July 2001
IMF Country Report No. 01/112

Czech Republic: Selected Issues and Statistical Appendix

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International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

CZECH REPUBLIC

Selected Issues and Statistical Appendix

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Approved by European I Department

June 29, 2001

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MODELING INFLATION IN THE CZECH REPUBLIC: SHORT-RUN AND LONG-RUN DYNAMICS[1]

Abstract

This study reviews recent inflation developments in the Czech Republic and constructs a dynamic model of inflation to describe the inflation process and to assess the ability to perform short-run forecasts. Inflation in the Czech Republic appears to be driven primarily by external influences (transmitted through the exchange rate) and, to a lesser extent, by cost factors (wages and retail-level markups over producer prices). Administrative measures (namely, adjustments in administered prices) also play a role. The results are generally robust despite the ongoing structural changes in the economy: the estimated model has a rich dynamic structure and appealing economic interpretation, and performs reasonably well in explaining the historical data. However, most of the short-run dynamics of the model are generated by a single explanatory variable, namely, exchange rate movements. Consequently, the forecasting performance of the model is greatly tied to the ability to forecast exchange rate movements, a rather demanding task. This underscores the difficulty the Czech National Bank (CNB) has encountered in forecasting inflation in the Czech Republic.

A. Introduction

1. **Over the past several years, consumer price inflation in the Czech Republic has come down from an average of over 20 percent in 1993 to around 4–5 percent at present** (Figure 1). Despite the ongoing process of price deregulation, the decline in inflation reflected to a considerable extent the slack in the economy created since the recession of 1997–99, wage demands that were more in line with productivity developments, and the disinflation efforts of the CNB in the context of an inflation-targeting framework (see paragraphs 7 and 8). In fact, during the recession of 1997–99, inflation reached a low of 1.1 percent (year-on-year) in July 1999, but has since climbed higher, reflecting the economic recovery and the influence of special factors such as food and fuel price increases. Excluding food items and administered prices, year-on-year inflation remains at around 2¼ percent (see Figure 1). Against the background of a general absence of underlying inflationary pressures, the result has been a growing perception by market participants that the Czech Republic has entered an environment of lower and more stable inflation.

2. **This study addresses the following questions: (i) what is the process driving inflation in the Czech Republic; and (ii) in light of the ongoing structural transformation of the economy, can a reliable model of inflation be formulated for**

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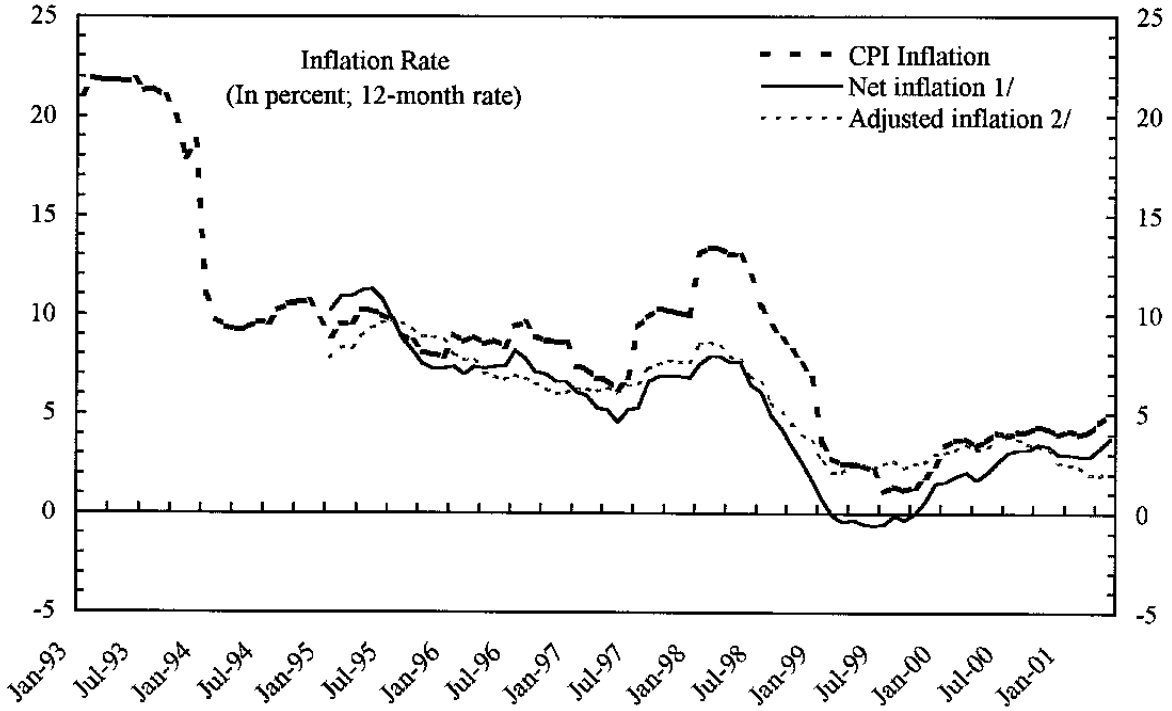
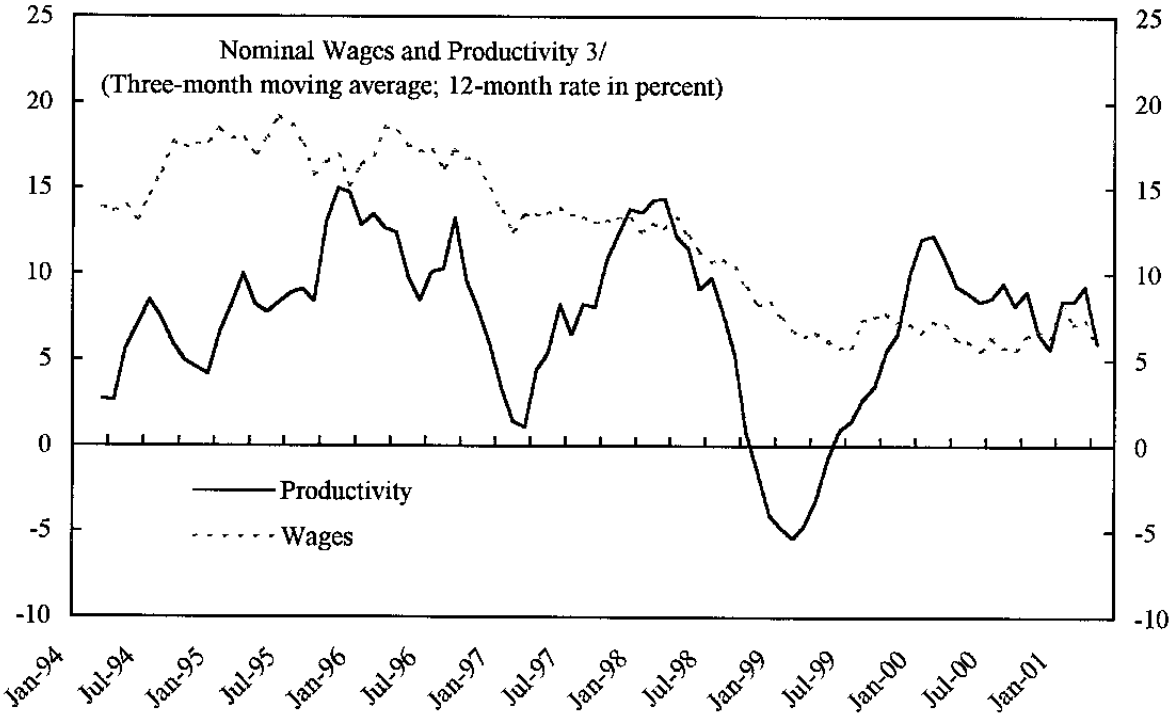
[1] Prepared by Dimitri Tzanninis (ext. 34114), who is available to answer questions.

Figure 1. Czech Republic: Price, Wage, and Productivity Developments, 1993-2001





Sources: Czech National Bank; Czech Statistical Office; and Fund staff calculations.
1/ Net inflation is CPI inflation excluding administered prices and the effects of changes in indirect taxes.
2/ Adjusted inflation is net inflation excluding the effects of changes in food prices.
3/ In industrial enterprises with 20 or more employees.

analysis and forecasting? In particular, the study estimates a model of consumer price inflation that encompasses both short- and long-run dynamics, thereby acknowledging that inflation is a dynamic process responsive to both temporary and permanent influences. Short-run forecasts are generated and the findings are used to highlight issues that the CNB could consider in operating under the new inflation-targeting framework announced in April 2001 (see paragraph 9).

3. **There are several possible causes of inflation in an open economy, and no single cause is adequate to explain the data.** Therefore, models of inflation that attempt to encompass several theories have a better chance of empirical success. Recognizing the trade-offs between model structure and simplicity, this study formulates a model for inflation in the Czech Republic that accounts for several influences, but relies on a parsimonious single-equation representation to describe the inflation process. To put recent inflation developments in perspective, Section B provides a historical overview and briefly discusses the Czech Republic's monetary policy regime. Section C reviews the challenges posed by the available data. Section D derives equilibrium long-run relationships in markets that have a direct influence on inflation, and in the process evaluates the impact of individual factors on inflation. Section E describes an inflation equation that captures both short- and long-run dynamics, and assesses the stability of forecasts generated by the estimated equation. Finally, Section F contains concluding remarks and discusses policy issues.

4. **The main results can be summarized as follows:**

- Inflation in the Czech Republic appears to be driven primarily by foreign exchange, money and labor market developments over the long run, and by the exchange rate, markup behavior in the economy, and changes in administered prices in the short run. Inflation trends in recent years reflected to a significant extent wage dynamics (some of them were passed through producer prices) and the transmission of external influences through the exchange rate channel.

- The model suggests that the speed of adjustment to disequilibria in the long-run influences is very slow, and that most of the variation in inflation can be explained by short-run factors.

- Despite the ongoing structural changes in the Czech economy, the estimation was able to derive stable structural relationships from the available data. However, forecasting has been challenging: while the model's within-sample forecasts were very good, out-of-sample forecasts were very sensitive to the choice of path for exchange rate movements.

- The results confirm the empirical experience that forecasts of Czech inflation are not very accurate. Thus, the CNB should rely on a range of methodologies to model the inflation process and produce forecasts.

B. Historical Perspective

Inflation developments

5. **The high inflation rates in the Czech Republic during the first half of the 1990s reflected primarily the process of price deregulation and the adjustment of relative prices as the economy was opening up to the rest of the world.**[2] Inflation rates surged initially and remained at high levels as the authorities embarked on a program of price deregulation to bring administered prices closer to market levels. Furthermore, the increasing exposure of the Czech economy to the rest of the world facilitated the adjustment of relative prices, which, coupled with nominal price stickiness, contributed to the high inflation rates.

6. **Labor market developments and external influences also played a role.** Up until the onset of the recession in 1997, governance problems in the Czech corporate sector facilitated large nominal wage increases that were not supported by productivity trends. As a result, nominal wage growth was kept in the double digits, surpassing productivity (lower panel of Figure 1). Against the backdrop of an exchange rate peg and limited support from fiscal policy, the task of controlling inflation was complicated by large capital inflows in 1994–95, which rendered monetary management increasingly difficult.

7. **The Czech Republic saw its inflation rate fall toward the end of the 1990s.** Inflation began falling to lower levels as the 1997–99 recession eased demand pressures and exposed problems in the corporate sector, which could no longer accommodate high wage demands. The switch to inflation targeting beginning in early 1998 provided an anchor for inflation expectations after the abandonment of the peg in the wake of the May 1997 currency crisis. The monetary policy tightening that ensued controlled the crisis successfully, but at a cost to activity. Indeed, the disinflation process has been more rapid than the CNB had envisaged, reflecting in part the severity of the recession: net inflation, which the CNB has been targeting, fell short of the target three years in a row (Figure 2).[3] Against the background of very weak domestic demand, the CNB began to ease monetary policy in July 1998. In addition, the appreciation of the koruna in recent years—mainly reflecting buoyant foreign direct investment (FDI) inflows—has helped ease inflation pressures further.

8. **The adoption of inflation targeting provided the means for guiding macroeconomic policies and signaling the markets.** The CNB announced a medium-term

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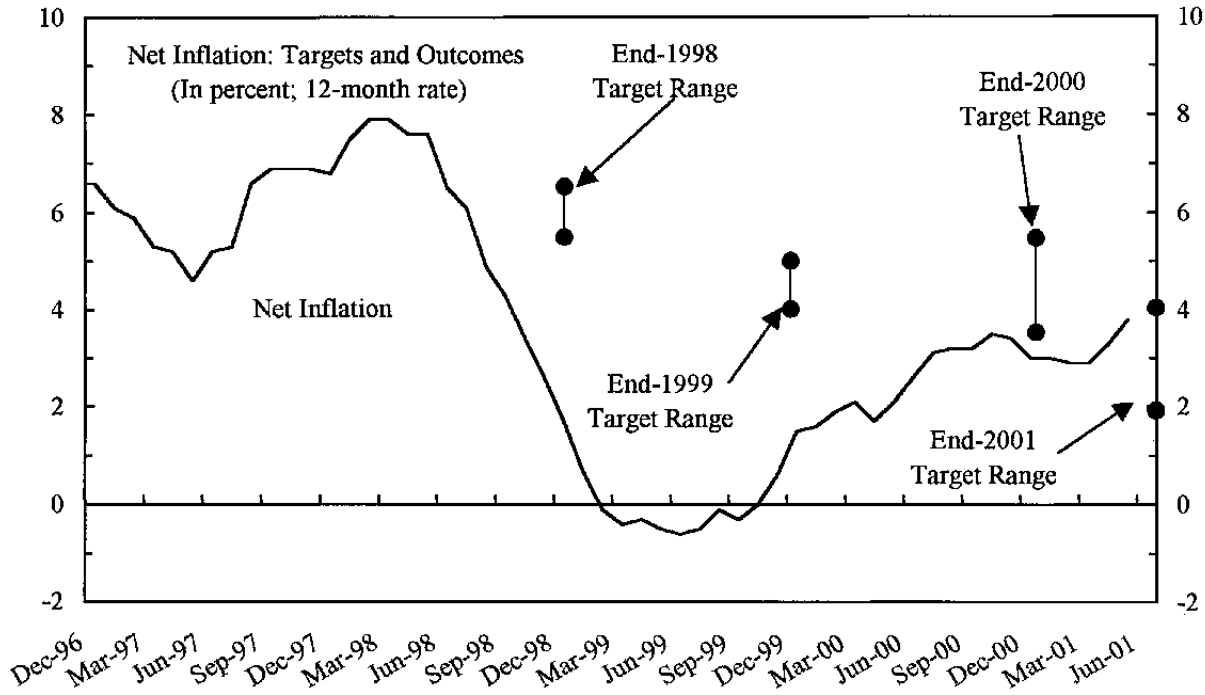
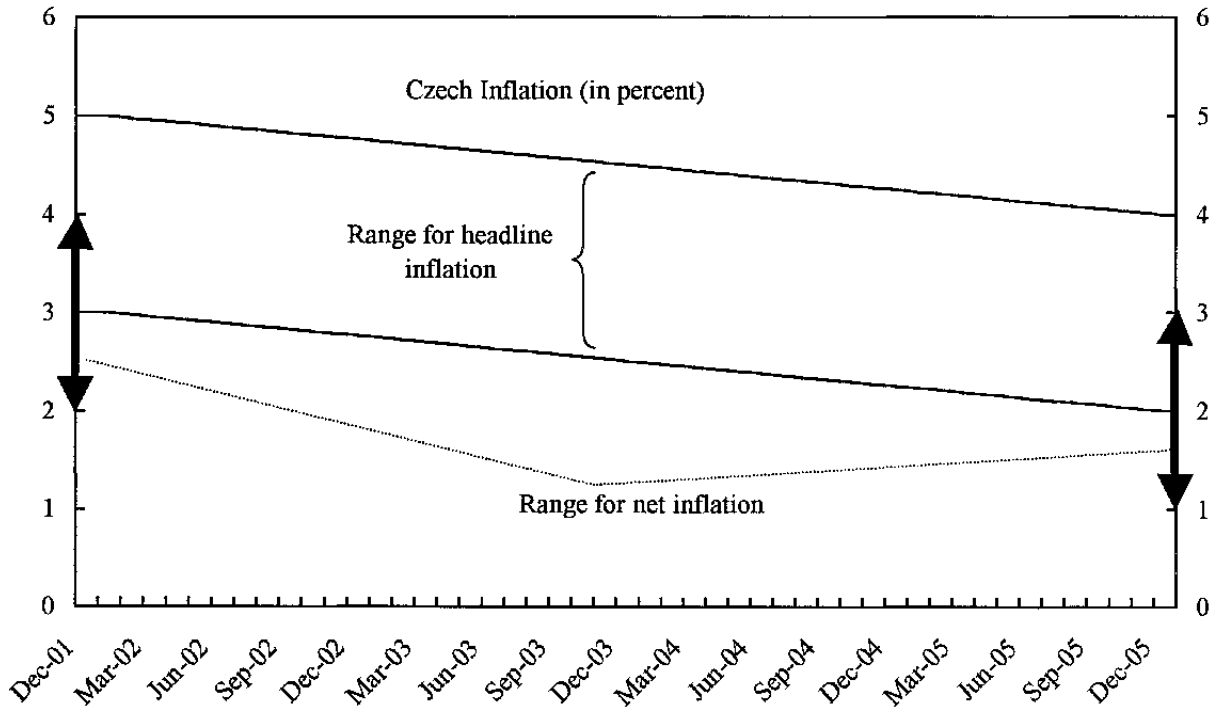
[2] While Czech inflation rates during that period would be considered high by the standards of advanced economies, they were nonetheless lower than those in other transition economies.

[3] Net inflation is derived from the Consumer Price Index (CPI), excluding administered prices and the effect of changes in indirect taxes. By targeting net inflation, the CNB afforded the government the opportunity to pursue its program of price liberalization without prompting a monetary policy response.

Figure 2. Czech Republic: The CNB's Inflation Targeting Framework, 1997-2005





Sources: Czech National Bank; and Fund staff estimates.

target—in terms of net inflation—of 1–3 percent by end-2005. Intermediate targets were defined based on the 12-month, end-December net inflation rate, consistent with a process of gradual disinflation. Quarterly inflation reports and regular communication with the public have helped convey the intentions of monetary policy.

9. **Net inflation targeting was not without problems.** Net inflation consisted of about 82 percent of the CPI basket and was a rather abstract concept for the general public to understand. In addition, movements in net inflation were dominated by the volatile food component, which accounted for over one-third of net inflation.[4] Finally, the CNB found challenging the task of formulating reliable models for net inflation, owing mainly to the fact that the modeled relationships described the behavior of economic agents who optimize based on overall, not net, inflation. In view of these shortcomings, the CNB recently switched to targeting headline inflation (Box 1).

Box 1. New Inflation Targeting Framework

In April 2001, the CNB announced changes to its inflation-targeting framework. Under the existing framework, the CNB has an end-year target range for net inflation (i.e., headline CPI excluding administered prices and the impact of indirect tax changes), which is announced about 20 months in advance. The new framework shifts to targeting headline inflation and specifies a continuous linear and declining target band from January 2002 through end-2005 (see lower panel of Figure 2). The changes were primarily motivated by the desire to increase the transparency of monetary policy and help better anchor inflation expectations. The target band for headline inflation was specified at 3–5 percent in January 2002, declining to 2–4 percent in December 2005. This range is consistent with the CNB's medium-term target for net inflation of 1–3 percent announced in 1999, and is based on the assumption that the impact on headline inflation of changes in administered prices will not exceed 1.5 percentage points at any point in time. Should the effect of changes in administered prices exceed the amount assumed, the CNB intends to invoke escape clauses. The CNB has yet to announce details of the operational aspects of the new framework, including the design and use of escape clauses.

C. Data Issues

10. The quality of economic statistics in the Czech Republic is generally good and sufficient for the assessment of the macroeconomic situation. In general, series are available

[4] Food prices are very volatile, and largely determined outside the Czech Republic—which makes them fairly unresponsive to changes in domestic economic variables and monetary policy instruments—and thus are difficult to forecast. In fact, the principal reason for undershooting the 1999 net inflation target was the higher-than-expected drop in food prices.

with reasonable lags for all principal economic indicators. However, the economic statistics of the Czech Republic are not without shortcomings, mainly reflecting problems encountered in transition economies, such as the limited information content of the data and the short statistical series. In particular, the ongoing structural transformation of the economy has made it difficult to capture stable structural relations in the data. Moreover, existing economic series are short (generally beginning with the formation of the Czech Republic in January 1993, but later in several instances) and close to half of the series length covers the recession of 1997–99, a rather atypical period. As a result, econometric estimation becomes particularly problematic. Given the very limited number of available annual observations, estimation in this study is carried out using monthly series.[5]

D. Influences on Inflation

11. This section examines the structure of various markets that influence inflation, and derives stable long-run relationships. The objective is to derive the determinants of inflation by examining each market individually, and to subsequently find how disequilibria in these markets (i.e., deviations from the estimated long-run relationships) affect Czech inflation.

Long-run influences on inflation

12. The analysis sought to establish **long-run cointegrating relationships** (interpreted as steady-state equilibria) in a range of markets. Regressions using monthly data for 1994:1–2001:3 found empirical long-run links between Czech inflation and the following fundamental determinants:

- **Wage inflation**, capturing the impact on inflation of wage growth in excess of the long-run equilibrium (where wages, consumer prices, producer prices, productivity, and unemployment enter the equilibrium).

- **Imported inflation**, capturing the influence of external factors—most notably, foreign prices—on inflation through a modified version of the Purchasing Power Parity (PPP) hypothesis to account for Balassa-Samuelson effects.

- Other external influences, such as **exchange rate movements**, derived from the Uncovered Interest Parity (UIP) hypothesis. The hypothesis defines the interest differential between the Czech Republic and the rest of the world as being equal to

[5] Quarterly data have the highest signal-to-noise ratio. However, the available quarterly series are not long enough to provide the necessary degrees of freedom for estimation of an inflation model. The GDP series, which were used in the estimation and are available only quarterly, were interpolated. See the Appendix for a detailed discussion of the series used, the statistical tests, and the estimation results.

the expected change in the exchange rate. This term represents the main transmission channel of monetary policy changes.

- **Monetary inflation**, capturing the impact on inflation of excess demand for money.

13. **The statistical evidence suggests that:**

- There is a very stable long-run relationship between the fundamental determinants of inflation in the labor market. The labor market relationship shows that real wages in the Czech Republic are: (i) positively related to producer prices (capturing the ability of producers to pass on wage increases by raising their prices) and labor productivity; and (ii) negatively related to the unemployment rate (capturing outside opportunities). The most important factor appears to be producer prices. Unemployment does not appear to have played an important role in the determination of Czech wages over the sample period.[6]

- The PPP relationship appears to hold only when enhanced to capture Balassa-Samuelson effects. In particular, the PPP relationship—in other words, the real effective exchange rate (REER)—is a positive function of the productivity differential between the Czech Republic and its trading partners.

- A pure UIP relationship could not be supported by the data. The estimation suggested that changes in the exchange rate of the koruna are not primarily related to interest-sensitive capital flows, but to other factors, including FDI and expectations about future inflows.

- The money demand relationship was unstable in the sample. Nevertheless, it appears to have a significant effect on inflation over the long run. In particular, the relationship suggested a very inelastic demand for money with respect to real output and interest rates.[7]

14. All estimated coefficients in the long-run relationships have appealing economic interpretation and the expected signs.[8] The next step is to combine these long-run relationships with short-run influences in a single equation for inflation.

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[6] The rise in unemployment has been a more recent phenomenon. In earlier years, the wage determination process was not influenced much by the risk of becoming unemployed.

[7] The instability of the money demand function and the small estimated elasticities may be a reflection of the problems in the Czech banking system and the credit channel in recent years.

[8] The results are generally in line with Laursen (1998), who relied on a different methodology.

E. Model of Inflation

15. **Deviations of inflation from its long-run equilibrium levels do not always reflect disequilibria; they could also reflect cyclical or temporary factors.** A model that explicitly separates short- from long-run dynamics has analytical appeal and allows the generation of short-run forecasts (see the Appendix). Inflation was modeled in an error-correction representation, and the estimated relationship was used to derive short-run forecasts.

16. **The main results can be summarized as follows:**

- **Short-run influences dominate inflation dynamics in the Czech Republic.** By far, the most important short-run determinant was exchange rate movements. The other significant short-run determinants were producer and administered prices, the former possibly capturing a markup behavior at the retail level, with the latter capturing the direct impact of administrative measures on Czech inflation.

- **The response of inflation to disequilibria (i.e., deviations from the estimated long-run relationships) is small and prolonged.** Among the long-run influences, the UIP relationship (namely, monetary policy and exchange rate movements), and monetary and wage inflation were the most important.

- **External effects dominate the determination of inflation in both the short and the long run.** Exchange rate movements were also the most important influence on inflation over the long run. Labor market developments, especially the ability of producers to pass on wage increases, were another important factor. Imported inflation was not found to be a significant influence, suggesting that some price stickiness exists, and that the adjustment of the REER to disequilibria is achieved primarily through the exchange rate.[9] The model showed a rather weak direct impact of monetary policy changes—captured through a policy-driven interest rate used in the estimation—in the long run, but a quite substantial impact when accounting for the indirect effect through exchange rate movements. Changes in monetary policy also appeared as a significant determinant of short-run inflation dynamics, but with a sign opposite to that expected.[10]

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[9] Coorey et al. (1996) found a similar result in their study of inflation in transition economies.

[10] The estimated inflation equation established a positive association between the inflation rate and the change in the interest rate in the previous period. While this may seem counterintuitive, it is consistent with a policy reaction function that responds to rising/declining trends in inflation by raising/cutting the policy rate. However, the immediate impact of changes in monetary policy is captured in exchange rate movements, whose coefficient appears with the expected sign.

- **It is a challenging task to generate accurate forecasts of inflation in the Czech Republic.** Exchange rate movements dominate inflation dynamics in both the short and the long run, thus making conditional forecasts highly sensitive to different paths for the exchange rate. Small changes in assumptions about the exchange rate resulted in substantially different paths for inflation. In addition, when dynamic forecasting was performed (in which case a vector autoregression generated forecasts for the variables chosen to be determined endogenously), the resulting forecasts involved a trajectory that was below the latest forecast published by the CNB.

F. Concluding Remarks and Policy Implications

17. This study estimated a model of inflation for the Czech Republic and assessed its forecasting ability. A number of theories of inflation were used to gain a better understanding of developments and to increase confidence in the findings.

18. **The results suggest that inflation in the Czech Republic is primarily driven by** (i) developments in the foreign exchange, money, and labor markets over the long run; and (ii) external influences channeled through the exchange rate, domestic pricing factors (markup behavior at the retail level), and the impact of administered measures (i.e., changes in administered prices) in the short run.[11] The impact of changes in monetary policy appears stronger through the exchange rate channel. Czech inflation is very slow to respond to disequilibria in its long-run determinants. Most of the immediate adjustment is captured by the exchange rate (which adjusts almost instantaneously to external disequilibria) and by producer prices (which presumably reflect wage developments at the firm level). However, the results, based on a backward-looking assessment, should be interpreted with caution, given the data limitations and the fact that more recent events—most prominently the rebound in activity and the gradual unblocking of the credit channel—are not yet fully captured in the data.

19. **Short-run factors are by far the most important determinants of Czech inflation dynamics.** In decreasing order of importance, exchange rate movements, producer prices, and administered prices account for most of the short-run variation in inflation. Long-run influences include monetary policy variables and the exchange rate, labor market developments, and monetary inflation. The data do not support the UIP theory of exchange rate changes: interest-sensitive capital flows do not appear to be the main driving forces of exchange rate changes.

20. **The econometric results provide sufficient support to the hypothesis of Balassa-Samuelson effects over the sample period.** The results suggest that productivity gains in the

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[11] There is a class of studies that have represented the inflation process using pure markup models. See, for example, De Brouwer and Ericsson (1998).

tradable goods sector stemming from the increasing openness of the Czech economy may have played a significant role in the appreciation of the REER in recent years.

21. **Forecasting performance is tied to the ability to forecast exchange rate changes.** The predominance of short-run factors (which appear with large and significant coefficients) in the error-correction representation makes forecasts very sensitive to the forecast path for each of the main determinants, especially the exchange rate.

22. **The results have implications for monetary policy.** The model sheds some, though not enough, light on the transmission lags of monetary policy. Most of the immediate impact of changes in policy instruments is felt through the exchange rate almost contemporaneously (with a lag of one month). The appearance of the (lagged) policy variable with a positive sign could be interpreted as a reaction function of the CNB, with the bulk of the effect of rising interest rates to be felt later. As regards the full impact (long-run effect) of changes in policy interest rates, the model shows a rather small and prolonged direct effect through the UIP relationship, but a more substantial effect through the indirect channel of the exchange rate.

23. **The results also have implications for structural policies.** The exposure of problems in the enterprise sector prompted the authorities to embark on a program of enterprise restructuring. Changes in management, operational and balance-sheet restructuring, or even outright bankruptcy have been accompanied by a general containment of wage increases in the traditional enterprise sector, a source of earlier inflation pressures. By persevering and completing enterprise reform, the Czech authorities will also ensure that wage developments remain in line with productivity.

24. **Finally, the results have implications for the operational aspects of the new inflation targeting framework.** As regards the ability to forecast inflation under the new inflation targeting regime, the methodology employed in this study suggests that forecasting inflation in the Czech Republic is a very challenging task. The CNB will therefore need to develop reliable modeling and forecasting techniques to assess inflation dynamics and to communicate forecasts to the public that will not risk damaging its credibility. No single methodology can capture all aspects of the inflation process. Given the caveats concerning this econometric estimation, forecasting, and the available data, it is appropriate to consider a range of methodologies (including structural VARs, and calibrated models) to model the inflation process in the Czech Republic and to generate forecasts. As the transformation process of the Czech economy advances and statistical series become longer, modeling and forecasting inflation in the Czech Republic should become an easier task. In the meantime, the CNB could explain more clearly to market participants the main assumptions behind its forecasts and the reasons for ex post deviations of inflation from its targeted path. After all, it is important not only to derive relatively good forecasts of inflation, but also to explain clearly to the markets the reasons for deviating from the targeted band.

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DETERMINANTS OF INFLATION IN THE CZECH REPUBLIC

1. This appendix describes a model of inflation in the Czech Republic based on monthly data for 1994:1–2001:03, and derives monthly forecasts through end-2002.

A. Conceptual Issues

2. A number of factors are expected to affect inflation in the long run. Taking into account data availability, the treatment of these factors in this study is discussed below:[1]

- **Labor-market wage determination:** On the worker side, wage demands are based on the cost of living, worker productivity, and the presence of outside opportunities (proxied by the unemployment rate). On the employer side, wage offers are based on the productivity of labor, and the ability of producers to raise their own prices (the easier it is for producers to raise their prices, the more they are inclined to accommodate higher wages). In equilibrium, real wages are expected to be a positive function of producer prices and productivity and a negative function of unemployment. Wages in excess of the long-run equilibrium are thus expected to exert a positive influence on inflation in the long run.

- **The external environment:** This is modeled as two separate, but interacting, markets: (i) the goods market, described by a PPP relationship that is enhanced to take into account the secular rise in the Czech Republic's REER; and (ii) the external capital market, described by a UIP relationship. In an equilibrium in the goods market, the REER is expected to be a function of the productivity differential between the Czech Republic and its trading partners. The higher the differential, the higher the equilibrium REER appreciation that should be expected. REER appreciation in excess of the long-run equilibrium is expected to exert a negative influence on inflation in the long run. In the external capital market, the differential in bond rates is a function of the expected rate of change of the exchange rate. With the expected change in the exchange rate equaling, on average, the actual change over the long run, the interest rate differential in the previous period is equal to the rate of change of the exchange rate at present. The PPP and UIP relationships allow for interactions between the two, where a deviation from PPP (as defined to account for the secular appreciation of the REER) can be corrected not only through adjustments in prices, but also through the exchange rate (in the case of sticky prices). Interest rate differentials in excess of the long-run equilibrium are expected to exert a negative influence on inflation in the long run.

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[1] The impact of fiscal policy was not examined in this study. Inflation in the Czech Republic does not thus far seem to have been the result of government deficits.

- **Money market:** Demand for real money balances is modeled as a positive function of real output and the deposit rate and a negative function of the bond rate and inflation. Excess money balances are expected to affect inflation positively in the long run.

B. Estimation Issues

3. Estimation of the above long-run cointegrating relationships is complicated by a number of factors: (i) not all the explanatory variables prescribed by theory are available in monthly series (namely real GDP), and consequently the series were interpolated. This reduces the precision of econometric estimates because they are based on inferred rather than actual data; (ii) the ongoing process of structural transformation of the economy over the sample period makes the estimation of structural relationships problematic; (iii) the clogging of the credit channel and the problems in the banking system have destabilized monetary aggregates, have affected the transmission mechanism of monetary policy, and have complicated the estimation of relationships that deal with money demand; and (iv) the changes in the exchange and monetary policy regimes over the sample period created structural breaks in the data and weakened the relation between policy variables, the exchange rate, and inflation.

C. Data

4. The following series were used in this study (notation in parentheses):

Average nominal **wages** in industry, expressed in koruni per hour (WAG); the **consumer price** index (CPI); the **producer price** index (PPI); **productivity**, measured by the value of output per unit of labor in the Czech industry (PROD); the **unemployment** rate (UNE); **foreign prices**, proxied by the German CPI (GCPI);[2] the **exchange rate** of the koruna to the DM (EXC); the **productivity differential** between the Czech Republic and Germany, proxied by the ratio of nominal productivity in the Czech industry deflated by the Czech PPI to real productivity in German industry from the OECD data base (PROD_DIFF); the **Czech bond rate**, proxied by the three-month PRIBOR rate (CINT);[3] the **German Treasury rate** (GINT); **real money**, proxied by M2 deflated by CPI (MON); **real output**, proxied by real GDP (RGDP); the **Czech deposit rate** (CDEP); and the index of **administered prices** (ADM). All data were expressed in natural logarithms, except for interest rates. In contrast to the conventional notation, upper case letters denote the natural logarithm of the respective variable. Furthermore, variables preceded by D_ denote first differences.

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[2] The choice of Germany to represent the rest of the world is reasonable, given that it is by far the Czech Republic's most important trade partner and source of investment.

[3] Bond-rate series going back to 1994 were not available. Consequently, the three-month PRIBOR was used. For the period that Czech bond data exist, the three-month PRIBOR rate is highly correlated with the available bond rates.

D. Integration

5. To determine the appropriate estimation procedure, tests for nonstationarity of the variables listed above were carried out using the Augmented Dickey-Fuller (ADF) method, which looks for the presence of unit roots in the series. Table 1 lists the up-to-twelfth-order ADF statistics for the variables above. According to the ADF tests, the null hypothesis of a unit root in the log-levels of the series—that is, each variable is integrated of order one: I(1)—cannot be rejected for any of the variables. ADF tests (not shown) of the null hypotheses of integration of higher order rejected the null. All variables are thus stationary in first differences, and cointegration analysis among the level variables is required.

Table 1. ADF Statistics Testing for a Unit Root

	Variable				
	WAG	CPI	PPI	PROD	UNE
	ADF(3)	ADF(6)	ADF(2)	ADF(8)	ADF(2)
Ho: I(1)	-1.69	-1.01	-1.57	-1.25	-0.57
	GCPI	EXC	PROD_DIFF	CINT	GINT
	ADF(12)	ADF(1)	ADF(8)	ADF(2)	ADF(3)
Ho: I(1)	0.83	-2.75	-1.75	-1.41	-2.12
	MON	RGDP	CDEP	ADM	
	ADF(5)	ADF(6)	ADF(8)	ADF(6)	
Ho: I(1)	-1.03	-1.78	-0.82	-0.89	

Note: Critical values are -2.9 (5 percent level), and -3.5 (1 percent level). Lag length was determined by the choice of the lag with the highest ADF statistic in absolute value; see Hendry and Doornik (1996), page 42.

E. Cointegration

6. The Johansen procedure is used for the cointegration analysis.[4] The Johansen procedure is a full information maximum likelihood estimate for vector autoregressive systems, and, as such, it is not concerned about the endogeneity of the explanatory variables. Nonetheless, the procedure imposes a heavy toll on the degrees of freedom and on the

[4] See Johansen (1988 and 1995).

precision of the econometric estimates in small samples because it uses a lag structure. The procedure searches for the existence of one or more long-run cointegrating relationships between the selected variables.

7. Table 2 reports the statistics from the Johansen procedure for the labor market.[5] Only the final specification is reported.

Table 2. Johansen Test of Existence of Long-run Relationships in the Labor Market

	λ–max 1/	Trace 1/
Ho: rank=0	142.80**	125.80**
<=1	50.35*	44.36
<=2	27.72	24.42
<=3	12.33	10.87
<=4	1.15	1.01

Variable				
WAG	CPI	PPI	PROD	UNE
Standardized feedback coefficients				
-0.7927	0.0677	0.0266	-0.0169	0.4150

1/ Double asterisks denote significant test statistics at the 1 percent level. Critical values at the 5 percent level are 68.5 for the first hypothesis, and 47.2 for the second hypothesis.

Note: The lag length in the vector autoregression was set to two months on the basis of the Schwarz criterion.

[5] The methodology employed in this study follows Juselius (1992), with the following exceptions. First, instead of testing for a pure version of the PPP hypothesis, an augmented version accounting for Balassa-Samuelson effects was employed. Second, the search for equilibria in wage determination and money demand involved more explanatory variables in an effort to capture all dynamic interactions in the data. Although this increases the likelihood of finding more than one cointegrating vector, owing to the higher dimension of the parameter space, the results were meaningful and all cointegrated vectors were identified. Finally, this study employed a larger set of explanatory variables to explore short-run dynamics.

8. The Johansen procedure found evidence of the following long-run relationship between the fundamental variables in the labor market:[6]

$$ECM(Wage)_t: \ WAG_t - CPI_t = 0.7377*PPI_t + 0.1168*PROD_t - 0.0063*UNE_t$$

9. The estimation found evidence of a long-run cointegrating relationship between the real wage in industry and its fundamental determinants. However, one of the criteria for the presence of cointegrating vectors suggests, albeit very weakly, a second cointegrating vector (see Table 2). The first cointegrating vector (shown above) describes the determination of equilibrium wages in the labor market. The second cointegrating vector (not shown) suggested a positive association between the unemployment rate and the wedge between consumer and producer prices, and a positive association between unemployment and productivity. Historically, such an association is found in the data (Appendix Figure 1). The second cointegrating vector can be interpreted as describing the processes of firing/hiring and price setting by producers, where by firing the least productive, producers can raise overall productivity and are therefore able to reduce (or contain the rise of) producer prices. Hence, this vector does not describe wage determination and we can ignore it in the remainder of this study.

10. All estimated coefficients of the selected vector have the anticipated signs. The coefficient for PPI is relatively large, reflecting the importance of pricing power by producers in the wage determination process.[7] The feedback coefficients suggest a relatively slow adjustment from wage disequilibrium to the price equation (see Table 2); indeed, the error-correction representation (see Section F) confirmed that the impact on inflation of a disequilibrium in the labor market is quite small and prolonged.

11. Table 3 reports the statistics from the Johansen procedure for the external goods market (PPP relationship). Only the final specification is reported.

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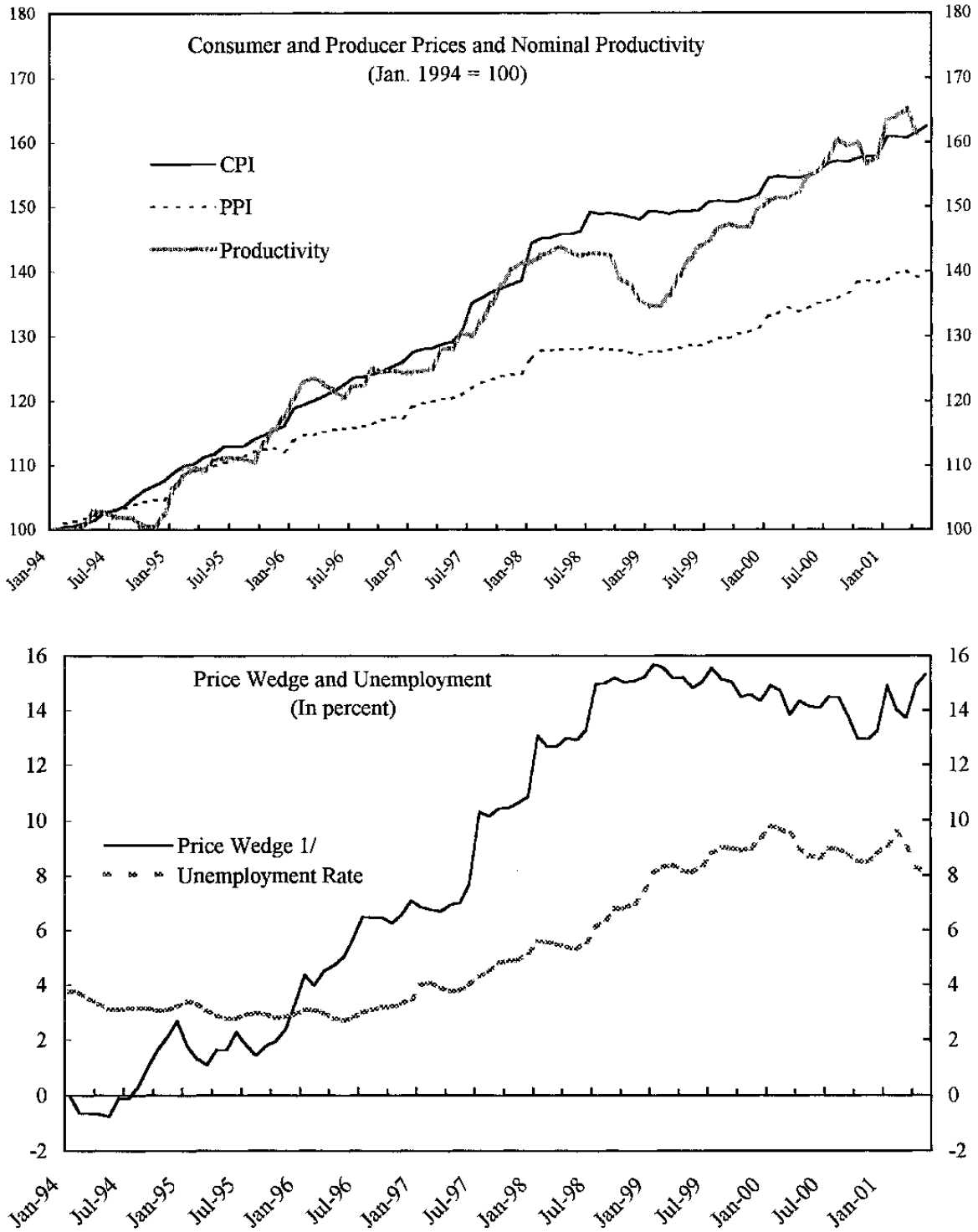
[6] Estimation and testing were carried out in PcFiml. The sample size (a maximum of 87 monthly observations, depending on the chosen lag structure) was sufficient for the Johansen procedure to be conclusive despite the loss of degrees of freedom owing to the lag structure of the estimated system. Given that, the fewer the degrees of freedom there are, the harder it is to reject the null hypothesis of no cointegrating relationship, the reported results are thus powerful.

[7] Given that all variables in this equilibrium relationship are in natural logarithms, the coefficients represent the elasticities of real wages with respect to these variables. The restriction that the coefficients of nominal wages and consumer prices are equal but of opposing signs could not be rejected at the 5 percent level. The restricted equation is shown above.

Figure 1. Czech Republic: Inflation and Labor Market Conditions, 1994-2001



Sources: Czech Statistical Office; Czech National Bank; and Fund staff estimates.
1/ Defined as the difference between the CPI (in logarithms) and the PPI (in logarithms).

Table 3. Johansen Test of Existence of Long-run Relationships in the External Goods Market

	λ-max 1/	Trace 1/
Ho: rank=0	62.22**	59.39**
<=1	22.84	21.80
<=2	6.85	6.54
<=3	0.40	0.38

Variable			
CPI	EXC	GCPI	PROD_DIFF
Standardized feedback coefficients			
-0.0025	0.0120	0.0003	0.111

1/ Double asterisks denote significant test statistics at the 1 percent level. Critical values at the 5 percent level are 47.2 for the first hypothesis, and 29.7 for the second hypothesis.

Note: The lag length in the vector autoregression was set to one month on the basis of the Schwarz criterion.

12. The Johansen procedure found evidence of the following long-run relationship between the fundamental variables in the PPP relationship:

$$ECM(PPP)_t: \ CPI_t - EXC_t - GCPI_t = 4.9136*PROD\_DIFF_t$$

13. The estimation found evidence of a long-run cointegrating relationship between the REER of the Czech Republic (where Germany represents the rest of the world) and the productivity differential between the Czech Republic and Germany. All estimated coefficients have the anticipated signs.[8] The coefficient for the productivity differential is relatively large, reflecting the presence of substantial Balassa-Samuelson effects in the sample period. The feedback coefficient for CPI suggests a relatively slow adjustment from an REER disequilibrium to the Czech price equation. The feedback coefficient for the exchange rate is much larger, suggesting price stickiness, where the required adjustment takes place through the exchange rate rather than prices. The error-correction representation confirmed this finding (see Section F).

[8] A pure PPP hypothesis was not supported by the data. The restriction that the coefficient of Czech CPI and the coefficients of the exchange rate and German CPI are equal but of opposing signs could not be rejected at the 5 percent level. The restricted equation is shown above.

14. Table 4 reports the statistics from the Johansen procedure for the external capital market (UIP relationship).

Table 4. Johansen Test of Existence of Long-run Relationships in the External Capital Market

	λ–max 1/	Trace 1/
Ho: rank=0	40.67**	36.56**
<=1	9.26	8.33
<=2	2.40	2.15

	Variable		
	$CINT_{t-1}$	$GINT_{t-1}$	D_EXC_t
Standardized feedback coefficients			
	-0.0167	0.0008	0.0313

1/ Double asterisks denote significant test statistics at the 1 percent level. Critical values at the 5 percent level are 29.7 for the first hypothesis, and 15.4 for the second hypothesis.

Note: The lag length in the vector autoregression was set to three months on the basis of the Schwarz criterion.

15. The Johansen procedure found evidence of the following long-run relationship between the fundamental variables in the UIP relationship:

$$ECM(UIP)_t: \ CINT_{t-1} - GINT_{t-1} = 26.711 * D\_EXC_t$$

where CINT and GIN are as defined in Section C, and D_EXC is the change in the koruna/DM exchange rate at time t. A positive D_EXC indicates depreciation of the koruna.

16. The results suggest that the exchange rate of the koruna reacts only marginally to deviations of the interest rate parity from long-run equilibrium (i.e., a 1 percentage point increase in the interest differential in the previous period would require a 0.04 percent—i.e., 1 percent times 1/26.711—depreciation of the exchange rate for equilibrium to be restored).[9]

[9] The restriction that the coefficients of the Czech and German interest rates are equal but of opposing signs could not be rejected at the 5 percent level. The restricted equation is shown above.

This is strong evidence that the main contributing factor to movements in the exchange rate of the koruna is not interest-sensitive capital flows, but other determinants, including FDI. Irrespective of the appeal of the UIP hypothesis as an accurate description of exchange rate dynamics in the Czech Republic, the long-run relationship shown above is meaningful and sufficient to capture the interaction between the external capital market and exchange rate changes on the one hand, and the inflation rate on the other. The feedback coefficient for the exchange rate is the largest of all, suggesting that deviations from this long-run equilibrium are corrected mainly through adjustments—albeit slow—of the exchange rate (see Table 4).

17. Table 5 reports the statistics from the Johansen procedure for the money demand relationship.

Table 5. Johansen Test of Existence of Long-run Relationships for Money Demand

	λ–max 1/	Trace 1/
Ho: rank=0	122.90**	115.70**
<=1	47.57*	44.81
<=2	20.22	19.04
<=3	10.08	15.40
<=4	0.96	3.80

Variable				
MON	RGDP	CINT	CDEP	D_CPI
Standardized feedback coefficients				
-0.0878	0.3218	-0.12534	-0.79072	0.0029

1/ Double asterisks denote significant test statistics at the 1 percent level. Critical values at the 5 percent level are 68.5 for the first hypothesis, and 47.2 for the second hypothesis.

Note: The lag length in the vector autoregression was set to one month on the basis of the Schwarz criterion.

18. The Johansen procedure found evidence of the following long-run relationship between the fundamental variables in the money demand relationship:

$$ECM(Mon)_t: \; MON_t = +0.0070*RGDP_t - 0.2581*CINT_t + 0.2901*CDEP_t - 0.6469*D\_CPI_t$$

19. The estimated relationship is a meaningful money demand function: all estimated coefficients have the anticipated signs, although real money demand appears very inelastic with respect to real output and the interest rates.[10] The feedback coefficients suggest a relatively slow adjustment from money demand disequilibrium to the inflation equation (see Table 5). The error-correction representation confirmed that the impact of a disequilibrium in money demand on inflation is considerably small and prolonged (see Section F).

F. Single-equation Modeling (Error Correction)

20. This section combines the relationships established above (long-run dynamics) to describe a single-equation, conditional, and parsimonious model for Czech inflation that encompasses both short- and long-run dynamics. The short-run dynamics are derived from the following vector of changes in the log-levels of the variables used so far in the analysis:

$I_s = \{\Delta v_{t-j}\}; j = 0, 1...$

where v_{t-j} is the vector of all variables used in the analysis so far, with the addition of one new variable, ADM, which denotes administered prices.[11]

21. An error correction model for Czech inflation was estimated using monthly data over 1994:06–2001.[12] Estimation began from a general specification, which included the long-run relationships established above, rearranged so that all variables appear on the left-hand side, and the vector I_s. Subsequently, parameter tests were performed (mostly zero restrictions) to reduce the model to a more manageable form. Below is the resulting specification for inflation and the relevant statistics (t-ratios are shown in parentheses below the estimated coefficients) and diagnostic tests (p-values are shown next to the estimated statistics):

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[10] One of the criteria for the presence of cointegrating vectors suggests, albeit very weakly, a second cointegrating vector. The first cointegrating vector (shown above) describes a money demand function. The second cointegrating vector (not shown) suggests a positive association between inflation and money balances. This second vector is taken to describe an inflation equation, and is thus ignored in the remainder of this study.

[11] It is not required that a variable enter both the short- and the long-run dynamics. The variable representing the changes in administered prices was included in the estimation to capture the effect of administered measures on inflation.

[12] Initial estimates were performed using data over 1994:01-2001:03. However, parameter stability tests showed that parameter estimates for some of the explanatory variables were very unstable in the early part of 1994. Consequently, a smaller sample was used (beginning in June 1994) to remove the distortion caused by the early observations.

$$D\_CPI_t = \underset{(1.393)}{0.0536} + \underset{(11.906)}{0.2456}*D\_ADM_t + \underset{(4.612)}{0.4279}*D\_PPI_t + \underset{(2.399)}{1.4340}*D\_EXC_{t-1} +$$

$$+ \underset{(3.340)}{1.4340}*D\_CINT_{t-1} + \underset{(2.393)}{0.0136}*ECM(Wage)_{t-1} - \underset{(-1.322)}{0.0020}*ECM(PPP)_{t-1} -$$

$$- \underset{(-2.376)}{0.0528}*ECM(UIP)_{t-1} + \underset{(2.313)}{0.0022}*ECM(Mon)_{t-1}$$

$R\text{-}BAR^2 = 0.821$, DW = 1.52, $\sigma\hat{} = 0.00317$

AR 1–5 F(5, 68) = 1.0287 [0.4079]	ARCH 5 F(5, 63) = 0.12103 [0.9872]
Normality Chi^2(2) = 5.8719 [0.0531]	Xi^2 F(16, 56) = 0.85905 [0.6163]
Xi*Xj F(44, 28) = 0.78545 [0.7680]	RESET F(1, 72) = 2.4519 [0.1218]

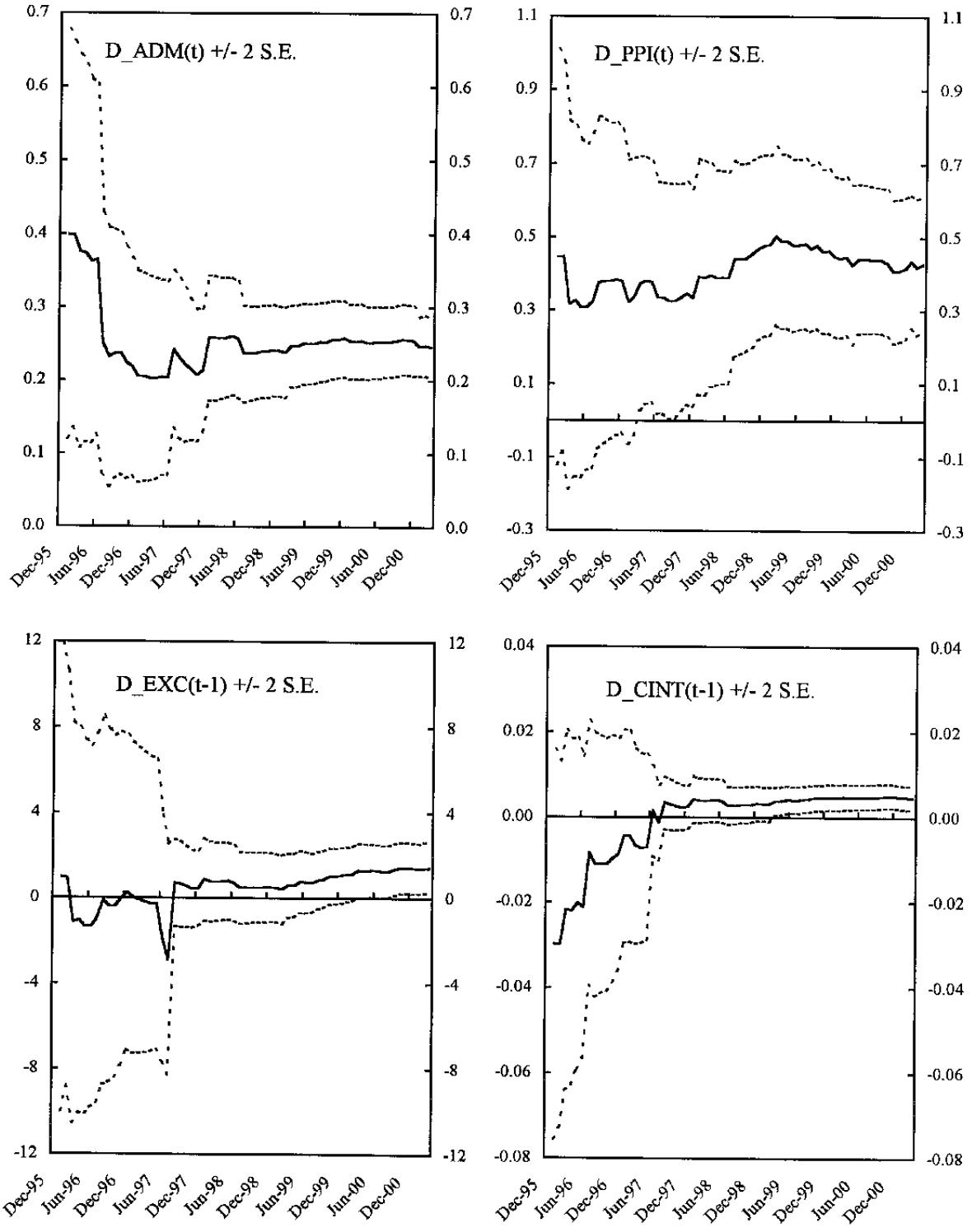
22. The model passes a battery of diagnostic tests. The hypotheses of no serial autocorrelation, homoskedasticity, and normality of the residuals cannot be rejected. The estimated standard error of the regression (0.00317) is very low. In addition, the tests for parameter constancy show that the estimated coefficients are very robust (Appendix Figure 2).

23. All estimated coefficients are statistically significant (with the exception of the coefficients for $ECM(PPP)_{t-1}$ and the constant) and have the anticipated signs.[13] The insignificant coefficient of $ECM(PPP)_{t-1}$ suggests that deviations of the REER from its long-run equilibrium are not corrected through adjustment of relative prices but through the exchange rate. All ECM terms have small coefficients, suggesting a slow adjustment of inflation to deviations from the long-run equilibria in the respective markets. Most of the inflation dynamics are generated by the short-run influences.

24. The presence of the D_PPI term in the short-run influences provides evidence of a markup behavior at the retail level; about half of producer price inflation is transmitted to consumer price inflation within a month. The estimated coefficient of administered price changes is consistent with the share of the administered component in the Czech CPI, which is around 18 percent. Given that the estimated coefficient is the elasticity of consumer price inflation with respect to administered price changes, a 1 percent increase in administered prices should result in an immediate increase in the CPI of 0.25 percent. In fact, the

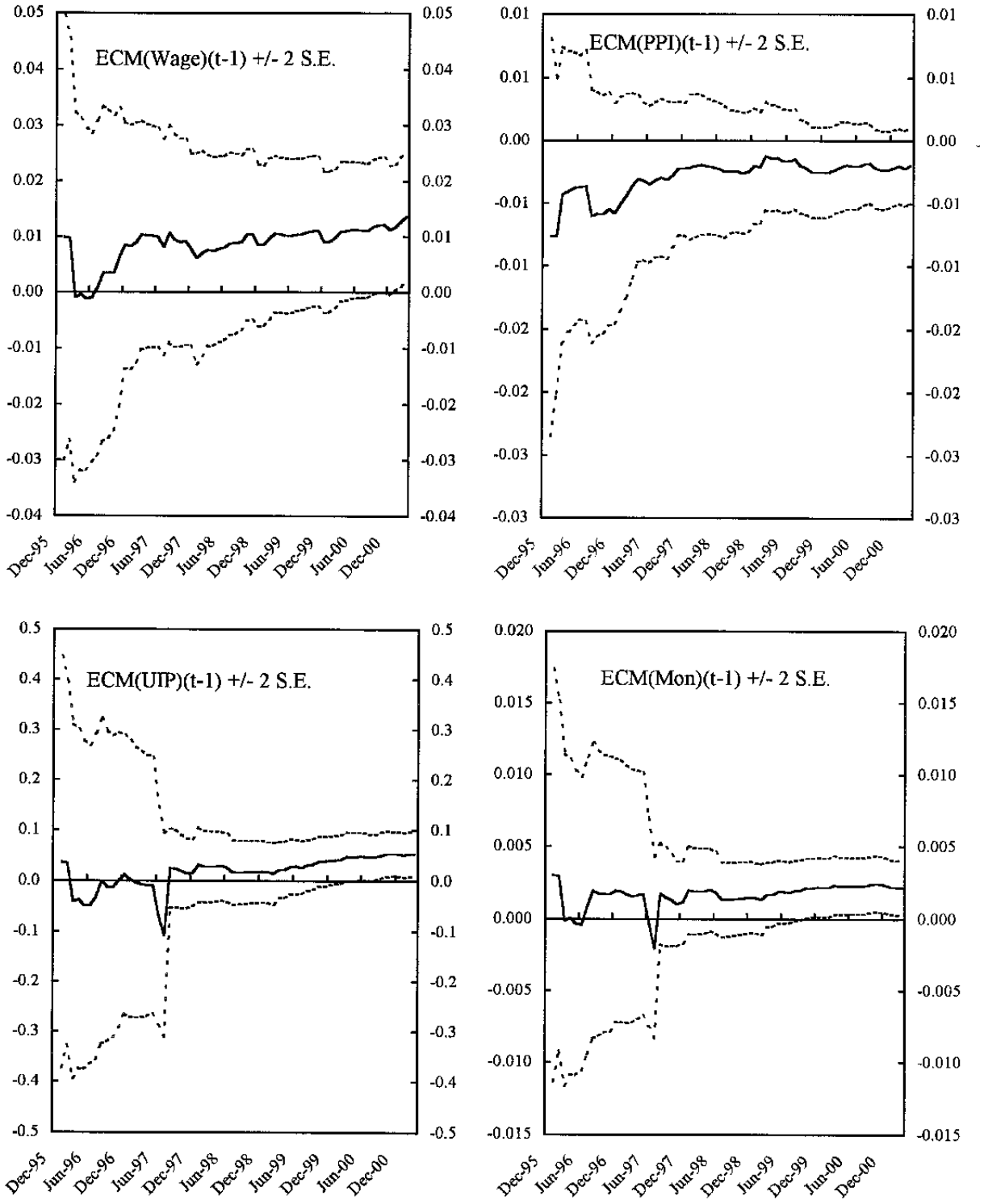
[13] Theory does not prescribe a sign for the lagged change in the interest rate, given that the transmission lags of monetary policy are thought to be much longer. However, the positive sign of the coefficient of D_CINT_{t-1} could be interpreted as an indication of a reaction function by the CNB.

Figure 2. Czech Republic: Parameter Stability of Estimated Coefficients, 1996-2001
(Continued)



Source: Fund staff estimates.

Figure 2. Czech Republic: Parameter Stability of Estimated Coefficients, 1996-2001
(Concluded)



Source: Fund staff estimates.

restriction that the coefficient of D_ADM is equal to 0.18 (the share in the CPI) could not be rejected at the 5 percent level, and was barely rejected at the 1 percent level. Finally, the coefficient of the lagged changes in the exchange rate suggests a very large elasticity over the sample period of the inflation rate with respect to exchange rate movements in the previous month: a 1 percent depreciation/appreciation of the exchange rate would result in a 1.4 percentage point rise/fall in inflation.[14] It is unclear what factors may account for this large elasticity. In an effort to investigate whether the variable for exchange rate movements was also capturing other effects, omitted variable F tests were performed. However, the tests did not indicate a specification problem. Indeed, the parameter stability exhibited by the model confirms this result (see Appendix Figure 2).

G. Forecasting

25. This section describes the steps involved in deriving short-run monthly forecasts (through end-2002) for inflation. Two types of forecasts were employed: dynamic and conditional. Dynamic forecasts rely on a vector autoregression to generate forecasts for the variables chosen to be determined endogenously. The resulting inflation forecast (not shown here) involved a trajectory that was below the latest forecast published by the CNB. Dynamic forecasts are a good means of generating the future path of variables irrespective of preconceived notions about their likely evolution. However, they are not particularly relevant when the objective is the study of possible future developments in inflation based on a conditional distribution of the explanatory variables. Such a conditional distribution typically involves unchanged monetary policy instruments. In the case of this study, and in light of the heavy dependence of the estimated model on exchange rate dynamics, the conditional distribution also involved prescribed paths for the exchange rate.

26. The conditional inflation forecasts showed that the future path of inflation is very dependent on the chosen path for the exchange rate. Appendix Figure 3 shows three conditional forecasts to illustrate the point. The first forecast assumed an annual depreciation of the exchange rate of 1 percent; the rate of depreciation for 2001 was prorated based on the last available monthly observation. The second forecast assumed no change in the exchange rate from the last available monthly observation. Finally, the third forecast assumed an annual appreciation of the exchange rate of 1 percent; again the appreciation was prorated in 2001. All three forecasts maintained the assumption of unchanged monetary policy rates. The forecasts confirm the dependence of the forecasting performance of the model on the ability to accurately forecast exchange rate changes.

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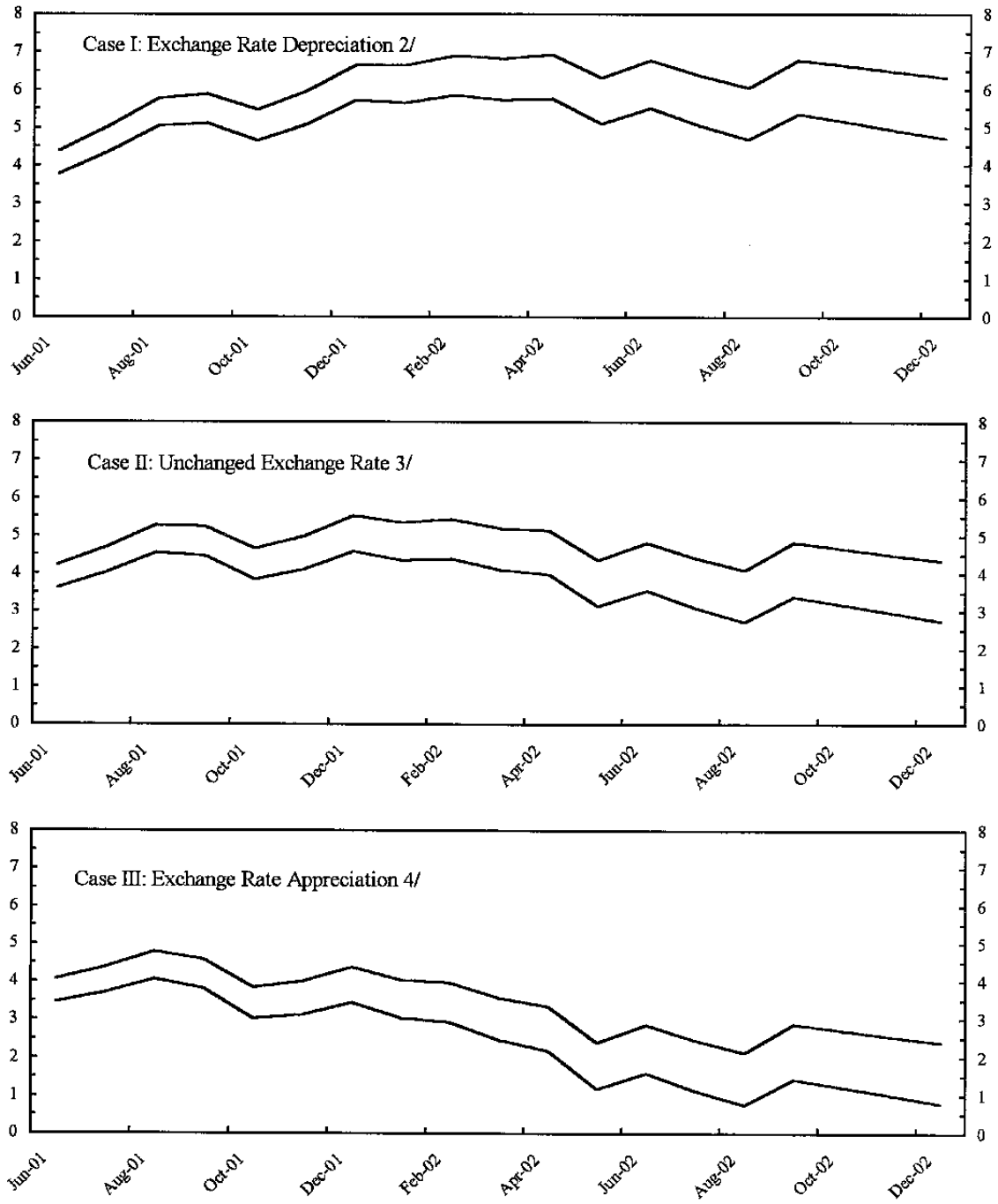
[14] The restriction that the coefficient of D_EXC_{t-1} is equal to 1 was tested and could not be rejected at the 1 percent level. However, the model used to generate forecasts was the one shown above.

Figure 3. Czech Republic: Conditional Forecasts of Inflation, 2001-2002 1/
(In percent)



Sources: Fund staff projections.

1/ Forecast mean plus/minus 2 standard errors.

2/ The conditional model assumes constant interest rates and a 1 percent annual rate of depreciation of the exchange rate.

3/ The conditional model assumes constant interest rates and a constant exchange rate.

4/ The conditional model assumes constant interest rates and a 1 percent annual rate of appreciation of the exchange rate.

Table A1. Czech Republic: Gross Domestic Product, 1996–2000

	1996	1997	1998	1999	2000
	(In billions of koruny, at current prices)				
Total consumption	1,123.2	1,221.4	1,290.2	1,338.2	1,401.6
Of which:					
Private consumption	799.8	877.7	934.5	961.7	1,015.1
Gross capital formation	549.5	547.4	533.7	522.6	581.3
Gross fixed investment	500.6	514.4	508.1	490.8	519.7
Change in stocks	48.9	33.0	25.6	31.8	61.6
Net export of goods and nonfactor services	-100.4	-100.0	-25.6	-27.8	-72.3
Gross domestic product	1,572.3	1,668.8	1,798.3	1,833.0	1,910.6
	(In billions of koruny, at constant 1995 prices)				
Total consumption	1,035.1	1,051.4	1,028.5	1,032.2	1,041.8
Of which:					
Private consumption	740.1	753.6	731.4	736.3	746.4
Gross capital formation	525.4	494.5	470.4	452.7	503.5
Gross fixed investment	478.5	464.7	446.4	426.9	449.0
Change in stocks	46.9	29.8	24.0	25.8	54.5
Net export of goods and nonfactor services	-112.8	-113.1	-97.6	-94.3	-111.5
Gross domestic product	1,447.7	1,432.8	1,401.3	1,390.6	1,433.8

Source: Data provided by the Czech Statistical Office.

Table A2. Czech Republic: Composition of Gross Domestic Product, 1996–2000

	1996	1997	1998	1999	2000
	(Share in GDP at current prices, in percent)				
Total consumption	71.4	73.2	71.7	73.0	73.4
Of which: Private consumption	50.9	52.6	52.0	52.5	53.1
Gross capital formation	35.0	32.8	29.7	28.5	30.4
Gross fixed investment	31.9	30.8	28.3	26.8	27.2
Change in stocks	3.1	2.0	1.4	1.7	3.2
Net export of goods and nonfactor services	-6.4	-6.0	-1.4	-1.5	-3.8
Gross domestic product	100.0	100.0	100.0	100.0	100.0
	(Share in GDP at constant prices, in percent)				
Total consumption	71.5	73.4	73.4	74.2	72.7
Of which: Private consumption	51.1	52.6	52.2	52.9	52.1
Gross capital formation	36.3	34.5	33.6	32.6	35.1
Gross fixed investment	33.1	32.4	31.9	30.6	31.2
Change in stocks	3.2	2.1	1.7	1.9	3.8
Net export of goods and nonfactor services	-7.8	-7.9	-7.0	-6.8	-7.8
Gross domestic product	100.0	100.0	100.0	100.0	100.0
	(Percentage change, at constant prices)				
Total consumption	6.0	1.6	-2.2	0.4	0.9
Of which: Private consumption	6.9	1.8	-2.9	0.7	1.4
Gross capital formation	11.8	-5.9	-4.9	-3.8	11.2
Of which: Gross fixed investment	8.2	-2.9	-3.9	-4.4	5.2
Net export of goods and nonfactor services 1/	-3.4	0.0	1.1	0.1	0.1
Gross domestic product	4.8	-1.0	-2.2	-0.8	3.1

Source: Data provided by the Czech Statistical Office.

1/ Contribution to growth.

Table A3. Czech Republic: Gross Domestic Product by Origin, 1996–2000

	1996	1997	1998	1999	2000
	(In billions of koruny, at current prices)				
Agriculture, hunting, forestry, and fishing	68.1	73.5	76.9	62.7	65.7
Industry 1/	470.1	531.4	590.0	574.7	607.7
Construction	121.4	132.6	134.6	126.4	124.0
Wholesale and retail trade, restaurants and hotels	236.7	217.4	230.7	242.0	253.1
Transport, storage and communication	116.5	120.9	155.0	163.0	164.2
Financial services	59.1	64.2	78.9	68.5	73.9
Business services	168.6	191.2	183.2	193.6	205.1
Public administration, education and health	210.5	217.7	222.8	243.4	252.9
Taxes minus subsidies	181.7	189.3	199.8	215.3	224.4
FISIM 2/	60.4	69.4	73.6	56.6	60.4
Total GDP (at market prices)	1,572.3	1,668.8	1,798.3	1,833.0	1,910.6
	(In billions of koruny, at 1995 prices)				
Agriculture, hunting, forestry and fishing	60.6	66.2	65.9	69.2	64.2
Industry 1/	486.8	501.3	500.6	478.4	511.4
Construction	86.3	85.3	70.7	60.2	57.3
Wholesale and retail trade, restaurants and hotels	223.1	192.9	190.3	198.1	207.6
Transport, storage and communication	103.4	106.6	124.3	132.6	136.6
Financial services	80.3	77.2	77.5	85.7	85.0
Business services	159.3	161.0	148.6	151.4	161.0
Public administration, education and health	157.7	155.1	137.3	133.5	132.0
Taxes minus subsidies	168.2	170.2	170.2	171.7	168.1
FISIM 2/	78.0	83.0	84.1	90.2	89.4
Total GDP (at market prices)	1,447.7	1,432.8	1,401.3	1,390.6	1,433.8

Source: Data provided by the Czech Statistical Office.

1/ Includes mining, manufacturing industry, electricity, gas and water.

2/ Financial intermediation services indirectly measured, calculated as the difference between interest received and paid by banks.

Table A4. Czech Republic: Industrial Production, 1996–2000 1/

(Annual percent change, at constant prices)

	1996	1997	1998	1999	2000
Mining and quarrying	1.4	-2.9	-5.3	-12.1	7.7
Manufacturing	1.7	6.4	3.0	-2.6	4.8
Food products and beverages	4.1	4.2	-0.1	-0.7	-3.0
Textiles and textile products	-7.2	-2.0	-1.3	-13.0	11.8
Leather and leather products	-4.8	-24.8	-29.4	-4.2	-20.0
Wood and wood products	-0.9	4.9	-2.4	2.7	15.0
Pulp, paper, publishing, and printing	2.8	12.2	9.9	0.7	1.5
Coke, refined petroleum products, and nuclear fuel	3.2	-0.1	-14.8	-13.1	1.1
Chemicals and chemical products	3.5	0.9	3.7	-1.4	-2.3
Rubber and plastic products	10.9	16.2	12.0	10.1	14.9
Nonmetallic mineral products	3.6	8.2	2.0	2.3	4.7
Basic metal and metal products	-7.2	4.1	-3.9	-12.2	-3.2
Machinery and equipment, n.e.c.	6.8	15.1	3.7	-5.9	9.7
Electrical and optical equipment	12.5	24.6	45.1	22.8	7.6
Transport equipment	18.0	16.3	7.4	-5.4	17.6
Other manufacturing, n.e.c.	8.3	4.6	10.9	7.9	15.0
Electricity, gas, and water supply	3.7	-2.7	-0.7	-3.8	6.1
Industry, total	2.0	4.5	1.9	-3.1	5.1

Source: Czech Statistical Office.

1/ Changes in index of physical production (IPP).

Table A5. Czech Republic: Civil Employment by Sector, 1996–2000 1/

	1996	1997	1998	1999 2/	2000 2/
	(In thousands, annual average)				
Agriculture	303	283	270	244	220
Industry	1,614	1,609	1,603	1,551	1,507
Construction	452	435	404	360	334
Trade and catering	931	886	867	832	820
Transportation and communication	363	353	344	342	331
Financial services	89	89	89	88	87
Real estate	382	392	399	398	409
Public administration	168	175	177	178	180
Education	322	309	304	298	294
Health service	268	267	263	260	262
Other services	152	149	149	142	143
Total employment	5,044	4,947	4,869	4,693	4,587
	(In percent of total employment)				
Agriculture	6.0	5.8	5.6	5.2	4.8
Industry	32.0	32.5	32.9	33.0	32.9
Construction	9.0	8.8	8.3	7.7	7.3
Trade and catering	18.4	17.9	17.8	17.7	17.9
Transportation and communication	7.2	7.1	7.1	7.3	7.2
Financial services	1.8	1.8	1.8	1.9	1.9
Real estate	7.6	7.9	8.2	8.5	8.9
Public administration	3.3	3.6	3.6	3.8	3.9
Education	6.4	6.2	6.2	6.4	6.4
Health service	5.3	5.4	5.4	5.5	5.7
Other services	3.0	3.0	3.1	3.0	3.1
Total employment	100.0	100.0	100.0	100.0	100.0

Source: Czech Statistical Office.

1/ Includes private entrepreneurs and workers in enterprises of all size groups.
2/ Preliminary data.

Table A6. Czech Republic: Civil Employment in Large Enterprises by Sector, 1996–2000 1/

(In thousands, annual average)

	1996	1997	1998	1999 Prelim.	2000 Prelim.
Agriculture	183	216	196	178	162
Industry	1,147	1,323	1,297	1,232	1,184
Construction	227	264	239	205	185
Trade and catering	159	314	297	280	287
Transportation and communication	288	291	278	273	267
Financial services	84	82	79	76	73
Real estate	143	184	184	185	183
Public administration	167	172	174	175	180
Education	308	298	293	287	283
Health service	218	215	211	213	213
Other services	106	104	105	100	100
Total employment	3,030	3,463	3,353	3,204	3,117
Memorandum items:					
State sector	925	870	818	779	760
Cooperatives	162	165	144	126	114
Private sector 2/	768	1,347	1,298	1,236	1,175

Source: Czech Statistical Office.

1/ In 1996, firms in industry, trade, and catering only with 100 employees or more; all others, with 25 or more employees. From 1997, firms in the business sphere with 20 employees or more (all financial intermediaries and all non-business sphere organizations).

2/ Excluding foreign-owned enterprises.

Table A7. Czech Republic: Average Monthly Earnings, 1996–2000 1/

(In koruny)

	1996	1997	1998 2/	1999 2/	2000 2/
Agriculture	7,808	8,523	9,243	9,609	10,295
Industry	9,587	10,726	11,871	12,676	13,583
Construction	10,166	11,234	12,129	12,785	13,534
Trade and catering	8,497	10,126	11,427	12,321	13,505
Transport and communication	9,853	11,306	12,616	13,632	14,840
Financial services	16,407	18,665	21,177	22,998	25,457
Real estate	10,494	11,728	12,963	14,211	15,065
Public administration	11,460	11,788	12,066	13,648	13,946
Education	8,994	9,422	9,851	11,082	11,283
Health service	9,068	9,622	9,945	11,313	11,746
Other services	8,097	9,275	9,986	10,730	11,418
All sectors	9,676	10,691	11,693	12,655	13,491
Memorandum items:					
State sector	9,710	10,539	11,169	12,479	12,997
Cooperatives	7,293	8,039	8,665	8,979	9,634
Private sector 3/	9,243	10,113	11,014	11,615	12,416

Source: Czech Statistical Office.

1/ In 1996, firms in industry, trade and catering only with 100 employees or more; all others, with 25 or more employees. From 1997, firms in the business sphere with 20 employees or more (all firms of financial intermediation and all non-business sphere organizations). Excluding armed forces.

2/ Preliminary data

3/ Excluding foreign-owned enterprises.

Table A8. Czech Republic: Average Monthly Earnings per Quarter, 1998–2000 1/ 2/

(In koruny)

	1998 3/				1999 3/				2000 3/			
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
Agriculture	8,153	9,070	9,631	10,158	8,543	9,438	10,123	10,369	8,903	10,067	10,689	11,527
Industry	10,814	12,012	11,676	13,013	11,524	12,704	12,568	13,975	12,407	13,541	13,384	15,009
Construction	10,932	12,102	12,296	13,253	11,553	12,622	13,091	13,941	11,793	13,261	13,858	15,218
Trade and catering	10,496	11,291	11,295	12,680	11,344	12,150	12,272	13,552	12,489	13,119	13,364	15,051
Transport and communication	11,245	12,494	12,507	14,252	12,574	13,684	13,564	14,727	13,746	14,575	14,664	16,391
Financial services	18,371	22,836	19,789	23,797	19,350	23,913	21,579	27,208	23,084	26,431	24,171	28,248
Real estate	11,449	12,760	12,858	14,886	12,707	13,960	13,938	16,283	13,611	14,689	14,802	17,188
Public administration	10,480	12,644	11,311	13,806	11,896	14,327	12,770	15,564	12,132	14,561	12,977	16,045
Education	8,209	10,071	9,366	11,760	9,352	11,526	10,614	12,816	9,663	11,690	10,683	13,085
Health services	8,807	10,326	9,563	11,100	10,033	11,805	10,895	12,511	10,377	12,045	11,252	13,308
Other services	8,998	10,120	9,611	11,232	9,804	10,922	10,236	11,962	10,258	11,607	10,977	12,827
All sectors	10,462	11,817	11,481	13,050	11,362	12,754	12,470	14,076	12,163	13,486	13,229	15,092
Memorandum items:												
State sector	9,747	11,407	10,799	12,757	10,998	12,881	12,029	14,012	11,347	13,309	12,457	14,875
Cooperatives	7,671	8,527	9,098	9,412	8,011	8,759	9,456	9,751	8,394	9,470	9,999	10,712
Private sector 4/	10,032	10,954	11,041	12,074	10,605	11,468	11,724	12,723	11,290	12,225	12,464	13,707

Source: Czech Statistical Office.

1/ Firms in the business sphere with 20 employees or more (all firms of financial intermediation and all non-business sphere organizations).
2/ Excluding armed forces.
3/ Preliminary data.
4/ Excluding foreign-owned enterprises.

Table A9. Czech Republic: Agricultural Production, 1996–2000

(Annual percentage change; at constant prices)

	1996	1997	1998	1999	2000 Estimate
Total gross agricultural production	-1.4	-5.1	0.7	0.6	-5.6
Crop production	2.1	-3.6	-1.7	5.0	-5.3
Of which:					
Grains	0.4	4.6	-4.0	3.0	-8.1
Fodder and root crops	-1.0	-3.9	-12.6	-0.1	-1.1
Potatoes	35.3	-22.1	8.4	-7.4	8.7
Vegetables	11.9	11.7	2.1	3.6	-13.4
Animal production	-4.0	-6.3	2.8	-3.0	-5.8
Of which:					
Livestock for slaughter	-1.4	-6.2	-7.0	-4.3	-9.5
Of which:					
Cattle	-3.8	-7.5	-16.8	-2.9	-12.2
Pigs	0.2	-6.5	-1.5	-4.6	-8.3
Milk	0.3	-11.0	0.5	0.7	-2.1
Eggs	-3.2	12.7	8.8	-8.5	-10.6

Source: Czech Statistical Office.

Table A10. Czech Republic: Electricity Production and Consumption, 1996–2000

(In millions of kilowatt hours)

	1996	1997	1998	1999	2000
Production (gross)	64,257	64,598	65,112	64,692	73,466
Of which:					
Thermal	49,004	50,024	50,050	49,120	57,563
Hydro	2,403	2,080	1,884	2,215	2,313
Nuclear	12,850	12,494	13,178	13,357	13,590
Imports	8,811	8,811	8,383	8,983	8,725
Exports (including to Slovak Republic)	8,814	8,814	10,844	12,258	18,742
Losses	5,154	5,088	4,953	4,627	4,683
Domestic consumption	59,100	59,507	57,698	56,790	58,766
Of which:					
Industry	29,009	29,009	29,047	29,042	...
Agriculture	1,578	1,258	1,325	1,268	...
Households	16,011	15,503	14,506	14,048	13,822
Other	12,502	13,737	12,820	12,432	...

Source: Czech Statistical Office.

Table A11. Czech Republic: Developments in Wholesale and Consumer Prices, 1997–2000 1/

(Average 1994 = 100)

	1997 2/	1998 2/	1999 2/	2000 3/	1999 2/				2000 3/			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Wholesale prices (Industry)	118.2	124.0	125.2	129.5	123.9	124.6	125.5	126.9	...	...	...	...
Consumer Prices	128.8	142.6	145.6	151.3	144.6	144.9	146.2	146.6	149.9	150.3	152.1	152.8
Foodstuffs 4/	126.1	133.0	127.2	128.7	129.1	127.9	125.8	126.1	128.2	127.4	128.2	131.1
Other goods	125.8	140.3	145.0	151.6	143.3	144.2	145.8	146.8	150.4	151.3	152.2	152.6
Of which:												
Beverages and tobacco	122.9	133.8	139.0	144.4	136.5	137.3	140.7	141.6	143.2	143.6	145.0	145.8
Fuel and electricity	148.0	203.9	216.8	234.1	216.2	215.8	217.4	218.0	232.5	233.0	234.6	236.4
Services, excluding rent	137.2	153.1	160.5	168.1	158.8	159.5	162.6	161.2	166.1	166.5	170.8	169.0
Rent	146.6	182.2	203.0	216.4	196.4	197.4	208.7	209.4	211.6	213.0	220.4	220.5
Net inflation 5/	124.4	131.4	132.6	136.7	132.2	132.4	132.6	133.1	134.2	135.5	136.3	137.1

Source: Czech Statistical Office.

1/ Period average.
2/ 1993 constant weights.
3/ 1999 contant weights.
4/ Including restaurant meals, but excluding beverages and tobacco.
5/ Net inflation is derived from CPI inflation by excluding goods subject to administered prices, and the effect of changes in fees and indirect taxes.

Table A12. Czech Republic: Share of Non-State Sector in Output and Employment, 1996–99 1/

(In percent of total)

	1996	1997	1998	1999
Output				
Total GDP	71.9	76.0	77.6	77.2
Agriculture	95.0	89.2	81.8	...
Industry	68.5	74.0	66.6	...
Construction	94.9	93.5	74.3	...
Wholesale and retail trade	81.3	92.1	88.7	...
Transport, storage, and communications	39.3	40.2	37.6	...
Employment 2/				
Total economy	77.6	77.8	77.8	77.2
Agriculture	92.3	92.2	93.4	93.4
Industry	93.0	94.5	95.1	95.1
Construction	98.1	97.9	98.1	98.2
Wholesale and retail trade	98.6	99.3	99.4	99.5
Transport, storage and communications	47.1	44.7	45.0	43.6

Source: Czech Statistical Office.

1/ Includes private cooperatives and nonprofit corporations serving households.
2/ Employment in mixed-ownership is included. Preliminary data for 1998; estimates for 1999.

Table A13. Czech Republic: Operations of the Consolidated General Government, 1997–2001

	1997	1998	1999	2000 Prelim.	2001 Proj.	1997	1998	1999	2000 Prelim.	2001 Proj.
	(In billions of koruny)					(In percent of GDP)				
Total Revenue and Grants	662.1	706.4	760.4	774.9	851.5	39.7	39.3	41.5	40.6	42.2
Total Revenue	662.1	706.3	760.1	773.7	851.5	39.7	39.3	41.5	40.5	42.2
Current revenue	653.0	696.6	729.2	760.1	838.1	39.1	38.7	39.8	39.8	41.5
Tax revenue	607.7	648.0	682.7	710.7	759.9	36.4	36.0	37.2	37.2	37.6
Direct taxes	143.4	162.5	165.4	169.5	174.2	8.6	9.0	9.0	8.9	8.6
Personal income tax	87.9	94.9	95.3	98.3	102.2	5.3	5.3	5.2	5.1	5.1
Corporate profits tax	55.6	67.6	70.1	71.2	72.0	3.3	3.8	3.8	3.7	3.6
Indirect taxes	196.8	200.8	223.5	230.4	259.9	11.8	11.2	12.2	12.1	12.9
VAT	117.7	119.4	138.3	145.9	170.3	7.1	6.6	7.5	7.6	8.4
Excises	64.2	67.8	73.1	70.9	77.4	3.8	3.8	4.0	3.7	3.8
Customs duties	14.9	13.6	12.0	13.6	12.2	0.9	0.8	0.7	0.7	0.6
Social Security Contributions	246.8	262.9	271.3	287.4	300.0	14.8	14.6	14.8	15.0	14.9
Other tax revenue	20.8	21.8	22.5	23.5	25.8	1.2	1.2	1.2	1.2	1.3
Non-tax revenue	45.3	48.6	46.5	49.4	78.2	2.7	2.7	2.5	2.6	3.9
Capital revenue	9.1	9.7	30.9	13.6	13.4	0.5	0.5	1.7	0.7	0.7
Total expenditure and net lending	682.0	734.4	770.9	837.6	872.0	40.9	40.8	42.1	43.8	43.2
Total expenditure	697.6	749.6	790.2	858.3	1,035.9	41.8	41.7	43.1	44.9	51.3
Current expenditure	605.0	655.5	687.2	744.2	910.4	36.3	36.5	37.5	39.0	45.1
Goods and services	136.4	148.6	155.7	161.3	190.7	8.2	8.3	8.5	8.4	9.4
Wages and salaries	62.3	62.6	69.5	70.2	79.5	3.7	3.5	3.8	3.7	3.9
Other goods and services	74.2	85.9	86.2	91.1	111.2	4.4	4.8	4.7	4.8	5.5
Interest Payments	20.8	21.2	19.5	21.2	24.8	1.2	1.2	1.1	1.1	1.2
Subsidies and other current transfers	447.8	485.8	512.0	561.8	694.9	26.8	27.0	27.9	29.4	34.4
Subsidies	129.4	139.1	139.1	159.4	262.5	7.8	7.7	7.6	8.3	13.0
To nonfinancial public enterprises	75.3	76.1	87.6	94.2	102.9	4.5	4.2	4.8	4.9	5.1
To financial institutions	23.1	33.2	17.5	26.8	108.4	1.4	1.8	1.0	1.4	5.4
To other enterprises	31.0	29.8	34.1	38.5	51.3	1.9	1.7	1.9	2.0	2.5
Transfers	318.4	346.7	372.8	402.4	432.4	19.1	19.3	20.3	21.1	21.4
To households and nonprofit institutions	316.8	345.0	370.4	399.6	428.3	19.0	19.2	20.2	20.9	21.2
Social benefits	210.0	227.7	246.4	266.3		12.6	12.7	13.4	13.9	0.0
Abroad	1.6	1.7	2.4	2.7	4.0	0.1	0.1	0.1	0.1	0.2
Capital expenditure	92.5	94.1	103.0	114.1	125.5	5.5	5.2	5.6	6.0	6.2
Acquisition of Fixed Capital Assets	57.9	57.0	63.1	72.8	73.1	3.5	3.2	3.4	3.8	3.6
Capital Transfers	31.8	34.0	36.7	37.2	48.9	1.9	1.9	2.0	1.9	2.4
Other	2.9	3.1	3.1	4.2	3.4	0.2	0.2	0.2	0.2	0.2
Net lending 1/	-15.6	-15.2	-19.3	-20.8	-163.9	-0.9	-0.8	-1.1	-1.1	-8.1
Overall balance including privatization revenues	-19.8	-28.1	-10.5	-62.6	-20.5	-1.2	-1.6	-0.6	-3.3	-1.0
Balance excluding privatization revenues and grants to transformation institutions	-27.6	-34.7	-59.5	...	...	-1.7	-1.9	-3.2	...	...
Memorandum items										
Privatization revenues 1/	13.8	25.0	56.7	...	...	0.8	1.4	3.1	...	...
Grants to transformation institutions 2/	6.1	18.4	7.7	20.2	91.2	0.4	1.0	0.4	1.1	4.5

Source: Czech Ministry of Finance

1/ Privatization revenues are recorded primarily as negative net lending and capital revenue (sales of voting rights from year 1999).
2/ Used to cover costs associated with the rehabilitation of banks and state-owned enterprises.

Table A14. Czech Republic: Operations of the Central State Budget, 1997–2001

	1997	1998	1999	2000 Expected	2001 Budget	1997	1998	1999	2000 Expected	2001 Budget
	(In billions of koruny)					(In percent of GDP)				
Total revenue and grants	499.6	530.0	562.3	581.9	627.0	29.9	29.5	30.6	30.6	31.0
Total revenue	490.9	520.9	551.1	570.5	627.0	29.4	29.0	30.0	30.0	31.0
Current revenue	490.6	520.7	550.8	570.2	626.1	29.4	29.0	30.0	30.0	31.0
Tax revenue	476.0	507.2	538.1	559.6	594.5	28.5	28.2	29.3	29.5	29.4
Direct taxes	75.6	87.7	86.6	87.0	129.3	4.5	4.9	4.7	4.6	6.4
Personal income tax	33.4	36.3	35.2	34.7	76.5	2.0	2.0	1.9	1.8	3.8
Corporate income tax	42.2	51.3	51.3	52.3	52.8	2.5	2.9	2.8	2.8	2.6
Indirect taxes	196.8	200.8	223.5	230.4	215.4	11.8	11.2	12.2	12.1	10.7
VAT	117.7	119.4	138.3	145.9	136.0	7.1	6.6	7.5	7.7	6.7
Excises	64.2	67.8	73.1	70.9	67.2	3.8	3.8	4.0	3.7	3.3
Customs duties	14.9	13.6	12.0	13.6	12.2	0.9	0.8	0.7	0.7	0.6
Social security contributions	191.0	203.9	210.9	222.2	234.4	11.4	11.3	11.5	11.7	11.6
Other taxes	12.7	14.8	17.1	20.0	15.4	0.8	0.8	0.9	1.1	0.8
Nontax revenue	14.6	13.5	12.7	10.6	31.6	0.9	0.8	0.7	0.6	1.6
Capital revenue	0.3	0.2	0.3	0.4	0.9	0.0	0.0	0.0	0.0	0.0
Grants	8.7	9.1	11.2	11.4	0.0	0.5	0.5	0.6	0.6	0.0
From other unit at same level of government	7.3	8.3	10.4	11.4	0.0	0.4	0.5	0.6	0.6	0.0
Other	1.4	0.8	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total expenditure and net lending	515.3	559.4	592.0	627.9	675.9	30.9	31.1	32.2	33.0	33.5
Total expenditure	516.0	557.6	589.2	632.5	682.2	30.9	31.0	32.1	33.3	33.8
Current expenditure	466.3	507.5	530.8	541.8	599.3	27.9	28.2	28.9	28.5	29.7
Expenditure on goods and services	94.9	100.7	107.7	113.1	141.0	5.7	5.6	5.9	6.0	7.0
Wages and salaries	47.8	47.4	52.4	52.4	63.8	2.9	2.6	2.9	2.8	3.2
Other purchases of goods and services	31.1	37.3	37.4	60.7	77.2	1.9	2.1	2.0	3.2	3.8
Interest payments	17.9	18.9	17.0	19.9	22.6	1.1	1.1	0.9	1.0	1.1
Subsidies and other current transfers	353.5	387.9	406.1	428.7	458.3	21.2	21.6	22.1	22.6	22.7
To other central government	18.5	24.3	27.9	27.5	28.0	1.1	1.4	1.5	1.4	1.4
To other levels of government	23.8	24.9	27.6	30.3	17.9	1.4	1.4	1.5	1.6	0.9
To nonfinancial public enterprises	55.9	57.9	67.5	69.1	79.4	3.3	3.2	3.7	3.6	3.9
To financial institutions	16.4	24.7	5.7	0.0	0.0	1.0	1.4	0.3	0.0	0.0
To other enterprises	21.7	20.4	23.6	32.8	44.9	1.3	1.1	1.3	1.7	2.2
To households and nonprofit institutions	215.6	234.0	251.3	266.3	284.1	12.9	13.0	13.7	14.0	14.1
Social benefits	204.8	221.1	237.1	256.1	271.7	12.3	12.3	12.9	13.5	13.5
Other	10.8	12.9	14.2	10.2	12.4	0.6	0.7	0.8	0.5	0.6
Abroad	1.6	1.7	2.4	2.7	4.0	0.1	0.1	0.1	0.1	0.2
Capital expenditure	49.7	50.1	58.4	60.3	52.6	3.0	2.8	3.2	3.2	2.6
Fixed capital	14.7	14.6	18.3	24.2	21.6	0.9	0.8	1.0	1.3	1.1
Capital transfers	33.4	33.6	38.4	35.5	26.6	2.0	1.9	2.1	1.9	1.3
To other levels of government	10.5	11.5	12.4	13.8	8.0	0.6	0.6	0.7	0.7	0.4
To nonfinancial public enterprises	16.9	15.0	17.1	14.3	15.7	1.0	0.8	0.9	0.8	0.8
Other	5.9	7.1	8.9	7.4	2.9	0.4	0.4	0.5	0.4	0.1
Other capital expenditure	1.6	1.9	1.7	0.6	4.4	0.1	0.1	0.1	0.0	0.2
Net lending	-0.7	1.8	2.7	0.2	-2.9	0.0	0.1	0.1	0.0	-0.1
Overall balance	-15.7	-29.3	-29.6	-46.1	-49.0	-0.9	-1.6	-1.6	-2.4	-2.4

Source: Czech Ministry of Finance.

Table A15. Czech Republic: Operations of the Local Authorities, 1997–2001

	In millions of koruny					In percent of GDP				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
	Actual	Actual	Actual	Actual	Proj.	Actual	Actual	Actual	Actual	Proj.
Total revenue	**147.0**	**161.8**	**194.8**	**190.2**	**164.1**	**8.8**	**9.0**	**10.3**	**10.0**	**8.1**
Tax revenue	76.1	83.3	87.0	95.8	89.6	4.6	4.6	4.6	5.0	4.4
Direct taxes	67.8	74.8	78.9	87.0	46.3	4.1	4.2	4.2	4.6	2.3
Corporate income	13.4	16.2	18.8	23.5	20.6	0.8	0.9	1.0	1.2	1.0
Personal income	54.4	58.6	60.1	63.5	25.7	3.3	3.3	3.2	3.3	1.3
Property taxes	3.9	4.1	4.2	4.4	4.5	0.2	0.2	0.2	0.2	0.2
Other taxes	0.7	0.8	0.6	0.7	35.0	0.0	0.0	0.0	0.0	1.7
Fees and Fines	3.7	3.6	3.3	3.7	3.8	0.2	0.2	0.2	0.2	0.2
Non-tax revenue	23.5	24.7	25.6	26.0	24.5	1.4	1.4	1.4	1.4	1.2
Entrepreneurial and property income	10.3	12.3	12.7	12.2	11.6	0.6	0.7	0.7	0.6	0.6
From budgetary and subsidized organizations	8.4	9.9	10.6	10.0	9.5	0.5	0.6	0.6	0.5	0.5
Interest	1.9	2.4	2.1	2.2	2.1	0.1	0.1	0.1	0.1	0.1
Other	13.2	12.4	12.9	13.8	12.9	0.8	0.7	0.7	0.7	0.6
Transfers 1/	37.5	40.4	45.3	51.8	37.5	2.2	2.2	2.4	2.7	1.9
Capital revenue	9.9	13.4	36.9	16.6	12.5	0.6	0.7	2.0	0.9	0.6
Total expenditure	**151.8**	**160.3**	**176.3**	**192.7**	**172.2**	**9.1**	**8.9**	**9.4**	**10.1**	**8.5**
Current expenditure	100.2	106.9	119.5	129.8	115.7	6.0	5.9	6.3	6.8	5.7
On goods and services	65.3	70.9	78.7	85.4	77.7	3.9	3.9	4.2	4.5	3.8
Wages and salaries	13.0	13.8	15.5	16.2	13.8	0.8	0.8	0.8	0.8	0.7
Other	52.3	57.1	63.2	69.2	63.9	3.1	3.2	3.4	3.6	3.2
Interest payments	2.4	2.3	2.3	1.7	2.0	0.1	0.1	0.1	0.1	0.1
Transfers	32.5	33.7	38.5	42.7	36.0	1.9	1.9	2.0	2.2	1.8
To enterprises	8.9	9.0	9.8	10.7	11.1	0.5	0.5	0.5	0.6	0.5
To subsidized organizations	17.7	17.5	19.1	20.3	12.4	1.1	1.0	1.0	1.1	0.6
To extrabudgetary funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
To households	5.9	7.2	9.6	11.7	12.5	0.4	0.4	0.5	0.6	0.6
Capital expenditure	51.6	53.4	56.8	62.9	56.5	3.1	3.0	3.0	3.3	2.8
By budgetary organizations	43.5	42.7	45.6	51.3	49.5	2.6	2.4	2.4	2.7	2.5
Transfers	8.1	10.7	11.2	11.6	7.0	0.5	0.6	0.6	0.6	0.3
To enterprises	3.3	4.6	3.4	3.8	4.0	0.2	0.3	0.2	0.2	0.2
To subsidized organizations	3.9	4.2	5.1	5.9	1.4	0.2	0.2	0.3	0.3	0.1
Other	0.9	1.9	2.7	1.9	1.6	0.1	0.1	0.1	0.1	0.1
Overall balance	**-4.8**	**1.5**	**18.5**	**-2.5**	**-8.1**	**-0.3**	**0.1**	**1.0**	**-0.1**	**-0.4**

Sources: Czech Ministry of Finance; and staff estimates.

1/ Includes transfers from the central government, extrabudgetary funds, and the National Property Fund.

Table A16. Czech Republic: Operations of the Extrabudgetary Funds, 1997–2001 1/

	1997	1998	1999	2000 Prelim.	2001 Proj.	1997	1998	1999	2000 Prelim.	2001 Proj.
	(In billions of koruny)					(In percent of GDP)				
Total revenue and grants	8.0	7.1	5.8	8.4	27.3	0.5	0.4	0.3	0.4	1.3
Own revenue	7.9	6.8	5.8	5.3	27.1	0.5	0.4	0.3	0.3	1.3
Grants	0.2	0.2	0.0	3.1	0.2	0.0	0.0	0.0	0.2	0.0
Total expenditure and net lending	7.2	10.7	3.2	18.2	-53.7	0.4	0.6	0.2	1.0	-2.7
Current expenditure	15.7	21.1	17.2	30.5	82.8	0.9	1.2	0.9	1.6	4.1
of which:										
subsidies to nonfinancial public enterprises	1.4	0.2	0.5	6.0	11.9	0.1	0.0	0.0	0.3	0.6
Capital expenditure	3.0	3.6	3.3	6.9	29.1	0.2	0.2	0.2	0.4	1.4
Of which:										
Capital transfers to local governments	1.3	0.9	1.3	1.7	5.5	0.1	0.0	0.1	0.1	0.3
Net lending	-11.4	-13.9	-17.3	-19.2	-165.6	-0.7	-0.8	-0.9	-1.0	-8.2
Overall balance	0.8	-3.6	2.7	-9.8	80.9	0.0	-0.2	0.1	-0.5	4.0

Source: Czech Ministry of Finance.

1/ Includes the National Property Fund, Czech Land Fund, and other extrabudgetary funds. From 2000, includes the Transport Infrastructure Fund, and from 2001, includes the Housing Fund.

Table A17. Czech Republic: Operations of the Health Insurance Fund, 1997–2001

	1997	1998	1999	2000 Prelim.	2001 Proj.	1997	1998	1999	2000 Prelim.	2001 Proj.
	(In billions of koruny)					(In percent of GDP)				
Total revenue and grants	95.7	106.4	112.8	118.0	128.4	5.7	5.9	6.2	6.2	6.4
Health contributions	76.6	80.0	83.4	88.7	92.7	4.6	4.5	4.5	4.7	4.6
Transfers from government	18.4	23.4	27.4	27.3	34.1	1.1	1.3	1.5	1.4	1.7
Other	0.7	3.0	2.0	2.0	1.6	0.0	0.2	0.1	0.1	0.1
Total expenditure	97.2	107.5	110.3	116.1	126.9	5.8	6.0	6.0	6.1	6.3
Payment of claims	93.0	101.5	106.4	111.5	122.0	5.6	5.6	5.8	5.9	6.0
Other expenditures 1/	4.2	6.0	3.9	4.6	4.9	0.3	0.3	0.2	0.2	0.2
Overall balance	-1.5	-1.1	2.5	1.9	1.5	-0.1	-0.1	0.1	0.1	0.1

Source: Czech Ministry of Finance.

1/ Includes private additional insurance of General Health Insurance Company.

Table A18. Czech Republic: Functional Classification of Consolidated General Government Expenditure, 1997–1999

	1997	1998	1999	1997	1998	1999
	(In billions of koruny)			(In percent of GDP)		
Total expenditure (excluding lending)	697.6	748.1	790.2	41.8	41.6	43.1
General public services	39.0	40.9	46.1	2.3	2.3	2.5
Defense	27.4	31.0	33.9	1.6	1.7	1.9
Public order and safety	33.8	34.8	38.1	2.0	1.9	2.1
Education	76.5	75.4	81.0	4.6	4.2	4.4
Health	109.7	119.0	124.1	6.6	6.6	6.8
Social security and welfare	230.0	249.7	269.2	13.8	13.9	14.7
Housing and commununity amenities	59.1	55.4	58.8	3.5	3.1	3.2
Recreational, cultural and religious affairs	15.7	16.4	18.4	0.9	0.9	1.0
Economic affairs and services	95.1	113.8	110.6	5.7	6.3	6.0
Fuel and energy	3.2	3.1	3.0	0.2	0.2	0.2
Agriculture, forestry, fishing, hunting	15.2	16.3	19.0	0.9	0.9	1.0
Mining, manufacturing, construction	1.7	2.6	2.8	0.1	0.1	0.2
Transportation and communication	53.5	53.8	59.5	3.2	3.0	3.2
Other economic affairs and services	21.6	37.9	26.3	1.3	2.1	1.4
Other expenditures 1/	20.2	20.8	20.0	1.2	1.2	1.1

Source: Czech Ministry of Finance.

1/ Adjusted for employer contributions at the same level of government.

Table A19. Czech Republic: Outstanding Debt and Loans Guaranteed by the State Government, 1996–2000

	1996	1997	1998	1999	2000
			(In billions of koruny)		
Outstanding Debt of the State Government (end-period)	**155.2**	**173.1**	**194.7**	**228.4**	**289.3**
Securities	107.3	135.6	170.8	208.2	270.8
Treasury bills	62.6	76.9	99.8	130.1	165.3
Treasury bonds	43.9	57.9	70.0	77.0	104.3
Other securities	0.7	0.8	1.0	1.1	1.2
Direct credits	47.9	37.5	23.9	20.2	18.5
Loan Guarantees outstanding (end-period)	...	**252.2**	**280.4**	**257.3**	**245.7**
Under the Act on the Budgetary Regulations No. 576/1990		189.8	193.4	148.3	135.6
Signed agreements	72.4	169.1	175.8	148.3	135.6
Environmental projects	25.4	27.8	24.2	14.6	14.7
Infrastructure	39.1	80.7	64.4	44.1	45.8
Export promotion	5.1	2.2	0.0	0	0.0
Banking sector	...	26.6	53.5	41.8	44.0
Other	...	31.8	33.7	47.7	31.0
Unsigned agreements	...	20.7	17.6	0	0.0
Export Promotion under the Act No. 58/1995	...	62.4	87.0	109	110.1
			(In percent of GDP)		
Outstanding Debt (end-period)	**9.9**	**10.4**	**10.8**	**12.5**	**15.1**
Securities	6.8	8.1	9.5	11.4	14.2
Treasury bills	4.0	4.6	5.5	7.1	8.7
Treasury bonds	2.8	3.5	3.9	4.2	5.5
Other securities	0.0	0.0	0.1	0.1	0.1
Direct credits	3.0	2.2	1.3	1.1	1.0
Loan Guarantees outstanding	...	**15.1**	**15.6**	**14.0**	**13.4**
Under the Act on the Budgetary Regulations No. 576/1990	...	11.4	10.8	8.1	7.4
Signed agreements	4.6	10.1	9.8	8.1	7.4
Environmental projects	1.6	1.7	1.3	0.8	0.8
Infrastructure	2.5	4.8	3.6	2.4	2.5
Export promotion	0.3	0.1	0.0	0.0	0.0
Banking sector	0.0	1.6	3.0	2.3	2.4
Other	0.0	1.9	1.9	2.6	1.7
Unsigned agreements	...	1.2	1.0	0.0	0.0
Export Promotion under the Act No. 58/1995	...	3.7	4.8	5.9	6.0
Memorandum item:					
Outstanding debt of the general government (in billions of koruny)	206.7	217.5	240.4	274.6	...

Source: Czech Ministry of Finance.

Table A20. Czech Republic: Functional Classification of Subsidies from the State Budget, 1996–2001

(In billions of koruny)

	1996 Actual	1997 Actual	1998 Actual	1999 Actual	2000 Expected	2001 Budget
Total subsidies 1/	27.3	34.3	49.1	34.0	38.4	33.4
Producer	27.3	34.3	43.9	30.8	35.5	29.5
Agriculture and foodstuffs	6.9	7.2	10.3	9.8	13.7	11.5
Prices and other fees	--	--	--	--	--	--
Fund for Market Regulation 2/	1.1	1.0	1.1	3.0	2.4	4.2
Other	5.3	5.9	8.5	5.9	10.6	7.1
Forestry and water	0.5	0.3	0.7	0.9	0.7	0.2
Mining	5.1	4.3	4.4	3.9	4.0	4.0
Uranium	1.4	1.2	1.3	1.1	1.1	1.4
Coal and Ore	3.7	3.1	3.1	2.7	2.8	2.6
Residential heating	7.0	5.2	0.1	0.0	0.0	0.0
Transportation	5.4	5.5	5.9	6.2	6.9	0.7
Railways	5.2	5.3	5.8	6.1	6.8	0.6
Bus, urban transport, and airlines	0.2	0.2	0.1	0.1	0.1	0.1
Housing	--	--	--	--	--	--
Energy savings	0.2	0.2	0.1	0.1	0.0	0.0
Export promotion	0.9	0.9	0.3	0.1	0.9	1.4
Called loan guarantees	0.1	1.6	6.7	1.0	1.9	0.9
Employment of handicapped	0.3	0.3	0.3	0.3	0.3	0.0
Small business development	1.2	0.9	0.8	1.3	1.9	1.6
Other non-investment	0.2	13.1	20.2	11.3	8.8	13.3
Private education	0.0	0.0	1.5	1.7	1.5	2.1
Subsidies the embargo	0.0	0.1	0.1	0.1	0.0	0.2
Property detriment	0.0	4.8	3.6	1.4	1.4	1.6
Other	0.2	8.2	15.0	8.1	5.9	9.4
Memorandum item:						
Total subsidies (percent of GDP)	1.7	2.1	2.7	1.9	2.0	1.7

Sources: Czech Ministry of Finance; and staff estimates.

1/ Differences from the totals in Table 14 are due to classification.

2/ Includes transfers to and deficit of the Fund for Market Regulation in agriculture.

Table A21. Czech Republic: Transfers to Households, 1997–2001 1/

	In billions of koruny					In percent of GDP				
	1997 Actual	1998 Actual	1999 Actual	2000 Actual	2001 Budget	1997 Actual	1998 Actual	1999 Actual	2000 Actual	2001 Budget
Pensions	150.2	166.1	177.9	186.9	197.8	9.0	9.2	9.7	9.8	9.8
Old age	106.1	118.4	127.5	136.6	...	6.4	6.6	7.0	7.1	...
Disability	28.2	31.0	32.5	32.9	...	1.7	1.7	1.8	1.7	...
Widow	13.9	14.6	15.4	15.7	...	0.8	0.8	0.8	0.8	...
Other 2/	2.0	2.2	2.5	1.7	...	0.1	0.1	0.1	0.1	...
Sickness and maternity	19.8	17.7	19.3	27.3	28.7	1.2	1.0	1.1	1.4	1.4
Other state benefits 3/	2.8	3.4	3.8	4.3	4.7	0.2	0.2	0.2	0.2	0.2
Social state support	29.1	29.2	30.9	31.7	33.1	1.7	1.6	1.7	1.7	1.6
Per child allowances	12.5	11.5	12.5	12.7	13.4	0.7	0.6	0.7	0.7	0.7
Parental allowances	7.6	7.8	7.7	7.7	7.9	0.5	0.4	0.4	0.4	0.4
Others (including housing)	9.0	9.9	10.4	11.3	11.8	0.5	0.6	0.6	0.6	0.6
Special Housing Benefits	0.1	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Benefits provided by local authorities	5.2	6.6	9.3	11.3	11.9	0.3	0.4	0.5	0.6	0.6
Of which:										
Provided by municipalities	4.2	5.4	8.0	9.9	10.5	0.3	0.3	0.4	0.5	0.5
State policy of employment	4.0	5.1	7.6	9.1	10.2	0.2	0.3	0.4	0.5	0.5
Of which:										
Unemployment benefits	3.4	4.2	5.7	5.7	5.9	0.2	0.2	0.3	0.3	0.3
Total	211.2	229.4	249.2	270.8	286.5	12.7	12.8	13.6	14.2	14.2
Memo item:										
Nominal GDP	1669	1798	1833	1911	2020	100	100	100	100	100

Sources: Czech Ministry of Finance and Ministry of Labor and Social Affairs; and staff estimates.

1/ Totals differ slightly from consolidated budget in Table 13 because of classification.
2/ Includes pensions of police and military.
3/ Includes special allowances for soldiers, policemen, etc.

Table A22. Czech Republic: Monetary Survey, 1996–2000

	1996	1997	1998	1999				2000			
				Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
	(End of period balances in billions of koruny)										
Net foreign assets 1/	267.2	338.5	425.3	486.7	518.5	572.3	570.4	578.6	633.4	681.9	673.1
Net domestic assets	843.4	881.3	859.9	805.6	803.7	767.2	818.8	811.3	765.4	749.4	806.4
Domestic credit	1,029.7	1,137.7	1,109.9	1,116.6	1,115.7	1,094.1	1,095.8	1103.0	1102.4	1121.8	1116.2
Total credit to the economy	1,017.1	1,112.9	1,073.8	1,091.5	1,080.6	1,076.3	1,032.4	1023.5	1021.8	1034.6	998.8
of which : in foreign exchange	128.5	200.3	213.8	236.6	215.9	201.3	193.9	182.4	178.7	175.6	160.5
Net credit to government	28.5	37.9	45.4	34.1	44.0	39.1	73.6	83.1	83.3	92.3	116.3
Net credit to National Property Fund	-15.9	-13.1	-9.3	-9.0	-8.9	-21.3	-10.2	-3.6	-2.7	-5.1	1.1
Other assets, net	-186.3	-256.4	-250.0	-311.0	-312.0	-326.9	-277.0	-291.7	-337.0	-372.4	-309.8
Broad money 2/	1,125.3	1,219.8	1,285.2	1,292.3	1,322.2	1,339.5	1,389.2	1389.9	1398.8	1431.3	1479.5
Currency outside banks	118.9	119.3	127.2	132.2	140.9	144.7	157.9	157.0	176.9	173.3	171.8
Demand deposits	356.4	325.8	306.2	282.2	303.2	319.3	321.9	322.6	344.0	364.8	370.7
Households	121.5	153.2	144.0	150.8	161.5	173.7	162.6	178.7	188.5	199.7	195.0
Enterprises 2/ 3/	234.9	172.6	162.2	131.4	141.7	145.6	159.3	143.9	155.5	165.1	175.7
Time and savings deposits	564.3	636.2	679.1	722.1	719.4	711.6	661.4	729.9	701.5	706.6	656.5
Households	366.0	474.4	550.8	560.3	555.2	543.1	537.5	548.8	544.0	548.3	549.8
Enterprises 3/	198.3	161.8	128.3	161.8	164.2	168.5	123.9	181.1	157.5	158.3	106.7
Foreign currency deposits	71.0	138.5	142.5	139.5	140.0	138.5	147.9	140.3	143.1	150.4	157.5
Households	40.1	68.8	73.6	79.9	76.9	79.1	80.8	80.8	78.8	82.2	83.7
Enterprises 3/	30.9	69.7	68.9	59.6	63.1	59.4	67.1	59.5	64.3	68.2	73.8
Memorandum items:											
Money multiplier	4.4	5.4	5.5	6.1	6.3	5.9	6.6	6.9	6.3	6.5	6.7
Effective required reserves ratio	11.7	9.2	7.3	5.2	5.2	5.3	2.1	2.1	2.1	2.2	2.1
Velocity of broad money 4/	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
	(Twelve-month change in percent)										
Credit to the economy	10.6	9.4	-3.5	36.2	24.3	24.3	23.5	-6.2	-5.4	-3.9	-3.3
Adjusted 5/	...	7.5	2.7	1.5	-1.8	-2.8	-2.4				
Broad money	9.7	9.8	5.4	10.1	9.3	8.3	8.1	7.6	5.8	6.9	6.5
Net foreign assets	-9.5	20.1	25.6	39.3	33.4	48.0	34.1	18.9	22.2	19.2	18.0
Net domestic assets	15.8	4.5	-2.4	-2.3	-2.1	-9.8	-4.8	0.7	-4.8	-2.3	-1.5
Domestic credit	10.8	10.5	-2.4	-0.4	-2.9	-3.5	-1.3	-1.2	-1.2	2.5	1.9
Total credit to economy	10.6	9.4	-3.5	-1.7	-5.3	-4.4	-3.9	-6.2	-5.4	-3.9	-3.3
Other assets, net	-7.5	37.6	-2.5	5.1	-4.9	15.6	10.8	-6.2	8.0	13.9	11.8

Sources: Czech National Bank; and staff estimates.

1/ Net foreign assets are evaluated at current exchange rates.
2/ Adjusted for the float.
3/ Including insurance companies.
4/ Velocity is the ratio of quarterly nominal GDP over end-of-period broad money, both seasonally adjusted.
5/ Adjusted to exclude valuation effects and write-offs.

Table A23. Czech Republic: Balance Sheet of the Czech National Bank, 1997-2000

	1997	1998	1999				2000			
			Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
	(End-of-period balances in billions of koruny)									
Net foreign assets	249.3	299.9	300.1	301.6	303.2	343.2	345.2	359.4	360.3	361.1
Foreign assets 1/ 2/	310.9	337.2	350.6	367.2	357.9	412.8	402.0	444.3	429.3	417.9
Foreign liabilities (-)	-61.6	-37.3	-50.5	-65.6	-54.7	-69.6	-56.8	-84.9	-69.0	-56.8
Net domestic credit	-66.9	-157.3	-167.2	-175.6	-149.8	-217.3	-228.8	-250.3	-259.2	-268.7
Net claims on government	-32.0	-36.1	-26.4	-28.8	-21.2	-35.6	-27.0	-26.1	-29.2	-46.0
Credits	508.7	535.2	124.8	269.2	412.4	561.3	134.3	283.9	417.6	573.8
Liabilities	-540.7	-571.4	-151.2	-298.0	-433.6	-596.9	-161.3	-309.9	-446.8	-619.8
Net claims on the economy	-16.8	14.5	19.3	17.4	31.1	21.3	25.5	3.5	6.5	8.2
Credits	18.9	32.7	32.3	32.2	46.2	45.3	45.2	43.0	42.9	42.4
Nongovernment securities	6.4	17.2	17.2	17.2	15.8	15.8	15.8	0.0	0.0	0.0
CNB's bills with non-banks	-1.5	-5.0	-3.9	-5.4	-3.9	-10.2	-14.3	-18.0	-18.3	-15.5
Other nongovernment deposits 1/	-40.6	-30.4	-26.3	-26.5	-27.0	-29.7	-21.2	-21.6	-18.1	-18.8
Net claims on banks	-18.1	-135.6	-160.1	-164.2	-159.7	-202.9	-227.3	-227.6	-236.5	-230.9
Refinancing credit	29.2	0.0	0.0	-3.1	-2.0	-24.7	-2.6	0.0	-4.8	0.7
Other claims on banks	17.2	19.4	17.2	16.6	2.1	1.2	1.8	1.8	1.2	2.8
Redistribution credits	53.0	32.4	32.3	31.9	31.6	28.3	13.7	13.3	13.2	12.8
Inseparable reserves	-4.8	-3.5	-2.9	-4.2	-2.4	-3.0	-3.4	-4.1	-4.8	-6.9
Other deposits of banks	-7.9	-19.6	-3.4	-3.1	-3.2	-3.9	-3.0	-3.5	-2.1	-4.4
CNB bills with banks	-103.1	-164.4	-203.2	-202.2	-185.8	-200.8	-233.8	-235.1	-239.2	-235.8
Other liabilities to banks 3/	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other net assets	45.0	89.2	77.9	83.3	75.1	85.5	85.0	114.4	119.3	129.2
Other unclassified domestic assets	125.2	84.8	124.4	129.5	111.3	121.8	123.8	139.6	136.8	143.4
Reserve money	227.4	231.8	210.9	209.3	228.5	211.3	201.3	223.6	220.4	221.7
Currency, including vault cash	137.6	145.2	148.7	158.7	162.2	185.0	174.5	196.5	192.9	195.1
Reserve deposits	89.8	86.6	62.2	50.6	66.3	26.3	26.8	27.1	27.4	26.6
Required reserves	101.3	84.5	60.4	61.1	62.8	25.5	26.0	26.5	26.5	27.0
Excess reserves	-11.5	2.1	1.8	-10.5	3.5	0.8	0.8	0.6	0.9	-0.4

Sources: Czech National Bank; and staff calculations.

1/ Excluding the foreign exchange deposit of SPT with the Czech National Bank.

2/ Excluding pre-1993 claims on Slovakia amounting to CZK 26 billion at end-1997, which are classified under other assets.

3/ Since June 1998, includes a deposit by GE in connection with the sale of Agrobanka.

Table A24. Czech Republic: Structure of Domestic Currency Deposits, 1996–2000

	1996	1997	1998	1999	2000			
					Mar.	Jun.	Sep.	Dec.
				(In billions of koruny, end of period)				
Total	960.7	1,006.2	1,022.6	1 023.6	1,089.0	1,082.2	1,104.0	1,054.3
By maturity 1/								
Short-term	727.9	784.8	817.2	826.9	899.5	890.0	913.0	853.1
Medium-term	173.6	140.0	107.6	90.4	85.7	82.4	80.7	81.3
Long-term	59.2	81.4	97.8	106.3	103.8	109.8	110.3	119.9
				(In percent of total)				
By maturity (share of total deposits)								
Short-term	75.8	78.0	79.9	80.8	82.6	82.3	82.7	80.9
Medium-term	18.1	13.9	10.5	8.8	7.9	7.6	7.3	7.7
Long-term	6.2	8.1	9.6	10.4	9.5	10.1	10.0	11.4
				(In billions of koruny, end of period)				
By type of holder								
Non-financial organizations	282.5	219.3	188.1	173.1	207.0	190.5	205.0	174.5
Finance	23.4	26.9	16.0	16.9	20.1	22.9	22.7	20.0
Insurance	25.8	30.1	35.4	39.5	38.5	25.9	21.6	19.1
Public organizations	78.7	71.7	61.7	68.1	69.8	83.2	78.4	72.7
Non-profit organizations	11.2	12.4	13.0	11.6	14.4	14.6	15.1	11.9
Small enterprises	37.4	40.2	34.7	34.1	41.0	45.1	49.3	37.7
Households	484.4	587.4	660.2	665.9	686.5	687.4	698.8	707.1
Non-residents	8.6	12.1	11.0	12.5	11.3	11.9	12.5	10.8
Others	8.7	6.1	2.5	1.9	0.4	0.7	0.6	0.5

Source: Czech National Bank.

1/ Short-term: up to and including one year; medium term: more than one and up to and including four years; long-term: over four years.

Table A25. Czech Republic: Distribution of Bank Credits to the Nongovernment Sector, 1996–2000

(In billions of koruny, end of period)

	1996	1997	1998	1999	2000			
					Mar.	Jun.	Sep.	Dec.
Total credits 1/	895.6	914.6	869.2	869.6	875.2	867.7	886.5	866.7
By maturity 2/								
Short-term	387.9	384.1	357.2	330.6	326.6	323.5	334.1	313.1
Medium-term	232.0	223.2	195.6	228.7	203.9	198.7	199.3	201.3
Long-term	275.7	307.3	316.4	310.3	344.7	345.5	353.1	352.3
By sector								
State sector 3/	151.8	143.4	117.4	101.3	114.9	110.3	137.0	136.7
Private sector 4/	637.1	649.9	591.0	576.9	567.4	566.8	546.3	525.6
Enterprises under foreign control	55.7	59.5	60.7	84.8	83.1	86.5	99.3	96.4
Households	38.0	48.5	62.3	76.3	78.4	82.5	86.5	94.0
Non-residents	5.8	9.0	36.2	29.6	30.5	21.2	16.6	13.7
Others	7.2	4.3	1.6	0.7	0.9	0.4	0.8	0.3
By branch of industry								
Agriculture, hunting and fishing	32.5	30.0	25.7	24.8	22.7	22.9	23.0	20.9
Forestry and logging	2.5	1.8	1.3	1.1	0.9	1.5	1.0	1.0
Mining and quarrying	10.2	13.3	11.6	9.1	8.5	9.5	9.1	7.4
Manufacturing	282.7	254.2	223.3	209.8	197.0	200.0	205.1	194.0
Production and distribution of electricity	29.3	34.1	30.4	38.0	38.4	36.6	36.3	35.0
Construction	30.5	31.3	29.8	25.7	23.2	21.5	21.3	18.8
Trade, sales, catering, and accommodation	216.5	209.6	185.9	165.6	151.0	154.5	155.6	147.3
Transport, storage, tourism, and communications	22.1	27.5	28.7	25.8	24.9	23.3	26.2	26.2
Others	269.3	312.8	332.5	369.7	408.6	397.9	408.9	416.1

Source: Czech National Bank.

1/ Excludes foreign currency denominated credits.

2/ Short-term: up to and including one year; medium-term: more than one and up to and including four years; long-term: over four years.

3/ Including CNB credits to the National Property Fund.

4/ Including cooperatives.

Table A26. Czech Republic: Distribution of Classified Loans by Maturity, 1997–2000 1/

	1997				1998				1999				2000			
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
	(In billions of koruny, end of period)															
Total 2/	352.9	364.8	364.4	373.8	380.9	388.5	403.7	382.4	338.5	338.9	367.0	364.7	324.9	326.2	323.6	341.5
Short-term	139.0	139.7	133.4	136.3	135.6	141.7	130.2	127.5	103.8	99.3	101.3	109.4	96.2	92.8	87.2	101.7
Medium-term	105.8	115.2	114.9	119.2	120.3	115.5	127.0	107.9	97.4	101.3	120.5	112.0	91.7	96.4	98.1	95.8
Long-term	108.1	109.9	116.1	118.4	125.0	131.3	146.5	146.9	137.3	138.3	145.2	143.3	137.0	137.0	138.3	144.0
	(In percent of total credits)															
Total	34.0	33.5	33.5	32.8	33.3	33.1	34.2	33.0	38.0	37.1	39.7	41.9	37.1	37.6	36.5	39.4
Short-term	13.4	12.8	12.2	11.9	11.8	12.1	11.0	11.0	11.7	10.9	11.0	12.6	11.0	10.7	9.8	11.7
Medium-term	10.2	10.6	10.6	10.4	10.5	9.8	10.8	9.3	10.9	11.1	13.0	12.9	10.5	11.1	11.1	11.1
Long-term	10.4	10.1	10.7	10.4	10.9	11.2	12.4	12.7	15.4	15.1	15.7	16.4	15.6	15.8	15.6	16.6

Source: Czech National Bank.

1/ Includes loans held by the Consolidation Bank.

2/ Short-term: up to and including one year; medium term: more than one and up to and including four years; long-term: over four years.

Table A27. Czech Republic: Distribution of Classified Loans by Type, 1997–2000 1/

	1997				1998				1999				2000			
	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Sep.	Dec.
	(In billions of koruny, end of period)															
Total	352.9	364.8	364.4	373.8	380.9	388.5	403.7	382.4	338.5	338.9	367.0	364.7	324.9	326.2	323.6	341.5
Watch	56.9	56.5	61.0	68.9	61.5	71.9	65.2	59.0	48.6	49.2	47.8	58.4	56.3	57.2	52.4	57.8
Sub-standard	35.5	32.8	30.8	30.3	36.7	36.8	40.1	49.5	43.2	25.0	28.7	26.5	23.8	29.4	29.9	44.3
Doubtful	42.2	37.4	36.4	38.3	34.8	32.9	49.1	43.0	27.4	45.0	42.3	39.6	36.9	38.9	39.0	35.8
Loss	218.2	238.1	236.1	236.3	247.9	246.9	249.3	230.8	219.3	219.7	248.2	240.2	207.9	200.7	202.3	203.6
	(In percent of total classified loans)															
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Watch	16.1	15.5	16.8	18.4	16.1	18.5	16.2	15.4	14.4	14.5	13.0	16.0	17.3	17.5	16.2	16.9
Sub-standard	10.1	9.0	8.5	8.1	9.6	9.5	9.9	13.0	12.8	7.4	7.8	7.3	7.3	9.0	9.2	13.0
Doubtful	12.0	10.3	10.0	10.2	9.1	8.5	12.2	11.2	8.1	13.3	11.5	10.8	11.4	11.9	12.1	10.5
Loss	61.8	65.3	64.8	63.2	65.1	63.6	61.7	60.4	64.7	64.8	67.7	65.9	64.0	61.6	62.5	59.6
	(In percent of total loans)															
Total	34.0	33.5	30.9	32.8	33.3	33.1	34.2	33.0	38.0	37.1	39.7	41.9	37.1	37.6	36.5	39.4
Watch	5.5	5.2	5.2	6.0	5.4	6.1	5.5	5.1	5.5	5.4	5.2	6.7	6.4	6.6	5.9	6.7
Sub-standard	3.4	3.0	2.6	2.7	3.2	3.1	3.4	4.3	4.9	2.7	3.1	3.0	2.7	3.4	3.4	5.1
Doubtful	4.1	3.4	3.1	3.4	3.0	2.8	4.2	3.7	3.1	4.9	4.6	4.6	4.2	4.5	4.4	4.1
Loss	21.0	21.9	20.0	20.7	21.6	21.1	21.1	19.9	24.5	24.1	26.8	27.6	23.8	23.1	22.8	23.5

Source: Czech National Bank.

1/ Includes loans held by the Consolidation Bank.

Table A28. Czech Republic: Lending and Deposit Rates of Commercial Banks, 1996–2000 1/

(In percent per annum)

		All Loans				New Loans				Deposits					
		Total	Short term	Medium-term	Long-term	Total	Short-term	Medium-term	Long-term	Total	Demand	Term Deposits			
												Total	Short-	Medium-	Long-
1996	December	12.48	12.40	13.50	11.76	13.61	13.65	14.34	12.48	6.68	2.52	9.32	9.33	9.85	6.24
1997	March	11.93	11.78	12.67	11.51	13.53	13.41	14.51	13.57	6.68	2.38	9.10	9.26	9.84	5.73
	June	14.56	14.37	15.27	14.24	20.35	21.09	17.40	16.91	8.87	2.25	11.83	12.98	11.32	5.26
	September	12.93	12.60	13.63	12.81	15.98	15.72	15.98	16.22	7.74	2.08	10.35	10.98	10.99	5.36
	December	13.87	14.13	14.61	12.98	16.54	16.53	16.99	16.03	8.05	2.15	10.90	11.58	12.15	5.24
1998	March	13.45	13.47	14.31	12.75	16.13	16.23	17.11	14.12	8.47	2.06	11.06	11.87	12.22	4.93
	June	13.46	14.08	13.91	12.37	15.95	16.02	15.17	16.22	8.40	2.04	10.98	11.97	11.88	4.69
	September	12.72	13.37	13.24	11.58	14.57	14.55	14.48	15.02	8.18	1.91	10.55	11.42	11.69	4.57
	December	10.51	10.61	10.66	10.29	11.87	11.65	13.35	11.74	6.66	1.88	8.73	9.15	10.94	4.20
1999	January	10.06	10.04	10.31	9.91	10.73	10.44	11.79	12.72	6.43	1.84	8.16	8.44	10.46	4.16
	February	9.75	9.66	10.00	9.67	10.26	10.02	10.82	11.90	5.31	1.82	6.63	7.03	6.93	4.08
	March	9.23	9.31	9.53	8.92	9.74	9.53	10.56	11.13	4.93	1.87	6.11	6.49	6.17	3.91
	April	8.95	8.94	9.30	8.72	9.43	9.18	10.16	10.59	4.68	1.79	5.80	6.13	6.00	3.79
	May	8.77	8.72	9.10	8.59	8.93	8.71	9.82	10.50	4.53	1.84	5.60	5.87	5.99	3.76
	June	8.48	8.54	8.79	8.18	9.12	8.94	9.71	10.45	4.28	1.77	5.33	5.58	5.58	3.77
	July	8.56	8.78	8.64	8.28	8.23	7.91	10.07	9.14	4.18	2.00	5.16	5.36	5.53	3.75
	August	8.34	8.42	8.52	8.13	8.03	7.72	9.98	8.88	4.06	1.95	5.05	5.21	5.52	3.73
	September	8.27	8.35	8.40	8.09	8.03	7.67	9.87	9.57	3.95	1.81	4.93	5.08	5.43	3.69
	October	8.08	8.25	8.23	7.79	7.67	7.37	9.29	9.64	3.87	1.84	4.82	4.93	5.43	3.69
	November	8.04	7.96	8.82	7.63	7.73	7.33	9.90	9.38	3.80	1.81	4.77	4.85	5.49	3.68
	December	7.69	7.40	8.31	7.58	6.69	6.74	5.07	10.20	3.74	1.65	4.73	4.82	5.56	3.65
2000	January	7.43	6.99	8.08	7.46	7.31	6.93	9.56	9.04	3.71	1.66	4.64	4.72	5.35	3.64
	February	7.25	6.76	7.90	7.34	7.17	6.76	9.22	8.54	3.59	1.66	4.46	4.54	4.87	3.64
	March	7.30	7.08	8.13	7.06	7.14	6.89	9.40	7.11	3.63	1.69	4.47	4.56	4.90	3.64
	April	7.21	7.01	7.95	7.00	7.13	6.86	8.80	8.52	3.55	1.73	4.40	4.50	4.83	3.58
	May	7.20	6.99	7.95	6.99	7.06	6.74	8.15	8.52	3.46	1.67	4.31	4.43	4.56	3.55
	June	7.24	6.88	8.30	7.04	6.80	6.85	5.55	8.08	3.41	1.65	4.25	4.37	4.42	3.55
	July	7.21	6.78	8.23	7.07	6.55	6.22	8.26	8.07	3.35	1.63	4.21	4.33	4.40	3.50
	August	7.13	6.74	8.01	7.03	6.72	6.53	8.46	6.96	3.33	1.63	4.18	4.28	4.38	3.54
	September	7.07	6.72	7.97	6.94	6.84	6.54	8.82	7.51	3.32	1.65	4.16	4.26	4.38	3.52
	October	6.98	6.64	7.82	6.86	6.60	6.34	7.86	8.26	3.22	1.58	4.04	4.16	3.93	3.52
	November	6.94	6.56	7.84	6.84	6.66	6.41	7.91	7.83	3.14	1.51	3.98	4.09	3.92	3.50
	December	6.93	6.57	7.75	6.83	6.83	6.51	8.01	8.09	3.02	1.46	3.86	3.95	3.94	3.47

Source: Czech National Bank.

1/ For 1996–98, figures are quarterly averages. Short-term: up to and including one year; medium term: more than one and up to and including four years; long-term: over four years.

Table A29. Czech Republic: Selected Interest Rates, 1996–2000 1/

(In percent per annum)

		Discount Rate 2/	Lombard Rate 2/	2-week Repo Rate 2/	2-week Repo Rate (Average)	T-bills bills 3/ (Average)	Interbank 4/				Credits 5/				Deposits 5/	
							Overnight	7-day	30-day	3-month	Total Enter-prises	State Enter-prises	Private 6/	Households	Total	Households
1996	Dec.	10.50	14.00	12.40	12.40	12.19	12.46	12.61	12.63	12.68	12.48	11.72	13.02	7.67	6.68	7.33
1997	March	10.50	14.00	12.40	12.40	10.35	12.46	12.48	12.46	12.38	11.93	10.79	12.47	7.89	6.68	7.30
	June	13.00	23.00	18.20	16.91	9.32	31.52	33.84	31.54	19.67	14.56	13.36	15.09	9.13	8.87	8.93
	Sept.	13.00	23.00	14.50	15.08	12.96	13.49	14.59	14.71	15.42	12.93	12.31	13.30	9.04	7.74	8.21
	Dec.	13.00	23.00	14.75	14.93	11.03	12.55	16.64	17.49	16.46	13.87	12.80	14.47	9.30	8.05	9.00
1998	March	13.00	19.00	15.00	14.85	15.48	13.91	14.95	15.18	15.52	11.97	12.64	13.93	9.35	8.47	9.05
	June	13.00	19.00	15.00	15.00	15.49	13.63	15.26	15.63	15.81	11.91	12.28	13.95	9.49	8.40	8.88
	Sept.	11.50	16.00	13.50	13.90	13.48	14.05	13.99	13.90	13.82	11.48	11.85	13.10	9.50	8.18	8.61
	Dec.	7.50	12.50	9.50	10.31	9.820	10.84	10.56	10.46	10.08	10.34	10.61	10.85	9.56	6.66	7.48
1999	Jan.	7.50	12.50	8.00	9.09	9.86	9.29	9.20	8.94	8.49	10.06	9.57	10.47	9.50	6.43	7.02
	Feb.	7.50	12.50	8.00	8.00	9.37	8.04	8.17	8.17	8.18	9.75	9.39	10.12	9.50	5.31	5.54
	March	6.00	10.00	7.50	7.68	8.51	7.75	7.78	7.70	7.58	9.23	8.77	9.56	9.08	4.93	5.13
	April	6.00	10.00	7.20	7.28	7.57	7.30	7.37	7.28	7.09	8.95	8.38	9.25	9.07	4.68	4.82
	May	6.00	10.00	6.90	6.93	7.16	7.03	7.03	7.01	6.96	8.77	8.10	9.10	8.80	4.53	4.71
	June	6.00	10.00	6.00	6.78	6.80	6.84	6.92	6.92	6.95	8.48	7.83	8.67	9.04	4.28	4.46
	July	6.00	10.00	6.25	6.48	6.66	6.57	6.57	6.58	6.61	8.56	7.29	8.94	9.03	4.18	4.33
	Aug.	6.00	10.00	6.25	6.25	6.55	6.30	6.36	6.39	6.45	8.34	7.11	8.74	9.00	4.06	4.22
	Sept.	5.50	8.00	6.00	6.02	6.37	5.99	6.12	6.17	6.29	8.27	7.03	8.66	9.00	3.95	4.10
	Oct.	5.00	7.50	5.50	5.74	6.14	5.75	5.82	5.82	6.18	8.08	6.69	8.42	8.98	3.87	4.07
	Nov.	5.00	7.50	5.25	5.45	5.97	5.43	5.53	5.56	5.88	8.04	6.54	8.15	8.98	3.80	4.05
	Dec.	5.00	7.50	5.25	5.25	5.71	5.21	5.32	5.59	5.58	7.69	6.34	7.91	9.05	3.74	4.06
2000	Jan.	5.00	7.50	5.25	5.25	5.28	5.24	5.31	5.34	5.42	7.43	6.05	7.68	8.90	3.71	3.94
	Feb.	5.00	7.50	5.25	5.25	5.34	5.26	5.29	5.32	5.39	7.25	5.59	7.51	8.90	3.59	3.74
	March	5.00	7.50	5.25	5.25	5.32	5.25	5.30	5.31	5.35	7.30	5.79	7.51	9.10	3.63	3.75
	April	5.00	7.50	5.25	5.25	5.26	5.26	5.29	5.31	5.33	7.21	5.66	7.39	9.10	3.55	3.70
	May	5.00	7.50	5.25	5.25	5.25	5.26	5.29	5.30	5.32	7.20	5.63	7.40	9.07	3.46	3.61
	June	5.00	7.50	5.25	5.25	5.87	5.27	5.28	5.30	5.33	7.24	5.62	7.40	8.89	3.41	3.55
	July	5.00	7.50	5.25	5.25	5.28	5.27	5.29	5.31	5.35	7.21	5.83	7.31	8.86	3.35	3.48
	Aug.	5.00	7.50	5.25	5.25	5.31	5.27	5.28	5.31	5.34	7.13	6.01	7.19	8.91	3.33	3.45
	Sept.	5.00	7.50	5.25	5.25	5.35	5.26	5.29	5.31	5.34	7.07	5.90	7.14	8.91	3.32	3.45
	Oct.	5.00	7.50	5.25	5.25	5.41	5.25	5.30	5.32	5.39	6.98	5.91	6.97	8.96	3.22	3.32
	Nov.	5.00	7.50	5.25	5.25	5.43	5.24	5.29	5.32	5.41	6.94	5.85	6.94	8.91	3.14	3.27
	Dec.	5.00	7.50	5.25	5.25	5.55	5.23	5.29	5.32	5.42	6.93	5.97	6.88	8.98	3.02	3.23

Source: Czech National Bank.

1/ For 1996–98, figures are quarterly averages.
2/ End of period.
3/ Average rate on 91-day bills.
4/ Offer rates.
5/ Weighted average on total outstanding stocks.
6/ Includes private corporations and cooperatives.

Table A30. Czech Republic: Minimum Reserve Requirements, 1994–2001 1/

(In percent of eligible deposits, beginning of period)

Category of Deposits	Date of Change								
	1994 Aug.	1995 July	1996 Aug. 2/	1997 May 2/	1998 July 2/	1999 Jan. 2/	1999 October 3/	2000	2001 4/
Demand deposits	12.0	8.5	11.5	9.5	7.5	5.0	2.0	2.0	2.0
Savings and time deposits	3.0	8.5	11.5	9.5	7.5	5.0	2.0	2.0	2.0
Remuneration (per annum) 5/	--	--	--	--	--	--	--	--	--
Maintenance period 6/	fortnight	fortnight	fortnight	fortnight	fortnight	fortnight	fortnight	fortnight	fortnight

Source: Czech National Bank.

1/ Required reserves were first introduced in 1990. Prior to February 1992, foreign exchange deposits were not subject to reserve requirements.
2/ A lower rate of 4 percent applies to deposits of nonbanks with building societies and the Czech and Moravian Guarantee Bank.
3/ The rate applies to the entire banking sector.
4/ End March.
5/ A penalty of three times the discount rate is applied on shortfalls in required reserve obligations.
6/ Required reserves are calculated on deposits in the three-week period ending three weeks before the maintenance period. Within limits, averaging is allowed during the maintenance period: for banks whose required reserves are less than CZK1 billion, a daily balance of up to CZK100 million in excess of the minimum required reserve may be averaged out. For other banks, daily balances of up to 10 percent in excess of the minimum required reserves may be used for averaging purposes. On shortfalls, a penalty rate of three times the discount rate is applied.

Table A31. Czech Republic: Balance of Payments, 1996–2000 1/

(In millions of U.S. dollars)

	1996	1997	1998	1999	2000
Current account	-4,292	-3,211	-1,336	-1,567	-2,369
(in percent of GDP)	(-7.4)	(-6.1)	(-2.4)	(-3.0)	(-4.8)
Trade balance	-5,877	-4,540	-2,554	-1,903	-3,285
Exports	21,691	22,777	26,351	26,265	29,034
Imports	27,568	27,317	28,905	28,167	32,320
Services balance	1,923	1,763	1,793	1,230	1,396
Receipts	8,179	7,162	7,494	6,926	7,245
Transportation	1,334	1,313	1,389	1,544	1,392
Travel	4,075	3,647	3,719	3,035	2,869
Other	2,770	2,201	2,385	2,347	2,984
Payments	6,256	5,399	5,701	5,696	5,849
Transportation	699	630	706	797	720
Travel	2,953	2,380	1,869	1,474	1,257
Other	2,604	2,389	3,126	3,496	3,872
Factor income and unrequited transfers	-338	-434	-575	-766	-480
Capital account	1	10	2	-2	-5
Financial Account	4,184	1,082	2,923	3,080	3,359
Direct investment 2/	1,276	1,275	2,641	6,234	4,477
Portfolio investment 2/	726	1,086	1,069	-1,395	-1,767
Of which:					
Debt creating	171	841	13	374	-139
Other long-term capital 2/	3,110	408	-1,987	-728	-127
Short-term capital 2/	-927	-1,687	250	-1,032	823
Errors and omissions	-721	353	351	141	-166
Overall balance	-828	-1,767	1,941	1,651	819
Gross official reserves (- increase)	828	1,767	-1,941	-1,651	-819

Sources: Czech National Bank; and staff calculations.

1/ Includes transactions in convertible and nonconvertible currencies, and transactions with Slovakia; based on new customs methodology.

2/ Reported on a net basis.

Table A32. Czech Republic: Geographical Composition of Exports and Imports, 1996–2000 1/

	(In millions of U.S. dollars)					(In percent of total)				
	1996	1997	1998	1999	2000 Prelim.	1996	1997	1998	1999	2000 Prelim.
Exports f.o.b.	21,906	22,777	26,351	26,264	29,034	100.0	100.0	100.0	100.0	100.0
Former planned economies	6,728	6,802	7,007	5,819	6,219	30.7	29.6	27.3	22.0	22.0
Of which:										
China	71	48	45	59	66	0.3	0.2	0.2	0.2	0.2
Former CMEA										
Bulgaria	0	1	8	95	1	0.3	0.3	0.4	0.4	0.4
Hungary	391	428	501	470	544	1.8	1.9	1.9	1.7	1.7
Poland	1,205	1,307	1,490	1,467	1,579	5.5	5.7	5.8	5.5	5.5
Slovak Republic	3,120	2,941	2,806	2,177	2,231	14.2	12.9	10.7	8.5	8.5
Former Soviet Union	1,203	1,321	1,254	797	911	5.5	5.8	5.2	2.9	2.9
Industrial countries	13,939	14,856	18,320	19,581	21,705	63.6	65.2	68.3	74.8	74.8
Of which:										
EU	12,755	13,650	16,914	18,176	19,901	58.2	59.9	63.3	69.2	69.2
Austria	1,411	1,463	1,658	1,718	1,734	6.4	6.4	6.4	6.6	6.6
France	626	724	890	1,027	1,169	2.9	3.2	3.3	3.8	3.8
Italy	720	834	991	963	1,098	3.3	3.7	3.8	3.7	3.7
Germany	7,890	8,141	10,153	11,017	11,737	36.0	35.7	37.8	41.8	41.8
United Kingdom	552	690	895	881	1,245	2.5	3.0	3.3	3.4	3.4
Netherlands	454	551	596	642	668	2.1	2.4	2.2	2.5	2.5
Switzerland	260	276	329	357	387	1.2	1.2	1.3	1.4	1.4
United States	465	586	589	621	818	2.1	2.6	2.3	2.5	2.5
Other, Developing countries	1,218	1,106	1,011	864	1,111	5.6	4.9	4.3	3.2	3.2
Imports, f.o.b.	27,716	27,167	28,788	28,125	32,320	100.0	100.0	100.0	100.0	100.0
Former planned economies	6,811	6,744	6,579	6,053	7,533	24.6	24.8	23.4	21.3	21.3
Of which:						0.0	0.0	0.0	0.0	0.0
China	298	377	499	564	695	1.1	1.4	1.6	1.8	1.8
Former CMEA						0.0	0.0	0.0	0.0	0.0
Bulgaria	1	1	0	24	0	0.1	0.1	0.1	0.1	0.1
Hungary	276	355	396	454	517	1.0	1.3	1.5	1.6	1.6
Poland	807	870	969	1,012	1,150	2.9	3.2	3.4	3.4	3.4
Slovak Republic	2,650	2,272	2,072	1,760	1,937	9.6	8.4	7.4	6.1	6.1
Former Soviet Union	2,361	2,187	1,931	1,705	2,596	8.5	8.0	7.0	5.7	5.7
Industrial countries	19,497	19,058	20,842	20,761	23,241	70.3	70.2	71.7	74.2	74.2
Of which:										
EU	17,297	16,701	18,281	18,062	20,028	62.4	61.5	63.0	64.5	64.5
Austria	1,594	1,647	1,687	1,609	1,592	5.8	6.1	6.0	5.7	5.7
France	1,161	1,119	1,289	1,385	1,598	4.2	4.1	4.3	5.6	5.6
Italy	1,633	1,494	1,507	1,521	1,664	5.9	5.5	5.2	5.3	5.3
Germany	8,261	8,666	9,941	9,592	10,432	29.8	31.9	34.2	34.2	34.2
United Kingdom	1,042	1,054	1,096	1,091	1,332	3.8	3.9	3.8	3.8	3.8
Netherlands	630	655	689	677	753	2.3	2.4	2.4	2.3	2.3
Switzerland	488	449	513	506	499	1.8	1.7	1.8	1.8	1.8
United States	939	1,029	1,077	1,113	1,424	3.4	3.8	3.8	4.1	4.1
Other, Developing Countries	1,390	1,335	1,328	1,269	1,495	5.0	4.9	4.8	4.3	4.3

Source: Czech Statistical Office.

1/ Data for 1999–2000 are according to the new methodology, effective July 1, 2000.

Table A33. Czech Republic: Commodity Composition of Exports, 1996–2000 1/

(In millions of U.S. dollars)

SITC 2/	Description	Former Planned Economies					Other Countries					Total				
		1996	1997	1998	1999	2000 Prelim.	1996	1997	1998	1999	2000 Prelim.	1996	1997	1998	1999	2000 Prelim.
0	Food and live animals	462	485	530	423	517	421	348	350	337	338	883	833	880	760	855
1	Beverages and tobacco	134	168	174	118	104	89	122	115	108	114	223	290	289	226	218
2	Crude materials inedible, except fuels	174	157	145	139	172	889	762	767	852	851	1,063	919	912	991	1,023
3	Minerals, fuels, lubricants, and related materials	409	349	347	265	296	583	506	493	500	591	992	855	839	765	887
4	Animal and vegetable oils, and fats	27	25	31	19	24	11	11	11	9	9	38	36	42	28	33
5	Chemicals	946	944	958	874	879	1,031	1,060	1,072	1,060	1,181	1,977	2,005	2,030	1,934	2,060
6	Manufactured goods, classified chiefly by material	1,906	1,816	1,999	1,648	1,732	4,403	4,281	4,975	5,193	5,656	6,310	6,096	6,974	6,841	7,388
7	Machinery and transport equipment	1,890	2,175	2,137	1,769	1,925	5,278	6,416	8,736	9,369	10,977	7,168	8,590	10,873	11,138	12,902
8	Miscellaneous manufactured articles	774	680	683	562	567	2,448	2,446	2,798	2,992	3,075	3,222	3,127	3,481	3,554	3,642
9	Miscellaneous transactions and commodities not classified	6	5	4	2	2	23	22	27	25	24	29	26	31	27	26
Total	SITC 0-9	6,728	6,802	7,007	5,819	6,219	15,177	15,974	19,345	20,445	22,816	21,906	22,777	26,351	26,264	29,034

Source: Czech Statistical Office.

1/ Data for 1999–2000 are according to the new methodology, effective July 1, 2000.
2/ Standard International Trade Classification.

Table A34. Czech Republic: Commodity Composition of Imports, 1996–2000 1/

(In millions of U.S. dollars)

SITC 2/	Description	Former Planned Economies					Other Countries					Total				
		1996	1997	1998	1999	2000 Prelim.	1996	1997	1998	1999	2000 Prelim.	1996	1997	1998	1999	2000 Prelim.
0	Food and live animals	306	328	369	380	385	1,279	1,077	1,053	947	917	1,586	1,406	1,422	1,327	1,302
1	Beverages and tobacco	44	51	53	54	48	198	236	195	173	144	242	287	248	227	192
2	Crude materials inedible, except fuels	509	498	557	384	432	511	514	565	514	589	1,020	1,012	1,122	897	1,021
3	Minerals, fuels, lubricants, and related materials	2,061	1,912	1,440	1336	2328	355	437	427	552	781	2,416	2,348	1,867	1,888	3,109
4	Animal and vegetable oils, and fats	12	11	14	11	11	69	55	74	61	58	81	66	88	72	68
5	Chemicals	717	702	656	603	644	2,553	2,619	2,835	2,858	2,964	3,270	3,321	3,491	3,461	3,608
6	Manufactured goods, classified chiefly by material	1,540	1,480	1,667	1,440	1,660	3,806	3,770	4,339	4,485	5,026	5,345	5,251	6,006	5,925	6,686
7	Machinery and transport equipment	1,079	1,097	1,188	1,195	1,288	9,493	9,227	10,163	9,883	11,707	10,572	10,324	11,351	11,077	12,995
8	Miscellaneous manufactured articles	543	664	634	649	736	2,632	2,479	2,545	2,593	2,591	3,175	3,143	3,179	3,242	3,327
9	Miscellaneous transactions and commodities not classified	1	1	2	2	2	8	8	13	7	9	9	9	15	9	11
Total	SITC 0-9	6,811	6,744	6,579	6,053	7,533	20,904	20,423	22,210	22,073	24,786	27,716	27,167	28,788	28,125	32,320

Source: Czech Statistical Office.

1/ Data for 1999–2000 are according to the new methodology, effective July 1, 2000.
2/ Standard International Trade Classification.

Table A35. Czech Republic: Inward Foreign Direct Investment by Industry and Country, 1996–2000 1/

(In millions of U.S. dollars)

	1996	1997	1998	1999	2000
Nonmanufacturing					
Agriculture, hunting, and forestry	0	7	4	9	9
Mining and quarrying	7	0	0	257	0
Electricity, gas, and water supply	160	375	197	297	149
Construction	121	38	48	15	90
Trade, hotels and restaurants	283	124	562	1,233	745
Transport, storage and communications	184	1	295	120	151
Financial intermediation	33	298	472	1,305	776
Real estate and business activities	0	42	142	320	521
Education	0	0	0	0	1
Health and social work	0	7	19	4	17
Other social and personal services	0	0	0	150	15
Total	**788**	**892**	**1,739**	**3,708**	**2,474**
Manufacturing					
Food and tobacco	73	94	129	216	117
Textiles, wearing apparel, and leather	23	15	89	45	26
Wood, paper and publishing	81	102	90	114	100
Refined petroleum and chemicals	334	51	61	199	44
Nonmetallic products	61	17	34	170	159
Basic metals and metal products	0	79	267	110	187
Machinery and equipment	68	16	48	289	576
Recycling and other manufacturing	--	34	83	25	7
Total	**640**	**408**	**801**	**1,169**	**1,216**
Country					
Western Europe					
Belgium	57	56	45	1,236	10
Denmark	11	3	3	19	33
France	20	102	97	162	136
Germany	249	391	538	781	872
United Kingdom	84	196	337	169	150
Italy	90	-36	27	34	32
Netherlands	259	134	608	729	749
Austria	208	95	245	631	761
Sweden	56	89	3	35	127
Switzerland	55	47	83	305	137
Canada	0	0	3	10	91
United States	253	99	258	562	158
Japan	39	11	25	16	53
Other	47	113	268	188	380
Total	**1,428**	**1,300**	**2,540**	**4,877**	**3,690**

Source: Czech National Bank.

1/ Inward flows of equity capital.

Table A36. Czech Republic: External Debt in Convertible and Nonconvertible Currencies, 1996–2000

(In millions of U.S. dollars, end of period)

	1996	1997	1998	1999	2000
Debt in convertible currencies	20,845	21,352	24,047	22,613	21,290
Long-term	14,823	14,293	14,955	13,838	12,331
by debtor:					
CNB	409	333	367	348	5
Commercial banks	5,517	4,576	4,468	3,577	2,532
Government	1,710	1,238	1,103	897	774
Other sectors	7,187	8,146	9,018	9,016	9,021
by creditor:					
Foreign banks	11,010	10,415	9,731	8,417	7,528
Governments	243	210	148	118	90
Multilateral institutions	646	401	242	355	306
Suppliers and direct investors	992	1,342	2,433	2,608	2,685
Other investors	1,933	1,926	2,402	2,340	1,722
Short-term	6,022	7,059	9,092	8,775	8,959
by debtor:					
CNB	2	1	1	1	0
Commercial banks	3,910	4,912	6,477	6,393	6,124
Government	102	236	1	0	56
Other sectors	2,008	1,910	2,613	2,381	2,779
by creditor:					
Foreign banks	3,125	4,113	5,882	5,609	5,518
Governments	102	236	1	0	0
Suppliers and direct investors	1,680	1,670	2,259	2,273	2,556
Other investors	1,216	1,276	951	892	885
Debt in nonconvertible currencies	336	264	301	248	237
Long-term	324	256	298	248	237
Short-term	12	8	4	0	0
Total External debt	21,181	21,617	24,348	22,861	21,527
Long-term	15,148	14,549	15,253	14,086	12,568
Short-term	6,033	7,068	9,095	8,775	8,959

Source: Czech National Bank.

Table A37. Czech Republic: External Debt Sevice Obligations in Convertible Currencies, 1998-2000 and 2001–22 Based on Medium- and Long-Term Debt Outstanding at end-2000

(In millions of U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010–22
Principal	4,085	3,199	3,569	3,085	2,237	1,823	1,275	1,302	833	353	383	558	482
By creditor	4,085	3,199	3,569	3,085	2,237	1,823	1,275	1,302	833	353	383	558	482
Foreign banks	1,762	1,572	1,931	2,063	1,277	1,087	843	655	426	319	182	307	369
Official	77	42	16	15	15	15	15	15	15	0	0	0	0
Multilateral institutions	242	166	51	50	49	49	49	49	49	11	0	0	0
Supliers	1,846	1,103	1,242	690	537	403	336	376	343	0	0	0	0
Other	158	316	329	267	359	269	32	207	0	23	201	251	113
By debtor	4,085	3,199	3,569	3,085	2,237	1,823	1,275	1,302	833	353	383	558	482
Banks	1,780	1,638	2,260	936	476	430	161	0	0	0	0	0	0
CNB	7	60	324	1	1	1	1	1	0	0	0	0	0
Commercial banks	1,773	1,578	1,936	935	475	429	160	135	22	32	209	90	45
Official	459	439	48	133	136	57	61	48	45	16	0	186	92
Corporations and other	1,846	1,122	1,261	2,016	1,625	1,336	1,053	1,118	766	305	174	282	345
By instrument	4,085	3,199	3,569	3,085	2,237	1,823	1,275	1,302	833	353	383	558	482
Financial credit	1,066	1,620	1,108	760	111	356	148	143	61	27	206	72	33
Commercial banks	747	1,431	1,060	713	65	310	102	98	16	27	206	72	33
CNB	7	60	0	1	1	1	1	0	0	0	0	0	0
Government	312	129	48	46	45	45	45	45	45	0	0	0	0
Bonds	147	310	324	257	346	14	21	207	0	23	0	252	113
Commercial banks	0	0	0	19	256	0	0	0	0	0	0	14	5
CNB	0	0	324	0	0	0	0	0	0	0	0	0	0
Government	147	310	0	87	90	12	16	3	0	16	0	187	92
Corporations and other	0	0	0	151	0	2	5	204	0	7	0	51	16
Export credit	134	113	624	49	29	13	9	6	5	5	4	3	7
Commercial banks	134	113	624	49	29	13	9	6	5	5	4	3	7
CNB	0	0	0	0	0	0	0	0	0	0	0	0	0
Deposits	892	34	252	154	126	105	50	31	0	0	0	0	0
Commercial banks	892	34	252	154	126	105	50	31	0	0	0	0	0
Trade credit	1,846	1,122	1,261	1,865	1,625	1,335	1,047	915	767	298	173	231	329
Corporations	1,846	1,122	1,261	1,865	1,625	1,335	1,047	915	767	298	173	231	329

Table 37. Czech Republic: External Debt Sevice Obligations in Convertible Currencies, 1998-2000 and 2001–22 Based on Medium- and Long-Term Debt Outstanding at end-2000 (Concluded)

(In millions of U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010–22
Interest	1,039	1,039	860	622	487	375	276	210	148	102	75	51	29
By creditor	1,039	1,039	860	622	487	375	276	210	148	102	75	51	29
Foreign banks	178	174	142	367	285	217	161	117	83	62	46	31	22
Official	11	7	6	5	4	3	2	1	1	0	0	0	0
Multilateral institutions	26	27	16	22	19	16	11	7	3	0	0	0	0
Supliers	459	462	473	108	84	62	46	30	21	0	0	0	0
Other	365	369	223	120	95	77	56	55	40	40	29	20	7
By debtor	1,039	1,039	860	622	487	375	276	210	148	102	75	51	29
Banks	371	321	225	115	97	70	43	35	0	0	0	0	0
CNB	20	23	21	1	0	0	0	0	0	0	0	0	0
Commercial banks	351	298	204	114	97	70	43	35	30	29	18	6	2
Official	101	129	63	47	35	32	27	22	19	16	15	15	7
Corporations and other	567	589	572	460	355	273	206	153	99	57	42	30	20
By instrument	1,039	1,039	860	622	487	375	276	210	148	102	75	51	29
Financial credit	129	132	108	84	75	71	45	38	29	26	16	4	2
Commercial banks	92	105	93	65	59	58	36	32	27	26	16	4	2
CNB	3	3	0	0	0	0	0	0	0	0	0	0	0
Government	34	24	15	19	16	13	9	6	2	0	0	0	0
Bonds	364	362	222	82	59	40	37	36	21	22	19	19	7
Commercial banks	172	117	61	22	19	1	1	1	1	2	1	1	0
CNB	17	20	21	0	0	0	0	0	0	0	0	0	0
Government	67	105	48	28	21	19	17	16	16	16	15	15	7
Corporations and other	108	120	92	32	19	20	19	19	4	4	3	3	0
Export credit	28	33	21	8	5	4	3	2	2	1	1	1	0
Commercial banks	28	33	21	8	5	4	3	2	2	1	1	1	0
CNB	0	0	0	0	0	0	0	0	0	0	0	0	0
Deposits	59	43	29	20	13	7	3	0	0	0	0	0	0
Commercial banks	59	43	29	20	13	7	3	0	0	0	0	0	0
Trade credit	459	469	480	428	335	253	188	134	96	53	39	27	20
Corporations	459	469	480	428	335	253	188	134	96	53	39	27	20
Total debt service	5,124	4,238	4,429	3,707	2,724	2,198	1,551	1,512	981	455	458	609	511

Source: Czech National Bank

Table A38. Czech Republic: Official External Reserves and Other Foreign Assets, 1993–2000

(In millions of U.S. dollars, end of period)

	1993	1994	1995	1996	1997	1998	1999	2000
Gross external reserves	6,245	8,892	16,981	16,096	15,002	18,903	19,031	19,323
Gold	83	83	85	85	44	13	19	123
Foreign exchange	6,153	8,809	16,896	16,012	14,958	18,890	19,012	19,197
Held by central bank	3,781	6,161	13,939	12,352	9,730	12,605	12,806	13,013
Held by other banks	2,372	2,648	2,957	3,660	5,228	6,286	6,206	6,185
Holding of SDRs	8	0	0	0	0	0	0	0
Reserve position in the Fund	0	0	0	0	0	0	0	3
Other foreign assets in convertible currencies	4,821	4,788	5,944	10,486	10,733	13,554	14,412	15,014
Other assets of banks 1/	62	63	598	3,585	4,362	6,598	7,102	7,113
Held by enterprises	2,662	2,601	3,065	4,387	3,818	4,122	4,595	5,106
Held by government institutions	1,975	1,981	2,107	2,016	2,005	2,030	2,017	2,011
Direct investment abroad	122	143	175	498	548	804	698	784
Foreign assets in nonconvertible currencies 2/	4,596	4,538	4,045	4,047	4,044	3,969	4,023	4,025
Held by central bank	0	0	0	0	0	0	0	0
Held by other banks	2	1	10	0	0	0	0	0
Held by enterprises	277	240	154	132	127	96	91	74
Held by government institutions 3/	4,310	4,297	3,880	3,915	3,918	3,873	3,932	3,951
Direct investment abroad	7	0	0	0	0	0	0	0
Claims on the Slovak Republic in nonconvertible currencies 4/	2,289	2,252	2,427	0	0	0	0	0
Total	17,950	20,471	29,396	30,629	29,779	36,426	37,465	38,362

Source: Czech National Bank.

1/ Crown assets included from 1995.

2/ Excluding the Slovak Republic.

3/ From 1993, reflects assumption by the government of assets in nonconvertible currencies previously held by the Ceskoslovenska Obchodni Banka (CSOB).

4/ Effective 1996, these are treated as foreign assets in convertible currencies.