesis, that the coefficient on production is the same across sectors, was not rejected at conventional significance levels, thereby supporting the appropriateness of pooling data. The fixed-effect estimation method allows hypotheses to be explored from the general to the more specific, and the results presented in Table 1 are easily understood due to the intuitive specification of the equations. However, the estimated coefficients need to be interpreted with caution, owing to a bias in the coefficients that rely on panel regressions that include the lagged dependent variable. Therefore, equations with a good fit and significant coefficients were subsequently reestimated using the Arellano-Bond method.

Panel estimation—Arellano-Bond

12. **The estimation results using the Arellano-Bond method (Arellano and Bond, 1991) are presented in Table 2.** The change in logarithm of real investment is the endogenous variable. The magnitude of the coefficients obtained through the fixed-effects method is broadly similar when estimated using the Arellano-Bond method, which uses lags of all the variables as instruments in order to correct for the bias mentioned above. The results reported in Table 2 are based on the Arellano-Bond estimation which also takes into account that some variables, such as production, are endogenous.

⁴ Interest rate volatility was also not a significant determinant of investment (regression results are not shown in the paper).

Table 1. Panel Estimation Using Fixed Effects, 1995-2003

| | With user cost of capital and ER volatility | | | | Without user cost of capital and ER volatility | | | | |
|------------------------|---|--------------------|-------------------|-------------------|--|--------------------|--------------------|--------------------|-------------------|
| | (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) | (ix) |
| lagged investment | 0.282 [2.67]*** | 0.276 [2.62]** | 0.269 [2.57]** | 0.275 [2.63]** | 0.354 [4.00]*** | 0.342 [3.54]*** | 0.34 [4.10]*** | 0.307 [3.25]*** | 0.268 [2.62]** |
| lead production | 0.516 [2.34]** | 0.503 [2.29]** | 0.456 [2.06]** | 0.455 [2.05]** | 0.52 [2.44]** | 0.525 [2.40]** | 0.594 [3.15]*** | 0.494 [2.32]** | 0.514 [2.41]** |
| financial results | 0.188 [0.96] | 0.046 [0.31] | -0.208 [0.73] | 0.146 [0.52] | 0.092 [2.45]** | | | 0.165 [2.56]** | 0.168 [2.60]** |
| lagged FDI | 0.268 [1.93]* | 0.238 [2.91]*** | 0.189 [1.46] | 0.174 [1.71]* | 0.267 [4.30]*** | | | 0.189 [2.26]** | 0.199 [2.36]** |
| FDI | | | | | | 0.421 [3.95]*** | 0.357 [3.89]*** | | |
| relative ULC | -0.139 [0.97] | -0.149 [1.04] | -0.156 [1.10] | -0.149 [1.05] | | -0.16 [1.15] | | | -0.135 [0.96] |
| lagged relative ULC | | | | | | | -0.118 [0.96] | | |
| EU demand | 0.978 [0.90] | 0.474 [0.39] | 2.827 [1.67]* | 2.271 [0.78] | | | | | |
| lead EU demand | | | | | | | | 1.454 [1.38] | 1.302 [1.22] |
| ER volatility | -0.206 [0.15] | -0.38 [0.35] | -1.195 [0.90] | -0.218 [0.19] | | | | | |
| user cost of capital | -0.521 [0.17] | | | | | | | | |
| D*user cost of capital | | 2.038 [0.86] | | | | | | | |
| interest rate | | | 3.353 [0.98] | | | | | | |
| invest/GDP deflator | | | 9.056 [1.52] | | | | | | |
| D*interest rate | | | | -0.051 [0.08] | | | | | |
| D*invest./GDP deflator | | | | 0.888 [0.14] | | | | | |
| Observations | 88 | 88 | 88 | 88 | 88 | 88 | 77 | 88 | 88 |
| Number of sectors | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| R-squared | 0.62 | 0.63 | 0.64 | 0.64 | 0.61 | 0.59 | 0.6 | 0.62 | 0.63 |

Absolute value of t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Source: IMF staff calculations.

Table 2. Panel Estimation Using Arellano-Bond, 1995-2003

| | AB(i) | AB(ii) | AB(iii) | AB(iv) | AB(v) | AB(vi) |
|----------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
| LD. investment | 0.162 [1.30] | 0.486 [3.47]*** | 0.099 [0.60] | 0.405 [2.29]** | 0.601 [4.53]*** | 0.323 [1.94]* |
| D. production | 0.963 [2.96]*** | 0.706 [1.61] | 1.056 [4.04]*** | 1.079 [3.59]*** | | |
| D. lead production | | | | | 1.493 [4.23]*** | 0.807 [2.57]** |
| D. financial results | 0.033 [1.03] | 0.011 [0.28] | | 0.057 [1.68]* | | |
| D. lagged FDI | 0.299 [4.96]*** | | 0.036 [0.29] | 0.254 [1.55] | | |
| D. FDI | | 0.202 [3.41]*** | | | | 0.305 [2.37]** |
| D. EU demand | | 0.469 [0.22] | | | | |
| D. lead EU demand | | | 6.761 [4.16]*** | | | |
| D. lagged relat.ULC | | | -0.055 [0.41] | -0.045 [0.28] | -0.179 [1.06] | -0.045 [0.29] |
| Observations | 88 | 99 | 77 | 77 | 66 | 66 |
| Number of sectors | 11 | 11 | 11 | 11 | 11 | 11 |

Absolute value of z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

L = lag; D = difference

Source: IMF staff calculations.

13. **A number of determinants of investment can be identified from the estimation results.** These include lagged investment, lead production, and financial results. Similar conclusions were reached also by Gradzewicz (2005) in a firm-level analysis of investment decisions by industrial processing enterprises in Poland. Other variables of importance included in this study include greenfield FDI inflows, EU demand, and relative unit labor costs (which were significant again at about 25–30 percent).⁵ The user cost of capital does not feature as a determinant of investment, probably because about half of new investments tend to be financed with firms' own resources, and only about a third financed with credits (National Bank of Poland, 2005), suggesting possible capital market imperfections. This result is corroborated by Gradzewicz (2005) and Dobrinsky (2005) in a cross-country panel analysis of investment-to-GDP ratios in Central and Eastern European countries.⁶

Simulations

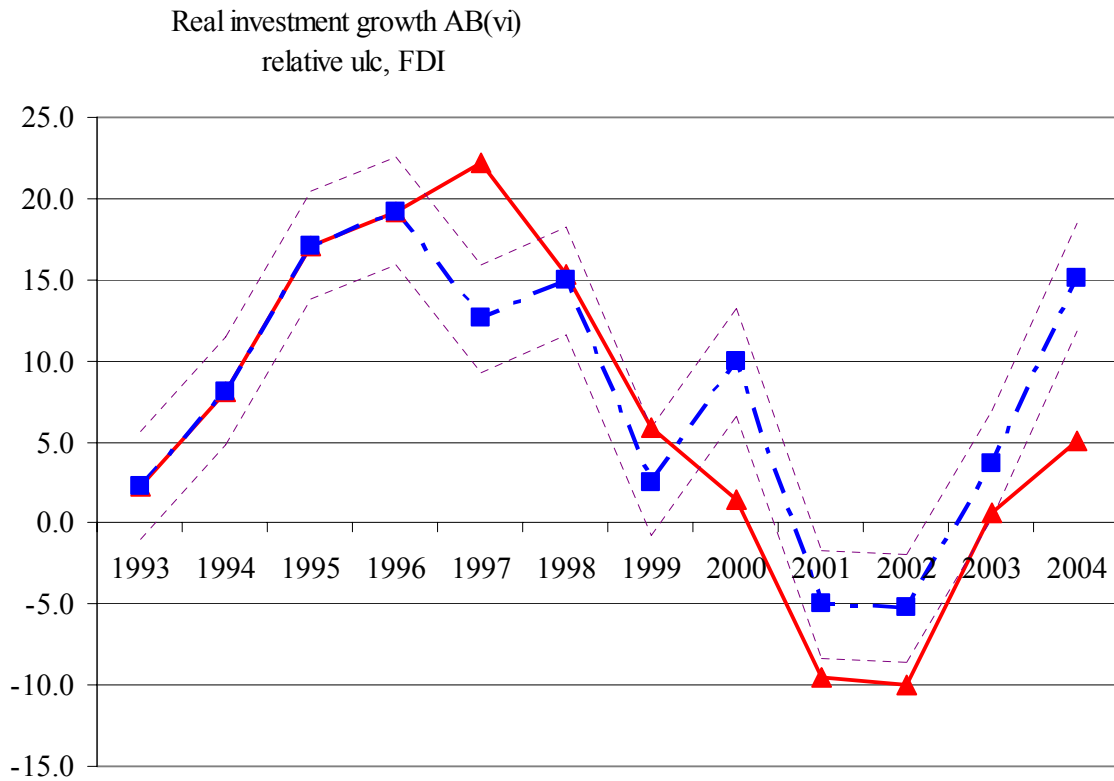
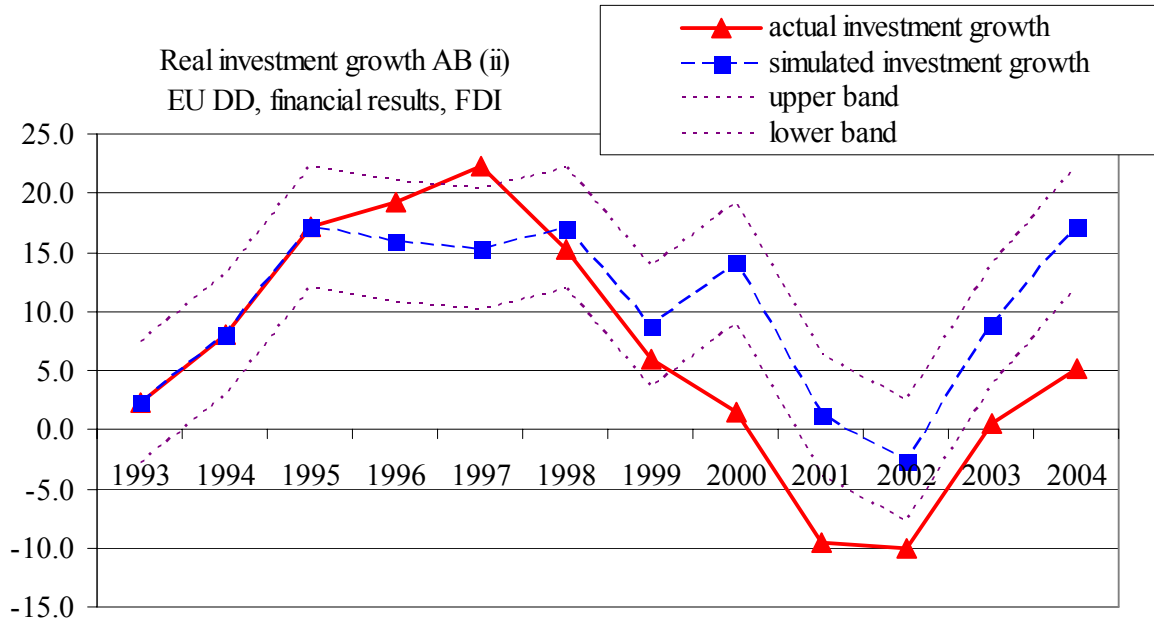
14. **In-sample dynamic simulations of the estimated equations point to some overinvestment in the second half of the 1990s and underinvestment during 2000–02 (Figures 13 and 14).**⁷ All simulated models based on the Arellano-Bond estimation capture the broad turning points in investment since 1995. The illustrative models presented—equations AB(ii) and AB(vi)—suggest that actual investment growth somewhat exceeded

⁵ To determine whether the impact of the 1998 Russia crisis may have contributed to the investment slowdown, the equations were reestimated using Poland's partner country demand (weighted by trade shares) calculated by the WEO, instead of EU demand. While the estimated coefficients on the partner country demand had the correct sign (positive), the overall fit of the model was much worse than when using EU demand. This may be due to the relatively low share of Polish exports to Russia in total exports prior to the crisis (less than 7 percent) and a high share of export to the EU (about two-thirds) throughout the sample period.

⁶ Empirical studies of investment generally have difficulties finding a significant relationship between investment and the user cost of capital. There are a number of possible reasons (other than capital market imperfections). First, firms may adjust expectations about economic activity in response to monetary policy changes, and thus revise their investment plans. Second, cost of capital may be mismeasured, particularly on the aggregate level. Third, there may be an identification problem related to reduced-form estimates which include endogenous regressors. Nevertheless, in this paper monetary policy can have an impact on investment by affecting relative unit labor costs and profitability through the exchange rate, and perhaps to a lesser extent, the interest rate channels.

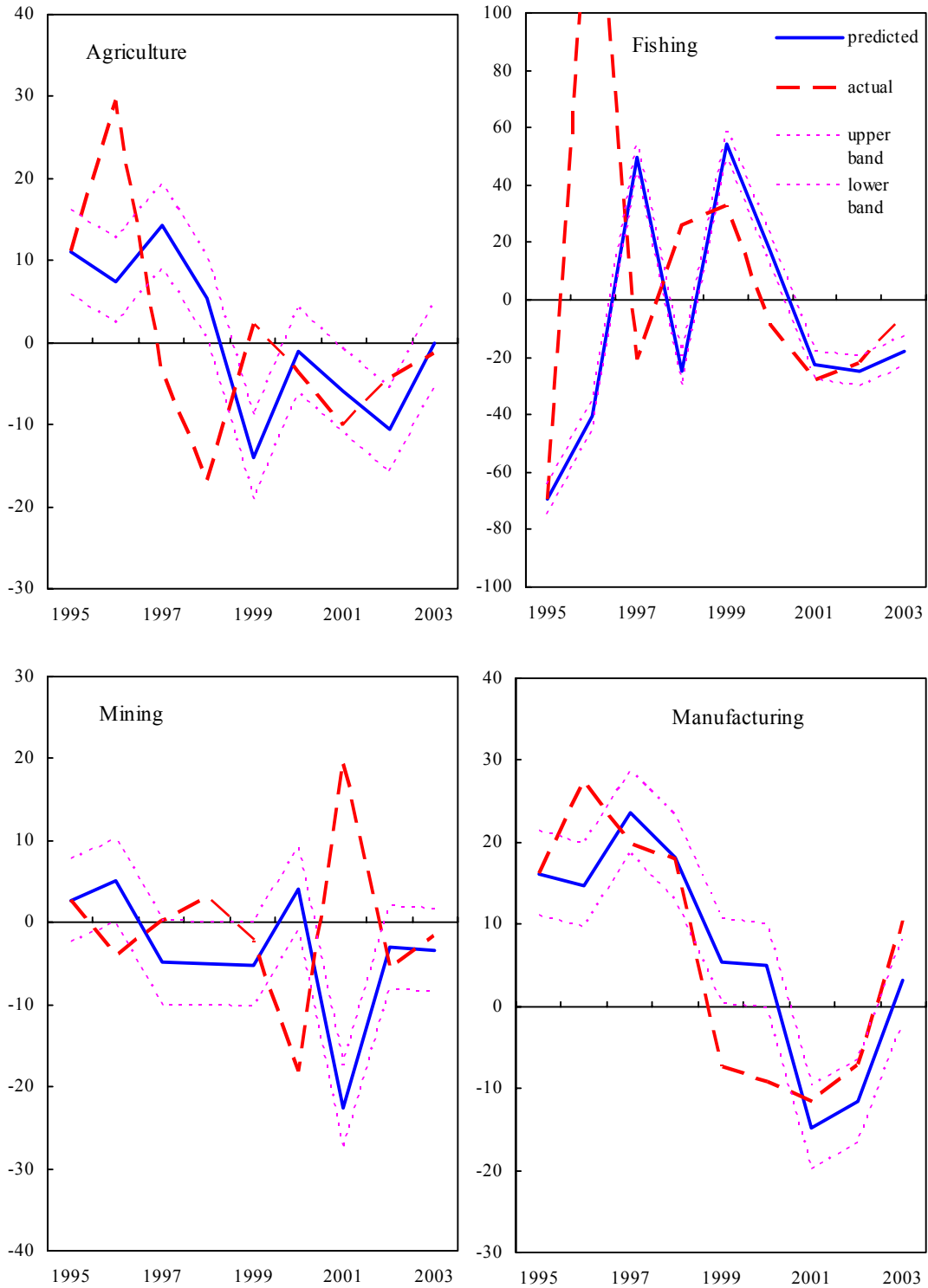
⁷ The figures are based on the equations estimated using the Arellano-Bond method.

Figure 13. Poland: Real Investment Growth—Actual and Fitted Values, Arellano-Bond Estimation, 1993-2004, (in percent)



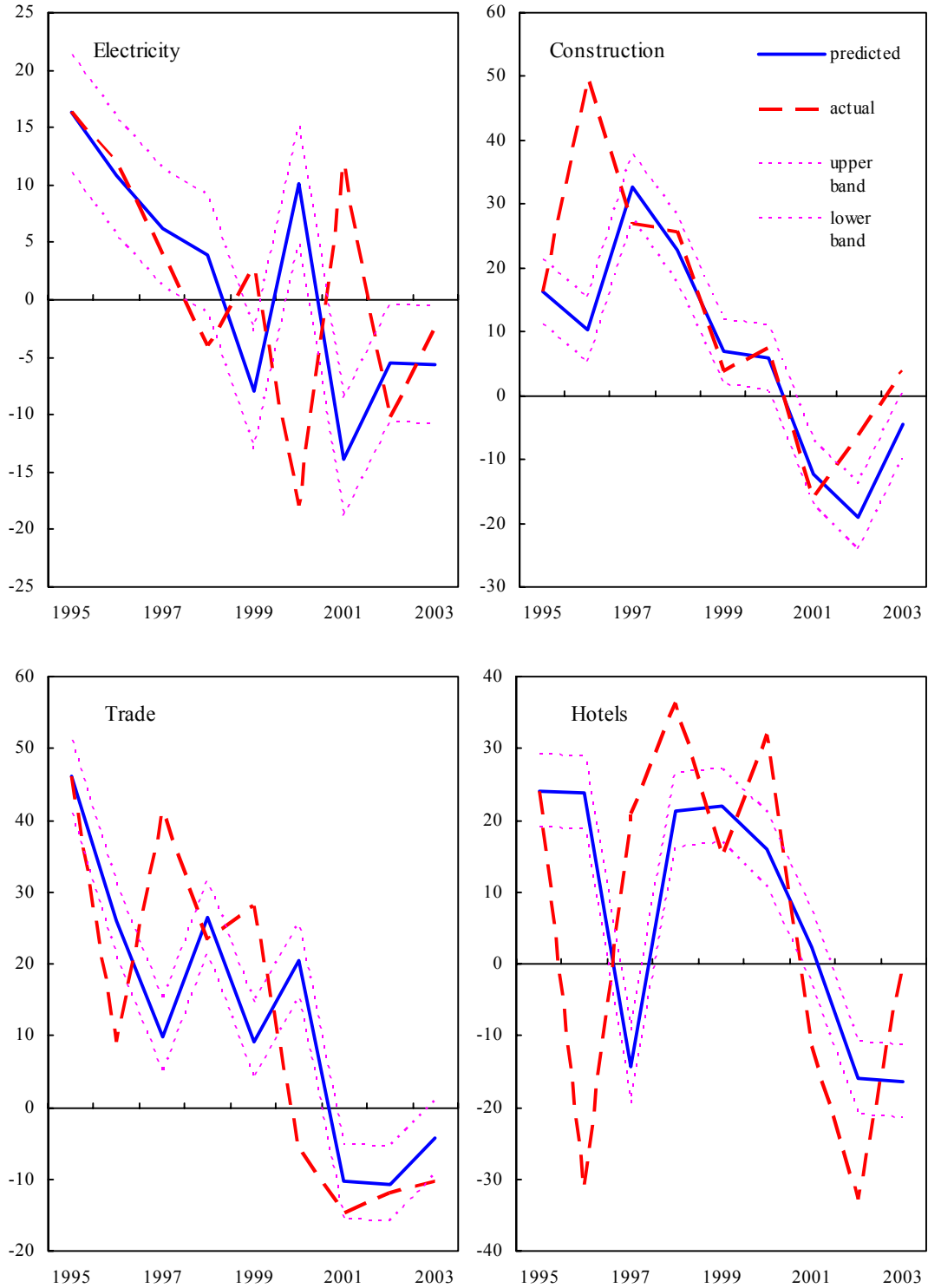
Sources: Polish authorities; and IMF staff calculations.

Figure 14. Poland: Real Investment Growth—Actual and Fitted Values by Sector, 1995-2003
(in percent)



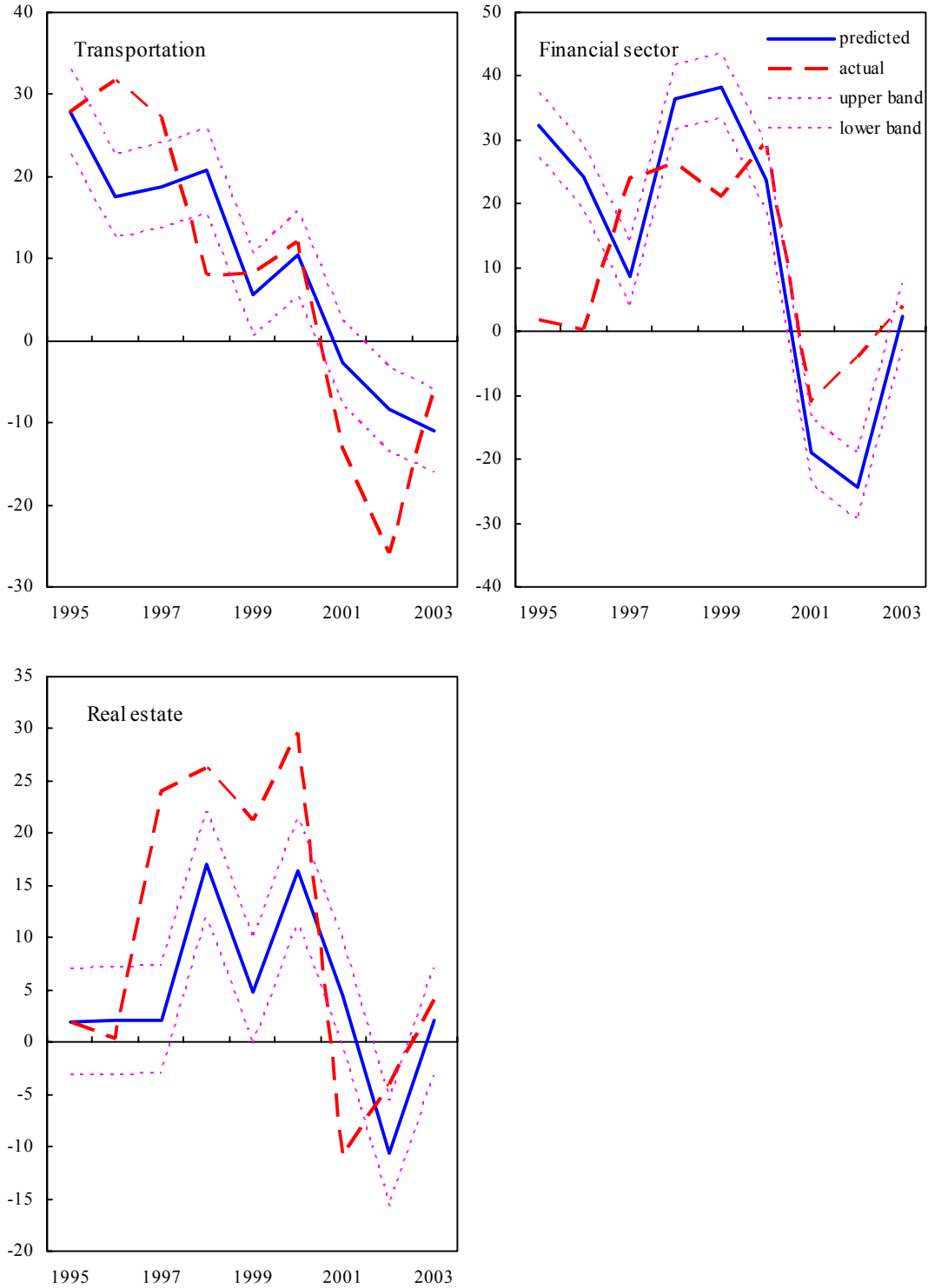
Sources: Polish authorities; and IMF staff calculations.

Figure 14. Poland: Real Investment Growth—Actual and Fitted Values by Sector, 1995-2003 (cont.), (in percent)



Sources: Polish authorities; and IMF staff calculations.

Figure 14. Poland: Real Investment Growth—Actual and Fitted Values by Sector, 1995-2003 (concluded.), (in percent)



Sources: Polish authorities; and IMF staff calculations.

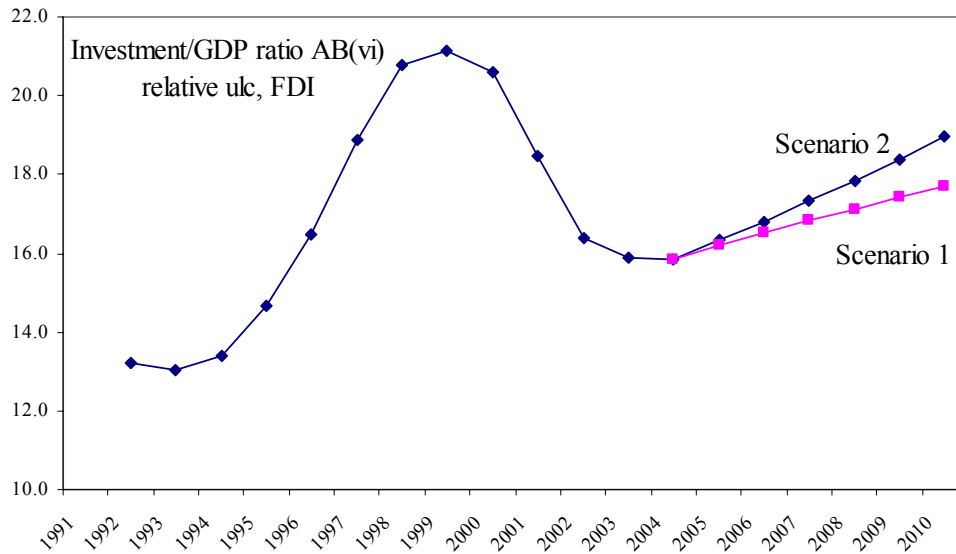
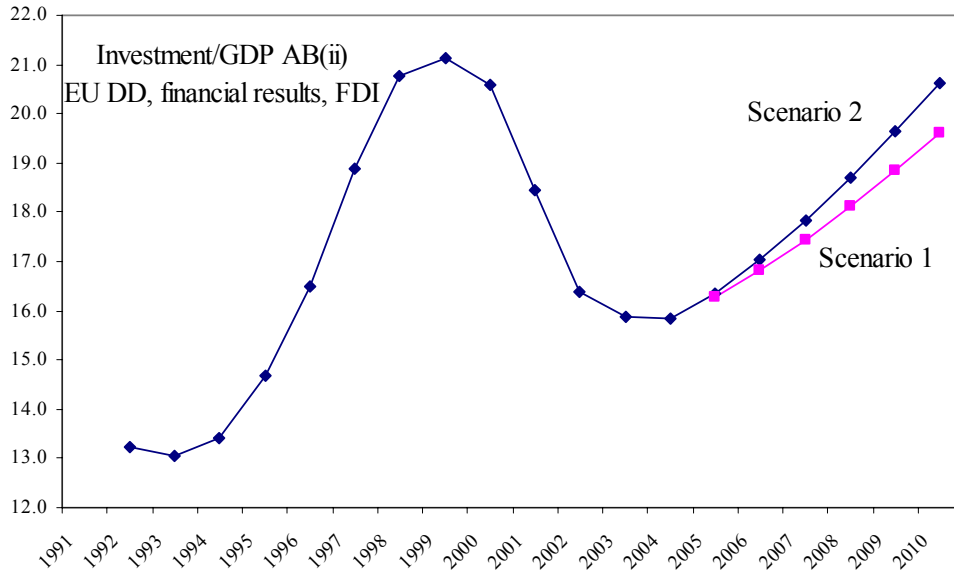
predicted investment growth, in especially in 1997. Moreover, while the slowdown of investment growth in 1998–99 is consistent with developments in fundamentals, there seems to have been substantially less investment in 2000–02 compared with what the estimated models would imply. These results are reasonably robust to changes in estimation method and equation specification. Some models that include financial results (for example, equation AB(i)) predict a sharp increase in investment in 2003, due to the very high increase of real corporate profits (albeit from a very small base). In reality, investment growth did not grow in 2003 as enterprises built up deposits in the banking sector instead. The reasons for underinvestment are by definition not captured in the model; they may include lack of investor confidence—perhaps due to prevailing uncertainties about future macroeconomic policies—or institutional factors emphasized by others. Sectoral simulations suggest that overinvestment in the mid-1990s may have occurred, mainly in transportation, real estate, manufacturing and construction, whereas underinvestment may have occurred since 2000 mainly in hotels, trade, and transportation.

15. **Out-of-sample simulations indicate that, under reasonable assumptions, investment relative to GDP may not reach the previous peak in the medium term (Figure 15).** The speed of increase of the investment-to-GDP ratio depends on the specification of the model and the assumptions about RHS variables. Two separate illustrative scenarios of the real investment-to-GDP ratio are presented in Figure 15. Both scenarios use World Economic Outlook (WEO) projections for EU domestic demand (ranging from 1.7 percent to 2.2 percent during 2005–10) and GDP growth in Poland (averaging 3¾ percent in the medium term). The conservative scenario 1 assumes no change in corporate financial results (albeit from the high base of 2004 after two years of exceptionally strong profit growth), unchanged relative ULC, and 2.4 percent growth of real greenfield FDI (equal to the growth of FDI in 2003) each year. The more optimistic scenario 2 assumes a rise in corporate financial results in line with nominal GDP, a 5 percent growth of real greenfield FDI, and a 3 percent fall in relative ULC per year. In the medium term, real investment is projected to continue growing under all plausible assumptions. However, whether the investment-to-GDP ratio would rebound to its peak level of the late 1990s depends on the specification of the model. The forward-looking simulations are particularly sensitive to assumptions about FDI growth.

D. Conclusions

16. **This study has sought to identify the determinants of investment in Poland and provide a gauge for assessing whether investment has displayed an overly cyclical pattern in the past.** Based on a sectoral panel covering the past decade, the main determinants of investment include lagged investment, production expectations, profitability, relative unit labor costs, and greenfield FDI, and EU demand. The estimates point to some overinvestment in 1997, and sizable and more prolonged underinvestment during 2000–02 than what the model would imply. The relatively low investment in 2000–02 is thus unlikely to be related to the previously created excess capacity. Other factors, such as investor uncertainty, must have been at play.

Figure 15. Poland: Real Investment-to-GDP Ratio—Out-of Sample Simulation, 1991-2010 1/
(in percent)



Sources: Polish authorities; and IMF staff calculations.

1/ Scenario 1 assumes: unchanged financial results, unchanged relative ULC and real greenfield FDI growth of 2.4 percent per year.

Scenario 2 assumes: growth of financial results in line with GDP, 5 percent growth of real greenfield FDI and 3 percent fall in relative ULC per year.

See Table 2 for specification of equations AB(ii) and AB(vi).

17. **Strong investment is essential for Poland to realize its potential output.** Policies can play a role in promoting investment by affecting several of the determinants of investment identified in the estimates. In light of the estimates suggesting a key role for FDI inflows, structural policies aimed at maintaining Poland's attractiveness for foreign investors will be important. The reduction of the corporate income tax (CIT) introduced in 2004 is also likely to play a role by boosting after tax profitability. In addition, relative unit labor costs can be influenced by macroeconomic policy coordination to support a competitive real exchange rate; and through structural policies seeking to improve workers' skills and enhance labor market flexibility. Measures to reduce uncertainty regarding the macroeconomic framework and the business environment would also help; such measures could, for example, include improvements in fiscal institutions.

18. **Finally, EU membership and EU transfers are likely to have a positive impact on private investment by deepening trade integration, creating opportunities for new private projects, and financing infrastructure.** The investment equations were estimated for the period before the EU accession and thus do not take into account the benefits of EU membership and EU funds. Therefore, the medium-term projections based on the estimated models may prove to be lower bounds for future investment.

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Data Sources and Construction of Variables

Unless noted otherwise, all variables are based on data from the various issues of the Statistical Yearbook of the Republic of Poland, Central Statistical Office (GUS).

- *Real investment* is based on investment outlays by sections and divisions in constant prices (converted into 2001 constant prices series).
- *Real production* is based on indices of gross output by sector in constant prices, (converted into 2001 constant price series).
- *Relative unit labor costs* are defined as the ratio of the sectoral unit labor costs (ULC) in Poland to sectoral unit labor costs in the EU. ULC for Poland was calculated using data on employed persons by sector, average monthly gross wages and salaries by sector, and gross output by sector. Sectoral ULCs for the EU were obtained from DATASTREAM.
- *Domestic demand in the EU* in constant prices was obtained from Eurostat.
- *Greenfield FDI* in U.S. dollars for the economy as a whole is defined as total FDI inflows less privatization receipts from abroad, obtained from the NBP, converted into zlotys at period average exchange rates (from the NBP), and deflated by the investment deflator.
- *User cost of capital* is defined as the product of the real interest rate (proxied by nominal policy rate from the NBP deflated by the GDP deflator) and the relative price of capital (the ratio of the investment deflator to the GDP deflator).
- *Profitability of the enterprise sector* is defined as the gross financial results on economic activity deflated by the GDP deflator. Ideally, net profitability series would be used to capture the impact of taxation, but these cannot be used for technical reasons (the net profitability series have negative values during some periods of the sample and thus cannot be used in a log-linear form in the estimation). However, because of the co-movement of the gross and net profitability, the results based on gross profitability series can be assumed to apply to the net series as well (see Figure 12).
- *Exchange rate and interest rate volatility*—Daily observations of the zloty/euro exchange rate from the NBP and of three-month Warsaw Interbank Offered Rate (WIBOR) from DATASTREAM; a sixth-month rolling standard deviation is averaged for each calendar year.
- *DULC*--a dummy variable, used in a multiplicative form with relative ULCs, was set equal to 1 for the tradable sectors (agriculture, fishing, manufacturing (industry), mining, and electricity), and to zero otherwise.

List of Sectors Included in the Panel Data Analysis

| | |
|----------------|--|
| <i>AGR</i> | Agriculture |
| <i>CONST</i> | Construction |
| <i>FIN</i> | Financial intermediation |
| <i>FISH</i> | Fishing |
| <i>HOT</i> | Hotels and restaurants |
| <i>MANUF</i> | Manufacturing (industry) |
| <i>MIN</i> | Mining and quarrying (industry) |
| <i>POWER</i> | Electricity, gas, and water (industry) |
| <i>REALEST</i> | Real estate, renting and business activities |
| <i>TRADE</i> | Trade and repair |
| <i>TRANSP</i> | Transport, storage, and communications |

II. THE LABOR MARKET IN POLAND⁸

A. Introduction

19. **High unemployment is one of the dominant problems of the Polish economy.** Having declined from 14 percent in 1993, after the early stages of transition, to almost 10 percent in late 1997-early 1998, the unemployment rate has since soared. It peaked at 20½ percent in 2002, the highest level in the region (Figure 1 and Table 1). Restructuring in the wake of the Russia crisis, together with privatization and the EU slowdown, contributed to this rise. However, the strong growth rebound in Poland during 2003–04 was associated with only a modest fall in the unemployment rate.

20. **Related adverse developments in employment and labor force participation are also a serious concern.** Despite continuous growth in the working-age population since the early 1990s, employment has dramatically fallen and, at 52 percent of the working-age population, remains the lowest in the region. At the same time, labor force participation has steadily declined (Figure 1). These adverse trends stand out in comparison with other countries in the region. Employment and labor force participation rates did decline in the Czech Republic but by smaller magnitudes, and both remain at significantly higher levels than in Poland. Although unemployment remains almost as high in the Slovak Republic as it is in Poland, labor force participation is stronger and gradually improving, and the employment rate has slightly risen in recent years.

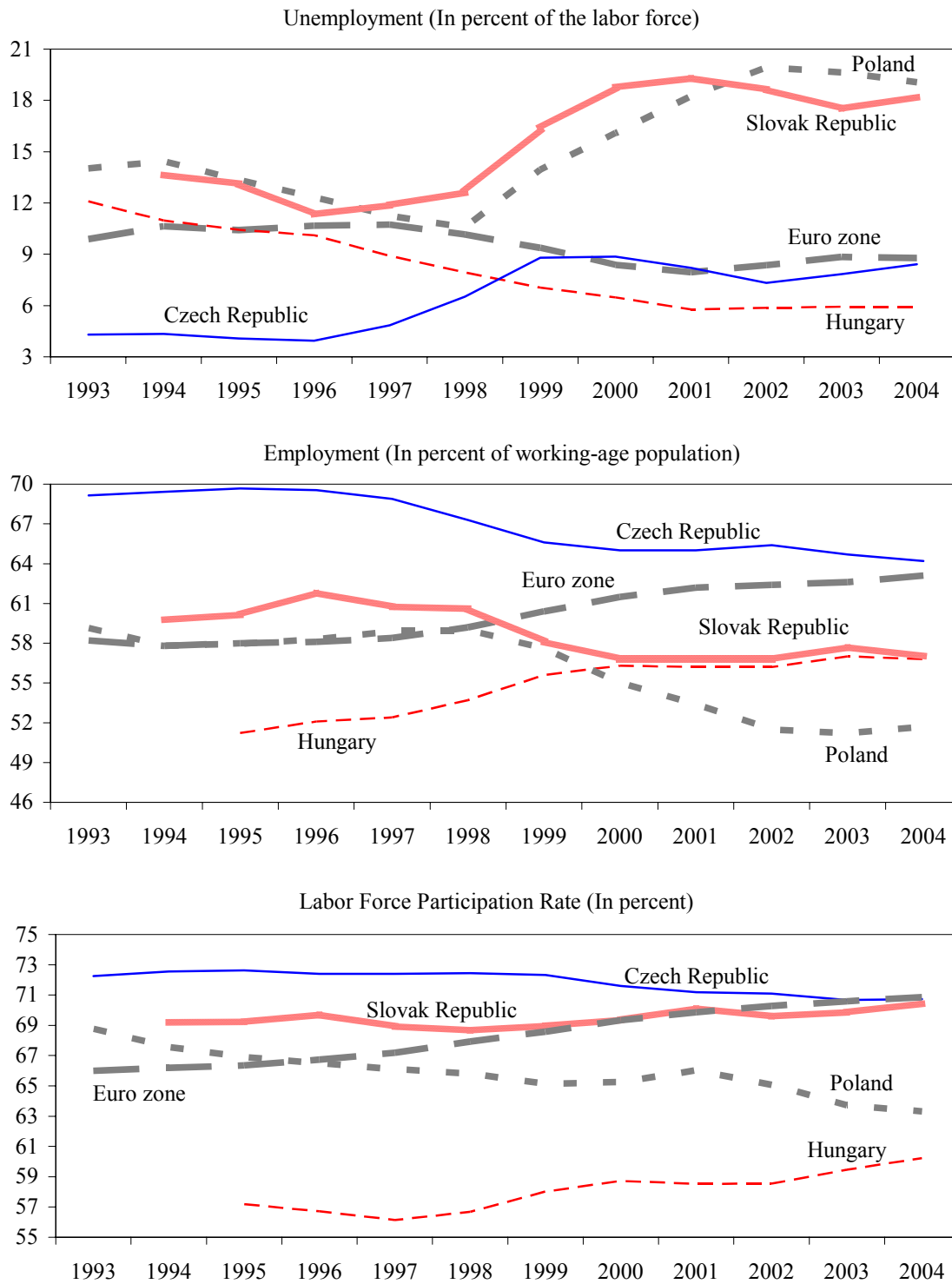
21. Are these trends in Poland entirely due to the persistence of transition and restructuring shocks? Or are there ingrained structural problems and market distortions that will prevent labor market clearance at a satisfactory employment level even after the effects of these shocks have waned? **This paper explores these hypotheses by reviewing the main features of labor supply in Poland.** Section B outlines the main problems of Poland's labor market, largely drawing on existing studies and on the 2005 Article IV consultation discussions. Section C uses labor force survey data to examine in greater depth supply-side factors that hinder labor market improvements. Section D presents forward-looking scenarios that show the difficulty of achieving a major recovery of employment, given current structural problems. Section E concludes.

B. A Synopsis of Poland's Labor Market Problems

22. **Poland's high unemployment rate is at least in part a legacy of economic transition and restructuring.** Initially, restructuring and the closing down of old industries led to massive job destruction during 1990–93 and resulted in double-digit unemployment rates. While there was also job creation, improvements in efficiency and continued labor shedding in the mid 1990s, help explain the lack of net employment growth (World Bank, 2004). Large scale job losses recurred in the second wave of restructuring after the 1998

⁸ Prepared by Nada Choueiri.

Figure 1. Labor Market Trends in Selected Countries, 1993-2004



Sources: Eurostat data; OECD data; GUS, Labor Force Survey data; and IMF staff calculations.

Table 1. Principal Labor Market Developments by Age and Sex Groups, 1993–2004
(In percent, unless otherwise stated) 1/

| | 15+ | 15–64 | 15–24 | 25–54 | 55–64 | Males | Females |
|-------------------------------------|------|-------|-------|-------|--------|-------|---------|
| Population growth, annual average | | | | | | | |
| 1995–2000 | 1.2 | 1.0 | 2.4 | 1.1 | -1.9 | 1.3 | 1.1 |
| 2001–04 | 0.7 | ½ | -0.2 | 0.1 | 3.6 | 0.7 | 0.7 |
| Labor force growth, annual average | | | | | | | |
| 1995–2000 | 0.2 | 0.3 | 0.8 | 0.7 | -4.5 | 0.2 | 0.1 |
| 2001–04 | -0.0 | 0.1 | -2.7 | 0.2 | 4.1 | 0.1 | -0.2 |
| Labor force participation rate | | | | | | | |
| 1993 | 60.4 | 68.2 | 41.9 | 84.4 | 37.3 | 68.7 | 53.0 |
| 2004 | 54.6 | 64.1 | 33.8 | 82.0 | 31.5 | 62.2 | 47.6 |
| Employment (millions) | | | | | | | |
| 1993 | 14.6 | 14.1 | 1.5 | 11.3 | 1.3 | 8.1 | 6.6 |
| Peak (1998H1) | 15.1 | 14.6 | 1.6 | 12.0 | 1.3* | 8.3 | 6.8 |
| Trough (2002H2) | 13½ | 13.1 | 1.1 | 11.1 | 0.9 | 7.4 | 6.1 |
| 2004Q3 | 13.8 | 13.5 | 1.1 | 11.3 | 1.1 | 7.5 | 6.3 |
| Employment growth, annual average | | | | | | | |
| 1995–98 | 1.2 | 1.3 | 3.2 | 1.5 | -3.5 | 1.4 | 0.9 |
| 1999–2002 | -2.7 | -2½ | -7.9 | -1.8 | -2.9 | -2.9 | -2.4 |
| 2003 | 0.6 | 0.7 | -0.9 | 0.2 | 7.9 | 0.5 | 0.6 |
| 2004Q1–Q3 | 0.9 | 1.0 | 0.4 | 0.9 | 2.4 | 1.3 | 0.5 |
| Employment rate | | | | | | | |
| 1993 | 52.0 | 58.4 | 29.3 | 73.7 | 34.8 | 59.9 | 44.7 |
| 2004Q3 | 44.4 | 51.9 | 20.0 | 68.3 | 28.7 | 50.9 | 38.5 |
| Unemployment (millions) | | | | | | | |
| 1993 | 2.4 | 2.4 | 0.6 | 1.6 | 0.1 | 1.2 | 1.2 |
| Trough (end-97 or early 98) | 1.7 | 1.7 | ½ | 1.2 | 0.1 | 0.8 | 0.9 |
| Peak (2002Q3) | 3.4 | 3.4 | 0.9 | 2.4 | 0.1 | 1.8 | 1.7 |
| 2004Q3 | 3.1 | 3.1 | 0.8 | 2.3 | 0.1 | 1.7 | 1.5 |
| Unemployment growth, annual average | | | | | | | |
| 1995–98 | -7.4 | -7.4 | -8.1 | -7.1 | -6.6 | -8.4 | -7.4 |
| 1999 | 28.9 | 28.8 | 32.6 | 27.0 | 34.0 | 28.2 | 28.8 |
| 2000–2002 | 13.7 | 13.8 | 12.1 | 14.9 | 6.2 | 17.9 | 13.7 |
| 2003 | -1.3 | -1.2 | -4.0 | -1.1 | 16.1 | -0.8 | -1.3 |
| 2004Q1–Q3 | -2.1 | -2.1 | -5.6 | -1.3 | 4.8 | -2.0 | -2.1 |
| Unemployment rate | | | | | | | |
| 1993 | 14.0 | 14.4 | 30.1 | 12.7 | 6.6 | 12.7 | 15.6 |
| Trough (1998Q2) | 10.3 | 10½ | 22.8 | 9.1 | 5.9 | 8.8 | 12.1 |
| Peak (2002H2) | 20.4 | 20.7 | 45.0 | 17.9 | 12.2** | 19.6 | 21.1 |
| 2004Q3 | 18½ | 18.8 | 39.8 | 16.6 | 10.8 | 18.1 | 19.0 |

Sources: GUS, Labor Force Survey bulletins; and IMF staff calculations.

1/ For males and females, the data are for persons aged 15 and above.

Notes: * Unlike for the remaining age and sex categories, this peaked in 1993Q1.

** Unlike for the remaining age and sex categories, this peaked in 2003Q4.

crisis in Russia, which seems to have mostly affected exporters and heavy industries, such as mining and steel mills. Privatization contributed to these job losses, as did the slowdown that gripped the country in 2001–02. Therefore, by 2004, nearly half of the unemployed who had previously held jobs lost them because of the closure of their workplace or redundancy.

23. **The uneven impact of these factors across the country has contributed to regional labor market disparities.** The process of industrial destruction at the onset of the transition has been uneven across regions, setting the stage for unbalanced regional economic growth (Daseking, Jiang and Summers, 2000). But limited labor and capital mobility and regional differences in skills and education have contributed to the persistence of the regional disparities in labor market performance (Boni, 2002; UNDP, 2004; and World Bank, 2004). Also, uniform benefits and minimum wages across regions appear to have been binding in some regions, discouraging labor supply (see below). Lack of regional labor cost differentiation to reflect differences in average labor productivity—with the lack of such differentiation itself also partly resulting from uniform minimum wages across regions—has impeded growth of labor demand.

24. **Recent analyses identify a rather large number of institutional and policy factors that have magnified these labor market problems:**

- Overly easy access to early retirement and social benefits has inhibited labor supply (UNDP, 2004; and World Bank, 2001 and 2004). At the onset of the transition, generous provision of **preretirement benefits** was geared to contain the unemployment surge (Keane and Prasad, 2000). Generous **disability pensions** also helped to discourage labor supply. By allowing 30 percent of Polish households to subsist today without having any economically active member, these benefits, together with social assistance benefits, have contributed to a **structural increase in unemployment**. Indeed, Estevao (2003) provides evidence for such an increase by showing that the wage curve has shifted over time, likely associated to some extent with the benefits system in place.
- The **relatively high minimum wage** is believed to have constrained job creation for youths, for the relatively unskilled, and in high-unemployment regions (Selassie, 2001; Estevao, 2003; and World Bank, 2004). Although the ratio of the minimum to average wage has declined, from 42 percent in 1997 to 36 percent in 2004, minimum wages remain uniform across regions and across trades; hence, the constraint seems to remain binding for the groups just mentioned.
- Some studies have noted that **lack of flexibility in sectoral wages** may have contributed to large job losses in sectors that were hardest hit by the restructuring, as employees did not accept wage cuts commensurate with the drop in prices in these sectors (Pujol, 1996). While estimates of the wage-unemployment elasticity in Poland are sensitive to the methodology used, they generally suggest that this elasticity is not different from those reported for industrial countries (Estevao, 2003). However, there is also evidence that wages may not be entirely flexible in Poland despite the limited influence of unions. Yamaguchi (2005) finds that the wage curve is flat (and, hence, wages are inelastic) when unemployment is high (exceeding 14 percent), although at low levels of unemployment the wage curve becomes steeper. This finding suggests that wages in Poland have been inflexible over the past few years, hampering job creation.

- Several studies argue that relatively **high payroll taxes** (about 45 percent of gross income in 2004) have discouraged employment (Boni, 2002; UNDP, 2004; World Bank, 2001 and 2004; and Estevao, 2003). Indeed, the tax wedge in Poland seems among the highest in OECD countries (Table 2), although this comparison may be biased: countries may appear to have a lower tax wedge simply because of generous cash benefits and/or tax credits. For example, changes to such benefits and credits in Hungary partly explain the improvement in the tax wedge in 2001–04 for a couple with two children and one earner. Nevertheless, payroll taxes remain relatively high in Poland, reducing both labor supply and labor demand to the extent that the incidence is on employers as well as employees.
- **Restrictive elements in the employment protection legislation** are also believed to be a problem (Boni, 2002; and World Bank, 2001). Such legislation, although more flexible than that of other countries in the region, such as the Slovak Republic or the Czech Republic (Tables 3–4), and despite recent reforms (see the Appendix for details), appears to remain an impediment. In particular, although there seem to be no difficulties in hiring, legislation governing collective dismissals and regular employment remains very strict, in contrast to the increasing flexibility of legislation governing temporary employment. Consequently, job creation is driven by an increase in temporary jobs, the share of which in total paid employment had risen above 30 percent by end-2004, from close to 10 percent four years earlier.
- Some studies also note that **administrative barriers to entrepreneurship** in Poland have hampered job growth (Boni, 2002; UNDP, 2004; and World Bank, 2001 and 2004). Indeed, it is often argued that both financial and legal barriers to the development of small and medium-sized enterprises (SMEs) in Poland are binding⁹, whereas Schiff and others (2005) note that a vibrant SME sector is key for job creation.
- **Gaps in the education system** are also believed to impede employment growth (Boni 2002; Daseking, Jiang and Summers, 2000; and UNDP, 2004). The Polish schooling model is often referred to as not flexible enough, as it has not responded to changing market needs. Vocational education, in particular, is believed not to have adjusted to market requirements. Anecdotal evidence suggests that, in some regions, vocational schools that were set up about 15 years ago continue to provide education following the same curricula used at the time of their inception. Also, the institutional setup for retraining the unemployed, especially those above 50 years of age, is weak, and there is a lack of own-career management skills.
- **The low efficiency of labor offices** is sometimes argued to be a hurdle for employment growth. Policies implemented by these offices do not seem to be well-targeted, and no adequate incentives are provided for their effective intermediation of employment information (Boni, 2002).

⁹ See <http://www.unece.org/indust/sme/poland.htm> and <http://www.unido.org/en/doc/5056>, for example.

Table 2. OECD Countries: Total Tax Wedge, 1993–2004 1/
(In percent of Average Production Worker’s Earnings (APW))

| | Single Worker Without Children Earning 67 Percent of APW | | | | Couple with Two Children and One Earner Earning 100 Percent of APW | | | |
|-----------------|---|-------------|-------------|-------------|---|-------------|-------------|-------------|
| | 1993 2/ | 1998 | 2001 | 2004 | 1993 | 1998 | 2001 | 2004 |
| Australia | 23.0 | 20.1 | 19.2 | 25.2 | 14.9 | 15.5 | 14.2 | 17.7 |
| Austria | 40.0 | 41.5 | 39.7 | 38.6 | 24.3 | 32.7 | 29.0 | 28.8 |
| Belgium | 54.6 | 51.1 | 49.1 | 46.9 | 38.6 | 41.1 | 40.3 | 35.6 |
| Canada | 30.8 | 27.4 | 26.4 | 27.8 | 20.6 | 23.3 | 20.4 | 23.0 |
| Czech Republic | 42.6 | 41.4 | 41.3 | 41.9 | 23.1 | 23.4 | 24.5 | 29.5 |
| Denmark | 47.0 | 40.4 | 40.6 | 39.4 | 32.5 | 30.1 | 30.7 | 29.8 |
| Finland | 49.3 | 44.0 | 41.0 | 38.6 | 38.1 | 40.7 | 38.8 | 36.8 |
| France | ... | 39.4 | 38.4 | 32.5 | ... | 38.5 | 39.4 | 39.0 |
| Germany | 46.4 | 47.5 | 45.5 | 45.4 | 33.6 | 35.9 | 32.7 | 32.2 |
| Greece | 35.3 | 35.1 | 34.3 | 34.4 | 34.3 | 36.5 | 35.9 | 34.9 |
| Hungary | ... | 47.4 | 45.8 | 41.5 | ... | 40.3 | 32.8 | 31.3 |
| Iceland | 22.0 | 17.2 | 21.8 | 24.4 | -11.2 | 0.4 | 7.8 | 11.7 |
| Ireland | 40.0 | 23.4 | 17.3 | 15.6 | 29.9 | 22.5 | 12.8 | 5.9 |
| Italy | 49.2 | 44.4 | 42.8 | 41.7 | 42.4 | 44.4 | 35.4 | 36.2 |
| Japan | 21.2 | 17.7 | 23.2 | 25.8 | 16.0 | 14.0 | 20.4 | 23.8 |
| Korea | n.a. | 13.5 | 15.1 | 15.3 | n.a. | 13.9 | 15.9 | 15.8 |
| Luxembourg | 34.9 | 28.9 | 28.8 | 27.5 | 12.5 | 12.0 | 11.5 | 9.3 |
| Mexico | 26.6 | 17.6 | 9.2 | 10.6 | 26.6 | 21.9 | 14.4 | 15.4 |
| Netherlands | 45.7 | 39.2 | 36.8 | 38.1 | 35.7 | 33.2 | 33.0 | 34.3 |
| New Zealand | 24.0 | 19.0 | 18.8 | 19.0 | 22.2 | 14.8 | 16.7 | 20.7 |
| Norway | 36.8 | 34.5 | 33.8 | 33.8 | 23.0 | 25.6 | 26.9 | 27.8 |
| Poland | 44.1 | 42.1 | 41.4 | 41.9 | 36.8 | 37.4 | 37.8 | 41.5 |
| Portugal | 33.3 | 30.7 | 29.5 | 29.6 | 25.3 | 26.5 | 24.1 | 22.5 |
| Slovak Republic | ... | ... | 40.4 | 38.8 | ... | ... | 28.5 | 27.2 |
| Spain | 38.0 | 35.1 | 33.4 | 33.6 | 32.9 | 33.3 | 31.1 | 31.6 |
| Sweden | 45.6 | 49.3 | 46.8 | 46.2 | 37.7 | 44.4 | 41.1 | 41.2 |
| Switzerland | 28.7 | 27.3 | 26.9 | 26.1 | 17.3 | 17.8 | 17.9 | 17.2 |
| Turkey | 40.0 | 44.4 | 42.6 | 41.8 | 40.0 | 40.3 | 43.6 | 42.7 |
| United Kingdom | 32.6 | 28.5 | 24.5 | 26.4 | 23.8 | 24.9 | 18.1 | 18.0 |
| United States | 31.2 | 29.1 | 27.4 | 27.3 | 24.7 | 23.7 | 18.3 | 16.4 |
| OECD average | 37.0 | 33.7 | 32.7 | 32.5 | 26.8 | 27.9 | 26.5 | 26.6 |

Sources: OECD (1999), “Taxing Wages”; OECD (2001), “Taxing Wages”; and OECD (2004), “Taxing Wages”.

1/ Total tax wedge is personal income taxes plus social security payments by employers and employees, less cash benefits, as a percentage of labor costs.

2/ For 1993, data corresponds to a single worker without children earning 100 percent of APW.

Table 3. Selected Countries: Indicators of Strictness of Employment Protection Legislation, 1998 and 2003 1/
(Scale: 0-6)

| | Czech Rep | Hungary | Poland | Slovak Rep | Spain | U.K. | U.S. |
|---|------------|------------|---------------|------------|------------|------------|------------|
| Overall EPL version 1 2/ | | | | | | | |
| 1998 | 1.9 | <i>1.3</i> | 1.5 | 2.4 | 2.9 | <i>0.6</i> | <i>0.2</i> |
| 2003 | 1.9 | <i>1.5</i> | 1.7 | 1.9 | 3.1 | <i>0.7</i> | <i>0.2</i> |
| Overall EPL version 2 2/ | | | | | | | |
| 1998 | 1.9 | <i>1.5</i> | 1.9 | 2.5 | 3.0 | <i>1.0</i> | <i>0.7</i> |
| 2003 | 1.9 | <i>1.7</i> | 2.1 | 2.0 | 3.1 | <i>1.1</i> | <i>0.7</i> |
| Collective dismissals | | | | | | | |
| 1998 | <i>2.1</i> | <i>2.9</i> | 4.1 | <i>3.3</i> | <i>3.1</i> | <i>2.9</i> | <i>2.9</i> |
| 2003 | <i>2.1</i> | <i>2.9</i> | 4.1 | <i>2.5</i> | <i>3.1</i> | <i>2.9</i> | <i>2.9</i> |
| Procedural inconveniences for regular employment | | | | | | | |
| 1998 | 3.5 | <i>1.5</i> | 3.0 | 5.0 | 2.0 | <i>1.0</i> | <i>0.0</i> |
| 2003 | 3.5 | <i>1.5</i> | 3.0 | 5.0 | 2.0 | <i>1.0</i> | <i>0.0</i> |
| Overall strictness of protection against dismissals from regular employment | | | | | | | |
| 1998 | 3.3 | <i>1.9</i> | 2.2 | 3.6 | 2.6 | <i>0.9</i> | <i>0.2</i> |
| 2003 | 3.3 | <i>1.9</i> | 2.2 | 3.5 | 2.6 | <i>1.1</i> | <i>0.2</i> |
| Fixed-term contracts | | | | | | | |
| 1998 | <i>0.5</i> | <i>0.8</i> | 1.0 | 1.8 | 2.5 | <i>0.0</i> | <i>0.0</i> |
| 2003 | <i>0.5</i> | 1.8 | 0.0 | 0.3 | 3.0 | 0.3 | 0.0 |
| Overall strictness of temporary regulation | | | | | | | |
| 1998 | <i>0.5</i> | <i>0.6</i> | 0.8 | 1.1 | 3.3 | <i>0.3</i> | <i>0.3</i> |
| 2003 | <i>0.5</i> | <i>1.1</i> | 1.3 | <i>0.4</i> | 3.5 | <i>0.4</i> | <i>0.3</i> |

Source: OECD, *Employment Outlook*, 2004.

1/ Italics indicate countries with a ranking better than Poland's. Higher values indicate stricter regulations.

2/ EPL version 1 is an unweighted average of summary measures for regular and temporary contracts only. Version 2 is a summary indicator based on three subcomponents: strictness of regulation for regular contracts, temporary contracts, and collective dismissals, with the latter receiving 40 percent of the weight assigned to the former two.

Table 4. Indices Measuring the Strictness of Employment Regulation, 2004 1/
(Scale: 0–100, 100 being the most restrictive)

| Indicator | Poland | Regional Average | OECD Average |
|--|--------|------------------|--------------|
| Difficulty of hiring index | 11 | 31.3 | 26.2 |
| Rigidity of hours index | 60 | 51.5 | 50.0 |
| Difficulty of firing index | 30 | 42.3 | 26.8 |
| Firing costs (weeks of wages, notification, penalties) | 25 | 38.3 | 40.4 |
| Overall rigidity of employment index | 34 | 41.8 | 34.4 |

Source: <http://rru.worldbank.org/DoingBusiness/ExploreTopics/HiringFiringWorkers>

1/ Conditions covered by the indices include availability of part-time and fixed-term contracts, working time requirements, minimum wage laws, and minimum conditions of employment.

25. **The current state of the Polish labor market seems, therefore, to be the product of the interaction among shocks, policies, and institutions.** The transition and two-stage restructuring shocks have created a large pool of unemployed, rendering certain skills obsolete and affecting regions to different extents. However, institutions and policies have

combined with these shocks to delay labor market adjustment. High reservation wages—partly associated with the easy access to benefits—have reduced labor force participation, while a relatively wide tax wedge and strict employment protection laws have dampened job creation. With time, and in the absence of corrective measures, structural problems, such as obsolete skills and regional mismatches, have been exacerbated. Therefore, although persistently low employment growth partly reflects overpriced labor, structural factors have also delayed labor market adjustment.

C. Structural Impediments to Labor Market Adjustment

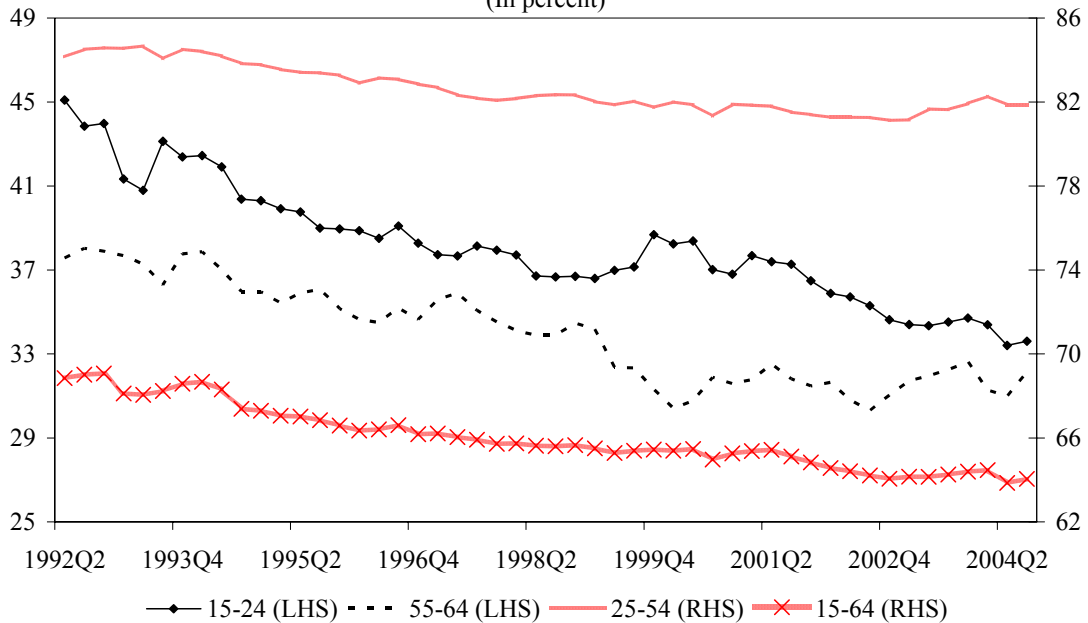
26. **Structural labor market problems in Poland exist both on the demand and supply side.** This section complements the studies described in the previous section by exploring labor force survey data to shed some light on hypotheses about impediments to job creation.¹⁰ Three specific hypotheses are explored: (i) benefit systems and changing demographics have reduced labor supply; (ii) skills and education mismatches have reduced “effective” labor supply; and (iii) barriers to the mobility of labor and capital have fostered the persistence of regional employment and unemployment disparities.

The Decline in Labor Supply

27. **The trend decline in labor force participation over the past 15 years is an important manifestation of structural labor supply problems.** The labor force participation (LFP) rate declined from 69 percent in 1992 to 64 percent in 2004, but the decline was uneven across age groups (Figure 2). It was sharply higher for youths (ages 15–24), whose labor force participation dropped from 45 percent to under 34 percent over that period, than for persons in the prime working age (ages 25–54) whose participation remained robust, easing only slightly from 84 percent to 82 percent. The LFP for the older population (ages 55–64) also declined from an already-low 38 percent in 1992 to 32 percent in 2004. Falling LFP therefore reflects a shift in demographics—with working-age population growth of between ½ and 1 percent a year resulting in an increasingly young population over the sample period—combined with a delay in the participation of youth in the labor force at least in part because of growing involvement in education. More worrisome, the trend decline in LFP is also due to the significantly lower participation of the older population, which reflects easy access to disability and preretirement benefits.

¹⁰ The data on which Section C draws are taken from the quarterly *Labor Force Survey in Poland* bulletins published by the Polish statistical office, GUS, and from information on voivodships available on GUS’s website, <http://www.stat.gov.pl/english/index.htm>.

Figure 2. Labor Force Participation Rate by Age Groups, 1992:Q2-2004:Q3
(In percent)

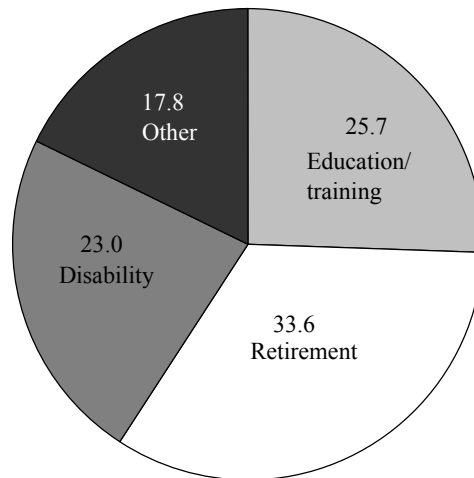


Sources: GUS: Labor Force Survey bulletins; and IMF staff calculations.

28. These observations are echoed in data that identify education, disability, and retirement as main reasons for inactivity

(Figure 3).¹¹ Education has been the almost only cause of inactivity among younger persons and, with a growing working-age population, explains about 26 percent of inactivity today compared to about 23 percent in 1992. This may have positive implications inasmuch as the youths involved are expected to eventually add to labor supply and become relatively more employable as they obtain higher education. Disability, a second cause for inactivity, explained on average during 2000–04

Figure 3. Inactive Persons by Reason, Average 2000-04
(In percent of persons aged 15 or more)



Sources: GUS, Labor Force Survey bulletins; and IMF staff calculations.

¹¹ The category “Other” in Figure 3 includes discouragement with job search (only about 3 percent of the inactive population), and family and household responsibilities (explaining between 8 and 10 percent of inactivity during 2000–04).

about 23 percent of inactivity among persons aged 15 years and over. This is equivalent to over 3 million persons, or 10 percent of the population in that age group, suggesting generous access to disability benefits in the past, the effect of which has not yet been reversed. Finally, retirement explains almost 34 percent of inactivity among persons aged 15 years or above. About 70 percent of inactive persons on retirement had exceeded the working-age limit of 65 by the third quarter of 2004. Still, almost half of the inactive persons with ages between 55 and 64 attribute their inactivity to retirement, which suggests that part of the low activity rate among older groups is attributable to early retirement. About another one-third of this age group attribute their inactivity to disability, lending support to the hypothesis that the latter has facilitated the low activity rate among older persons.

Skills and Education Mismatches

29. **Skills and education mismatches represent another important structural problem affecting labor supply.** About one-fifth of the unemployed have at most a primary education, whereas demand for employees with such a background is relatively small, at 13.4 percent of the total (Table 5). Besides, this category of unemployment is characterized by the longest average duration by far (18½ months on average in 2004), an indicator that the concerned persons are likely to lose their skills to a greater extent than other unemployed persons. Table 5 shows that the majority of the unemployed have a vocational education, a

Table 5. Employment and Unemployment by Education Level, 2000–04
(In percent)

| | Primary or Less | Vocational | General & Post- secondary | Tertiary |
|--|--------------------|------------|------------------------------|----------|
| Employment | 13.4 | 59.1 | 11.1 | 16.4 |
| Unemployment | 18.8 | 64.3 | 11.8 | 5.1 |
| Average duration of unemployment (months, 2004) | 18.4 | 16.3 | 14.4 | 12.1 |

Sources: GUS, Labor Force Survey bulletins; and IMF staff calculations.

qualification that ought to make them “employable” insofar as labor demand is also strongest for persons possessing this type of education. However, these persons are obviously finding it hard to get a job, given that the average duration of their unemployment status is more than 16 months. While part of the problem may be the price of labor, these data also point to significant weaknesses in vocational education, which seems not to have kept up with changing market needs. This phenomenon may be an important contributory factor to youth unemployment, as about two-thirds of the unemployed youth have a vocational education.

30. **The professional distribution of labor demand and supply also suggests that skills mismatches may tend to reduce job creation** (Table 6). Nearly 18 percent of the unemployed had last held occupations requiring only an elementary education, but demand for such skills captures a mere 7½ percent of total labor demand. A similar situation holds for the unemployed whose last jobs were in crafts or related trades. The average duration of unemployment for persons in these occupations at their last jobs is relatively high (above 15 months), attesting to their difficulties in finding jobs relative to other unemployed with different work experiences. However, demand for professionals and technicians is relatively

strong, at 25 percent of total labor demand, but only one-tenth of the unemployed have held their last jobs in that domain.

Table 6. Professional Distribution of the Employed and Unemployed, 2004:Q2–2004:Q3
(In percent)

| | Skilled Agricultural and Fishery Workers 1/ | Professionals & Technicians | Elementary Occupations | Craft & Related Trades Workers | Other |
|--------------|--|--------------------------------|---------------------------|-----------------------------------|-------|
| Unemployment | 1.9 | 10.3 | 17.6 | 29.4 | 40.8 |
| Employment | 16.9 | 25.2 | 7.6 | 15.8 | 34.5 |

Sources: GUS, Labor Force Survey bulletins; and IMF staff calculations.

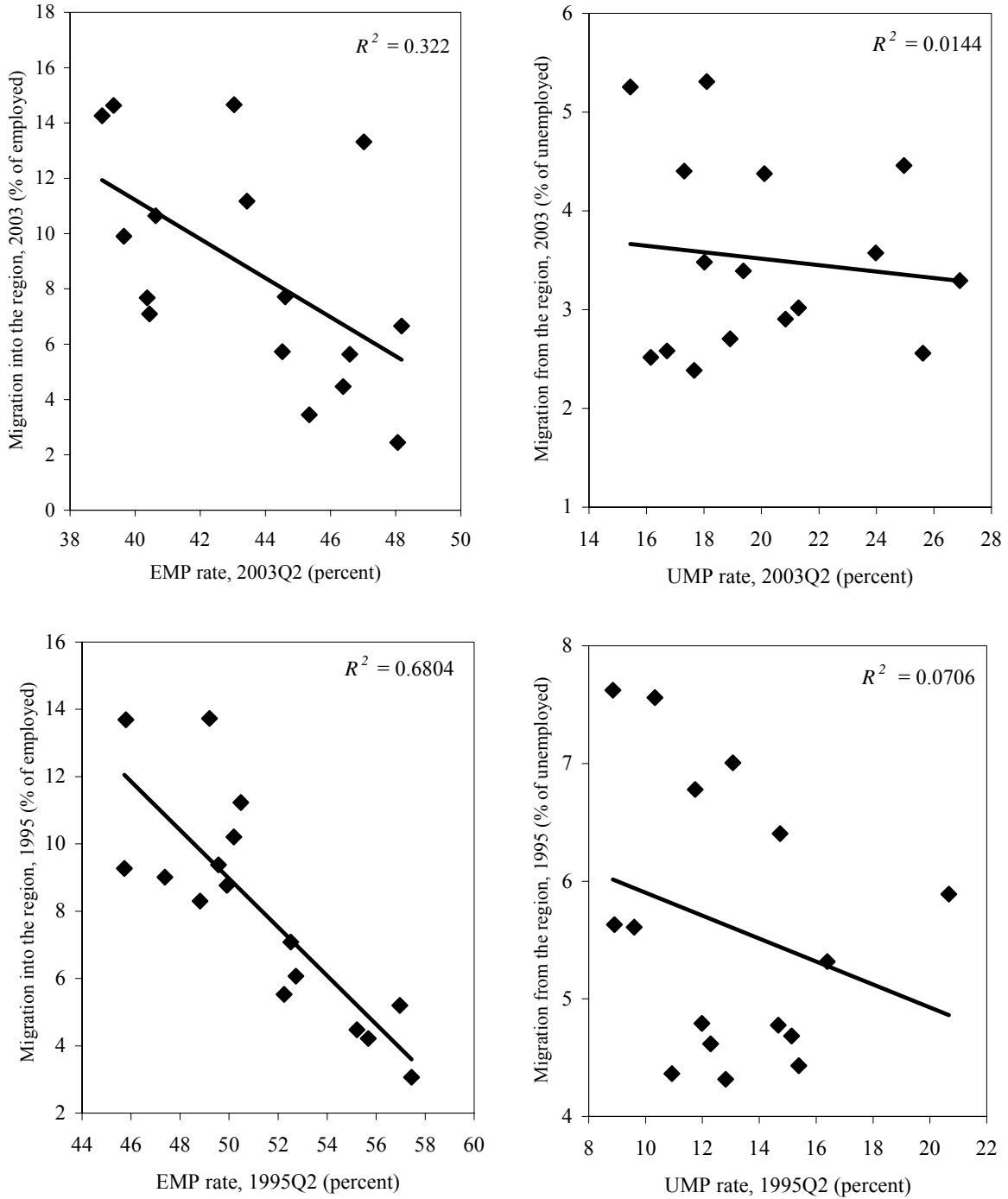
1/ Although seasonal factors may explain part of the large share of employed in the agricultural sector, the sizeable discrepancy between this share and the share of unemployed whose last employment was in that sector also supports the widely held view that there is significant disguised unemployment in agriculture. Indeed, although the share of agriculture in total employment has declined from 30 percent in 1994 to 17 percent in 2004, it remains very high compared with the OECD average (about 7 percent).

The Persistence of Regional Disparities

31. **Labor market patterns differ widely and persistently across regions.** Regional unemployment (UMP) rates ranged from 7.4 to 15.6 percent in 1998 (Table 7); this range widened in 2004 to 14.7–26.7 percent. The employment (EMP) rate varied within narrower ranges— 48.2–54.9 percent in 1998, widening and declining to 39.1–48 percent in 2004. The same holds for the LFP rate, which ranged between 53.2 and 60.3 percent in 1998, and 51.2 and 58.3 percent in 2004. Differences in employment and unemployment rates across regions have been particularly persistent across time, as evidenced by the high rank correlations (although the lower, albeit positive, rank correlation for the LFP rate indicates a minor degree of persistence over time). Indeed, there is no increased migration into regions where the employment rate is higher, and there seems to be relatively less migration out of regions where unemployment is higher (Figure 4). These data suggest the presence of barriers to mobility of supply and demand of labor across regions.

32. **Insufficient regional wage differentiation appears to contribute to the persistence in regional employment and unemployment disparities.** Such differentiation would help close the labor market gap between regions. If wages were low enough in slack labor markets relative to tighter markets (and abstracting from other barriers to labor mobility), labor supply would move to tighter markets and labor demand would move to markets where the price is cheaper, thereby equalizing employment and unemployment rates across regions. The lack of labor mobility therefore suggests that regions with higher employment (unemployment) rates do not seem to have sufficiently higher (lower) wages to induce such mobility. Indeed, there seems to be little, if any, positive (negative) correlation between the regional employment (unemployment) rates and average regional wages, and this correlation weakened in 2004 relative to 1999 (Figure 5). These observations echo the points made in Section B that wages are insufficiently flexible and that minimum wages are

Figure 4. Employment, Unemployment, and Migration Across Regions, 1995 and 2003 1/



Sources: GUS; and IMF staff calculations.

1/ The R -squareds of the fitted linear trends are shown in the upper-right corner of the graphs.

Table 7. Labor Market Statistics by Voivodships, 1998 and 2004
(In percent)

| | Unemployment Rate | | LFP Rate | | Employment Rate | |
|---|-------------------|-------------|-------------|-------------|-----------------|-------------|
| | 1998Q2 | 2004Q2 | 1998Q2 | 2004Q2 | 1998Q2 | 2004Q2 |
| POLAND | 9.9 | 19.1 | 57.0 | 54.4 | 51.4 | 44.0 |
| DOLNOŚLĄSKIE | 12.0 | 26.7 | 55.7 | 53.7 | 49.0 | 39.3 |
| KUJAWSKO-POMORSKIE | 10.7 | 22.0 | 56.5 | 58.3 | 50.4 | 45.4 |
| LUBELSKIE | 7.4 | 16.1 | 59.1 | 55.5 | 54.7 | 46.5 |
| LUBUSKIE | 11.4 | 24.9 | 57.7 | 54.8 | 51.1 | 41.2 |
| ŁÓDZKIE | 10.0 | 18.8 | 57.1 | 54.0 | 51.3 | 43.9 |
| MAŁOPOLSKIE | 7.7 | 16.8 | 58.7 | 56.7 | 54.1 | 47.2 |
| MAZOWIECKIE | 8.7 | 16.0 | 59.0 | 55.0 | 53.9 | 46.2 |
| OPOLSKIE | 10.4 | 19.4 | 57.1 | 51.3 | 51.2 | 41.3 |
| PODKARPACKIE | 9.0 | 15.1 | 60.3 | 52.4 | 54.9 | 44.4 |
| PODLASKIE | 10.6 | 14.7 | 58.8 | 56.2 | 52.6 | 48.0 |
| POMORSKIE | 10.5 | 19.8 | 54.1 | 52.8 | 48.4 | 42.3 |
| ŚLĄSKIE | 8.8 | 18.5 | 53.2 | 51.2 | 48.5 | 41.7 |
| ŚWIĘTOKRZYSKIE | 11.8 | 20.4 | 59.4 | 53.2 | 52.3 | 42.4 |
| WARMIŃSKO-MAZURSKIE | 15.6 | 23.7 | 57.1 | 51.4 | 48.2 | 39.1 |
| WIELKOPOLSKIE | 8.0 | 17.2 | 55.9 | 57.4 | 51.4 | 47.5 |
| ZACHODNIOPOMORSKIE | 15.4 | 23.8 | 58.3 | 54.5 | 49.3 | 41.5 |
| Minimum point | 7.4 | 14.7 | 53.2 | 51.2 | 48.2 | 39.1 |
| Maximum point | 15.6 | 26.7 | 60.3 | 58.3 | 54.9 | 48.0 |
| Rank correlation between 1998 and 2004 | 0.76 | | 0.18 | | 0.73 | |

Sources: GUS, Labor Force Survey bulletins; GUS, Voivodships from 1995 till 2003 (available online at http://www.stat.gov.pl/english/opracowania_zbiorcze/wojewodztwa/index.htm); and IMF staff calculations.

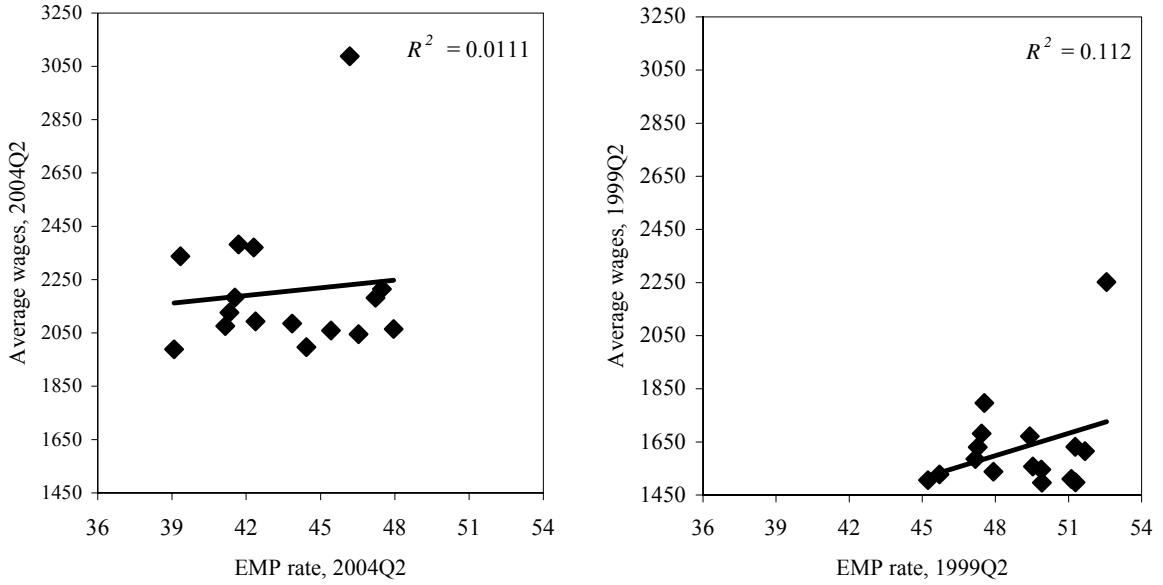
relatively too high to prevent a deep enough fall in average wages to generate the needed labor mobility across regions (see also Selassie, 2001).

33. **Infrastructure gaps are another likely barrier to labor mobility.** The lack of adequate roads and railways to facilitate access to high-unemployment areas discourages entrepreneurs from establishing their operations in these areas, thus thwarting a shift in demand to regions where labor supply seems relatively abundant. This problem seems prevalent, notwithstanding improvements since the mid-1990s (Figure 6). A number of high-unemployment regions remain inaccessible by motorways and still have less developed networks of other roads and railways.

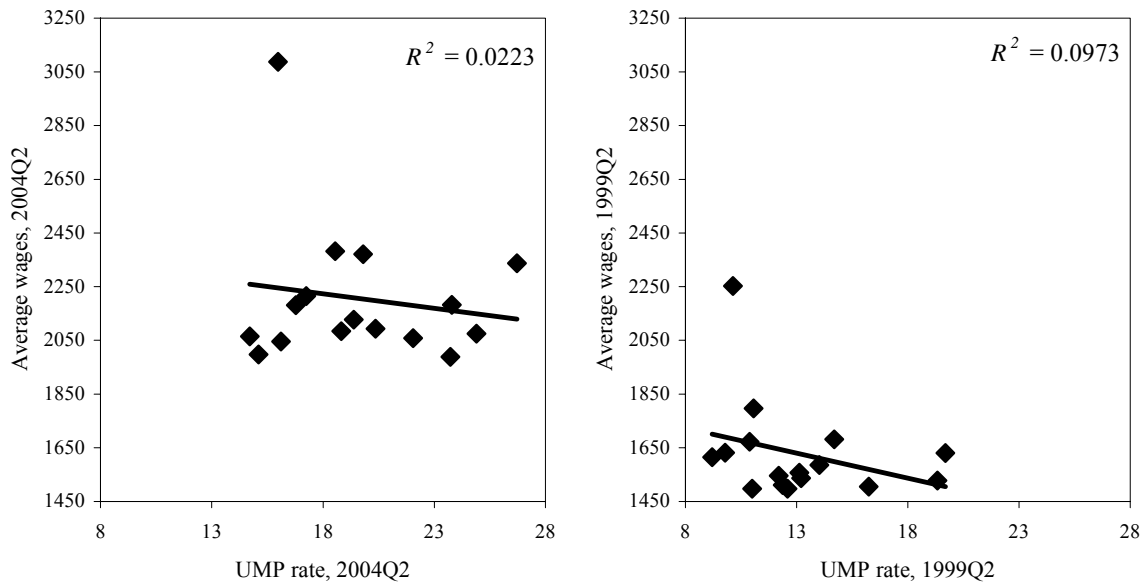
34. **Housing market problems also seem to hamper labor mobility.** Restrictive regulations, such as rent control and overly protective tenant rights, have made it extremely difficult for landlords to withdraw from rental contracts and have discouraged the construction of rental units, as reported to IMF staff during the 2005 Article IV consultation mission. This should tend to lessen the availability of rental spaces and deter the mobility of labor across regions, particularly for job seekers who consider moving to big cities, where these problems seem most acute.

Figure 5. Wages and Labor Market Characteristics by Region, 1999 and 2004

Employment Rate (Percent) and Average Monthly Wages (Zloty)

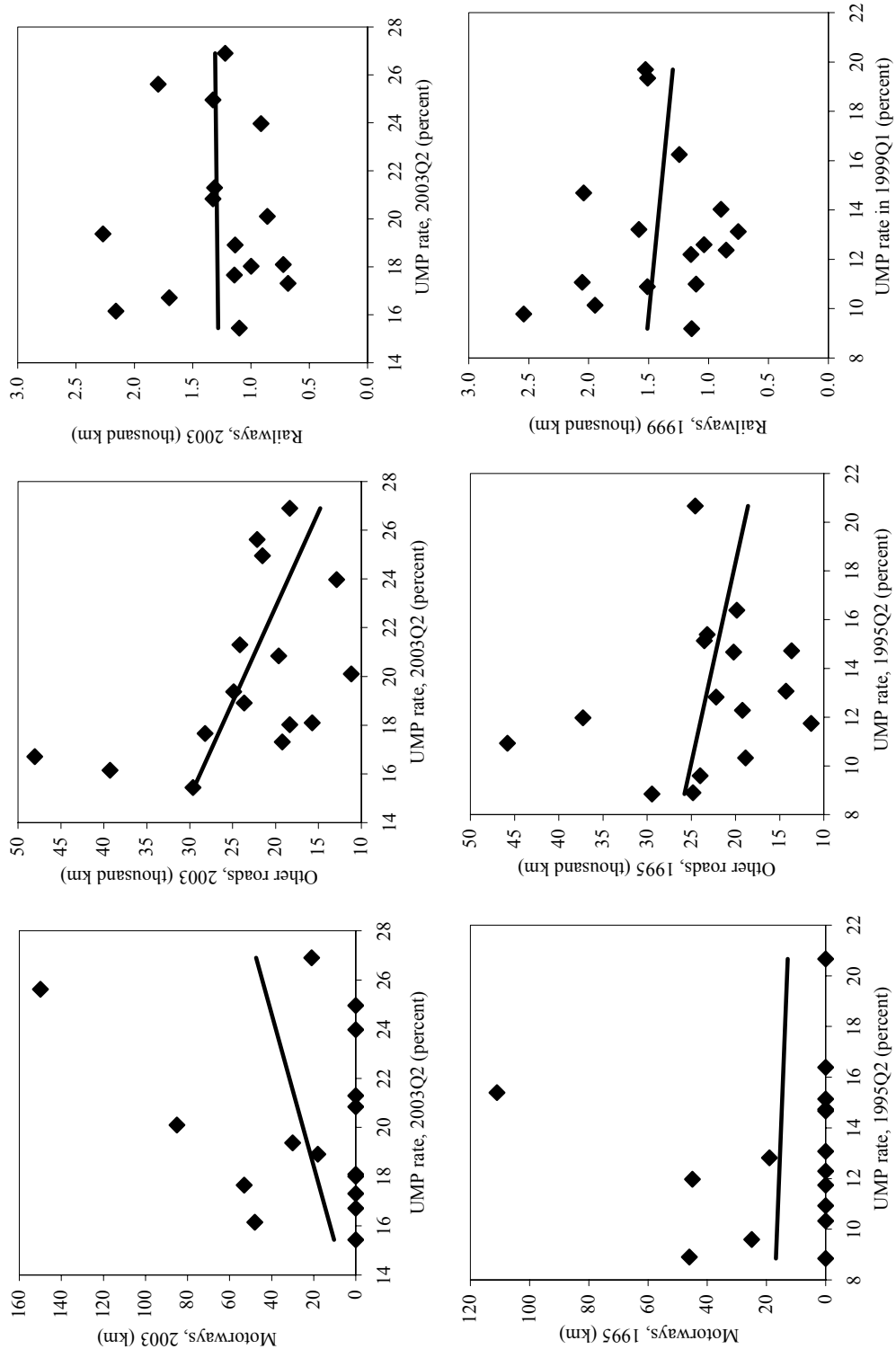


Unemployment Rate (Percent) and Average Monthly Wages (Zloty)



Sources: GUS; and IMF staff calculations.

Figure 6. Unemployment and Means of Transportation Serving the Regions, 1995, 1999, and 2003



Sources: GUS; and IMF staff calculations.
 Note: Railways data were unavailable for 1995.

D. Forward-Looking Labor Market Scenarios

35. **The economic rebound in 2003–04 helped improve labor market performance.** With real GDP growth averaging 4.6 percent in 2003–04, employment rose by an annual average of 0.9 percent (mostly driven by the creation of temporary jobs), and unemployment declined. In an indication of improved labor market perceptions, the number of employed looking for another, better-paying job is rising again (although it remains below its 2002 level), while the number of employed looking for another job because of a fear of losing their current job has declined significantly from 2002 (Table 8).

Table 8. Employment Indicators, 2002 and 2004

| | Employment Growth (Year-on-year, in percent) | | | Number of employed looking for another job (Thousands) | |
|-----------------|---|------------------------------|------------------------------|---|----------------------|
| | Total | Temporary paid employment | Permanent paid employment | Looking for a better- paying job | May lose current job |
| 2002 | -3.0 | 27.6 | -6.1 | 630 | 94 |
| 2004 (Q1-Q3) 1/ | 0.9 | 19.0 | -1.0 | 573 | 71 |

Sources: GUS, Labor Force Survey bulletins; and IMF staff calculations.

1/ Average of the first three quarters of 2004. Growth rates are relative to the average of the first three quarters of 2003.

36. **But the amelioration in labor market indicators remains modest.** The decline in unemployment and increase in employment over the past two years do not measure up to the improvements in the early-to-mid-1990s (Table 1). Employment rates for all age groups remain below their levels in the early 1990s, let alone the peak level in 1998.¹² Unemployment rates exceed by far their levels in the early 1990s. Economic growth is strongly driven by productivity gains, and, with employment elasticity of output growth averaging 0.2 in the past two years, the employment rate had edged up only slightly to 52 percent by end-2004. This employment performance falls behind those of EU-15 and OECD countries, for which the employment elasticity of output growth averaged 0.27 and 0.35, respectively, in the past two years. Employment gains are even more wanting, given the large gap that Poland needs to bridge to reach the OECD and EU-15 average employment levels (both at 65 percent). Improving the employment-elasticity of growth is therefore essential.

37. **The importance of raising the employment elasticity of growth is illustrated in two forward-looking scenarios.** Given population projections and changing demographics, the scenarios show the overall employment growth needed to reach an assumed employment rate ten years from now; they also show, for an assumed labor force participation rate at that same point in the future, the unemployment rate associated with this employment level. The purpose of the scenarios is not to project what levels employment and labor force participation rates are expected to reach ten years from now, which is beyond the scope of

¹² This is also true for the 25-54 age category but rounding hides this fact in Table 1.

this paper. The aim is rather to illustrate the imperative of undertaking structural reforms needed to raise the employment elasticity of growth in Poland.

38. **The scenarios are based on actual 2004 data and assumptions on labor market indicators in 2015.** The upper panel of Table 9 shows the actual 2004 data, while the next two panels show the scenarios. In both scenarios, the 2015 shares of disabled persons in the prime and old-age groups are calculated from the actual 2004 distribution of disabled persons by age, for which detailed information by deciles for ages 15 and above is available from GUS.¹³ In both scenarios, the possibility of labor migration is ignored.

Table 9: Labor Market Scenarios, 2004 and 2015 1/

| Age Group | Population (millions) | Disabled (percent of population) | LFP Rate (percent of population) | EMP Rate (percent of population) | UMP Rate (percent of labor force) |
|------------------------|-----------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|
| 2004 (Actual data) | | | | | |
| 15–24 | 5.7 | 2.0 | 33.8 | 19.7 | 41.7 |
| 25–54 | 16.5 | 8.7 | 82.0 | 68.0 | 17.0 |
| 55–64 | 3.8 | 30.1 | 31.5 | 27.9 | 11.1 |
| 15–64 | 26.0 | 10.3 | 64.1 | 51.6 | 19.4 |
| 2015 (First scenario) | | | | | |
| 15–24 | 4.0 | 1 | 45 | 32 | 28.9 |
| 25–54 | 16.3 | 6.8 | 85 | 74 | 12.9 |
| 55–64 | 5.6 | 17.7 | 50.4 | 35 | 30.5 |
| 15–64 | 25.8 | 8.2 | 71.4 | 59.2 | 17.1 |
| 2015 (Second scenario) | | | | | |
| 15–24 | 4.0 | 1 | 45 | 32 | 28.9 |
| 25–54 | 16.3 | 6.8 | 85 | 74 | 12.9 |
| 55–64 | 5.6 | 17.7 | 50.4 | 45 | 10.7 |
| 15–64 | 25.8 | 8.2 | 71.4 | 61.3 | 14.1 |

Sources: GUS; and IMF staff calculations.

1/ Data for 2004 are actual labor force survey averages for the first 3 quarters of the year. Population projections for 2015 are taken from GUS. In both scenarios, the share of youths disabled is assumed to be 1 percent, an innocuous assumption for completeness, while disabled shares for other age groups are based on 2004 data. The LFP and EMP rates (4th and 5th columns of the table) are assumed to return to their 1992 levels. These rates then allow to calculate the UMP rate (last column, bolded for each scenario) and the EMP and LFP rates for the working-age population (last row of each scenario).

39. **The first scenario shows the implications of raising employment and labor force participation rates to their early 1992 levels.** The fourth and fifth columns show these levels, which imply for the overall working-age population an employment rate of 59.2 percent and a labor force participation rate of 71.4 percent. Assuming these rates are reached in 2015, the overall unemployment rate would fall only to 17.1 percent.

¹³ It is assumed that only 1 percent of the youth population in 2015 will be disabled. This assumption is made only for completeness and is not crucial for the results.

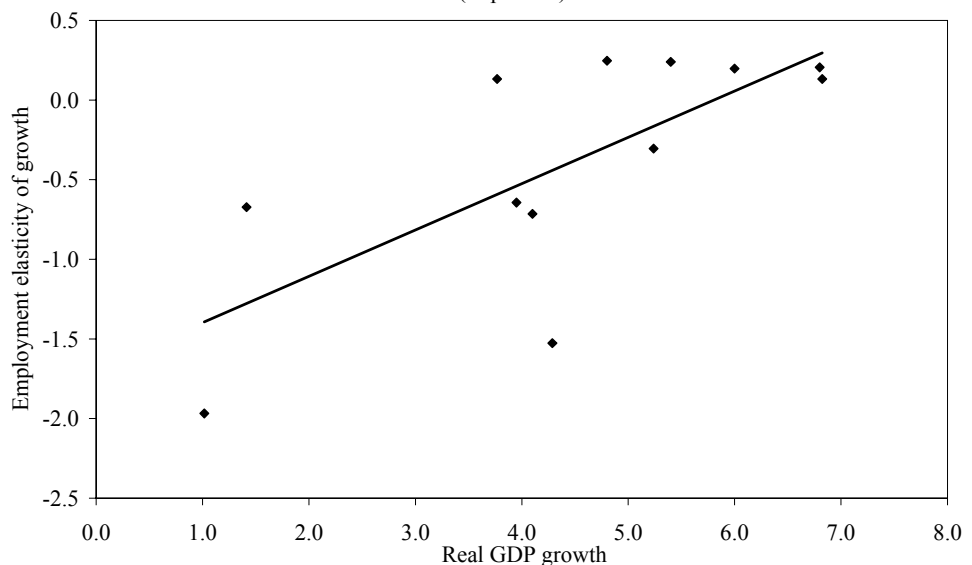
Demographic factors play a major role: as the population ages, the share of the old-age group in the total population in 2015 would be significantly larger than it is today, producing a much larger labor force at the assumed LFP rate, and, hence, high unemployment in this age category at the assumed employment rate. Despite the still high unemployment rate, the scenario implies an employment growth exceeding 1.1 percent per year over the next ten years, which, at the 2004 employment elasticity of output (0.25), would require $4\frac{3}{4}$ percent annual real GDP growth over the same period.

40. **The second scenario modifies the first by assuming a higher employment rate among the older population.** The purpose of this exercise is to derive the growth implications of a greater improvement than depicted in the first scenario, an improvement that would be expected if all the workers currently in the 45–54 age group remain employed ten years from now. In this case, the employment rate for the 55–64 age group would be about 45 percent in 2015, which would raise overall employment rates and lower overall unemployment rates to 61.3 percent and 14.1 percent, respectively. This scenario implies an annual employment growth of nearly $1\frac{1}{2}$ percent over the next decade, which, at the 2004 employment elasticity of output, would require 6 percent annual real GDP growth. Even more dramatic, improving the employment rate to the current OECD/EU-15 level of 65 percent over the next ten years would imply annual employment growth of about 2 percent per year, requiring, with an unchanged elasticity, annual GDP growth rates of greater than 8 percent.

41. **The scenarios highlight the need to raise the employment elasticity of output.** This elasticity could increase with higher output growth rates, as suggested by actual data for a number of countries, including Poland itself for which a scatter plot of the employment

elasticity of growth against growth rates over the past decade points to a positively sloped fitted trend (Figure 7). For Poland in particular, as the young increasingly acquire higher education, some of the existing skills mismatches should be reduced over

Figure 7. Employment Elasticity and Growth in Poland, 1993-2004
(In percent)



Source: GUS; OECD; and IMF staff calculations.

time thereby improving the employment elasticity of growth. Nonetheless, the substantial fall in the unemployment rate and the strong increase in employment and labor force participation that Poland needs to generate still require policy action directly aimed at raising this elasticity for current growth levels. This purpose would probably best be served by developing a concerted approach to resolving the problems, discussed in Section B, that are hampering labor market adjustment.

E. Conclusions

42. **This paper explores evidence suggesting that poor labor market performance in Poland is the result of shocks whose impact has persisted because of ingrained policy and institutional problems and market distortions.** Transition, privatization, and economic restructuring, in the midst of demographic pressures, generated a large pool of unemployment, as several factors hindered job creation and fostered the persistence of high unemployment and low labor force participation. These factors include but are not restricted to regional and skills mismatches resulting from shortcomings in the education and training systems, in infrastructure, and in incentives for labor mobility; easy access to benefits; high labor costs; and an insufficient degree of flexibility in regular employment contracts.

43. **The recently improved labor market performance falls short of what is needed to achieve strong and durable progress.** Continued economic growth alone would generate employment, and sustaining the momentum of economic reform and restructuring (including by easing the process of doing business in Poland) would go a long way toward supporting that growth. However, the current low elasticity of employment growth with respect to output growth would not be enough to generate sufficiently quickly the level of job creation required in Poland. With the continued growth of the working-age population through the end of this decade, and given this low elasticity level, raising employment and labor force participation rates at an adequate pace to reach EU-15 levels over the next 15–20 years, say, would require annual growth rates of 4½ to 6 percent; however, such growth rates seem difficult to sustain over time.

44. **Policies are therefore needed to raise the employment elasticity of growth.** Recent reforms (described in the Appendix) should continue raising employment and its elasticity vis-à-vis output growth. But more efforts are needed to further improve the functioning of labor markets in Poland by reducing remaining labor market rigidities.

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Recent Labor Market Reforms

This appendix summarizes recent policy actions taken by the Polish authorities to improve labor market performance.

Labor code revisions¹⁴

The 1974 labor code was first amended in 1996; while this usefully clarified many employment rules, the amendments did not seem to remove rigidities from the system overall. The reform was rather favorable to employees in several respects—such as the prohibition of firing employees in case of mergers; the mandatory transformation of a third fixed-term contract into an open-ended contract when it is signed within a month of the date of expiration of the second fixed-term contract; the shortening of the weekly working time (from 42 to 40 hours) and increase in the length of the annual leave entitlement for employees who have worked for at least one year but less than six years in the same company. Some changes were particularly unfavorable to employers, such as the obligation to write a code for work in case the enterprise has a minimum of 5 employees—this used to be 50. Others were more favorable, such as lengthening the maximum probation period from two weeks to three months.

The 2002 reform of the labor code, however, did much to increase labor market flexibility, in ways particularly favorable for small businesses. For example, the third fixed-term contract rule mentioned above was suspended pending EU accession; a new type of contract was introduced to ease the hiring of temporary workers to replace employees on extended leave (maternity leave, for example); sickness pay coverage was removed for the first day of a sick-leave period shorter than six days; mass layoff rules were softened; and the minimum number of employees for which a code for work had to be written was raised to 20 employees. The amendments also introduced flexibility in working arrangements, such as working from home, and cut by half the pay for overtime on nonholiday workdays. Most employee entitlements became a function of the duration of employment with the *current* employer, rather than total lifetime employment. The resulting increase in labor market flexibility is reflected in the rise in the share of temporary contracts in total contracts from 12 percent in 2001:Q1 to about 30 percent in 2004:Q3.

Additional amendments to the labor code in 2003, largely needed for compliance with EU regulations, represented some backtracking from the 2002 reforms. These amendments, effective from 2004, introduced daily and weekly statutory rests and limits on overtime work, limiting the flexibility of work arrangements. The annual leave allowance was raised for all employees with serving time under ten years, and the right for it would accrue after the first month of work (previously, after the first six months). Leave conditions were also improved for temporary workers by granting them the right to two days of paid vacation for each month worked. The 2002 amendment of sick leave payments was reversed

¹⁴ This subsection partly draws on Surdej (2004).

(but this was somewhat justified by abuse that had resulted when the average duration of sick leave had risen above six days). Also, the third fixed-term contract rule was reinstated, effective from the date of EU accession (except for seasonal jobs and temporary job replacement contracts). Mass layoff procedures were lengthened, and entitlements for severance payments were extended in cases of employment restructuring.

Other reforms

The 2002 labor code reform was followed by efforts to increase youth employment. A law passed in October 2002 set the minimum wage for new entrants at 80 percent of the nationally set minimum wage in the first year of work and at 90 percent in the second year. This law, also called the “first job” program, aimed at curbing high youth unemployment. The authorities have reported that, since its inception, 522,600 youth received activation benefits, mostly starting their careers as interns. About 700,000 youth visited counselors in labor offices for assistance in finding a job—the authorities’ estimates indicate that the number of such visits would have been lower by 200,000 without the first job program.

A number of benefit reforms were prepared or introduced in the late 1990s that were expected to raise labor force participation:

- A reform to the **disability system** effective 1998 tightened eligibility requirements and introduced frequent reviews of the disability certificate and measures to prevent active accidents. While the reform was effective in reducing claims and limiting abuses of the system, and the number of disabled declined from nearly 4.7 million at end-1997 to 4.4 million at end 2000, this number remained high—at over 4 million in 2004.
- Measures to tighten the access to **early retirement** were introduced in the context of the 1999 pension reform and applied only to persons covered by the new system established with the reform. The retirement age became compulsory but remained at 65 for men and 60 for women. A proposal to make retirement ages more flexible for certain groups is under consideration.
- Some forms of **preretirement allowances**¹⁵ were eliminated effective January 2002 (albeit with grandfathering of persons receiving these allowances before this date). Further reforms to preretirement benefits were undertaken as part of the Hausner Plan.
- The **50+ program**, in effect from the second half of 2004 onwards, aimed at raising the labor force participation of the population over age 50 by financing the promotion of specific projects by labor offices and NGOs to encourage employment of that age group. However, the results of that program have been disappointing.

¹⁵ Preretirement allowances were granted to older workers—women with 30 years of work experience or men with 35 years of work experience—upon becoming unemployed to bridge the gap to retirement.

- The law on “**Employment Promotion and Labor Market Institutions**”, passed by parliament in April 2004, tightened eligibility for registering as unemployed and receiving social benefits. It also redefined responsibilities of labor offices with the aim of improving their efficiency and, hence, the impact of labor market measures. Labor offices were discharged from the role of paying family allowances and preretirement benefits, and were obliged to confirm every month the claimants’ readiness to work—this was previously done every three months. The duration of unemployment benefits in regions where the unemployment rate falls between 100 and 125 percent of the national average was cut by half to six months. The unemployed were obliged to take offered work and to take part in labor offices programs. This likely contributed to the decline in registered unemployment, as 406,000 persons were removed from registers in 2004:Q4 but did not take up work—these persons represented more than 58 percent of total persons removed from unemployment registers in 2004:Q4. This improvement notwithstanding, more time is needed to assess the overall impact of this law on the labor market.
- In line with the above law, the government adopted a **National Plan for Employment** in 2005. This plan should provide training for the unemployed or workers threatened by unemployment. It also entails analyzing long-term unemployment, including by examining the role of social assistance in creating unemployment traps, and by assessing future labor demand. This would be a welcome diagnosis of labor market problems and should form the basis of a detailed action plan to promote employment. The Plan also provides for continuing ongoing labor market programs, such as the first job and 50+ programs, as well as the use of EU structural funds to support rural employment.
- The government also uses **active labor market programs** (ALMPs) to promote employment. Spending on these programs rose to about Zł 1.3 billion annually during 2003–04, about two-and-a-half times its level in the previous two years; the activation of new graduates captured more than one-third of that amount (Table 1). The effectiveness of most ALMPs has often been questioned outside the government, however.

Table 1. Expenditure on Active Labor Market Programs and Participants, 2000–04

| | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|--------|--------|--------|---------|---------|
| Total spending on ALMP, in million zloty | 767.8 | 604.4 | 539.4 | 1,357.6 | 1,323.5 |
| (in percent of GDP) | (0.11) | (0.08) | (0.07) | (0.17) | (0.15) |
| <i>of which:</i> Spending on training programs | 79.5 | 55.5 | 50.8 | 113.9 | 125.9 |
| Spending on subsidized employment programs | 150.4 | 156.6 | 93.5 | 223.5 | 232.0 |
| Spending on public works programs | 146.2 | 115.6 | 88.4 | 297.1 | 279.3 |
| Spending on other programs | 271.5 | 209.6 | 238.1 | 521.4 | 593.4 |
| Activation of graduates: | 234.4 | 183.5 | 223.7 | 482.9 | 539.1 |
| Others: | 37.1 | 26.1 | 14.4 | 38.5 | 54.3 |
| Total number of participants in ALMP, thousand persons | | | 154 | 347 | 298 |
| (in percent of the unemployed) | | | (4.5) | (10.4) | (9.2) |
| Participants in training programs | | | 69 | 132 | 128 |
| Participants in subsidized employment programs | | | 51 | 115 | 94 |
| Participants in public works programs | | | 34 | 100 | 76 |

Source: Ministry of Economy and Labor.

III. THE POLISH PENSION REFORMS AFTER SIX YEARS¹⁶

45. **This paper examines the impact of labor market and fiscal trends on the sustainability of the pension system since the 1999 pension reform.** The 1999 pension reform—which phased out the old pay-as-you-go (PAYG) system and created a new mixed private-public pension system—was a major effort to restore the solvency of the public pension system. The calculations at the time of the reform suggested that the previously large implicit debt in the pension system had been eliminated. Recent official projections, however, show a different picture. As a result of a sizable decline in employment and a faster-than-expected increase in pension expenditure, the state-managed part of the old-age pension system has a much larger than expected deficit. Moreover, it is now projected to turn into a surplus that is both smaller and later than envisaged in 1999, and the accumulation of the pension savings in the privately-managed part remains moderate.

A. The Pension System Prior to the Reforms¹⁷

46. **Before 1999, Poland had one of the most generous pension systems in Europe — an unsustainable situation.** Despite a relatively young population,¹⁸ old-age pension spending reached 6.5 percent of GDP. Though the system was in a surplus, long-term projections showed that without reforms, the system dependency ratio¹⁹ would have reached 1 by 2050 (with a demographic dependency ratio of close to 0.4), and the annual balance of the old-age pension system would have moved from a small surplus to a deficit of about 3¾ percent of GDP by 2050. Besides the unfavorable demographic trends, the main reasons for the projected rapid deterioration were a low average effective retirement age (57 years) and generous replacement ratios.²⁰

B. The 1999 Pension Reforms

47. **The 1999 pension reform phased out the previous PAYG system and created a new mixed private-public pension system.** The old system was terminated for those born after 1948. The new system created two mandatory accounts for each individual: a notional defined-contribution account in the state-managed part and a funded defined-contribution account in the privately-managed part. Participation in the privately-managed part was optional for those born between 1948 and 1968. In addition to the mandatory parts, there is a voluntary part, which is funded and privately managed. The mandatory retirement age (60 for women and 65 for men) was left unchanged. The combined contribution rate for employers and employees to the mandatory old-age pension system was also left unchanged at

¹⁶ Prepared by István P. Székely.

¹⁷ Sections A and B draw on Góra and Rutkowski (1998), Chłton, Góra, and Rutkowski (1999).

¹⁸ The demographic dependency ratio was below 0.2 in 1999.

¹⁹ The system dependency ratio is the ratio of pension beneficiaries to contributors. In 1999 it was about 0.5, 2½ times the demographic dependency ratio.

²⁰ The replacement ratio is the ratio between the last salary and the first pension.

19.52 percent of the gross wage, but for those who participate in both parts, 7.3 percentage points of this is paid to the privately-managed mandatory pension funds (OFEs).

48. **The state-managed part of the mandatory system is a notional defined-contribution scheme.** Contributions are recorded in private accounts, where accumulated notional capital earns a return equal to the increase in contributions due to the state-managed part in the preceding year.²¹ Reflecting their participation in the old PAYG system, people were given initial notional capital in the new state-managed part. Upon retirement, the yearly benefit is calculated by dividing the accumulated notional capital by the average remaining unisex life expectancy at retirement age in the calendar year of the retirement. After retirement, benefits are indexed to the CPI.²² The benefits are paid from current contributions and the system is not funded in general, but a small demographic reserve fund was created to serve as a partial funding for this part.²³

49. **The privately-managed part of the mandatory system is a funded defined-contribution scheme.** Participants can freely choose among licensed OFEs. Accumulated funds are invested by the fund managers, subject to regulation. Upon retirement, beneficiaries will be obliged to purchase an annuity from a specialized annuity company.²⁴ Most risks involved in this part (return and longevity) are assumed by the participants, but there is a minimum pension guarantee which was carried over from the old system.²⁵ Out of the eligible 11.5 million members, 9.7 million, close to 85 percent, opted to participate in both parts.

50. **The third part is a voluntary, privately-managed, funded component.** It can take the form of life insurance, investment fund, mutual insurance, and employee pension funds. Part of the contribution to an employee pension scheme in the third part, up to 7 percent of the gross wage, can be deducted from the social security contribution base. As this allowance existed also in the old system, the creation of the third part was not expected to result in any significant revenue loss.

²¹ There is a floor to the real notional return set at zero percent.

²² As part of the Hausner Plan, the indexation rule was changed in 2004. Previously, pensions were indexed to the change in the CPI index plus at least one fifth of the real wage growth in the economy. There is, however, a new law submitted to parliament that would change the indexation rule again, making it more generous.

²³ Originally, the pension reform law envisaged an annual transfer of one percent of the contribution base to this fund. The size of the transfer, however, was reduced in 2001 (before the demographic reserve fund started to function): to 0.1 percent of the contribution base in 2002-03; 0.15 percent in 2004; 0.2 percent in 2005; 0.25 percent in 2006; 0.3 percent in 2007; 0.35 percent in 2008, and to nil afterwards.

²⁴ This part is not yet fully legislated. The first payment from the funds will be made in 2009.

²⁵ The guarantee is for the sum of the pension rights from both parts combined, topping up the accumulated rights to a guaranteed minimum. The cost of this guarantee is covered by the budget.

51. **The reform has reduced future replacement ratios and is expected to increase average effective retirement age.** The replacement ratio from the state-managed part for men is projected to decline from 76 percent before the reform to 60 percent by 2035 (while the combined replacement ratio from the two parts is projected to decline to around 66 percent.²⁶ The replacement ratio from the state-managed part for women is projected to decline from around 58 percent before the reform to 42 percent by 2030, while the combined replacement ratio drops to 48 percent.²⁷ By making the conditions for early retirement (before 60/65) actuarially neutral, the reform is expected to increase the effective retirement age. Though the lower retirement age in fact results in correspondingly lower pensions (old-age income) for women, attempts to have the same the retirement age for men and women have failed.

52. **Longevity risk, which is substantial, was also shifted to beneficiaries in the state-managed part.** Available estimates (Chłn, Góra, and Rutkowski, 1999) suggest that an increase of 2 years in the remaining life expectancy upon retirement (for the entire population, which is used to calculate the pension benefit) would result in a drop of about 3 percentage points in the replacement ratio.

C. The Long-Term Sustainability of the State-Managed Part of the Old-Age Pension System

53. **Projections made at the time of the pension reform suggested that the deficit following the introduction of the reform would be relatively small and transitory and that the long-term sustainability of the state-managed part was secured.** Projections—based on rather conservative growth assumptions and assuming a gradual reduction in contribution rates, but assuming significantly increased labor force participation—suggested several major improvements (Chłn, Góra, and Rutkowski, 1999):²⁸

- Old-age pension expenditure in the state-managed old-age pension system was projected to decline to slightly above 2 percent of GDP by 2050, from about 6 percent in 1999.

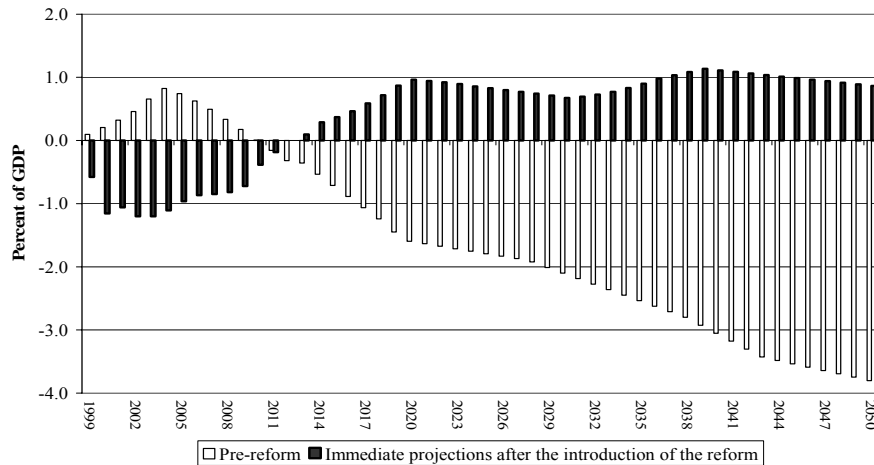
²⁶ The actual replacement ratio depends to a large extent on market returns and the conditions of the annuity, which, especially the latter, are almost impossible to predict at this stage.

²⁷ The difference in replacement ratios between male and female participants is due to the difference between mandatory retirement ages.

²⁸ Assumed average growth was 3.5 percent, slightly below staff's current medium-term growth assumption in the no-reform scenario. Pension rules were assumed to remain unchanged but the contribution rate to the state-managed part was assumed to be reduced from 12.22 (19.52 less the contribution to the privately-managed part of 7.3) to 7.3 percent between 2013 and 2030, as was envisaged in the reform. The labor force participation rate was assumed to increase by some 20 percent.

- The deficit during the transition was projected to peak at around 1.2 percent of GDP in 2004–05 and turn into a surplus by 2012, staying in the range of 0.8 to 1 percent of GDP throughout 2050. This compares to a small surplus until 2010 and afterwards a rapidly widening deficit, reaching 4 percent of GDP a year by 2050 in the old system (Figure 1).

Figure 1. Poland: The Fiscal Impact of the 1999 Pension Reform:
(The balance of the state-managed part of the pension system relative to GDP)



Source: Chł \acute{e} n, G \acute{o} ra, and Rutkowski (1999).

Note: Ratios to GDP have been recalculated to reflect revisions to the national accounts since 1999.

- Based on these projections, the implicit debt in the old PAYG system until 2050, amounting to about 140 percent of GDP, was turned into an implicit asset in the new system of about 40 percent of GDP.²⁹

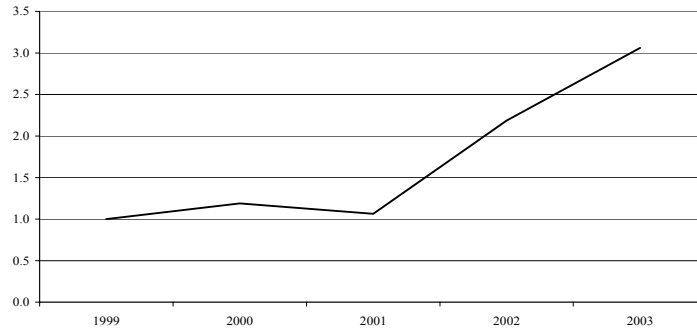
54. **Unfavorable labor market developments, changes in the parameters, and generous pension indexation since 1999, however, have significantly worsened the position of the state-managed old-age pension system.**³⁰ A faster-than-expected decline in employment, a rapid switch to self-employment, and a faster-than-assumed (ex-post)

²⁹ Using in both calculations the current 10-year rate of 5 percent as a discount rate.

³⁰ Until there are participants and beneficiaries of the old system, the state (ZUS) will manages two systems, the old one and the new one. The calculations in this paper refer to the combined costs of the two systems. The negative impact of the unfavorable factors discussed in this part concern the old system. The transparency of the pension system would be enhanced by producing and releasing separate accounts for the two systems.

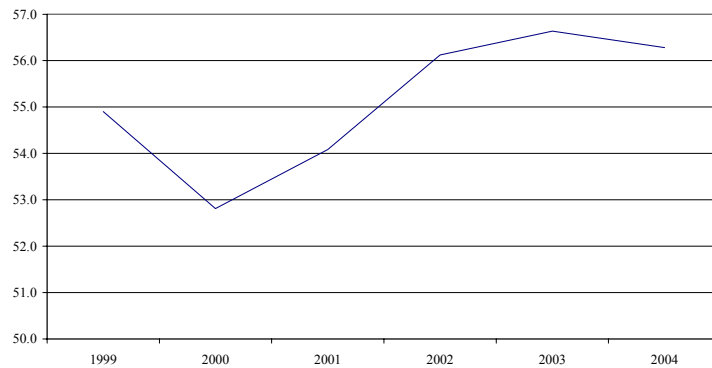
increase³¹ in real pensions in 2000–03 have significantly increased the deficit following the introduction of the reform (Figures 2–4). Given the current labor market trends, the assumption of a rapid increase in employment in the long term made in 1999 also seems too optimistic.

Figure 2. Poland: Increase in the Number of Old-Age Pension Beneficiaries (In percent)



Sources: IMF Staff calculations; Polish authorities.

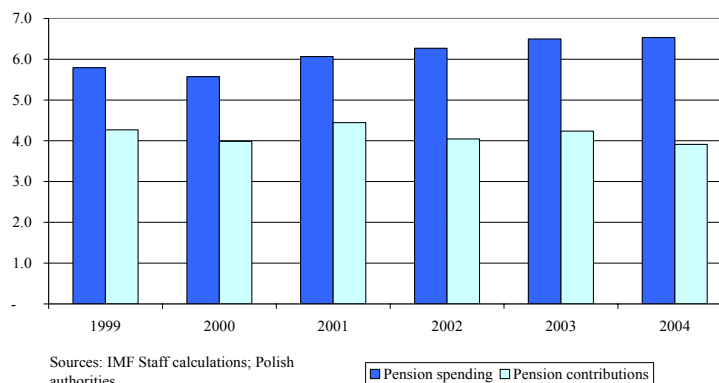
Figure 3. Poland: Average Old-Age Pension Relative to Average Wage (In percent)



Sources: IMF Staff calculations; Polish authorities.

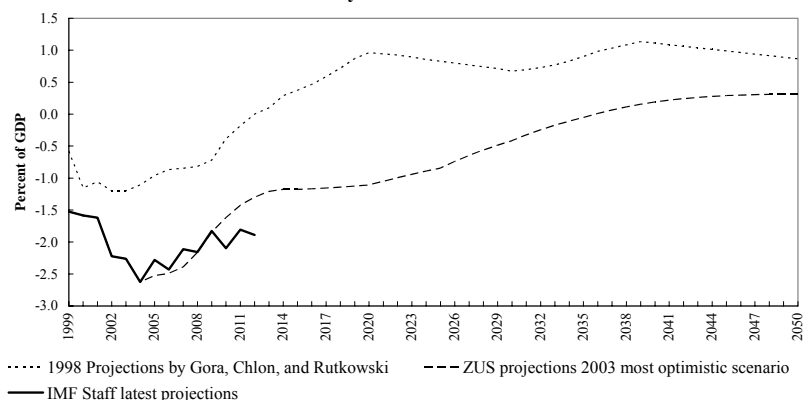
³¹ Projections made in 1999 assumed that pensions would be increased annually by the rate of CPI inflation plus one fifth of the real wage growth.

Figure 4. The first-pillar pension system, 1999-2004
(in percent of GDP)



55. **Reflecting these changes, current official projections show a smaller and later improvement in the long-term position of the state-managed old-age pension system.** The projections made by ZUS in 2003 already showed a major deterioration (ZUS, 2003). Even under the most optimistic scenario,³² the state-managed old-age pension system would be in deficit until 2036 and would have an implicit debt of about 46 percent of the 1999 GDP until 2050 (Figure 5). The ZUS projections for 2006–10 published a year later (ZUS, 2004) show a further deterioration even under the most optimistic scenario, in fact a larger one than the latest estimates by staff show.

Figure 5. Poland: Projected Balance of the State-Managed Part of the Old-Age Pension System Relative to GDP



Sources: IMF staff projections and calculations, Polish authorities, and Chlon, A., M. Góra, and M. Rutkowski, "Shaping pension reform in Poland: Security through diversity", Social Protection Discussion Paper Series No. 9923, The World Bank, August 1999.

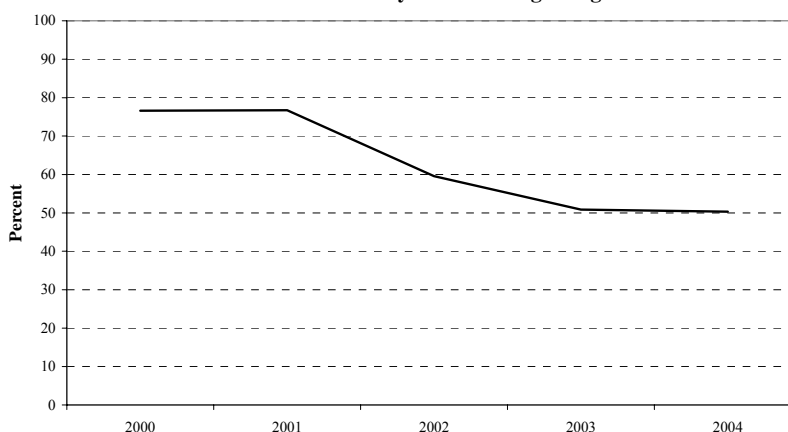
³² Assuming a 2.5 percent annual real wage growth until 2030 (declining to 2 percent afterwards), a large decline in the rate of unemployment, from over 20 percent in 2003 to 4.5 percent by 2050, and a one-percentage point improvement in the collection ratio, from 97.5 percent in 2003 to 98.5 percent by 2004.

D. Pension Savings in the Privately-Managed Part of the Mandatory Pension System

56. **As new generations entered the labor market, the number of members has increased significantly since the introduction of the new system in 1999.** The number of participants reached 11.3 million in January 2005. Reflecting the low level of employment and the exclusion of agricultural labor from the pension reform, this is only about 44 percent of the potential contributor base.³³

57. **Although the investment performance of the OFEs has been impressive since 1999, accumulated pension savings in this part of the pension system remained moderate.** The average annual real rate of return on OFEs assets in 2000–04 was over 8 percent. Nonetheless, after 6 years, the average accumulated funds per member reached only about Zł 5,500, or about 2¼ times the monthly average gross wage in the enterprise sector in January 2005. Owing to administrative inefficiencies, ZUS, the collecting agency accumulated large arrears to the OFEs in the early years of the new system. ZUS now has an agreement to pay these arrears, which with interest amounted to some Zł 10 billion (1.2 percent of GDP) in mid-2003.³⁴ Taking this into account, the accumulated assets per member would be about 2.6 months of salary. Reflecting a continuous decline since 2001, the average contribution base per member dropped from about 77 percent of the average economy-wide wage in 2000–01 to 50 percent in 2004. (Figure 6). Declining economy-wide employment and an increasing share of young contributors—who have lower-than-average income and a higher-than-average unemployment rate—are likely to be the main factors explaining this development.

Figure 6. Poland: Average Contribution Base of OFEs Relative to Economy-Wide Average Wage



Sources: IMF Staff calculations; Polish authorities.

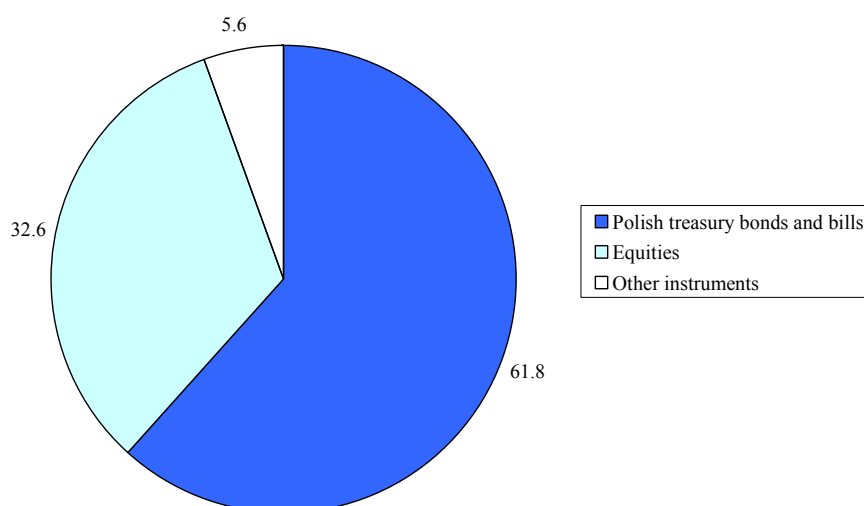
³³ Women of 16-60 years and man of 16-65 years.

³⁴ Based on a law passed on July 23, 2003.

58. **High costs of running the privately-managed part of the mandatory pension system lowered asset accumulation.** Distribution fees charged by fund managers reached 8.5 percent of contributions in the first two years, and though the rate has been declining since then, it was still above 6 percent in 2003. In addition, the management fee was 0.6 percent of total assets in 2003. With fees included, the average annual real internal rate of return of the OFEs in 1999–2003 was about 3 percent (KNUiFE, 2003).³⁵

59. **The savings accumulated in the OFEs are financing mostly the public debt.** Close to $\frac{2}{3}$ of the OFEs portfolio is invested into Polish government securities, leaving about $\frac{1}{3}$ to the private sector, mostly in form of equity capital (Figure 7). The foreign investment of the OFEs was marginal, some 2.2 percent of the total in January 2005, considerably below the regulatory limit of 5 percent of total assets.

Figure 7. Poland: The Portfolio Structure of Second-Pillar Private Pension Funds (end-January 2005, in percent)



Sources: IMF Staff calculations; Polish authorities.

E. The Fiscal Implications of the 1999 Pension Reform

60. **The asset accumulation in the OFEs resulted in a matching increase in public debt.** The cyclically adjusted balance of the general government including the contributions to the OFEs has deteriorated since 1999. Moreover, the non-pension structural balance of the general government—which excludes the impact of the deterioration of the (old) state-managed old-age pension system since 1999—has also deteriorated since 1999

³⁵ This compares to an average annual real interest rate on newly issued government debt of above 6½ percent (on 2Y T-Bonds) during the same period, which was the real cost to the tax payers to finance the additional deficit the creation of the privately-managed mandatory part of the pensions system resulted in.

(Table1). This suggests that the cost of the pension reform (the diversion of part of the pension contributions to the OFEs) has not been provided for, although a firm conclusion on this matter would require a clearly-specified counterfactual to the actual outcome.

Table 1. Poland: The Fiscal Impact of the 1999 Pension Reform (In percent of GDP)

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|--|------|------|------|------|------|------|------|
| Headline fiscal balances | | | | | | | |
| Overall balance (excluding contributions to OFEs) | -2.4 | -3.0 | -3.4 | -5.3 | -6.3 | -5.9 | -6.1 |
| Contributions transferred to the OFEs | | 0.3 | 0.9 | 1.1 | 1.2 | 1.2 | 1.2 |
| Balance including contributions to OFEs ^{1/} | | -2.7 | -2.5 | -4.2 | -5.1 | -4.7 | -4.9 |
| Balance excluding receipts to and payments from the the state-managed part of the pension system | | -1.2 | -1.6 | -3.2 | -3.7 | -3.3 | -3.5 |
| Structural fiscal balances | | | | | | | |
| Overall balance | -4.5 | -4.4 | -4.2 | -4.9 | -4.9 | -4.7 | -5.4 |
| Balance including contributions to OFEs ^{1/} | | -3.9 | -3.1 | -3.9 | -4.0 | -3.7 | -4.3 |
| Non-pension balance | | -1.8 | -2.0 | -2.9 | -2.9 | -2.6 | -3.1 |
| Privately-managed pension funds (OFEs) | | | | | | | |
| Accumulated assets | | 0.3 | 1.3 | 2.5 | 3.9 | 5.4 | 6.9 |
| Financial balance | | 0.3 | 1.0 | 1.3 | 1.5 | 1.7 | 1.8 |

Sources: The authorities and staff estimates.

1/ Balance with the contribution to the OFEs added back in government revenue.

F. Conclusions

61. The 1999 pension reform was a major effort toward restoring the long-term stability of public finances, but less-favorable-than-envisaged developments since then resulted in less progress than targeted.

- Owing to a decline in employment, the coverage of the pension system has declined significantly since 1999. This has also lowered the asset accumulation in the privately-managed part.
- Declining employment and a faster-than-previously envisaged increase in the real value of pensions have resulted in a weakening in the long-term financial position of the (old) state-managed old-age pension system since 1999. Recent official projections show that this part will be in deficit for a considerably longer period than expected at the time of the pension reform, and the deficits during this period will be significantly larger.

62. The analysis point to several fiscal risks implicit in the present pension arrangement.

- **Because the coverage of the mandatory pension system has declined, future claims on budget to provide support to those who will have low effective replacement ratios (or no pensions at all) are a risk.** The implicit contribution base (calculated based on the collected contributions and the statutory contribution rates) was only about 26 percent of GDP in 2004, and it has been declining since 2001. As the longevity risk is now fully assumed by beneficiaries, a faster-than-assumed increase in remaining life expectancy, which will reduce the effective replacement ratio, may aggravate this problem.

- **The reform of the pension system for farmers (KRUS) has been postponed.** KRUS, which is about 90 percent subsidized, provides an average pension of Zl 650, some 78 percent of the minimum wage. While a major burden for the budget because of the very small contributions participants pay, it provides only a modest income for its beneficiaries.

63. **These developments suggest a need for reviewing the pension system with a view to identifying measures to strengthen its long-term financial position and reduce the risk of old-age poverty.** The most effective way of addressing these problems would be to promote employment, but there are other measures to consider, too, including:

- Broadening the base for social security contributions, in particular for self-employed as envisaged in the Hausner plan; and
- promoting higher voluntary private pension savings.

The authorities' plan to set up a National Actuary Office to continuously monitor the pension system would also be an important step to increase public awareness and promote early actions in these areas.

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IV. WHAT SHOULD BE THE LEVEL OF PUBLIC DEBT IN POLAND?³⁶

A. Introduction

64. **The paper looks into the issue of how to determine the level below which public debt should be kept during normal times (when output is close to its potential) in the medium- and long-term.** The standard analytical framework for debt sustainability (IMF, 2003) cannot be directly applied to countries during income convergence because this period is often characterized by an average real growth rate that is higher than the average real interest rate. Real growth is faster than in mature market economies because of income convergence and the real interest rate can be lower because of higher average inflation (the Balassa-Samuelson effect) and gradually declining risk premia. In trying to establish a target level for public debt for Poland, therefore, the paper relies on other considerations related to fiscal risks and intergenerational fairness. The latter takes into account the fact that with income convergence over, real growth and the real interest rate should settle at levels observed in mature market economies. This will change the key parameters in the standard debt sustainability equation substantially, requiring a significantly stronger primary position than during income convergence to maintain any given level of public debt. Poland has two debt ceilings already in place, a constitutional debt limit and the Maastricht debt limits, both 60 percent of GDP (though for different definitions of debt). These levels, however, reflect prudential considerations: they do not imply that debt should be kept at or close to 60 percent of GDP during normal times.

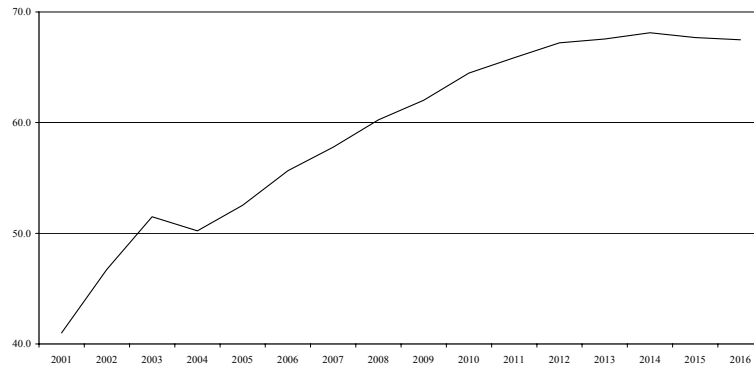
B. Recent Trends

65. **Public debt has increased sharply since 2001 and, after a temporary decline in 2004, it is projected to increase further in the medium term.**³⁷ Reflecting a strong real appreciation of the zloty and high privatization receipts, public debt relative to GDP declined slightly in 2004 despite a further widening of the structural deficit (Figure 1). It will, however, continue to increase rapidly in the medium term if no additional fiscal reforms are undertaken.

³⁶ Prepared by István P. Székely.

³⁷ This paper uses the Polish definition of public debt (in the Public Finance Act), which includes the risk-weighted stock of government guarantees and is based on a broad definition of the general government. To ensure comparability, public debt excluding guarantees is used in international comparisons.

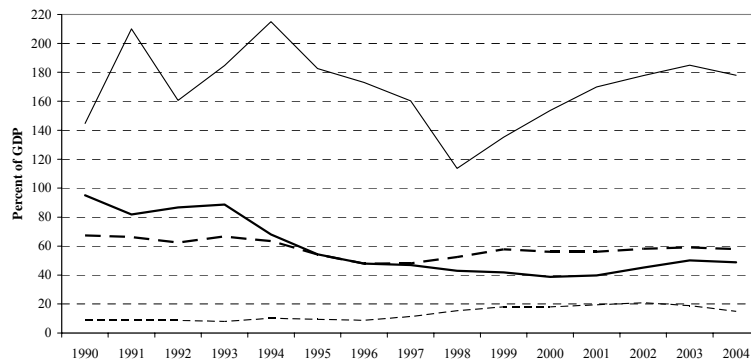
Figure 1. Poland: Public Debt: Baseline Scenario
(In percent of GDP)



Sources: IMF Staff calculations; Polish authorities.

66. **Relative to other emerging market countries, Poland’s debt ratio fell in the decade to 2000, but since then it has risen.** Benefiting from a debt restructuring, rapid growth, and high privatization receipts, Poland moved from being a relatively highly indebted emerging market economy to a relatively low one by 2000—when its public debt (excluding guarantees) relative to GDP was some 20 percentage points below the group median. Since then, however, public debt relative to GDP has increased rapidly in Poland, while it remained largely stable for emerging market economies as a whole.³⁸

Figure 2. General Government Debt in Emerging Market Economies
(In percent of GDP)



Note: For Poland, public debt excluding

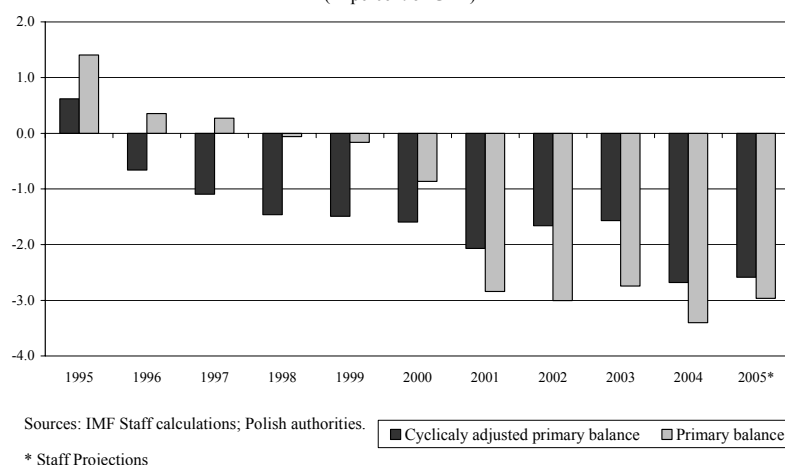
Sources: IMF WEO; IMF Staff calculations; Polish authorities.

— Poland ——— Maximum - - - Minimum - . - Median

³⁸ Emerging market economies include Argentina, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Cote d Ivoire, Croatia, Ecuador, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Lebanon, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Panama, Peru, Philippines, Poland, Russia, South Africa, Thailand, Turkey, Ukraine, Uruguay, and Venezuela.

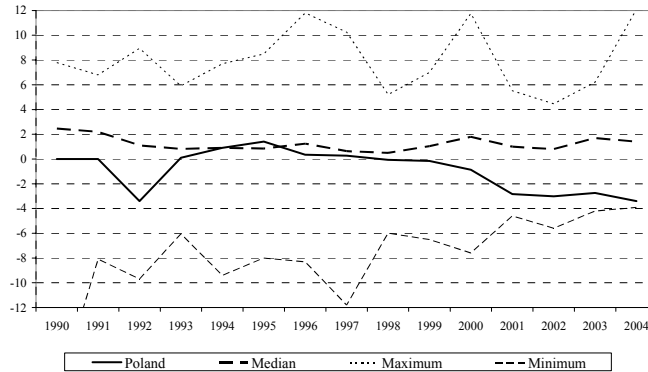
67. **Continuously widening structural primary deficits were the most important factor explaining the upward trend in public debt.** In the 1990s, rapid growth kept the headline primary position close to balance, while the structural primary position was gradually eroded, to a deficit of about 1 percent of GDP by 1997 (Figure 3). The fiscal expansion in 2001 pushed the structural primary deficit, to above 2 percent of GDP, and the subsequent consolidation efforts in 2002–03 brought it down somewhat. Reflecting a widening output gap, however, the headline primary deficit increased to about 3 percent of GDP by 2002. The next wave of fiscal expansion in 2004 pushed the structural primary deficit to close to 3 percent of GDP, while planned consolidation efforts in 2005 are expected to reduce it again somewhat, to below 3 percent of GDP.

Figure 3. Poland: Structural and Headline Primary Balance, 1995-2005
(In percent of GDP)



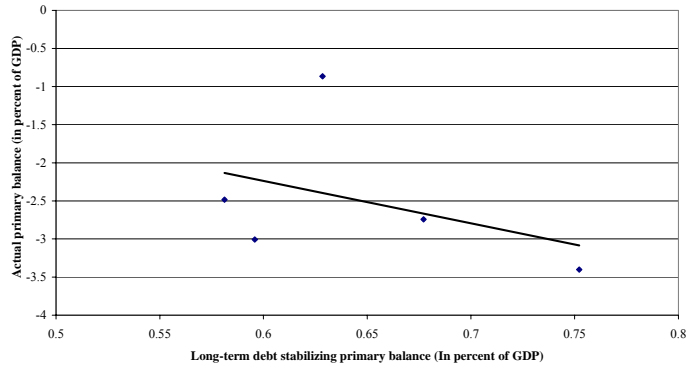
68. **The continuous deterioration of the primary position in Poland since 2000 is in sharp contrast with the overall trend in emerging market economies.** On average, emerging market economies maintained a largely stable primary surplus of between 1 and 2 percent of GDP in the new millennium (Figure 4). More specifically, empirical studies of fiscal response functions in the RAM-8 and EU candidate countries (IMF, 2005) have found a significant positive relationship between the level of the general government debt and the primary balance—suggesting that governments in the region react to increasing debt by improving the primary position. This relationship, however, does not seem to hold in Poland for 2000–04: the higher the debt stabilizing primary position the higher the primary deficit (Figure 5). Similarly, the higher the debt level in the previous year, the higher the primary deficit in the current year (Figure 6). Both findings, though based on data for a short period, does not seem to suggest a fiscal response function for this period oriented towards stabilizing the public debt.

Figure 4. Primary Balance in Emerging Market Economies
(In percent of GDP)



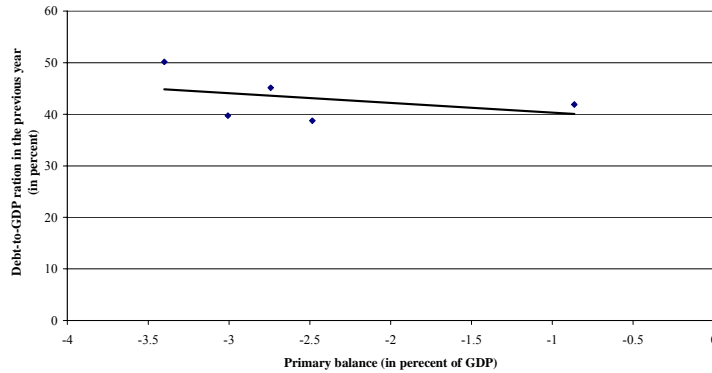
Sources: IMF WEO; IMF Staff calculations; Polish authorities.

Figure 5. Poland: Fiscal Response Function, 2000-04
Debt stabilizing and actual primary balance ^{1/}



^{1/} Data points in the figure are pairwise observations for these variables.
Sources: IMF Staff calculations; Polish authorities.

Figure 6. Poland: Fiscal policy response function, 2000-04
Debt ratio and primary balance ^{1/}



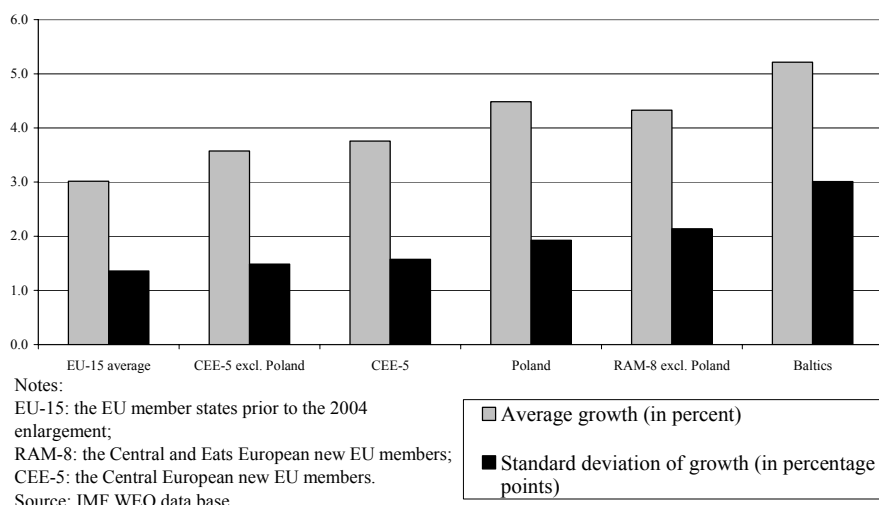
^{1/} Data points in the figure are pairwise observations for these variables.
Sources: IMF Staff calculations; Polish authorities.

C. Fiscal Risks

69. **Relatively high exposure to risk stemming from output volatility and rollover risk argue for keeping public debt considerably below the constitutional debt limit.** With public debt close to the constitutional limit a relatively large shock would push up public debt quickly. This would render the required corrective actions unrealistic and would trigger strong market reaction. If, however, public debt were lower, a similar shock would have no such effect. Exposure to rollover (liquidity) risk is another factor that should limit public debt. New theoretical frameworks (e.g., Besancenot et al., 2003) that incorporate this factor and the attitude of debt holders towards countries exposed to such risk show that public debt should be kept at a level that is lower than standard debt sustainability models would suggest.

70. **Output in Poland during the past decade has been volatile by regional standards.** The standard deviation of GDP growth in the period following the early transition shock (1994–2004) was around 1.9 percentage points in Poland, compared to 2.1 percentage points on average in the RAM-8 excluding Poland, 1.5 percentage points on average in the RAM-8 excluding the Baltics, and 1.4 percentage points on average in the EU-15 (Figure 7).³⁹

Figure 7. Growth and Volatility in the EU economies, 1994-2004



71. **Given the sensitivity of debt dynamics to real shocks, public debt should be kept considerably below the 60 percent of GDP constitutional debt limit during normal times to avoid a rapid increase during shocks.** As the 2001–03 experience suggests, even a slowdown lasting for 2 years can result in a rapid increase in public debt. Simulation results show (Figure 8) that a real shock to staff’s baseline scenario, similar in size to the one in

³⁹ The EU15 countries are the EU member states prior to the 2004 EU enlargement.

2001–03 (a decline of 2.75 percent in growth for 2 years) hitting the economy at a public debt-to-GDP level of close to 60 percent would result in an escalating public debt. The same shock would have a much milder impact if the structural fiscal position was stronger and the debt ratio was significantly lower (Figure 9).

Figure 8. Poland: The Impact of a Large Real Shock on Public Debt: Baseline Scenario (In percent of GDP)

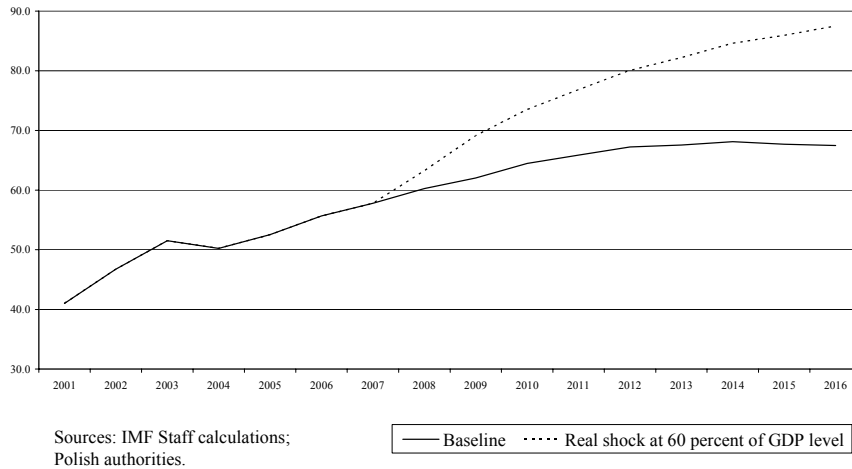
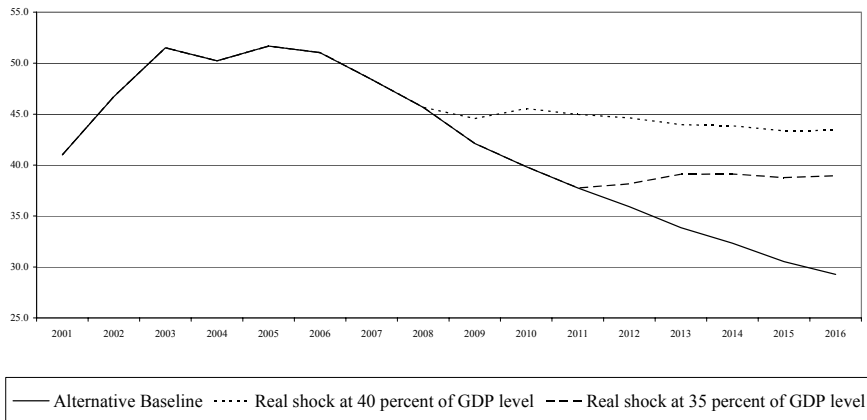


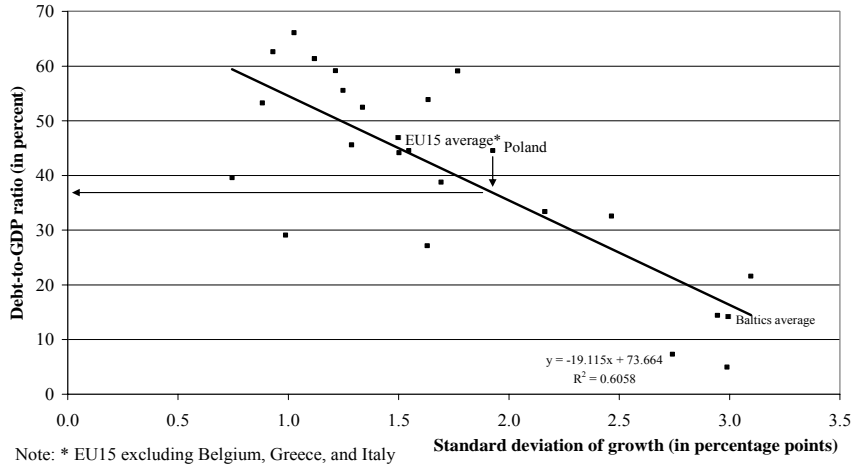
Figure 9. Poland: The Impact of a Large Real Shock on Public Debt: Alternative Scenario (In percent of GDP)



72. **Confirming theoretical arguments, industrial countries on average seem to keep their debt at levels that take into account the variability of their output.** A simple equation for OECD countries, relating the average debt-to-GDP ratio (in 2000–04) to the longer-term standard deviation of growth, explains over 60 percent of the variation in the debt-to-GDP ratio across these countries (Figure 10). The values for both the old and new EU

members as groups are along the fitted line in Figure 10, which for Poland suggests a public debt (excluding guarantees) of about 37 percent of GDP.⁴⁰

Figure 10. General Government Debt and Output Variability in OECD Countries



73. **Using a framework which incorporates the impact of shocks to the planned future primary surplus, related to shocks to the output (tax base), leads to a similar result.** In this model (Besancenot et al., 2003), the largest amount of debt rational investors will hold is lowered (relative to a model with no shocks) by the size of the shock to the primary surplus and is given by the formula

$$\Sigma = (R-A)/i,$$

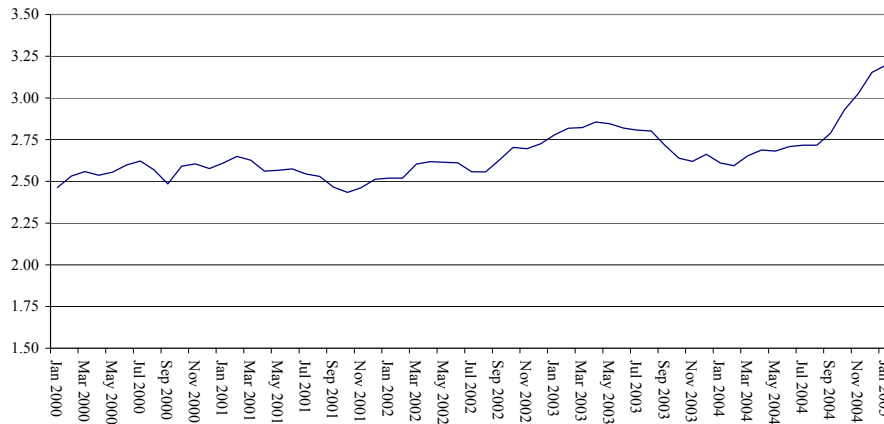
where R is the upper bound for future primary surpluses, A is the parameter of the uniform distribution $[-A, A]$ from which the random shock to the primary surplus is drawn, and i is the risk free interest rate. Making R the highest observed primary surplus in Poland since 1994, 1.8 percent of GDP; A the impact of one standard deviation of growth during the same period (1.9 percent) on the primary balance using available estimates of the marginal sensitivity of the budget balance to the cycle for Poland (0.36, given by Coricelli and Ercolani, 2002); and the risk free interest rate equal to the 10-year euro yield (3.15 percent), leads to a public debt (excluding guarantees) limit of 35½ percent of GDP (or 37–37½ percent of GDP for public debt including guarantees).

74. **The relatively short average maturity of domestically-issued public debt argues for a debt level that is lower than the norm in more mature economies.** Though it has increased significantly since EU accession the average maturity of domestically-issued

⁴⁰ For public debt including guarantees, this would be slightly below 40 percent of GDP.

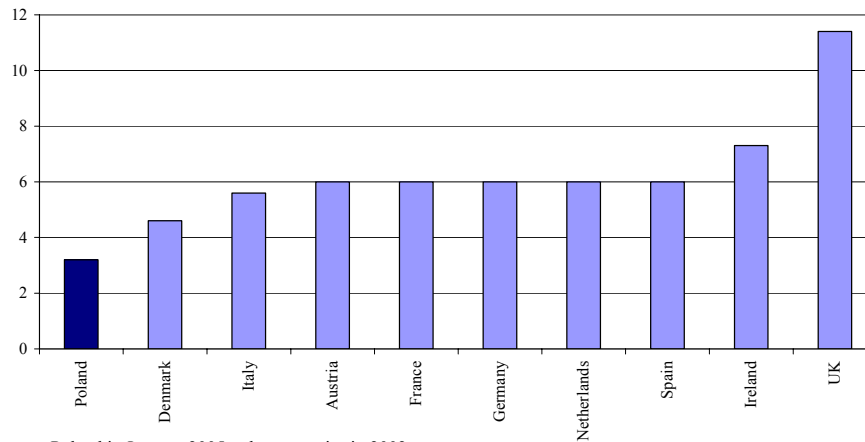
marketable State Treasury debt, at 3.2 years in January 2005, is still relatively low in Poland (Figure 11), about half of the average in the EU-15 (Figure 12). This, together with a high deficit, creates strong exposure to roll-over risk. Poland's annual gross public financing requirement (maturing debt plus deficit) is about 60 percent higher than the average in the EU-15, even though Poland has a significantly lower debt ratio than the EU-15 average. Poland's annual gross public financing requirement is similar to that of Italy, where general government debt is over 100 percent of GDP.

Figure 11. Poland: Average Maturity of Domestically-Issued Marketable State Treasury Debt (in years)



Source: Polish authorities.

Figure 12. Selected EU Countries: The Average Maturity of Marketable Central Government Debt (in years)



Poland in January 2005, other countries in 2002

Sources: OECD Central Government Statistical Yearbook, 2004; Polish authorities.

D. Intergenerational Considerations

75. **Intergenerational fairness also influences the appropriate level of debt during income convergence.** As Poland approaches convergence of its income relative to the EU, a slowdown in income growth will require stronger primary position the higher the level of debt at the time. It is therefore important to complete the process of income convergence with a level of public debt that does not put an unfairly high burden on future generations after convergence is achieved. Simple, illustrative long-term simulations (see Box 1) show that, under certain assumptions, the adjustment in the primary position future generations will have to achieve may be twice as large if debt at the end of convergence reaches 60 percent of GDP instead of 40 percent (Figures 13 and 14). This exercise is based on a narrow concept of intergenerational fairness and the model does not incorporate the optimal distribution of the costs of higher public investment during income convergence across generations. Moreover, there are several other possible scenarios for income convergence in Poland (and the region, see Hughes Hallett and Lewis, 2004). Nonetheless, these results suggest that a careful consideration should be given to intergeneration fairness.

Figure 13. Poland: Convergence with Debt at 40 Percent of GDP
(In percent of GDP)

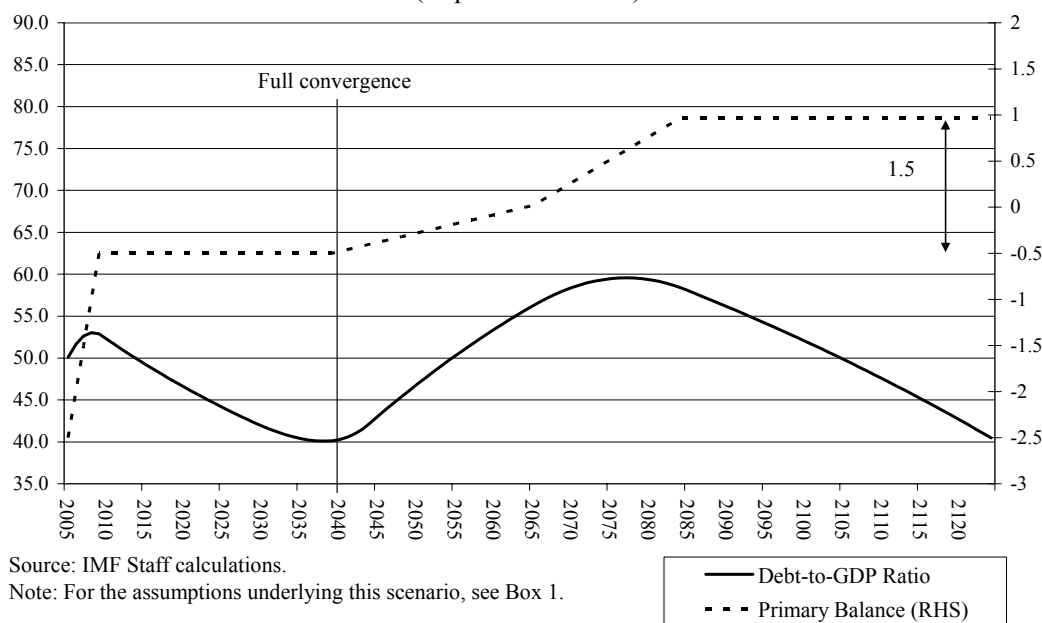
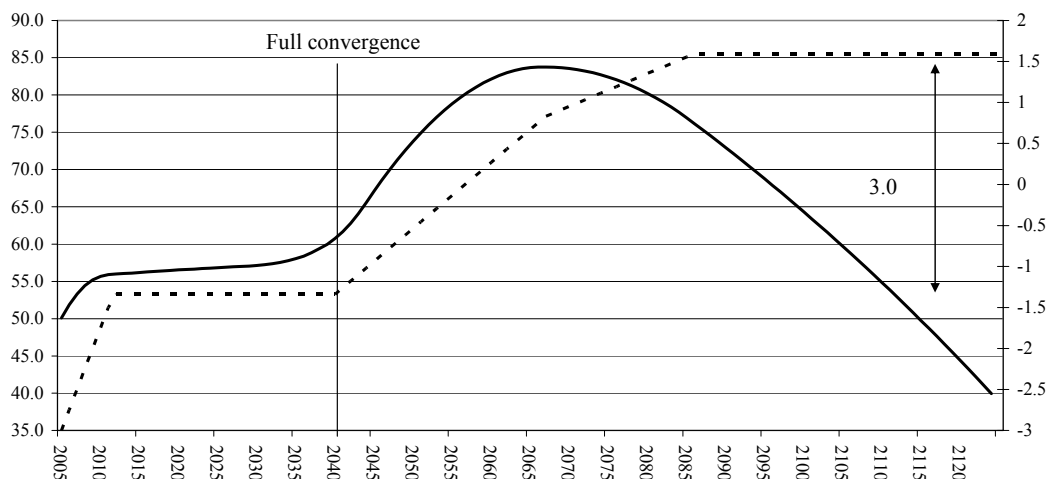
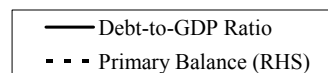


Figure 14. Poland: Convergence with Debt at 60 Percent of GDP
(In percent of GDP)



Source: IMF Staff calculations.

Note: For the assumptions underlying this scenario, see Box 1.



Box 1. Long-Term Debt Sustainability Simulations

The results presented in Figures 13 and 14 are from simulations based on the following assumptions:

- The rate of real growth during income convergence is assumed at 4.6 percent, which produces full income convergence in 35 years. The rate of growth gradually declines toward the end of the convergence process, to 3¾ percent in 2040, and to 2 percent by 2045. It is assumed to stay at 2 percent in the rest of the simulation period.
- The real interest rate is assumed to be 2½ percent during convergence, gradually increasing to 3 percent afterwards (by 2045).
- In the first scenario (Convergence with Debt at 40 percent of GDP), the primary deficit is reduced to ½ percent of GDP by 2010 and kept at that level until the end of convergence (2040). The primary balance then moves to a surplus of 1 percent of GDP.
- In the second scenario (Convergence with Debt at 60 percent of GDP), the primary deficit is reduced to about 1.4 percent of GDP by 2010 and kept at that level until the end of convergence (2040). It is then moves to a surplus of 1 percent of GDP.
- All other assumptions (e.g., the rate of inflation) are identical in the two scenarios.

E. Implications for Fiscal Consolidation in the Short Run

76. **Standard debt dynamics analysis indicates that the present deficit, if sustained, would produce an extremely high level of debt before stabilization occurred.** The basic relationship driving debt dynamics is

$$\sigma = (r - n) b$$

where σ is the required primary position (relative to GDP) to maintain the existing debt ratio, r is the real rate of interest, and n is the rate of real growth, and b is the existing level of public debt (relative to GDP). Taking Poland's average growth rate of 4½ percent in the past decade or about 3½ percent for the past five years, a forward looking real interest rate (between about 2 percent in the euro area and 3 at present in Poland), and the current level of public debt (about 50 percent of GDP), Poland would have to maintain a primary deficit of less than ⅓–1¼ percent of GDP to keep the debt ratio stable. This compares to a structural primary deficit of close to 3 percent in 2004. If the target level for public debt was 60 percent of GDP, it would allow a primary deficit relative to GDP by some ¼ percentage point higher, while a 40 percent of GDP target would require a ¼ percentage point lower level. That is, depending on the assumptions, the structural primary position relative to GDP needs to be reduced by some 1½–2½ percentage points (Table 1). The current structural primary deficit of about 3 percent of GDP would lead to debt levels ranging from 200 to over 400 percent of GDP under any set of assumptions.

Table 1. The Basic Debt Sustainability Equation

| | | | | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Target level for debt | 40.0 | 40.0 | 40.0 | 40.0 | 50.0 | 50.0 | 50.0 | 50.0 | 60.0 | 60.0 | 60.0 | 60.0 |
| Growth rate | 3.5 | 3.5 | 4.5 | 4.5 | 3.5 | 3.5 | 4.5 | 4.5 | 3.5 | 3.5 | 4.5 | 4.5 |
| Real interest rate | 2.0 | 3.0 | 2.0 | 3.0 | 2.0 | 3.0 | 2.0 | 3.0 | 2.0 | 3.0 | 2.0 | 3.0 |
| Required primary position | -0.6 | -0.2 | -1.0 | -0.6 | -0.8 | -0.3 | -1.3 | -0.8 | -0.9 | -0.3 | -1.5 | -0.9 |

Source: IMF Staff calculations.

F. Conclusions

77. **Several considerations related to fiscal risks and generation fairness suggest that a prudent level of public debt in Poland during income convergence would be 40 percent of GDP or less.** This level would make it possible to absorb the impact of large real shocks without triggering abrupt corrective actions; would limit the roll-over risk; and would position Poland well for the post-convergence period.

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V. WOULD POLAND BENEFIT FROM A FISCAL RESPONSIBILITY LAW?⁴¹

A. Introduction

78. **The Public Finance Act (PFA) and EU accession improved fiscal institutions in important ways, creating a strong foundation for future reforms.** The PFA, introduced in 1998, improved the budget process significantly and introduced supporting procedures to ensure compliance with the constitutional debt limit. Convergence Programs (CPs), which new EU member states have to submit to the European Commission, include 3-year ahead fiscal projections showing the path towards meeting the fiscal targets of the SGP. The Commission assesses the macroeconomic projections, as well as the fiscal strategy and medium-term fiscal projections in the CPs.

79. **Nonetheless, Poland's deteriorating fiscal performance since 2001 suggests that there is a need for a renewed effort to promote fiscal responsibility, including changes to the legal framework.** Sizable government deficits and the apparent lack of strong incentives for fiscal consolidation are signs of weaknesses in the current institutional and legal frameworks.⁴²

80. **This paper looks into the potential advantages of a Fiscal Responsibility Law (FRL) and medium-term budget framework (MTBF) for Poland.** The introduction of a FRL would entail changes and improvements in three major areas: (i) fiscal transparency and institutions; (ii) a formal or informal additional fiscal rule, which would be supported by a MTBF; and (iii) and independent assessment of fiscal trends and budgetary assumptions, including in the MTBF.

B. The Current Fiscal Framework in Poland

81. **The Public Finance Act improved the budget process and enhanced transparency significantly.** According to a recent comparative study (IMF, 2005b), Poland, jointly with Estonia, ranked first among the new Central and Eastern European EU member states and candidate countries in 2003 regarding the quality of budgetary institutions. Poland fared particularly well on the capacity of the central government to implement the state budget, but it was ranked high on all other aspects of budgetary procedures.

82. **Poland has a constitutional debt limit and, as an EU member, it is subject to the quantitative numerical fiscal rules of the SGP.** Several characteristics of the Polish debt rule, which prohibits the debt ratio from exceeding 60 percent of GDP, make it unique among the OECD countries (IMF, 2003):

- It is enshrined in the constitution.

⁴¹ Prepared by István P. Székely.

⁴² See chapter 3, "The Polish Pension Reforms After Six Years."

- It is supported by a constitutional prohibition of any action on the part of the government that would endanger adherence to the debt limit.
- The limit applies to a broad definition of public debt, which includes the risk-weighted stock of outstanding state guarantees and covers some of the public institutions outside the general government (e.g., health care providers). The lower house of the parliament (Sejm), however, has recently passed an amendment to the PFA which—if also passed by the upper house (Senate) and signed into law by the President—would exclude the risk-weighted stock of outstanding state guarantees from public debt.
- The debt rule is complemented by a set of safeguarding procedures, set out in the PFA, which stipulate corrective actions at all levels of government, starting when public debt reaches 50 percent of GDP (Box 1).

A recently agreed amendment to the SGP has introduced a transitory allowance for the net cost of pension reform to the publicly-managed pension pillar on a sliding scale under the EDP, which will relax the deficit ceiling (for the purpose of the Excessive Deficit Procedure (EDP) for Poland for the period 2005–09).

83. The design of the debt rule, however, point to several problems.

- It puts no effective constraint on the budget deficit as long as public debt is below 50 percent of GDP.
- If the triggering levels (50 and 55 percent of GDP) are reached with high deficits and low economic growth, the debt ratio can reach the next triggering level, and eventually the 60 percent of GDP constitutional limit, before the required corrective actions kick in (in the second year after the one in which the triggering level was surpassed).
- For the same reason and given the rather low share of discretionary expenditure, the required corrective actions may necessitate an abrupt adjustment in the fiscal stance that may not be politically feasible. In fact, in the absence of structural fiscal reforms, the welfare losses resulting from such abrupt fiscal adjustments are likely to be substantial.

84. Convergence programs require increased focus on medium-term fiscal trends, but are not well integrated into annual budget preparation. The 3-year ahead fiscal projections in the Convergence Program show the main revenue and expenditure aggregates for the general government and the main subparts of the general government. Given the nature of these projections, they present the main elements of the fiscal strategy of the government.

Box 1. Constitutional Debt Limit in Poland

The Constitution sets a 60 percent of GDP limit on public debt. The Public Finance Act of 1998 defines a set of the supportive procedures that have to be followed when public debt exceeds specified triggering levels (50 and 55 percent of GDP).

When public debt exceeds 50 percent of GDP, in year T, which is officially declared in the next year, year T+1, the deficit in the state budget presented to Parliament for year T+2 cannot be larger relative to revenues than in the year T. The same limit applies to each sub-national government (PFA, Art. 45). As in 2003 public debt was above 50 percent, deficits in the 2005 budgets at all levels of government were subject to this restriction. In the state budget, however, this was less binding as part of the transfers to FUS (state-managed pension fund) had been reclassified as a “below-the-line item”.

When public debt exceeds 55 percent of GDP (year T), the deficit in the budget for year T+2 should be set at a level which ensures that the public debt-to-GDP ratio will not exceed the level reached in year T. For sub-national governments, the allowed level of the deficit would be reduced proportionally based on a formula which takes into account how close public debt was to 60 percent of GDP (PFA Art. 45).

When public debt reaches 60 percent of GDP, public finance entities cannot issue new guarantees; within one month the government has to submit to parliament an economic program aimed at reducing public debt below 60 percent of GDP; the government has to submit to parliament a balanced state budget for year T+2; and sub-national governments also have to submit balanced budgets (PFA Art. 45).

85. **The Social Insurance Institution (ZUS) prepares regular medium and long-term projections for the state-managed part of the mandatory pension system.** Using a detailed model developed by the office of the Chief Actuary, long-term (50-year ahead) projections based on several alternative scenarios are published by ZUS (ZUS, 2003). Preparations are underway to develop a framework to produce long-term projections for old-age related government expenditure, including pension and health care expenditure. A draft law has been prepared to set up an independent National Actuary Office with the mandate to produce regular long-term projections for the entire pension system, which would be an important step towards enhancing fiscal transparency and improving social policies.

C. Fiscal Responsibility Laws and Medium-Term Budgeting in Industrial Countries

86. **FRLs promote responsible fiscal behavior and improve fiscal management by strengthening budget planning and execution and enhancing transparency and accountability.** They also aim to make fiscal policies more predictable over time and across different levels of government. FRLs in many cases include numerical fiscal rules and require the government to publish a monitorable fiscal strategy. A number of OECD

countries have introduced some form of MTBF (Table 1). MTBFs played an important role in some of the countries that have undertaken large and successful fiscal adjustment (such as, New Zealand and Finland in the 1990s), while they had little impact on annual budget formulation in others (such as, Germany and France, see Heinemann, 2005 and Moulin, 2004).

87. **Several EU countries have fiscal rules in addition to the debt and deficit rules of the SGP (EDP) (Box 2).** Additional national fiscal rules are in some cases significantly stricter than the SGP's medium-term objective of "close to balance or surplus" (e.g., in Denmark and Sweden), reflecting the countries' economic circumstances and government structures, and the need to accommodate future fiscal pressures owing to population aging.⁴³ The effectiveness of fiscal rules can be enhanced by lengthening the planning horizon (Schick, 2003).

D. A Fiscal Responsibility Law and Medium-Term Budgeting in Poland

88. **A stable post-election macroeconomic environment could be favorable for introducing a FRL.** The actual implementation could take the form of a separate FRL, or a comprehensive amendment to the PFA.

Procedural and transparency rules

89. **A FRL could include the requirements to spell out the fiscal policy goals; establish the criteria for assessing whether these goals are achieved; and regularly assess budget programs.** The regular assessments of budget programs would also be a useful way to identify reform options and areas for efficiency gains. To promote efficiency gains in parts of the general government outside the state budget, any transfer from the state budget could be made conditional on the results of regular assessment of the supported budget programs. This would promote similar regular reviews of expenditure programs in all parts of the general government.

90. **Detailed accounting for tax expenditure in the budget, but also in the medium-term, would enhance fiscal transparency.** As the 2003 Public Expenditure and Institution Review by the World Bank (World Bank, 2003) pointed out, the size of tax expenditure is significant (estimated at 8.5 percent of GDP in 2000) and it is not subject to the same scrutiny as other budget expenditures; in many instances its size and beneficiaries are not even known to the public or the parliament. A report on tax expenditure could be produced by an independent institution (see below), or such an institution could be given the opportunity to comment on the report if it is done by the government.

⁴³ For a detailed discussion of fiscal rules, see Kopits and Symansky (1998).

Table 1. Medium-Term Budgeting in OECD Countries

| Country | Length (years) | Rolling or periodical | Flexible or fixed | Current or Constant Price Ceilings | Theoretical Foundation | National Fiscal Rule |
|----------------|----------------|-----------------------|-------------------|------------------------------------|---|---|
| Canada | 3 | Rolling | Flexible | | Debt-oriented | De facto, balanced or better |
| Czech Republic | 3 | Rolling | Flexible | Current | | |
| Finland | 4 | Rolling | Flexible | Constant | Debt-oriented but also supply-side (tax cuts) | |
| France | 3 | Rolling | Flexible | Constant | | |
| Germany | 3 | Rolling | Flexible | | | Golden rule |
| Italy | 4 | Rolling | Flexible | | | |
| Netherlands | 4 | Periodic | Fixed | Constant | | |
| New Zealand | 4 | Rolling | Flexible | | Debt-oriented | |
| Spain | 3 | Rolling | Flexible | | | Balanced or better |
| Sweden | 3 | Periodic | Fixed | Current | Debt-oriented ^{1/} | 2% of GDP surplus over the cycle |
| United Kingdom | 3 | Rolling | Fixed | Current | Debt-oriented but also supply-side (tax cuts) | Golden rule, net debt below 40 % of GDP |

Sources: OECD (2003, 2004a, 2004b), Feldman and Watson (2002), Heinemann (2005), Moulin (2004), and various IMF Staff Reports.

1/ In addition to long-term sustainability, the effectiveness of stabilization policy was also a consideration underlying the medium-term fiscal framework in Sweden.

Box 2. National Fiscal Rules in EU Countries

Deficit rules

Austria: *Internal Stability Pact* (2000)

The existing framework requires the federal government, the Länder, and the municipalities to negotiate the fiscal targets every four years for the next four-year period. In the current pact for 2005-08, the Länder agreed to raise their surplus target from $\frac{1}{2}$ to $\frac{3}{4}$ percent of GDP by 2008, while the target for municipalities is a balanced budget.

Belgium: *Internal Stability Pact* (1999)

Permissible deficits are established for the federal government including social security, and for regions and local governments.

Denmark: *Medium-term fiscal strategy (the 2010-plan)* (2001)

The key fiscal objective is to ensure long-term sustainability, which is assessed to require an average (structural) budget surplus of 1.5-2.5 per cent of GDP from 2003 to 2010. This operational target is complemented by a growth target for real public consumption of 0.5 percent per year during 2006-10 and a "tax freeze" both at the central and local government since 2002.

Finland: *Medium-term objectives* (2004)

The target is to reach a balanced structural deficit of the central government by 2007. Central government primary expenditure, excluding unemployment benefits and few other items, is subject to a cap in 2004-07. The government is also committed to a declining central government debt ratio over 2004-07.

Germany: *Domestic Stability Pact* (2002)

Both the federal and subnational governments should aim at a balanced budget. In addition, the constitution stipulates a golden rule for the federal budget. Most Länder have a similar constitutional golden rule.

Spain: *Budget Stability Law* (2003)

Balanced budget or surplus at all levels of government. Temporary deficits are allowed in exceptional situations, but two-to-three-year plans need to be presented to parliament to restore fiscal balance.

Sweden: *Fiscal Budget Act* (1997)

A general government surplus of 2 percent of GDP over the business cycle.

UK: *Finance Act* (1998)

Golden rule over the economic cycle: the current budget should be balanced or have a surplus over the economic cycle, established according to clear an explicit definition.

Debt Rules

UK: *Finance Act* (1998)

Sustainable investment rule: public sector net debt as a proportion of GDP will be held over the economic cycle at a stable and prudent level, which was set at 40 percent.

Poland: *Public Finance Act* (1998)

Public debt, including the risk-weighted stock of outstanding state guarantees cannot exceed 60 percent of GDP. Corrective actions are required when public debt reaches 50 and 55 percent of GDP.

Sources: OECD (2004a), and various IMF Staff Reports.

91. **Sunset clauses on budget programs and certain social transfers could promote regular reviews of budget priorities and reduce inertia in the budget.** As repeated failures with reforming major entitlement programs suggest, the capacity of the government to pursue fiscal consolidation is seriously hindered by a large number of mandatory programs and legislated rules on automatic adjustment to budget expenditure. Introduction of a general requirement of sunset clauses would lessen this inertia.

Independent assessment of fiscal trends and budget assumptions

92. **Independent assessment of fiscal trends and budgetary assumptions in all parts of the general government would enhance the credibility of a new fiscal framework.**

This function could be assigned to an existing institution, such as the Supreme Chamber of Control (NIK), or to a newly created institution, for example a Parliamentary Budget Office (PBO). The efficiency of the PBO could be enhanced by making it independent from the government (both central and subnational); by according it with oversight over all parts of the general government; and by requiring that it report to Parliament and the public directly. To ensure full accountability of elected bodies, the assessments produced by the PBO should not concern fiscal policy choices made by elected bodies. Its functions could include assessing:

- Macroeconomic and budgetary assumptions and projections (for example for growth, inflation, and market interest rates) in annual budgets and the medium-term fiscal framework;
- Medium- and long-term fiscal trends by producing fiscal baseline projections (based on unchanged policies and legislation);
- The yield of new fiscal measures in annual or medium-term budgets;
- The factors responsible for deviations from annual and medium-term budget targets.

The purposes of such assessments would be to enhance credibility; ensure conservative budgetary assumptions; and eliminate political bias in the budget formulation process (Janung and Larch, 2004).⁴⁴ PBO report could be part of the budget documents sent to parliament and could be made available to the public.

⁴⁴ Macroeconomic forecasts are produced by independent institutions in The Netherlands and Belgium. In Canada, the macroeconomic forecasts used by the Department of Finance are based on a survey of private sector forecasters and fiscal forecasts contain an explicit cautionary bias. In the United States, the Congressional Budget Office develops its own assumptions which are compared to those of the administration. In the UK, the Code for Fiscal Stability states that the Treasury shall invite the National Audit Office to audit any changes to the key assumptions and conventions underlying the Fiscal Projections. Moreover, the Treasury applies a ¼ percentage point prudential margin to its growth forecasts. A recent study (IMF, 2005a) of the quality of macroeconomic forecasts used in budget formulation found a significant cautionary bias in Australia, Canada, the UK, and the U.S, and unbiased projections in New Zealand and the Netherlands.

93. **The PBO could also produce regular reports on the long-term sustainability of the social security system.**⁴⁵ Given the expected substantial demographic changes in Poland in the coming decades, the PBO could also compile full-scale generational accounts.⁴⁶ This would help understand the intergenerational consequences of fiscal policies and would promote intergenerational fairness.

Fiscal rule

94. **The fiscal rule that would best serve Poland would be an expenditure rule.** A headline deficit rule could promote pro-cyclical fiscal policies. Rules applying to cyclically adjusted deficit or expenditure may not be practicable either, because potential output estimates are surrounded by much larger uncertainties than in more developed economies. Moreover, reliable estimates of revenue and expenditure elasticities are not yet available. An expenditure rule, combined with a MTBF, structural fiscal reforms and improvements in expenditure management could promote fiscal consolidation without squeezing out needed public investment. It would also provide the necessary flexibility to allow automatic stabilizers work on the revenue side. To safeguard the medium-term fiscal targets, similarly to the former U.S. Budget Enforcement Act, the law could include a requirement to make changes to tax rules and mandatory spending programs budget neutral.

Medium-term budgeting

95. **Given the size and nature of fiscal adjustment Poland will have to undertake in the coming years, a MTBF would help promote an orderly and lasting adjustment.** The staff-recommended reduction in fiscal deficit, to 2 percent of GDP by 2007, would require major expenditure reforms. The timing of these reforms and their impact on expenditure could be best planned in a MTBF.

96. **Incoming governments could state their fiscal strategy in a periodic MTBF for a four-year period (the expected term in office).** By announcing a detailed fiscal framework for its term in office, the government could greatly enhance the credibility of its fiscal targets. It would also increase the political cost of abandoning these targets, which would encourage adherence to the targets. Required flexibility could be achieved by a midterm review of the MTBF. To enhance the effectiveness of the MTBF, the structural reforms the government plans to undertake to achieve an improvement relative to the PBO's fiscal

⁴⁵ A recent draft law on the National Actuary Office promotes the same idea. In fact, the National Actuary Office could be part of the PBO.

⁴⁶ For a discussion of the theoretical underpinnings of generational accounts, see Auerbach and others, (1991). A few OECD countries are now producing regular long-term fiscal projections relying on this framework (see, e.g., HM Treasury, 2004 and Cardarelli and others, 2000).

baseline should be clearly specified. A spending review, involving in-depth analysis of all spending programs, their aims and objectives, would help set realistic expenditure limits and identify reform options. Such review could be repeated at midterm to help update the MTBF. As the purpose of the review is to support policy formulation, these reviews would be carried out by the government, but the PBO could be given the opportunity to comment on the methodology and assumptions used in the review. Transparency would be further enhanced if differences between the macroeconomic assumptions underlying the government's MTBF and those of the PBO would be clearly documented and explained to the public. Annual budgets would then be formulated on the basis of the MTBF and differences in the annual budget from the MTBF would have to be explained to Parliament and the public.

97. Regular rolling three-to-five-year fiscal baseline projections produced by the PBO could promote more informed public discussion on required fiscal strategies.

These projections could reveal expected future deviations from the fiscal rule and the need for revising the underlying assumptions for fiscal policy. As these projections would cover a period beyond the term of the incumbent government prior to general elections, they could also help avoid fiscal policies that would try to achieve short-run improvements at the cost of deteriorations in the long run.

E. Conclusions

98. A FRL could build on and enhance any emerging post-election consensus for fiscal reform and consolidation. By improving fiscal transparency, it could promote informed public discussions about medium-term fiscal strategies. By complementing the existing debt rule, it could limit the negative effects of political cycles. Poland seems at present to have the essential budget formulation and execution procedures at the central government level to serve as the base for a FRL, but improvements might be needed in other parts of the general government in this regard.

99. There seems to be a case for complementing the existing debt rule with a formal or informal expenditure rule and introducing a MTBF to promote fiscal consolidation.

These elements of the FRL could promote continuous fiscal consolidation efforts, establish commitment to clear fiscal goals, and ensure that consolidation occurred alongside an appropriate operation of a cyclically stabilizing role for fiscal policy.

100. An independent assessment of fiscal trends and budgetary assumptions should be a feature of a FRL. It would help eliminate political bias in the budget formulation process, promote fiscal transparency, and strengthen budgetary planning.

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