III. MACROECONOMY

III.1 Gross Domestic Product

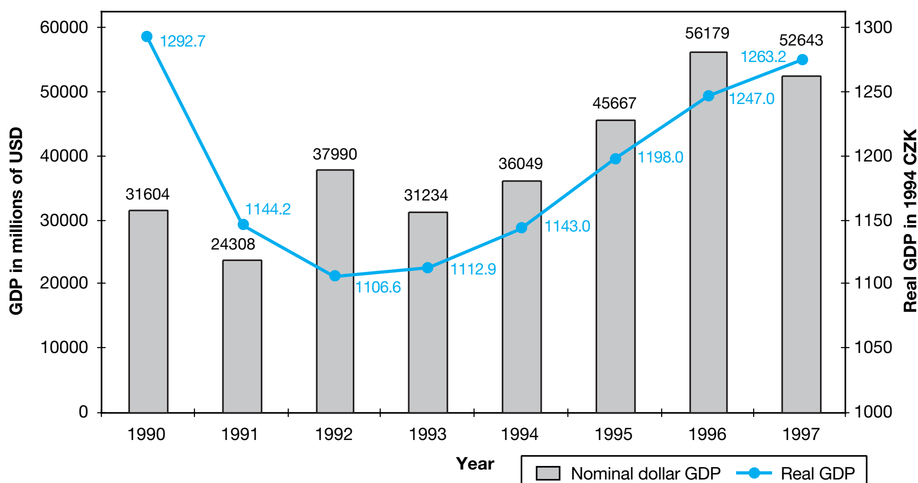
The turmoil of the transformation was most evident in 1991 when the economy suffered an unparalleled decrease in aggregate output. Such a decline continued for two years. Moderate revitalization started in 1994. In real terms the gross domestic product (GDP) declined by more than 21% in comparison with 1989. In 1997, the GDP is still more than 9% below its real level in 1989. Economic development in 1997 was marked by several dramatic events: the exchange rate and financial market crisis, disastrous floods, and growing dissension within the government coalition. The country experienced a slowdown in GDP growth. Certain shortcomings of privatization and the country's legal system seem to be prime suspects of the blurred economic development.

Gross Domestic Product

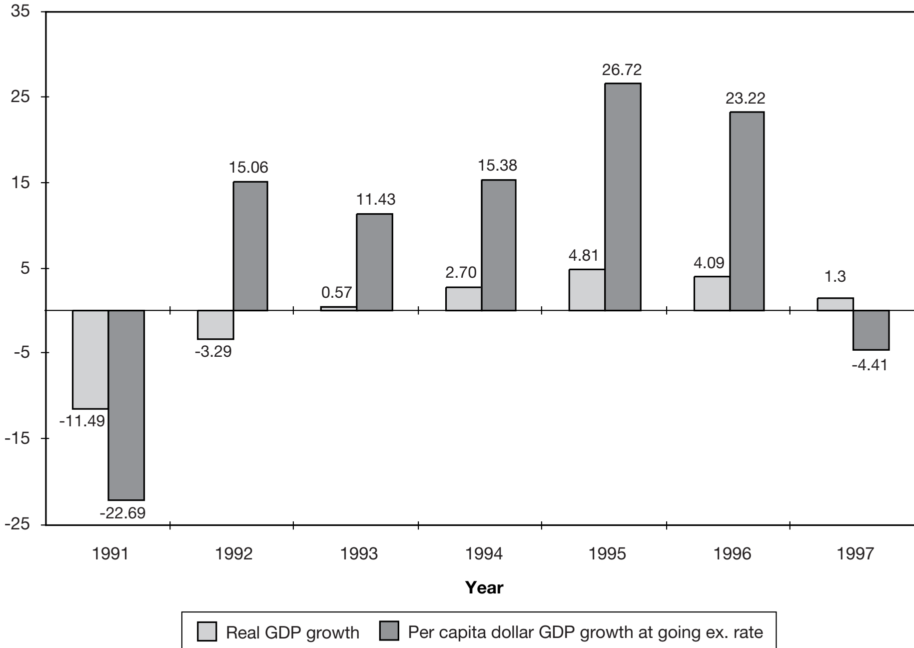
	billions of CZK (1994)	millions of USD
1990	1292.7	31604
1991	1144.2	24308
1992	1106.6	37990
1993	1112.9	31234
1994	1143.0	36049
1995	1198.0	45667
1996	1247.0	56179
1997	1263.2	52643

Source: CNB, WIIW, Analýza ekonomického vývoje 1996, 1997 CERGE estimates

Real and Nominal GDP



GDP Growth Rates



Real GDP Growth Rates, in %

	Czech Republic	Hungary	Poland	Slovakia	Slovenia
1990	-1.20	-3.50	-11.60	-2.50	-4.70
1991	-11.49	-11.90	-7.00	-14.50	-8.10
1992	-3.29	-3.10	2.60	-6.50	-5.40
1993	0.57	-0.60	3.80	-3.70	1.90
1994	2.70	2.90	5.20	4.90	4.90
1995	4.81	1.50	7.00	7.40	3.50
1996	4.09	1.00	6.10	6.90	3.10
1997	1.30	1.30	5.70	5.20	3.00

Source: CNB, UNO, 1997 CERGE estimates

III.2 Investments

Economic growth is not possible without investments. After a period of stagnation during the beginning of the transformation, investments started to rise steadily. Fixed investments have recently grown at a very high rate. The rate of gross investment has been even higher, indicating a substantial positive increase in stocks. New investments in machines and equipment have been more frequent than those in buildings and construction. Lately, the largest investment increases have been registered in communications and mining. An especially promising revitalization has recently occurred in the manufacturing industry. Strong investment activity has emerged, particularly, in the paper industry, metallurgy and electrical engineering. Textile, food, and chemical industries have recorded some investment acceleration as well; however, a decline was registered by non-financial firms: construction, catering and accommodation.

Nominal GDP and Investment

	GDP in bil. of current CZK	Investment in bil. of current CZK
1991	716.6	154.4
1992	791.0	200.9
1993	910.6	256.1
1994	1037.5	318.8
1995	1252.1	411.1
1996	1414.0	478.7

Source: CESTAT

Machinery and Equipment Share of Total Investment, in %

	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovakia
1990	45	46	46	34	43	46
1991	47	46	46	30	39	51
1992	46	46	48	38	40	50
1993	36	49	48	38	43	48
1994	46	50	46	41	52	44
1995	44	49	49	47	45	49
1996	50	52	44	59	44	53
1997	49	50	47	50	45	52

Source: IMF, 1997 CERGE estimates

Comparison of Investments in Central Europe

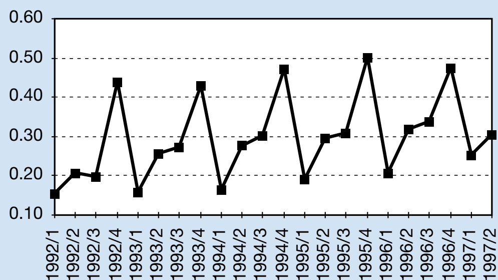
The investment data reveal two striking features. Firstly, since 1991 the Czech and Slovak Republics have uniformly invested a higher proportion of GDP than Hungary and Poland, and secondly, the investment behavior in all four economies displays very strong and regular seasonal characteristics.

With respect to the rates of investment across the four compared economies, the investment/GDP ratio in the Czech Republic averaged 30% and fluctuated in the 14-54% range between 1991 and the fourth quarter of 1996. In Slovakia, the ratio averaged 32%, ranging from 16-67%. In Hungary, investment/GDP attained an average of 19% and varied between 9% and 32%. Finally, in Poland the investment/GDP ratio averaged a mere 10%, ranging from 5-19%.

The question that naturally arises is why the four central European countries display such different propensities to invest. In the case of Poland, the statistical data cover only larger firms; therefore, it is possible that the low investment figures for Poland are brought about by an omission of smaller firms. Small private firms accounted for most of the growth in the Polish economy in the early 1990s, thus they are likely to have invested significantly in order to produce this growth. In the Czech Republic, unlike the other three countries, the investment data exclude intangible assets. The Czech investment/GDP ratio would be even higher if this type of investment were included. Perhaps a puzzling situation is Hungary, which, as reported by the World Bank (1996), is to have received $10.6 billion in foreign direct investment (equivalent to 31% of its 1994 GDP) between 1989 and 1995. In contrast, in the same period the Czech Republic with a similar population received only $4 billion (13% of its 1994 GDP), Poland received $6.5 billion (7% of its 1994 GDP), and Slovakia received $0.5 billion (4% of its 1994 GDP). Hungary's domestic investment is particularly low compared to the other three countries.

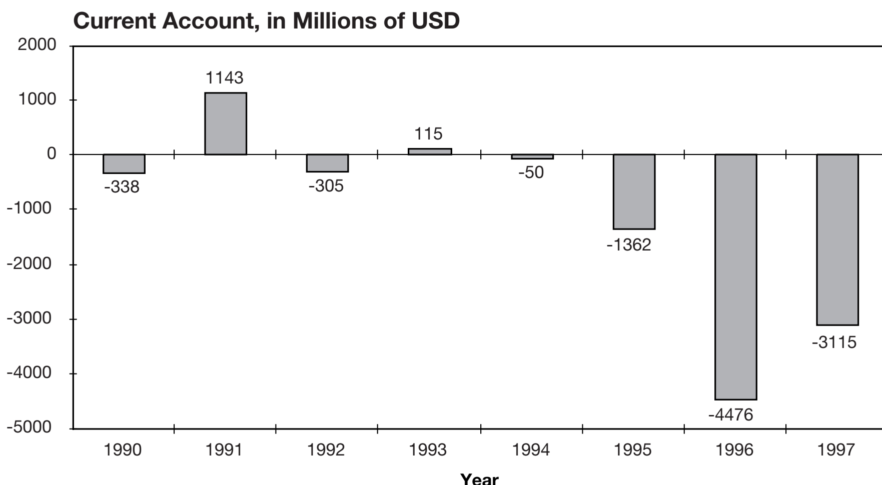
The striking aspect of the seasonal pattern is the finding that investment rises continuously from the first to the fourth quarter, and in the fourth quarter it is almost twice as high as in the second and third quarters. The pattern is most clearly visible in the Czech and Slovak data, but it exists in the investment series of all four Central European countries.

Investment per GDP in the Czech Republic



Source: CESTAT

III.3 Debt



Source: CESTAT, WIIW, CEFTA, 1997 CERGE estimates

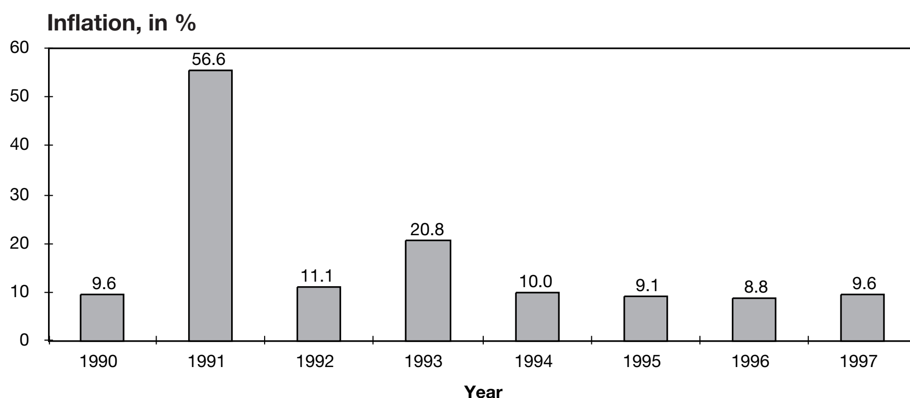
The current account deficit is larger than policy makers would like. However without running a deficit in this stage of transformation, the country would not be able to acquire enough badly needed investments to restructure the economy and foster growth. Gross external debt in absolute as well as per-capita value is increasing over time, though at a slower rate due to higher amounts of foreign repaid debt. Gross external debt as a ratio of GDP is increasing as well, but so far it is lower than is commonly found within the European Union. In 1997 the debt is estimated to go past the benchmark of 40% of GDP. This fact, paired with some political instability, should be considered as a serious but not a disastrous matter.

Gross Debt

	Gross debt per capita in USD	Gross debt in mil.USD	Gross debt as % of GDP
1992	762	7869	20.71
1993	822	8496	27.20
1994	1035	10694	29.67
1995	1584	16346	35.79
1996	1979	20412	36.33
1997	2086	21504	40.41

Source: CESTAT, WIIW, CEFTA, 1997 CERGE estimates

III.4 Inflation



Inflation was proclaimed to be nil in former Czechoslovakia because it did not conform with the official view of the system. It was present all the time, though, and referred to by various appropriate "newspeak" expressions. After the pre-reform period in 1990, when prices were still more or less under state control, a steep increase came as no surprise. Freeing prices in February, 1991, accounted for almost the entire increase in inflation for that year. The introduction of the Value Added Tax caused a similar but not that profound increase in 1993. Later, the central bank executed generally tight monetary policy which resulted in relatively low inflation and it aims to push it down further. However, the prospects of dramatically lowering inflation by the central bank should be reviewed cautiously. Unless the remaining prices are deregulated and the economy picks up, inflation barely below 10% should be regarded as a natural result.

Inflation, in %

	Czech Republic		Hungary		Poland		Slovakia		Slovenia	
	a	b	a	b	a	b	a	b	a	b
1990	9.6	18.4	28.9	33.4	585.8	249.0	10.4	18.4	551.6	105.0
1991	56.6	52.0	35.0	32.2	70.3	60.4	61.2	58.3	115.0	247.1
1992	11.1	12.7	23.0	21.6	43.0	44.3	10.0	9.1	207.3	92.9
1993	20.8	18.2	22.5	21.1	35.3	37.6	23.2	25.1	32.9	22.9
1994	10.0	9.7	18.8	21.2	32.2	29.4	13.4	11.7	19.8	18.3
1995	9.1	7.9	28.2	28.3	27.8	21.6	9.9	7.2	12.6	8.6
1996	8.8	8.6	23.6	19.8	19.9	18.5	5.7	5.4	9.7	8.8
1997	9.6	10.4	21.4	17.8	17.7	17.1	5.5	5.3	7.9	7.2

a) Moving average change in CPI b) End of the year change in CPI
Source: CNB, CESTAT, 1997 CERGE estimates

III.5 Exchange Rate

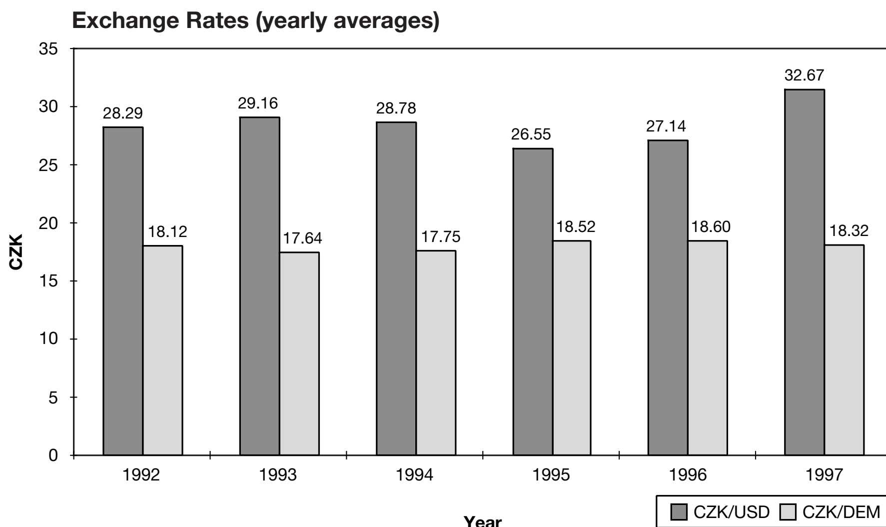
From the beginning of the economic transformation the role of the exchange rate could not be downplayed as it was in the former centrally planned economy. The originally undervalued exchange rate pegged to a currency basket was chosen as a nominal anchor. Monetary separation with Slovakia did not affect the Czech crown, but the Slovak counterpart suffered some devaluation. Three changes in the composition of the basket resulted in the basket consisting of the US dollar (35%) and the German mark (65%) to represent their weights in Czech foreign trade. Full convertibility of the crown was implemented on October 1, 1995; however, this step was not paired with any change in the exchange rate regime. The former fluctuation band of ± 0.5% was extended to ± 7.5% on February 28, 1996. A stable exchange rate in a mild inflationary environment meant that the crown continually appreciated in real terms. Speculative attacks hit the crown in May, 1997. The central bank proceeded with interventions, raised interest rates, but eventually abandoned the fixed exchange rate regime. On May 26, 1997 the crown was let to float.

Exchange Rates of CZK to the USD, DEM, and SKK (yearly averages)

	CZK/USD	CZK/DEM	CZK/SKK
1992	28.29	18.12	n. a.
1993	29.16	17.64	0.92
1994	28.78	17.75	0.85
1995	26.55	18.52	0.80
1996	27.14	18.60	0.78
1997	32.67	18.32	0.91

Source: CNB, 1997 CERGE estimates

Exchange Rates (yearly averages)



Financial Crisis of 1997

In 1997 the Czech Republic experienced a financial crisis during which the fixed exchange rate regime was abandoned, the Czech crown depreciated, and interest rates increased. This article intends to sum up what preceded the crisis and what are the outcomes.

Former Czechoslovakia officially started its economic transformation in 1991. From this time on, the role of the exchange rate could no longer be discounted as in the former centrally planned economy. At least at the beginning of the transformation, a certain reduction in the relative volatility of the exchange rate was desirable in order to promote exports, direct foreign investments, and economic development during the transition to a free market economy. The shock of the transition needed to be buffered, and therefore, introducing a floating exchange rate system would have been premature. A floating exchange rate regime requires that no restrictions on financial capital movement be imposed. This necessitates a strong mature economy with sufficient reserves of convertible currencies. During the early stages of economic reform, the country did not meet these conditions, and an eventual bank run could have caused vast damage.

The temporary anchor of a currency basket peg was introduced in 1991 with new base rates. The base rates were set quite high in order to be long lasting. In the beginning of 1993, Czechoslovakia was split into two independent nations. Monetary separation of the Czech and Slovak republics followed shortly after the formal division of the state. From this point on, the Czech crown has remained more or less stable, unlike its Slovak counterpart, which has devalued over time. Full convertibility of the crown was implemented on October 1, 1995, which meant that both companies and citizens could trade the crown for foreign exchange without restrictions. However, this step was not paired with any change in the exchange rate regime, and thus the crown remained pegged to the currency basket.

Over the next few years several important changes took place. First, the CNB changed the composition of the basket on January 2, 1992, and then again on May 2, 1993. From the latter date on, the basket was composed of the US dollar and the Deutsche mark at a ratio of 35:65. Second, there was a change in the fluctuation band. The band imposed on the basket was originally set at ± 0.5%. It was widened on February 28, 1996, to allow the index to fluctuate by ± 7.5%. However, the exchange rate was still kept within the fixed regime.

While inflation was quite high in the beginning of the transition period and moderate later on, the exchange rate remained more or less stable. Thus, the crown appreciated considerably in real terms over time. Real appreciation paired with worsening

economic performance in 1996 created pressure on the so far sustained exchange rate. The most important changes occurred in 1997.

From the very beginning of 1997, the exchange rate started to appreciate significantly (the effect of several large issues of CZK denominated Eurobonds). In the middle of February, it reached a local maximum of 5.5% above the central parity, and from then on it steadily depreciated. At first the fall was not very sharp, and the rate even stabilized in the beginning of May. Strong speculative pressure had emerged by the middle of May. CNB fought the speculative attacks for roughly two weeks with the help of foreign exchange interventions and with a sharp increase in interest rates. Then, on May 26, 1997, the CNB abandoned the fixed exchange rate regime and let the crown float freely with some unspecified tie to the German mark. The crown immediately devalued by 12-13%. This dive stopped quite quickly, and subsequently the crown strengthened and moved back towards the lower range of the original parity.

The financial crisis cannot be understood without looking at interest rates and the monetary policy of the CNB. In the beginning of 1993 the CNB stressed free reserve regulations in the banking system. Interest rates on the inter-bank deposit market rose until the middle of April. Relaxation of monetary policy starting in April led to a gradual decline in interest rates which continued until the end of the year. In 1994 developments on the money market were affected mainly by continuing foreign capital inflows and the CNB employed free market operations. Beginning in the second half of the year, interest rates increased. In 1995 foreign capital inflow affected a decline in money market interest rates. The CNB used a range of operations to sterilize the impact of this inflow on money market interest rates. Interest rates on total credits and deposits changed little throughout the year. Real interest rates on new credits and time deposits increased. In 1996, foreign capital inflow had a smaller effect on money market interest rates. Turnover on the inter-bank deposit market grew substantially. Tighter monetary policy resulted in an increase in interest rates.

So far, 1997 has been the most dramatic year for the money market since the beginning of the transformation. The crown has become the most traded currency of all transition states. Interest rates were relatively stable at the beginning of the year. A financial crisis prompted their rise and stirred the foreign exchange market considerably. The fixed exchange rate regime was abandoned, but mild foreign exchange interventions remained on the agenda almost daily. Interest rates declined slowly. The unprecedented uncertainty that started to peak during the mid-year financial crisis overcame the market.

The devaluation of the crown acted as a natural pro-export incentive and hurt the economy only mildly. Instead, the sharp increase in interest rates was the damaging

factor. The CNB ceased performing repo operations on May 15, 1997, and set a floating repo rate which was dependent on the current market situation. The rates rose slightly. On May 16, 1997, the CNB increased the lombard rate from 14 to 50%, and during the next week it started to lower market liquidity with a 45 and later 75% repo rate. As a result of such strict monetary policy, short-term interest rates on the inter-bank market reached an unbelievable 200% and even peaked above 400%. Commercial banks' access to liquidity was cut off and the banks reacted accordingly. Tied to the subsequent appreciation of the currency, interest rates decreased but did not reach original levels.

The relatively stable environment of the fixed exchange rate regime and semi-regulated interest rates provided a soft environment for the evolution of links among key interest rates and the exchange rate. Bonds among interest rates tended to evolve in a weak economic sense. During the turbulent times of financial crisis, the prevailing links among interest rates tended to gain strength and the money market became more efficient than it had been at any time before. The turbulence and uncertainty enabled interest rates to again become the price of money as well as to influence the exchange rate. The financial crisis significantly hurt both enterprises and the banking sector by generating unbearably high interest rates.