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CZECH ECONOMY: AUTUMN 2004

Kamil Janáček, Eva Zamrazilová

1. ECONOMIC GROWTH

In the first half of 2004, the growth of Czech economy accelerated. GDP increased by 4.1 % in the second quarter, after the 3.5 % in Q1 2004. This figure was still the second-lowest one among the Central European new EU member states. The main growth factor of GDP in the second quarter of 2004 was fixed capital formation (12.8 %), followed by household consumption (3.4 %). Despite higher inflation and persistent high unemployment, the Czech households continued to spend – in face of slowing growth of real incomes they use massively consumer and mortgage credits. Government consumption fell (by 1.1 %). Foreign trade influenced the GDP growth adversely: the growth of imports (24.7 %) exceeded slightly the growth of exports (23.1 %).

As indicated by the data, there is a visible shift from household consumption to fixed capital investments and export as a main driving force of GDP growth. While the direct impact of net exports is still negative, there is increasing indirect effect of rapid growth of exports which strongly promote the domestic investment demand, particularly in industry.

As of March 2004, double-digit growth of industrial output has been registered. Growth of industrial output was concentrated predominantly to manufacturing industries, which reported growth of 11.5 %, January - August 2004. Growth of industrial output was strongly driven by metal industry (24.8 %), which has been supported by strong demand for metal products in Asia (in particular by the Chinese one). Also, above average growth was registered in production of electrical appliances (18.7 %) and car industry (13.6 %).

Industry continued to be driven predominantly by the exports, the direct export sales increasing by 14.0 %. However, the gap between the growth of export sales and domestic sales seems to be narrowing, which indicates that the role of domestic demand as a pro-growth factor of industrial output has been gaining on importance. Again, the exports were realised predominantly by the foreign controlled companies. Nevertheless, domestic companies seem to be able to use the advantage of catching-up, the gap between the dynamics in the domestic and foreign controlled sector gradually diminishing.

Boom in construction observable in the first four months of 2004 was replaced by a slowdown observable since May. While January to April, construction output increased by 30 %, following cool-down contracted the cumulative growth in January – July to 13.4 %.

Weak results of construction in May – July 2004 could not be assessed as cyclical weakening of investment construction activity. It was only a natural compensation for extremely rapid growth from the past. In the second half of 2003, the boom in construction was driven by expected price increase of construction works (due to change in VAT), which should have been valid as of January 2004. This change was postponed to May 2004. The investors therefore accelerated their efforts until April 2004. April 2004 was the last month with the possibility of invoicing construction works under the lower rate. Therefore large amount of construction works was most probably pre-invoiced in Spring 2004.

In August 2004, after three months of decline, construction came back to solid growth (9.4 %), confirming that the attenuation in construction was only a temporary one. In the first eight months of 2004, construction output grew by 12.8 %.

2. FOREIGN TRADE AND EXCHANGE RATE

Growth both of exports and imports accelerated, after the EU accession, which may be partly attributable to elimination of some administrative barriers. January – August 2004, the exports increased by 23 % the imports rose by 20.1 %. The trade deficit amounted to CZK 17.9 bill., which was a decline of almost CZK 18.6 bill. against the same period of last year. Regarding high growth both of exports and imports and record-high prices of

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In 2004, the exports of machinery (accounting for half of Czech exports) grew most rapidly, increasing by 25 %. The surplus in the trade with machinery amounted to CZK 103 bill., January to August 2004. On the part of imports, semimanufactured goods grew most rapidly (by 25 %).

January to May 2004, the exchange rate of CZK/EUR oscillated in the range of 32.3 to 33.0 CZK/EUR (26.0 – 27.0 CZK/USD). In the first half of June, due to favourable macroeconomic fundamentals, the Czech currency started to appreciate reaching, 31.3 CZK/EUR in mid-June. Later on, following the disaster results of coalition parties in the European elections and following government crisis, the Czech crown depreciated till the level of 32 CZK/EUR. Then, the formation of new government, and as a consequence of favourable macroeconomic data, the Czech currency started, anew, to appreciate, reaching 31.66 CZK/EUR and 25.51 CZK/USD at the end of September.

In the first half of 2004, current account deficit amounted to CZK 56.7 bill. while the surplus on the financial account reached CZK 42 bill. The balance of payments thus ended in the red, in the first half of 2004. The main source of current account deficiency remains the incomes balance, with the deficit of CZK 58 bill., in H1 2004. However, one third of expenditure of the incomes balance has been generated by the reinvestments of profits which do not represent real financial flows and therefore do not threaten the external stability of the country.

The half-year FDI inflow (CZK 58.1 bill.) was moderately higher from a year earlier (CZK 53.3 bill.). Anyway, the importance of the reinvestments of profits has been growing: according to the CNB estimates, reinvested profits accounted for two thirds of FDI inflows, in H1 2004. In H1 2004, net inflow of portfolio investments amounted to CZK 64.1 bill., while net inflow of other investments reached CZK 84 bill.

3. INFLATION

Two vawes of tax changes shifted the price level up. The first tax change followed by growth of consumer prices came as early as in January 2004, another one affected inflation in May 2004, although only moderately. Other factor of consumer prices growth was the rise of food and fuel prices. The increase in prices was replaced by September month over month decline which placed the CPI at 3 %. The average twelve-months inflation rate thus reached 2.2 %, in September 2004.

Fundamental inflationary pressures in the Czech economy are still very low. Competitive pressures are even stronger after the EU accession. Competition acts with higher intensity on the market with goods, however, major part of price increases of services (due to tax changes) has been most probably over.

The increase of producer prices was faster than that of consumer ones, year on year PPI standing at 8.0 % in September 2004. The growth of Czech PPI was pulled predominantly by world prices of oil and metals, which were by 60 % and 30 % higher than a year before, in September 2004. The oil price hike was caused by high demand for oil in the USA and China, metal prices were driven in particular by East Asian demand.

High prices of oil and metals affected especially producer prices in manufacture of coke and refined oil products and in metal industry. PPI in manufacture of coke and refined oil products increased by record-high 43.1 %, y/y in September 2004, prices in metal industry increasing by 28.3 %, y/y.

On June 24, 2004, the Czech National Bank decided to increase basic rates by 25 basis points. Another increase occurred on August 26, 2004 anew by another 25 basis points. This step placed the basic repo rate to 2.50 %, 50 basis points above the ECB's basic rate.

4. UNEMPLOYMENT

In July 2004, Ministry of Labour and Social Affairs started to publish the labour market figures based on different methodology used by the ILO. According to this new methodology, which will be used in the future, the Czech unemployment rate amounted to 9.1 %, in September 2004, instead of 10.1 % according to the old one. The new methodology thus presents Czech labour market in better light than the old one.

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Some stabilisation seems to be visible due to strong growth of Czech industry. As a consequence of strong demand, some industrial branches started to hire new workers, especially production of plastics, electrical and optical machinery and metal industry. Also, the main part of the effects of restructuring in industry on labour market seems to be over. Nevertheless, unemployment, especially the long-term one, remains one of the main macroeconomic bottlenecks of the Czech economy. More significant improvement may come only after adoption of some progressive measures focused in particular on higher activity of the unemployed.

5. EXTERNAL ENVIRONMENT

The world economy appears to accelerate: in the US, after 3.1 % growth in 2003, the economic expansion continued close to 4 %, in the first half of 2004. Growth in Asia continues to be impressive – in the second quarter of 2004, GDP in China grew by 9.6 % (Japan 4.1 %, India 8.2 %, Taiwan 7.7 %) Also Latin America can expect a solid economic expansion, after 5.7 % GDP growth in Brazil (3.9 % in Mexico and 5.1 % in Chile).

Despite the structural weaknesses, the eurozone is starting to benefit from the upsurge in world economic activity. After the 1.3 % growth in the first quarter, the growth in Euroland accelerated to 2.0 % in the second quarter. In particular, the economic dynamics of France is over the Euroland average, amounting to 2.3 %, in the first half of 2004. Nevertheless, the economic dynamics will be limited due to slow pace of structural reforms and only gradually recovering domestic demand; anyway we can expect the stronger revival in the Eurozone than was expected in the beginning of the year.

6. OUTLOOK

The International Monetary Fund cut its 2005 outlook due to sharp rise in oil prices that has contributed to the weakening of the expansion in recent months and will likely to do so for several quarters. However, the IMF forecasts world growth of 5 % in 2004, the fastest in 30 years, slowing to 4.3 % in 2005 - still a robust outcome, above the world economy's long-term trend rate of about 4 %. Anyway, in the quarters to come, the world economic environment will be favourable for the Czech economy.

In the second half of 2004, we expect that the domestic demand (especially the investment one) will continue to grow. Consumer demand will continue in slowdown observable in the first half of the year. The investment demand will remain robust, due to strong growth of exports and massive reinvestments of profits of foreign investors. Negative impact of external sector to GDP growth will slightly diminish. We therefore increase our full-year 2004 forecast of GDP growth to 3.6 %.

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Table 1: Main Macroeconomic Indicators

		2000	2001	2002	2003	06/04	07/04	08/04	2004F
Inflation	%, y/y	3.9	4.1	0.6	1.0	2.9	3.2	3.4	3.0
Inflation	%, m/m	-	-	-	-	0.2	0.4	0.0	-
Industrial prices	%, y/y	5.0	0.8	-0.7	0.9	6.2	7.3	8.1	7.5
Industrial prices	%, m/m	-	-	-	-	1.1	0.8	0.9	-
Unemployment rate*	%, eop.	8.8	8.9	9.8	10.3	9.9	9.2	9.3	9.3
Industrial production	%, real	5.1	6.8	4.8	5.8	15.1	11.0	8.7	8.5
Construction output	%, real	5.3	9.6	2.5	8.9	-3.7	0.3	9.4	12.0
Retail sales	%, real	4.6	4.3	2.7	5.0	3.7	0.3	-	2.5
State budget	CZK bill.	-46.1	-67.7	-45.7	-109.1	-49.7	-48.8	-50.7	-130
Trade balance	CZK bill.	-120.8	-119	-71.3	-71.2	1.5	-4.9	-2.4	-50
FOREX reserves	USD bill.	13.1	14.8	23.7	27.0	26.5	26.3	26.5	27.0
PRIBOR 3M	% average	5.36	5.2	3.55	2.3	26.5	26.3	26.5	2.4
CZK/EUR	Average	35.6	34.1	30.81	31.84	2.33	2.47	2.57	32.0
CZK/USD	Average	38.6	38.0	32.74	26.32	31.61	31.52	31.63	26.5
GDP	%, y/y	3.9	2.6	1.5	3.1	-	-	-	3.6

Source: Czech National Bank, Czech Statistical Office, forecasts by Komercni banka (bold figures)

*Note: As of July 2004, the unemployment rate is published according to the new methodology

Czech exports will continue to be favourably affected by recovery of economic activity in the EU. It seems that the EU entry represented another push for Czech exports, partly due to elimination of some administrative barriers (and perhaps also some psychological ones). Due to slow but ongoing decline of import intensity of exports, Czech trade balance will improve to CZK 50 bill. (or below).

However, the trade balance does no longer represent the main cause of current account deficit which is estimated to fall to 5.0 % of GDP, down from 6.2 % of GDP in 2003. Though this level of current account deficit could seem at first sight to be high, it must be stressed that major part of this deficit belongs to the incomes balance. One third of expenditure of the incomes balance are formed by reinvested profits which do not represent real financial flow and thus cannot threaten Czech macroeconomic stability. Therefore, five per cent level of current account deficit does not represent significant macroeconomic risk and will be to a high extent covered by FDI inflows which are estimated around USD 4.0 – 4.5 bill. in 2004.

Czech industry will continue to be driven by strong domestic demand and increased demand in the Eurozone. Metal industry will continue to be pulled especially by strong East Asian demand for steel and steel products, which will not cool down until the end of this year. Foreign-owned companies, with close business ties to EU countries, will remain the most dynamic driving force of the Czech industry. In 2004, growth in industry will amount to 8 – 9 %.

Extremely high fluctuations in construction should be over. Construction output should register solid growth in the forthcoming months, due to new projects carried out both by domestic and foreign investors. In the rest of the year, however, high bases for comparison will hit the growth rates of construction output. The full-year growth in construction should reach approximately 12 %.

A slowdown in retail sales will continue in the rest of the year. In the third quarter of 2004, the results in the automotive segment will be strongly affected by high bases for comparison from last year. Car sales did not and will not repeat the 2003 boom. Also, high prices of fuels will continue to hit the retail sales. The automotive segment accounts for approximately one third of total retail trade. The rest of the retail trade will continue to grow by mid-term dynamics of 3 %. We expect that the retail sales growth in 2004 will be in the interval 2 – 2.5 %.

In the following months, high oil prices are the only factor pushing the Czech CPI up. The prices of other consumer goods will be stable due to strong competition among big retail chains. This trend is supported by the slowdown of consumer demand. Also, the growth of services prices will be attenuated due to absorption of tax changes realised in the first half of the year. We expect the year-end headline inflation to reach 3.0 %; average inflation will be around 3 %, in 2004.

The developments of Czech PPI will depend on world prices of oil and metals. Prices of metals will most probably keep high until high Asian demand for metals does not cool down, which cannot be expected in the rest of the year. The oil prices are kept high by uncertain situation of important oil producers (Iraq, Russia, Nigeria) combined with record-high demand for oil. Therefore, oil price will most probably keep around USD 45 per barrel in the following months. We expect that the year on year PPI will amount to 7.5 %, at the end of 2004.

In the last quarter of 2004, we expect regular seasonal developments on the labour market. The unemployment rate should thus slightly decline in October and November. This decline will be followed by usual December increase, which occurs regularly due to expiration of term contracts. At the end of 2004, the unemployment rate will reach 9.3 % (according to the new methodology).

In the rest of 2004, slight appreciation of the Czech currency will continue, both against EUR and USD. These trends will be supported by a rather favourable macroeconomic fundamentals. We expect the average exchange rate of CZK against EUR at 32 CZK/EUR. The average exchange rate of CZK/EUR thus will be almost the same as in 2003. With respect to USD, the average exchange rate will reach 26.0 CZK/USD which represents 6 % appreciation against previous year.

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SLOVAK ECONOMY AFTER EU ENTRY

Kamil Janáček

The Slovak economy is showing a very solid economic growth in 2004, supported both by a strong FDI inflow, and by decisive steps in the reform of public finance. Output growth is fastest in the last six years. Robust increase of exports has cut the current account deficit significantly over the last two years – while in 2001 and 2002, the deficit reached an alarming level of 8 %. (For more detail, see Table 1).

Gross domestic product grew by 5.4 % in the second quarter of 2004. After a decline of household consumption in 2003, this started to grow (by 2.4 %). Fixed capital investment increased by 3.5 %. External trade also contributed to fast growth: netto exports reached SKK 2.4 billion.

Table 1: Main Macroeconomic Indicators

	2000	2001	2002	2003	2004F	2005F
GDP	2.0	3.8	4.4	4.2	4.8	5.0
Industrial Output	8.6	6.8	6.6	5.7	5.5	6.0
Inflation (average)	12.0	7.1	3.3	8.5	7.5	4.0
Unemployment Rate (average)	18.6	19.2	18.5	17.4	16.5	15.5
Current Account (% of GDP)	-3.5	-8.4	-8.0	-0.9	-1.5	-2.5

Source: Slovak Statistical Office, Komerční banka

The inflow of foreign direct investment that was high in the last three years continued in 2004: in the first half of the year, the inflow reached 4.6 % of GDP, without any large privatisation transaction being done. Increased presence of foreign capital has speeded up the growth of industry and exports, and, as shown above, it is a driving force of GDP growth.

FISCAL POLICY

The fiscal outlook for 2004 was very unclear as, on January 1, 2004, Slovakia introduced a new flat rate for VAT, corporate tax, and income tax, at the level of 19 %. Hence the government budget worked with a conservative estimate of incomes growth by 5 %, and with a growth of public budgets deficit, which would reach 4.5 % of GDP. However, the results of the tax reform exceeded the expectations: in the first half of 2004, government budget incomes grew by 12 %, and the deficit of public finance in 2004 will only slightly exceed the 2003 level (see Table 2).

Slovak example has confirmed the experience of all countries that simplify the tax system radically – tax evasion becomes less widespread, so that the government gets a higher volume of tax incomes, in spite of lower tax rates. In Slovakia, the incomes from corporate tax grew also thanks to good results of firms, especially exporters.

The convergence program of the Slovak government assumes that the deficit of public finance should be cut to 3 % of GDP in 2007 (and in 2008, the Maastricht criteria should be met). This is a very demanding goal, as the additional expenditures connected with EU entry (payments to the EU budget), and the costs of introducing a second pillar of the pension system – obligatory pension funds – from 2005, themselves represent more than 2 % of GDP. The Slovak government is negotiating with the European Commission to be allowed to exclude from the public finance deficit, measured on an ESA-95 national account

Table 2: Trends in Public Finance, 2000 – 2005 (% of GDP)

	2000	2001	2002	2003	2004F	2005F
Public Budget Deficit/Surplus	-2.3	-6.0	-5.7	-3.6	-3.8	-3.8
Public Debt	49.9	48.7	43.3	42.8	44.0	46.5

Source: Eurostat, Komerční banka

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MONETARY POLICY

Slovak currency has been appreciating steadily since 2002, as shown in Tables 3 and 4. In 2004 the appreciation trend continued, supported by robust macroeconomic figures, and by strong FDI inflow. The central bank faced this trend with cutting the basic repo rate three times in seven months (by 50 basic points every time). The SNB also strongly intervened in the money market (buying almost an estimated EUR 1 billion). As Table 4 shows, cuts of the repo rate and strong intervention helped to stop the appreciation of SKK by the end of summer 2004. However, further appreciation has to be expected during the rest of 2004, and in 2005.

Table 3: Selected Monetary Indicators

	2000	2001	2002	2003	2004F	2005F
Money Supply M2 (growth rates in %)	14.0	11.9	7.7	5.5	6.5	7.0
PRIBOR (average)	8.60	7.80	7.80	6.18	5.1	4.3
SKK/EUR (average)	42.6	43.3	42.7	41.5	40.1	39.4
SKK/USD (average)	46.2	48.4	45.4	36.8	32.8	31.6

Source: SNB, Komerční banka

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SHORT-TERM OUTLOOK

Inflow of foreign investment will continue in 2005 (and 2006), mainly into the car industry. Slovakia will thus become the biggest car producer in Central Europe. In 2005, also Slovak Electric Company (Slovenské elektrárne) will be privatised. Thus FDI will be significant as share in GDP (5 to 10 %), and will push the currency toward appreciation.

Economic growth, generated mainly in firms under foreign control, will be around the level of 5 %. Strong exports growth will keep the current account deficit at a very comfortable level of 2 to 3 % of GDP. Economic growth, and the accomplished reforms of social expenditures, will help to bring down the relatively high employment.

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There are nevertheless some risks threatening the above, almost "rosy", outlook of the Slovak economy. At political level it is the fact that the minority government will only with great difficulty be able to push through the next stage of reforms, of medical care and schooling, which are unacceptable for the opposition. With high probability, the next packet of reform measures will have a chance only after the parliamentary election in 2006.

At economic level, the risks lie, first, in the vulnerability of the Slovak economy, with its very high share of car industry which, as is well known, is prone to strong cyclical fluctuations. Second, there is the placing of most foreign investment to Bratislava and to a narrow belt of territory in Western Slovakia. Here, the economy is expanding, and unemployment is around a very acceptable 5 %. At the same time, large areas of Central and Eastern Slovakia are plagued by a long-term recession, with 25 % unemployment. The danger of continuation of this “two-tier” economy is a long term, serious risk not only for economic development, but for Slovakia’s social stability as well.

At economic level, the risks lie, first, in the vulnerability of the Slovak economy, with its very high share of car industry which, as is well known, is prone to strong cyclical fluctuations. Second, there is the placing of most foreign investment to Bratislava and to a narrow belt of territory in Western Slovakia. The danger of continuation of this “two-tier” economy is a long term, serious risk not only for economic development, but for Slovakia’s social stability as well.

Table 4: REPO Rate and SKK Exchange Rate in 2004

	1	2	3	4	5	6	7	8	9
REPO rate	6.00	6.00	5.50	5.00	5.00	5.00	4.50	4.50	4.50
SKK/EUR	40.8	40.6	40.4	40.1	40.2	39.9	39.9	40.1	40.1

Source: SNB, Komerční banka

THE PUZZLE OF CZECH ECONOMIC GROWTH

Eva Zamrazilová

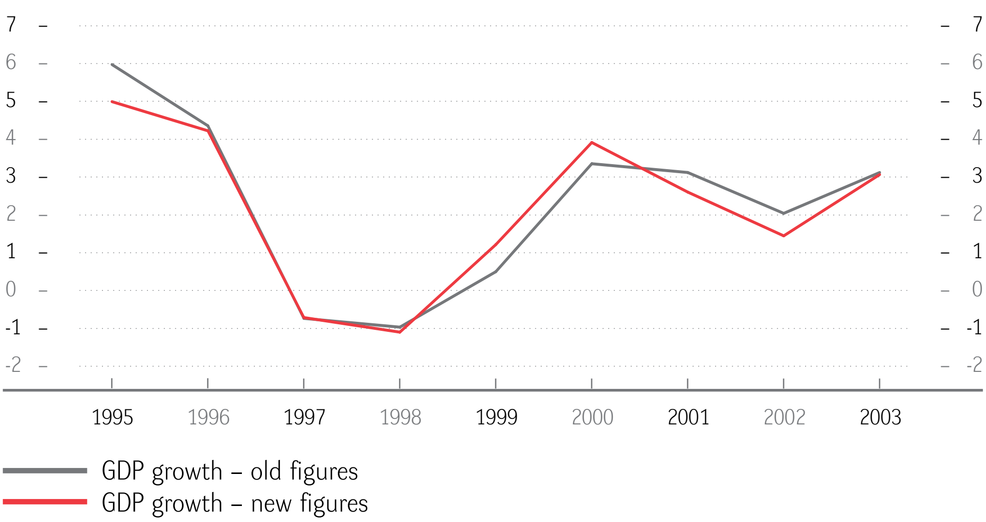
In September 2004, the Czech Statistical Office published new data on GDP 1995 – H1 2004, based on new methodology. New data slightly differ from the previously published ones, as illustrated by Figure 1. Nevertheless, this transfer to new methodology changes the history of the Czech business cycle in the previous decade only negligibly. As explained in Box 1, transfer to new methodology also means that rewriting of the macroeconomic history will not take place in the future.

Czech Statistical Office now publishes basic structure of GDP data in the following form:

a) GDP and its components in current prices
b) GDP and its components in prices of previous year
c) Growth rates of GDP and its components in prices of previous year
d) GDP and its components in constant 1995 prices.

Before analysing the data, a small excursion to new methodology will be useful.

Figure 1: GDP Growth: Old and New Figures



Source: Czech Statistical Office

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BOX 1

The growth rates of GDP and its components were previously based on constant prices, which had been changed each five years. Under the new methodology, constant prices are set as prices of previous year. The volume indicator of current output expressed in prices of previous year is then used as a nominator of the growth rate index. The denominator is the indicator of previous year in current prices:

$$I_t = \frac{\Sigma q_{i,t} \; p_{i,t-1}}{\Sigma q_{i,t-1} \; p_{i,t-1}} - 1 \qquad 1)$$

Under this methodology are obtained the above mentioned indicators b) and c). New methodology was introduced due to the Eurostat demands. The indeces based on constant prices of previous year instead of constant prices of some unified basic year have some significant advantages against the previous methodology.

First is that the year on year comparisons are not biased by the structure of the unified basic year. Under setting of basic year for 5 year period (as was the previous practice), the growth rates were gradually more and more biased with growing distance of the current year from the basic one. This applies even more for economies in transition. Individual goods are more easily expressed in the price of previous year than in prices of the year t-4.

The new methodology should give permanently valid results – no essential revisions should be needed any more, so that the so much criticised rewriting of the business cycle history will not take place.

The year on year growth rates are thus undoubtfully better and more precisely specified under the new methodology. A problem, however, aroses, if we need to compare the indicators in the current year t with the level of the indicator in years t-2, t-3, etc. If we compare the possibility of chaining (that is multipliing in the form $CI_{t\text{-}t\text{-}2} = I_t * I_{t-1}$) the new and old growth indeces, we find significant difference. When chaining the old indeces (CI*t,t-2), the denominator of the first index wiped off the nominator of the second one due to constant prices of one basic year (which were previously used). Therefore, the interpretation of the chained index was clear and simple. Chaining of these new indeces (CI t,t-2) cannot be interpreted as the change in the volume indicators between period t and t-2.

$$CI_{t,t-2} = \frac{\Sigma q_t \; p_{t-1}}{\Sigma q_{t-1} \; p_{t-1}} \cdot \frac{\Sigma q_{t-1} \; p_{t-2}}{\Sigma q_{t-2} \; p_{t-2}} \qquad 2)$$

$$CI^*_{t,t-2} = \frac{\Sigma q_t \; p_{t-2}}{\Sigma q_{t-1} \; p_{t-2}} \cdot \frac{\Sigma q_{t-1} \; p_{t-2}}{\Sigma q_{t-2} \; p_{t-2}} \qquad 3)$$

The technique of chaining indeces is now used by Czech Statistical Office to specify volume indicator of GDP and its components in the constant prices of the beginning of the chaining process, which is the year 1995 (above mentioned as d). Similarly to difficult interpretation of chained indeces, also chained volume indicators have no clear interpretation. They are simply hypothetic volumes. Moreover, the chained volumes in 1995 prices are not additive. This means that the sum of chained volumes of individual GDP components differs from chained GDP for each year with the exception of the first one, that is 1995. Therefore, the specification of contribution of individual GDP components to the GDP growth is only an approximation.

This study does not work with quarterly data, therefore only a brief outline of quarterly data processing follows for information. Under the new methodology, quarterly data are managed by „Annual Overlap". This means following procedure. First, GDP (and its components) for each quarter of current year is expressed in the average full-year prices of the previous year. Afterthat, growth rate for this quarter is specified as a ratio of that hypothetic indicator and average quarterly GDP of previous year (expresseed in current prices). This index is used for specifictaion of chained quarterly GDP.

THE PROBLEM OF FOREIGN TRADE

Recently, some discussions were published in the Czech press, concerning the measurement of Czech economic growth. There have been no great problems about the measurement of final consumption and gross capital. The criticism has been concentrated on the area of foreign trade and its impact to GDP growth. While the trade balance in current prices has been improving in recent two years, the impact of net foreign trade with goods to gross domestic product has been deteriorating. This paradox seems like a puzzle, but can be explained by the transfer to constant prices.

Following Table 1 should serve for illustration how significantly does the imports and exports affect the GDP figures.

Large volumes both of exports and imports, in particular in foreign trade with goods, make the transfer of exports and imports to constant prices of key importance. Although, at first sight it may seem that only net exports are the component of GDP, one must not forget, that net exports are primarily derived from volumes of exports and imports. And – as will be shown above – a very slight change in the deflator may be quite significant for GDP growth rate. The importance of exports and imports in GDP figures is only stressed by the fact that in the period of 1995 – 2003, the GDP in current prices increased by 73 %, while the exports and imports of goods increased much more significantly – by 147 % and 118 %, respectively.

EXAMPLE OF 2003

Following example is useful for the illustration how sensitive are the GDP figures to setting of the deflators of exports and imports. The CSO set the deflator for the exports of goods at 101.3 and for imports of goods at 0.993. The index of export prices was 1.009 and thus was lower than the deflator, while the index of import prices was 0.997. Following Table 2 shows the differences of the impact of net exports of goods to GDP under those two slightly different price indeces.

The difference between the two results amounts to CZK 11 bill., which would shift the GDP 2003 (in prices of previous year 2002) to 2500 CZK bill. instead from 2489 CZK bill. This small difference would increase the GDP growth in 2003 to 3.6 %, up from officially reported 3.1 %. This example was not presented to recompute GDP in 2003 but should only illustrate how sensitive are the GDP growth rates to negligible changes in deflators of imports and exports. It must be stressed again, that although the net exports seem to affect the GDP only marginally, the volumes of imports and exports are so large that the real effect of deflation may be very important both for final GDP volume increases and growth rates.

PRICES OF FOREIGN TRADE AND DEFLATORS IN FOREIGN TRADE

Figure 2 presents the comparison between import and export prices on the one side, and deflators of imports and exports which were used for transfer of GDP and its components from current prices to constant prices of previous year. This figure indicates that, with small exceptions, the deflators of imports and exports were lower than import and export prices. The terms of trade derived from export and import prices were thus higher than terms of trade derived from deflators of exports and imports – see Figure 3.

Recently, some discussions were published in the Czech press, concerning the measurement of Czech economic growth. There have been no great problems about the measurement of final consumption and gross capital. The criticism has been concentrated on the area of foreign trade and its impact to GDP growth.

Large volumes both of exports and imports, in particular in foreign trade with goods, make the transfer of exports and imports to constant prices of key importance.

Although the net exports seem to affect the GDP only marginally, the volumes of imports and exports are so large that the real effect of deflation may be very important both for final GDP volume increases and growth rates.

Table 1: GDP and its Components (in current prices)

	GDP	Final consumption	Gross capital	Exports	Goods	Services	Imports	Goods	Services
1995	1466.7	1053.0	476.9	743.8	554.3	189.4	807.0	662.1	144.9
2000	2150.1	1597.8	618.5	1385.9	1121.1	264.8	1452.2	1241.9	210.2
2003	2532.4	1889.7	698.8	1590.5	1371.3	219.2	1646.6	1440.7	205.9

Source: Czech Statistical Office

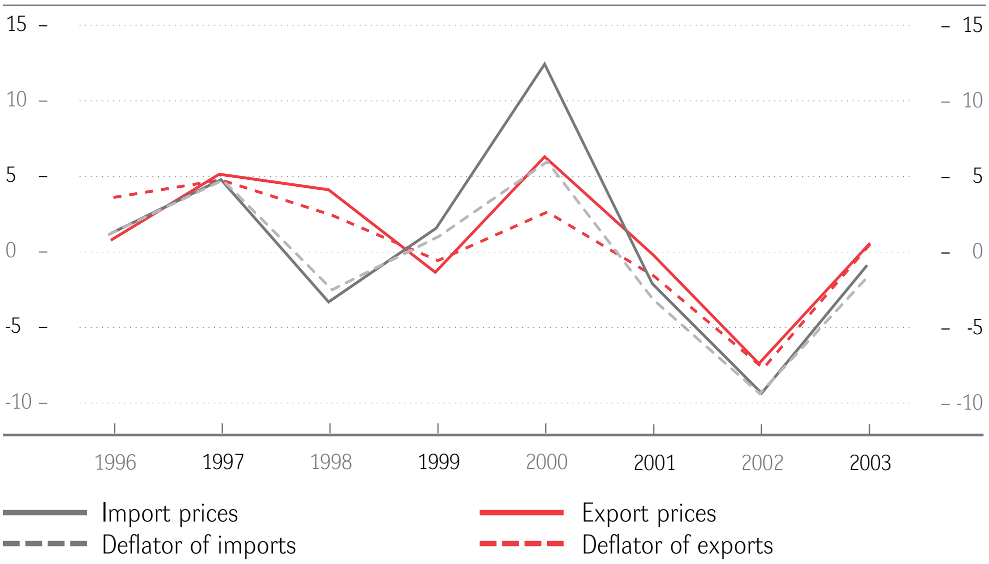
The deflators of imports and exports may differ from the import and export prices for two reasons. The first is that foreign trade, especially on the part of exports, has been subject to very significant changes in quality, therefore it must be difficult to specify which part of price change is the real price change and which has been attributable to change in quality. On the other hand, growing competition and innovation perform in the opposite direction: prices of high-tech products are subject to drastic price declines (computers, electrical machinery etc.). Therefore, deflators set below price indeces of exports and imports signal that the increases in quality are higher than the second biasing factor. However, the question is, whether the changes in quality may be taken into account sufficiently.

Table 2: Net exports in 2003 (different deflators)

	Current prices	Deflators of CSO		Import and Export prices	
Exports	1371.3	*101.3*	1353.7	*1.009*	1359.0
Imports	1440.7	*0.993*	1450.9	*0.997*	1445.0
Net exports	**-69.4**	**-97.2**		**- 86.0**	

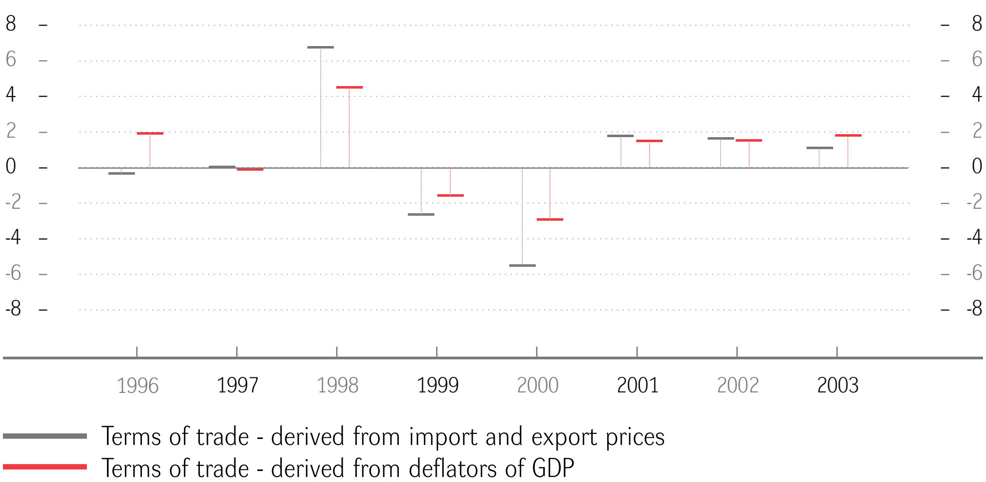
Source: Czech Statistical Office, KB

Figure 2: Import and Export Prices, Deflators of Imports and Exports



Source: Czech Statistical Office

Figure 3: Terms of Trade, based on Foreign Trade Statistics and GDP Data



Source: Czech Statistical Office

FOREIGN TRADE AND GDP

Following tables present the absolute increases of individual factors of economic growth, that is final consumption, gross capital formation and net exports of goods and services. Table 3 shows the developments in constant prices of previous year, Table 4 is based on 1995 constant prices.

If analysing the absolute increases of GDP components, it is obvious that in constant prices of 1995, the relative contribution of net foreign trade with goods is much worse than in prices of previous year. This also corresponds to previous statement about biasing effect of „older"constatnt prices. It is clear that although the Czech Statistical Office is doing its best in coping with qualitative changes, particularly in the area of trade with goods, standard methods and indicators are most probably unable to catch them. It seems that the effects of quality have performed with higher intensity since 2000, when full-fledged integration with the EU Single market was achieved.

It is also interesting, how strongly different are the shares of exports and imports on GDP in different prices. Though it is natural that these shares are different when expressed in different prices, the diferences in the shares of exports and imports on GDP exceeding 20 percentage points in 2003, are rather embarassing. Until 1999, these differences were not so big. Again, it seems that the full trade integration achieved in 1999 – 2000 plays some role in transfer from current to constatnt prices due to strong changes in quality (See Tables 5 and 6).

TRADE BALANCE IN DIFFERENT PRICES

As stated above, while the trade balance in current prices has been improving in recent two years, the impact of net foreign trade with goods to gross domestic product has been deteriorating. Also, the trade balance with goods expressed in current prices and two types of constant prices differs quite considerably. Let us note that for the year 2003, the trade balance in constant prices of 1995 is by more than 50 % higher than trade deficit in constant prices of previous year. Again, the older are the constant prices, the more different result can be obtained (See Table 7).

All figures analysed above indicate that the significant improvement in terms of trade signals more rapid catching-up than indicated by GDP growth figures. The Czech economic growth is thus oriented rather to qualitative or intensive ways than to extensive ones. The suspicion to unsufficient expression of the changes in quality is indirectly confirmed by the fact that the older the selected constant prices are, the higher is the trade balance deficit. We must add, naturally, that the measurement of intensity or quality of growth is very complicated.

It seems that the effects of quality have performed with higher intensity since 2000, when full-fledged integration with the EU Single market was achieved.

All figures analysed above indicate that the significant improvement in terms of trade signals more rapid catching-up than indicated by GDP growth figures.

Table 3: Increase in GDP and its Components (prices of previous year)

	GDP increase	Final consumption	Gross capital	Net exports of goods	Net exports of services
1996	61,00	69,70	48,10	-58,80	2,00
1997	-12,10	16,70	-33,70	8,60	-3,60
1998	-20,50	-18,40	-13,20	39,80	-28,60
1999	23,70	43,40	-23,80	36,70	-32,60
2000	79,40	31,20	50,40	-17,10	15,00
2001	56,70	47,60	39,20	-20,20	-9,90
2002	34,50	56,60	23,10	11,60	-56,80
2003	75,20	72,80	38,45	-26,30	-9,70

Source: Czech Statistical Office

Table 4: Increease in GDP and its Components (1995 prices)

	GDP increase	Final consumption	Gross capital	Net exports of goods	Net exports of services
1996	61,0	69,7	48,1	-58,8	2,0
1997	-11,1	15,4	-32,3	6,6	-3,1
1998	-17,4	-15,7	-11,9	35,2	-26,2
1999	18,1	34,2	-20,4	30,6	-29,3
2000	59,0	24,0	42,2	-22,3	12,1
2001	41,6	35,2	31,9	-19,2	-8,6
2002	24,1	40,1	18,5	8,6	-43,9
2003	51,1	51,5	31,5	-30,3	-5,5

Source: Czech Statistical Office

Table 5: Shares of Exports on GDP (in different prices)

	A: Current prices	B: Constant prices of previous year	C:1995 constant prices	Difference B-A, in percentage points	Difference C-B, in percentage points
1995	37.8	37.5	37.8	-0.3	0.3
1996	35.9	37.5	37.5	-0.4	0.0
1997	39.7	41	42.9	1.3	1.9
1998	42.5	46	49.6	3.5	3.6
1999	44.5	45.8	53.4	1.3	7.6
2000	52.1	51.3	61.5	-0.8	10.2
2001	54.8	58.1	68.5	3.3	10.4
2002	51.9	57.3	71.6	5.4	14.3
2003	54.2	54.4	74.9	0.2	20.5

Source: Czech Statistical Office

Table 6: Shares of Imports on GDP (in different prices)

	A: Current prices	B: Constant prices of previous year	C:1995 constant prices	Difference B-A, in percentage points	Difference C-B, in percentage points
1995	45.1	45.2	45.1	0.1	-0.1
1996	45.2	48.4	48.4	3.2	0.0
1997	48.4	49.8	53.4	1.4	3.6
1998	46.8	52.5	58	5.7	4.5
1999	47.7	58.2	59.6	10.5	1.4
2000	57.8	55.2	68.9	-2.6	13.7
2001	59.9	64.5	76.9	4.6	13.4
2002	54.9	61.7	79.3	6.8	17.6
2003	56.9	58.3	84.2	1.4	25.9

Source: Czech Statistical Office

Table 7: Czech Trade Balance

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Trade balance, current prices	-100	-153	-144	-82	-66	-121	-117	-71	-70
Trade balance, constant prices of previous year	-108	-166	-146	-115	-47	-83	-141	-105	-98
Trade balance, constant prices 1995	-108	-166	-160	-125	-94	-116	-136	-127	-157

Source: Czech Statistical Office

THE TURNOVER OF STATISTICAL PARADOX?

In the Seventies and Eighties, in the former centrally planned economies (CPEs), a paradox was observed, between relatively high growth rates of officially reported macroeconomic indicators on the one side, and permanent loss of position of CPEs in international comparisons with the advanced market economies, on the other one.[1)] This applied fully also to the former Czechoslovakia. Although the officially reported growth rates were higher than those of market economies, the relative position of Czechoslovak economy in international comparisons had been permanently deteriorating, which was unanimous in all available estimates and studies concentrating on this field of study. Therefore, growth rates for former Czechoslovakia resulting from alternative international comparisons were lower than the officially reported ones.

The macroeconomic performance resulting from comparative studies was lower due to overestimation of officially reported indicators (and the real growth) in CPEs, including former Czechoslovakia. The differences between officially reported growth rates and growth rates specified under international comparative studies were quite significant, amounting for approximately 1 – 2 percentage points each year, in the Seventies and Eighties. This difference was only partly explained by well known intended overestimation of production and underestimation of price indeces. With slight simplification, the main reason was, that the domestic growth rates were expressing the growth of production which was only hardly or completely not tradable on more demanding and competitive markets of developed market economies. In other words, production of former socialist countries was an increasingly obsolete one of substandard quality, in comparison with production of market economies. The competitiveness of CPEs on world markets had been thus declining. Therefore, growing lags in quality which were not accounted for in domestic statistics, caused the overestimation of official growth rates. This indicates that the growth rates of strongly qualitatively different production are comparable only to a limited extent.

Having in mind this experience from the past, it does not seem unrealistic to speculate whether rapid catch-up in quality may have not similar effects, though in opposite direction, within the last decade. During the transition process, major part of differences in quality of production and consumption between the Czech Republic and Western Europe disappeared. In the case of Czech manufacturing industry, the full scope of catch-up in quality has been sufficiently proved by the progressive results of the Czech foreign trade with the Eurozone and other developed market economies.[2)] This statement applies not only for production of manufacturing industry but also for construction and majority of services. The catch up in quality has been undoubtfully one of the major achievements of transition. Therefore, the real dynamics of the Czech economy expressed by standard measurement may have been underestimated due to extremely rapid changes in quality.

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Having in mind this experience from the past, it does not seem unrealistic to speculate whether rapid catch-up in quality of goods as a whole may have not similar effects, though in opposite direction, within the last decade.

[1)] See eg. Alton,T.P.: Comparisons of Overall Economic Performance in the East European Countries. NATO Economic Colloqium, Brussels 1988, Summers,R.-Heston,A.: A New Set of International Comparisons of Real Products and Prices. The Review of Income and Wealth 34, No.1, March 1988.

[2)] For a greater detail see e.g. Zamrazilová, E.: Trade Integration of the Czech Republic with the European Union. Statistika 2004, No.4, pp 337 -348.

The aim of this article is not to criticise present statistical practice, which corresponds fully to international standards and must follow them. Nevertheless, these standards are more friendly to measurement of growth in the economies which have not been subject to such a dramatic changes, as was the case of the Czech Republic. In the period of transition, so many qualitative changes were realised, that it would be a heroic task to mirror them precisely. Having in mind which was said above, one may pose some final questions, as topics for further and wider investigations:

- Is it possible to mirror the rapid growth in quality within standard macroeconomic indicators?
- Are the changes in quality sufficiently present in the price statistics and GDP figures?
- Is it possible that the rapid qualitative and structural changes may lead to underestimation of growth rates?

To answer these questions is of great importance for having a correct picture of Czech macroeconomic performance and progresses in the catching-up process. Moreover, they are important also in wider context of macroeconomic policies. In particular, the monetary policy must have appropriate informations for correct decision-making.

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