CES

CENTRE FOR ECONOMIC STUDIES

Supply, demand and stability

Mojmír Hájek, Vojtěch Spěváček, Václav Žďárek

Abstract:

Keywords:

JEL Classification

About authors:
☐   ☐   ☐

☐   ☐   ě   ☐ě   č   ☐

☐☐ ☐   ☐d'   ☐☐☐

Reviewers:

Č

Content

1. Introduction

On the supply side, this section examines the development of long-term economic growth determinants structured according to the growth accounting method into labour, capital and total factor productivity (TPF). The growth of real GDP in the CR is disaggregated into the basic national economic industries with quantification of their contributions to the growth of the macroeconomic TPF. In addition, the section compares the economic growth and development of total factor productivity in the CR and EU-15 during 1996–2004 and the development of the relative level of total factor productivity in the CR against the EU-15 as a whole.

On the demand side, this section focuses on changes in the structure of demand not only in domestic, but also in internationally comparable prices, real growth in individual demand components and their contribution to the growth of GDP. The question whether the economic growth in the CR was driven by the domestic demand or foreign trade is discussed in this context.

Macroeconomic stability is assessed according to the relationship between the domestic demand (final consumption and gross capital formation) and domestic supply (GDP) and according to the relationship between national savings and domestic investment. The gap between savings and investment is then examined according to basic institutional sectors of the economy. Partial aspects of the balance (inflation, public finance and monetary indicators) complete the comprehensive picture. The last part of this section focuses on external economic balance.

2. Sources of economic growth

Dynamics of growth of the real GDP depends on sources of economic growth, their effective use and flexibility of their relocation. These factors determine the economic growth rate or performance of the economy on a long-rung basis. The sources of economic growth are the following: labour, capital and technological progress or total factor productivity.

Throughout the period 1996–2004 the labour productivity in the CR grew faster than in the EU-15 or the EU-25 (see Table 1). What's more, this growth was more than twice as fast than in the EU-15. In the group of the new member states Estonia, Lithuania, Latvia, Poland, Slovakia, Slovenia and Hungary recorded a faster growth in the labour productivity than the CR. Ireland and Greece were the two old member states with the fastest growth in labour productivity, while Spain and Italy recorded the slowest growth of all old member states. The growth in labour productivity in the EU-25 and the EU-15 slowed down during the monitored period (2000–2004 and 1996–1999). The CR by contrast recorded an increased growth rate. The growth rate in the CR during 2000–2004 in relation to the EU-15 was two and a half times higher.

The "growth accounting" method, which is originally based on a paper by R. Solow (1957), was used to analyze the sources of this growth. The approach of Jorgenson and Griliches (1967, 1972), who used Törnqvist's (1936) index for discrete approximation, was used for empiric application. The above approach breaks down the growth rate of the product into the contribution of the labour and capital growth on one side (the weights are determined according to the income share of labour and the complement to one represents the income share of capital) and the contribution of the growth in the aggregate total factor productivity of factors (TFP) on the other side.

As the growth rates for the product, labour and capital, and the share of labour can be determined empirically, the TFP growth rate is calculated as the residual. This type of calculation is used in the Czech Republic by the Ministry of Finance in addition to certain international institutions[1].

Table 1: Labour productivity (EU-25, average annual percentage change)

	1996–2004	1996–1999	2000–2004
EU-25	1.6	1.8	1.5
EU-15	1.3	1.5	1.2
Belgium	1.2	1.2	1.2
Czech Republic	2.8	2.3	3.1
Denmark	1.5	1.5	1.5
Estonia	7.3	7.5	7.1
Finland	2.0	2.2	1.8
France	1.3	1.8	1.0
Ireland	3.3	3.6	3.1
Italy	0.6	1.1	0.1
Cyprus	2.0	2.3	1.7
Lithuania	6.1	4.6	7.3
Latvia	5.9	4.9	6.6
Luxemburg	1.3	2.6	0.3
Hungary	3.1	2.6	3.5
Malta	1.8	3.7	0.3
Germany	1.9	2.2	1.7
Netherlands	1.1	1.0	1.2
Poland	5.1	5.5	4.8
Portugal	1.2	2.1	0.6
Austria	1.8	2.2	1.4
Greece	3.1	2.4	3.6
Slovakia	4.4	4.6	4.2
Slovenia	3.9	5.2	2.8
Spain	0.4	0.4	0.3
Sweden	2.1	2.6	1.7
United Kingdom	1.8	1.7	1.8

Source: ECFIN (2005a), table 11, p. 50–51, ČSÚ (2005i), s. 42–43.

The calculation of TFP includes in practice:

- The impact of technological progress, i.e. implementation of new technological innovations in production (for example ICT);
- The effect of research and development;
- The contribution of growth in the quality of human resources (education, qualification and skills);
- Institutional and organizational changes;
- The impact of factor relocation between industries;
- Increasing returns to scale;
- Changes in the degree of use of factors (in the case of measurement for shorter periods).

The growth in TFP is also influenced by potential errors or revisions of the values applied (such as conversion of macroeconomic values to fixed prices).

---

[1] Both comprehensive studies by OECD (see OECD, 2003; OECD, 2004a) can be stated as an example of studies involving an analysis of the economic growth and total factor productivity.

Behavior on the supply side is analyzed from the macroeconomic, but also the industrial point of view. The industrial analysis is based on six macroeconomic industries:

a) Agriculture, forestry and fishing;
b) Industry;
c) Construction;
d) Trade, repairs and catering, accommodation;
e) Transport and communication;
f) Other services.[2]

2.1 Sources of the economic growth in the Czech economy during 1996–2004

The employment rate was in a long-term decline during the monitored period. On the other hand, capital resources in fixed prices grew slightly faster than the real GDP. The growth in the real GDP between 1996 and 2004 was relatively moderate – on average by 2.1 % per year. Employment decreased by 0.6 % and capital resources grew on average by 2.4 % per year (see Table 2).

The long-term decline in employment in the CR was caused by restructuring of the Czech economy, in particular the industry, and insufficient regional and professional mobility of the labour force. Legislation standards put especially persons with low qualification at a disadvantage. The market continues to be characterized by relatively high long-term and structural unemployment. In addition, rigidity of the labour market is caused by limited use of employment contracts for a definite period, the existing rent regulation system and psychological and financial obstacles in changing a location of employment. Businesses striving to increase their productivity with reduced costs and thus increase their competitiveness also present a significant factor preventing employment rate growth. This trend is the most pronounced in companies under foreign management. However, the employment rate in the national economy became to rise again at the beginning of 2005. This is a result of positive factors including accelerated economic growth, active employment support and inflow of direct foreign investment.

Table 2: Sources of real GDP growth (average annual percentage change)

	1996–2004	1996–1999	2000–2004
GDP	2.1	0.9	3.1
Employment	-0.6	-1.0	-0.2
Capital real	2.4	2.4	2.4
Capital/ labour ratio	3.0	3.4	2.7
Labour productivity	2.7	1.9	3.4
Capital productivity	-0.3	-1.5	0.7
Total factor productivity (TFP)	1.5	0.4	2.3

Note: GDP and capital are in constant prices. Capital intensity of labour = capital/employment. Data are rounded. Source: ČSÚ (2005a, 2005b), own calculations.

---

[2] The macroeconomic industry other services includes: banking and insurance industry, real estate, business services, research and development, public administration, defence, social security, education, healthcare, veterinary and social activities, other public, social and personal services, and households employing personnel.

2.2 Development of the labour factor

Development on the labour market during 1996–2004 was characterized by overall deterioration. Overall employment in the national economy decreased on average by 0.6 % per year.[3] The degree of economic participation declined from 73.2 % in 1996 to 70.8 % in 2004. The Czech Republic's position in international comparison gradually approaches the average level of EU-15 (and EU-25) countries, although the decrease in the CR was accompanied by an increase in the EU average level throughout the period 1996–2004.[4]

The labour market is significantly influenced by the positive demographic situation in the CR. Strong age groups are currently in their productive age, which is why the number of residents in their productive age (15–64 years of age) in the CR increased throughout the monitored period. The total annual increase was 0.3 % on average. However, the labour force decreased during 1996–2004 by 0.1 % per year. The development during the periods 1996–1999 and 2000–2004 differed in this case. While the labour force grew gradually during the first period (the number of unemployed people grew), the number of unemployed people stabilized or started to decrease slightly during the second period and the number of employed people for the economy as a whole declined.

Increased dynamics of the real GDP in combination with significant inflow of direct foreign investment[5] during 2000–2004 did not reflect significantly in a growing employment rate. The employment rate continued to decline during this period. Although the decline was slower than in the previous period, employment fell on average by 0.1 %. The trend reversed at the end of 2004 and during 2005.[6]

The employment rate in the CR during the monitored period 1996–2004 declined from 70.4 % to 64.9 %. Compared to other new EU member states, the situation in the CR is more optimistic. For example Poland has recorded a declining employment rate since 1998 (the employment rate over the last three years fell below 52 %), Slovakia usually records a declining employment rate and over the last two years stagnated at 57 %, and Hungary as the only country in this group reports a gradual increase almost to 57 % in 2004. However, compared to other EU countries, the situation in the CR is worse. A faster increase in the employment rate in the EU is obstructed by rigidity of the labour markets in member states (labour legislation) and a high tax burden for work leading towards technological substitution and transfer of production.

---

[3] Development on the labour market is typically accompanied by and analysis of development in labour productivity and wages (unit labour costs). This analysis presents this part in the first section – Growth and convergence. Development of time series relating to the labour market in the CR for the period between 1996 and 2004 is not fully comparable due to harmonisation of the questionnaire for SSLF ČSÚ with EUROSTAT in 2001.

[4] Increasing the number of employed persons was one of the objectives of the Lisbon Strategy (generally throughout the economy, plus increasing the number of female employees and older employees).

[5] Rapidly growing companies (typically under foreign control) focus on intensive growth factors, i.e. factors increasing labour productivity. The use of modern technologies in production, which are localised in the CR within direct foreign investment, is associated with this trend. This leads to limited creation of new employment opportunities. A study by Landesmann et al. (2004) states examples of countries (Slovakia, Hungary, Slovenia and Latvia), which successfully relieved the decline in job opportunities in other areas of the economy by creating jobs in the processing industry and services.

[6] According to ČSÚ (2005k), the total number of employed persons increased in three quarters of 2005 by 1.1 %. This led to an increased average level of employment and rate of economic participation. The number of unemployed people decreased significantly during the same period (by 3.7 %) but the share of people unemployed on a long-term basis remains high.

Demographical factors associated with the ageing population in Europe may also have a certain impact.

The unemployment rate monitored in the CR according to the methodology of the International Labour Organization (ILO) based on a sample survey of labour force (SSLF) increased from 3.9 % (1996) to 8.3 % (2004). The latest development over the first three quarters of 2005 is characterized after two years by a decline in the unemployment rate to 8 % (average figure for three quarters).

Figure 1 describes development on the labour market using an analytic tool – the Beveridge curve. The last four years (2000–2004) are characterized by alternating stages of gradual improvement and deterioration of the conditions, which do not reflect strongly the actual progress of the economic cycle (or reflect this cycle with a certain delay). For example the number of vacant positions increased during 2000–2001 and this increase was accompanied by a slight decrease in the unemployment rate. The following two years were characterized by a decrease in the number of vacant positions and an increasing unemployment rate. Although certain improvement in the labour market became apparent in 2004, the demand for labour generated by the economy is not sufficient (whether due to labour market regulation or due to other objective reasons) to manifest itself in a significant decrease in the unemployment rate. This effect is reflected in the Beveridge curve situated further from both coordinate axes – it has shifted.[7]

Figure 1: Beveridge curve for the Czech Republic (2000:1–2005:12)
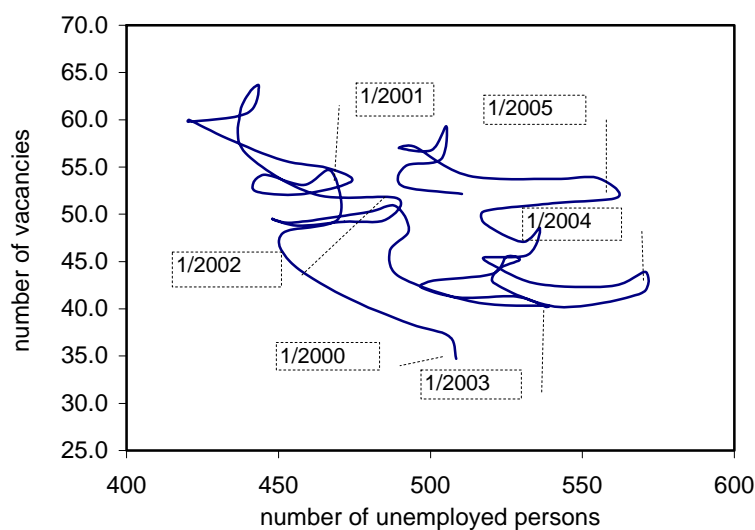
Note: Data are in thousands of persons, unemployed according to original definition of Ministry of Labour and Social Affairs. Source: ČSÚ (2005b), ČSÚ (2006).

The rate of registered unemployment, which was very low during the first half of the 90's, jumped in 1997 to 7.5 % and to 9.4 % in 1999. The number of vacant positions decreased significantly during the recession and the number of applicants per vacancy increased significantly. Regional differences in unemployment, which deepened throughout the period, became a serious problem.

---

[7] The chart showing cumulative development in production and employment, which allows us to recognize countries with greater changes in employment than in production, provides an alternative view of the development in the labour market (see UNECE, 1996, p. 91).

Although the prosperous stage of the economic cycle occurred in the CR and the country probably is at the peak of the cycle in 2005, the situation on the labour market (between the supply and demand for labour) has not improved significantly and imbalance persists. The most pressing problems include the high number of persons unemployed on a long-term basis in the total number of unemployed people, which has persevered for a number of years, and regional, qualification and professional structure.

The reasons why the unemployment rate fails to decrease can be seen in "artificial" barriers in the labour market (the minimum wage amount, labour legislation), as well as in "natural" barriers (such as information asymmetry between job applicants and employers, which is not always eliminated by activities of recruitment agencies).[8]

As there is a certain delay between the growth dynamics and the unemployment rate, further decline in the unemployment rate can be expected during the following period. This trend is also clear from the data for the first three quarters of 2005.[9] However, the persisting structural problems will prevent further reduction of the unemployment rate over the following years.

## 2.3 Development of the capital factor

The PIM method (Perpetual Inventory Method, see ECFIN, 2005b, p. 28) was used to calculate the real capital resources. Real capital resources and their growth rates (and subsequently growth rates of the total factor productivity) for the EU-15 countries are determined according to this method. Comparison of the CR and the EU-15 countries is used at the end of this section.

The growth rate of physical (real) capital resources decreased slightly following a decline in the creation of gross fixed capital in the CR during 1997–1999. However, the growth in capital resources increased after 1999 as a result of the accelerated growth of fixed investment. Throughout the period 1996–2004 the creation of gross fixed capital (in fixed prices) increased on average by 2.7 % and physical capital resources increased by 2.4 % per year. Capital productivity as a ratio of real GDP and capital during the monitored period decreased by 0.3 %, total factor productivity increased on average by 1.5 % per year and labour productivity increased on average by 2.7 % per year (see Figure 2).

The decline in capital productivity means that the capital coefficient (K/Y)[10], which is a reciprocal value of capital productivity, increased on average by 0.3 % per year. This coefficient was 4.5 in the CR and 3.2 in the EU-15 in 1995 and 4.6 in the CR and 3.1 in the EU-15 in 2004 (ECFIN 2002, 2005a, ČSÚ 2005i, author's own calculation). The Czech economy inherited an economic system with a high weight of heavy industry, mostly misallocated to industries with low competitiveness and outdated technology. The decline in the volume of loans provided to companies in the second half of the 90's caused by delayed restructuring and privatization of banks probably contributed to preservation of this structure. Low added value of this unstructured sector hindered further development.

---

[8] However, modern technologies, which should help to prevent this problem, are rarely available in problematic regions and affected entities.

[20] According to the data of ČSÚ (SSLF), the unemployment rate in individual quarters of 2005 decreased compared to the same quarters of 2004, falling in the first quarter of 2005 from 8.7 % to 8.4 %, in the second quarter from 8.2 % to 7.8 % and in the third quarter from 8.2 % to 7.8 % (see ČSÚ, 2005c; ČSÚ, 2005f).

Figure 2: Total factor productivity, labour productivity and capital productivity (indices, 1995=100)
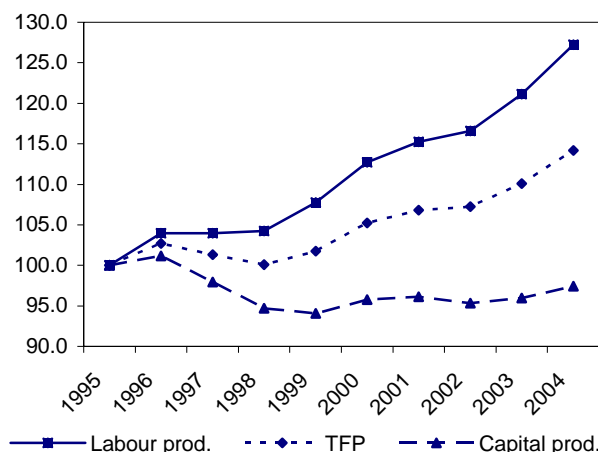
Source: ČSÚ (2005a, 2005b), own calculations.

Replacement of retired physical capital consumed a large part of investment resources without any direct effect. Large volume of investments in the environment and power engineering did not immediately bring a direct effect for the economic growth. These circumstances may be an explanation of the relatively high capital coefficient (see IMF, 2004, p. 5). The capital coefficient continued to grow during the recession (1997–1998) and finally reached its highest level in 1999. A decreasing trend can be observed after 1999 as a result of implemented technological progress and especially due to the strong inflow of direct foreign investment. Nonetheless, the capital coefficient remains higher than the average value for EU-15 countries.

2.4 Total factor productivity and qualitative factors

The growth of TPF during 1996–2004 accounted for 71 % of the growth of real GDP. The growth of TPF gradually accelerated and significantly contributed to the faster growth of real GDP during this period. The acceleration in the growth of TPF is caused by qualitative factors, which change slowly and their impact is often demonstrated with a certain delay.[11]

The growth of TPF due to qualitative factors in the Czech economy was supported by technological progress, i.e. implementation of new innovations in production. Massive inflow of direct foreign investment played an especially important role. The inflow of foreign investment increased gradually after 1995 and culminated in 2002 to decrease slightly over the following two years (see UNECE, 2005, p. 85). Accumulation of the inflow of direct foreign investment in the CR, i.e. its resources in relation to GDP, is also high, reaching 47.1 % in 2002, 50.1 % in Hungary, 32.2 % in Slovakia, 22.6 % in Poland, and 16.9 % in Slovenia.[12] The inflow of direct foreign

---

[10] Also referred to as capital intensity or capital/output ratio.

[11] Development in the American economy is both, very informative and inspiring in this context as the American economy achieved a strong growth in the total factor productivity during the 90's. For discussion of possible causes and impacts see for example Gordon (2004, chapters 1 and 2).

[12] Services (especially financial agencies, trade, repairs, real estate and business services) have the highest share in the structure of direct foreign investment resources in the CR – 47.4 %, followed by the processing industry with a share of 41.9 % (see ČNB, 2005c, tab. 3.3).

investment contributed to the implementation of innovations, including ICT, and thus helped to increase the competitiveness of the Czech economy, which is demonstrated in the expansion of export and especially in the above-average growth in export of machines and transportation equipment. According to the Lisbon Strategy, information and communication technologies (ICT) represent a major factor for increasing competitiveness. Only limited internationally comparable data structured into information and communication technologies exist currently with regard to expenditure on ICT in relation to GDP. The share of expenditure on information technologies in GDP in the CR in 2004 was 2.8 % (around 3 % in the EU-15) and the share of expenditure on communication technologies was 4.3 % (3.3 % in the EU-15) (see Kadeřábková a kol., 2005, p. 96).

The share of gross expenditure on research and development in GDP (GERD) in the CR is lower on a long-term basis (1995–2003) than the EU-15 average. However, this share is higher than in Hungary, Slovakia and Poland. The share of this expenditure in the CR increased from 0.95 % in 1995 to 1.23 % in 2000 and reached 1.35 % in 2003. The same figure was around 2 % in the EU-15 during 2001–2003.[13] The Lisbon Strategy stipulates an objective for EU countries to achieve the share of 3 % GDP in 2010 (see Kadeřábková a kol., 2005, p. 61–62).

In the structure of expenditure on research and development the CR was characterized by a decreasing share of the entrepreneurial sector and increasing share of the governmental sector, which is contrary to the Lisbon Strategy. However, this situation started to change after 2000. Expansion of companies under foreign control and pressure of banks on financed enterprises brought about increased interest in research and development not only in foreign companies, but also in Czech companies, which are forced to face intense competition.

The impact of the quality of human resources can be assessed from various perspectives and subsequently according to various indicators (comp. Kadeřábková a kol., 2005, p. 101–132). With regard to education groups, the situation in tertiary education in the CR compared to the EU-15 is not positive. Although the share of population with tertiary education increased (during 1998–2004 from 10.6 % to 12.3 %), this figure remained higher in the EU-15 throughout this period (and increased from 17.1 % to 23.1 % during the same period). On the other hand, the Czech Republic has the highest share of residents with secondary education of all EU-15 and EU-25 countries (75–77 %), followed by Slovakia. Some studies place great emphasis on the share of residents with secondary education as a basis for further qualitative development (comp. for example Mankiw, Romer, Weil, 1992).

Reallocation of factors during 1995–2004 with disaggregating in six industries had a minimal impact on the growth of the macroeconomic TPF because the main structural changes took place prior to 1995 (see Hájek, 2005). The opposite effects of qualitative factors suggest that while analysis of this low rate into a few components may be acceptable, any further breakdown into more factors may be problematic. Working with hierarchic structures may be more appropriate in this situation (see Mihola, 2005, p. 16).

---

[13] For critical comments see Potočnik (2005).

2.5 Sources of growth in basic industries

The highest average growth rate of real gross added value during the period 1996–2004 was achieved in industry and trade, repairs, and catering and accommodation. All industries with the exception of agriculture and trade contributed to the faster growth of real added value during 2000–2004 compared to the period 1996–1999. Slower growth of employment during 2000–2004 compared to the period 1996–1999 occurred in trade and the decline in other industries was reduced. The growth of employment in other services strengthened.

The average annual growth rate of physical capital resources in individual industries declined during 2000–2004 compared to 1996–1999, except for other services where the growth rate increased (from 0.3 % to 1 %). The dynamics of total factor productivity accelerated in all industries except for agriculture and trade (while the decline in construction slowed down). Industry, other services and transport and communications contributed significantly to the acceleration of the macroeconomic TPF.

2.6 Economic growth and total factor productivity in the CR and the EU-15

When comparing economic performance of individual countries, special caution is required due to asynchronous economic cycles. The average annual growth rate of real GDP in the CR during 1996–2004 was virtually equal to the growth rate in the EU-15 (see Table 3).

Table 3: Real GDP and total factor productivity in the Czech Republic and EU-15 (average annual percentage change)

	GDP			TFP		
	1996–2004	1996–1999	2000–2004	1996–2004	1996–1999	2000–2004
EU-15	2.2	2.5	1.9	0.7	0.9	0.5
Belgium	2.1	2.5	1.9	0.8	0.9	0.8
Czech Rep.	2.1	0.9	3.1	1.5	0.4	2.3
Denmark	2.0	2.6	1.6	1.0	1.2	0.9
Finland	3.7	4.6	2.9	2.3	2.9	1.9
France	2.2	2.4	2.0	0.9	1.3	0.6
Ireland	7.7	9.7	6.2	3.1	4.0	2.4
Italy	1.5	1.6	1.3	0.2	0.6	-0.1
Luxemburg	5.1	6.6	4.0	0.7	2.1	-0.3
Germany	1.3	1.5	1.1	0.4	0.4	0.4
Netherlands	2.3	3.8	1.2	0.8	1.2	0.4
Portugal	2.4	4.0	1.1	0.2	1.2	-0.5
Austria	2.2	2.8	1.6	0.7	1.1	0.3
Greece	3.8	3.2	4.3	1.9	1.5	2.3
Spain	2.2	2.4	2.0	0.9	1.3	0.1
Sweden	2.7	3.0	2.5	1.8	2.2	1.5
Un. Kingdom	2.8	3.0	2.7	1.2	1.2	1.2

Source: ČSÚ (2005a, 2005b), ECFIN (2000, 2002, 2004b, 2005a), own calculations.

Despite the decline in total factor productivity in the CR during 1997 and 1998, the average annual growth rate of TPF in the CR during 1996–2004 was approximately double of that in the EU-15 (1.5 % in the CR and 0.7 % in the EU-15). While the average annual growth rate of real GDP in the EU-15 declined during 2000–2004, the growth rate in the CR increased. Similarly, as the average growth rate of TPF in

the EU-15 decreased (practically to one half of the original value), this growth rate in the CR grew almost six times.

This means that the reduced average annual growth rate of real GDP in the EU-15 can be attributed mostly (67 % influence) to the slower growth rate of TPF. And vice versa, the increase in the average annual growth rate of real GDP in the CR by 2.2 percentage points with growth rate of TPF increased by 1.9 percentage point means that the accelerated growth of TPF contributed significantly to the higher growth rate of real GDP (86 % influence).

2.7 Relative level of the total factor productivity in the CR compared to EU-15

The estimate of the relative level is based on the assumption that the growth rate of total factor productivity equals a weighted sum of growth rates of labour productivity and capital productivity. If growth rates (in %) are interpreted as a difference of relevant values between two countries, the difference in TPF between two countries can be determined based on the difference in labour productivity and capital productivity and the applicable weights.

Figure 3: Relative level of total factor productivity in the Czech Republic (EU=100)
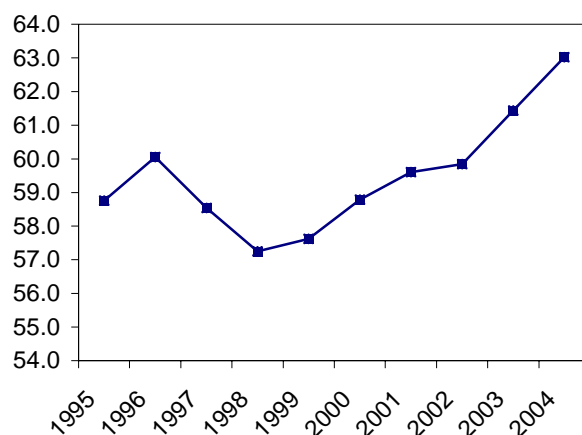
Source: ČSÚ (2005a, 2005b), ECFIN (2005a), own calculations.

The labour productivity in the CR in 1995 was lower than in the EU-15 by 48 % (GDP per employed person in PPS).[14] The capital coefficient in the CR was 4.5 and 3.2 in the EU-15. The reciprocal value of the capital coefficient, i.e. capital productivity, was lower in the CR by 29 % than in the EU-15. If a constant share of labour (weight) of 0.65 is selected and the share of capital is set at 0.35 according to the common practice in international comparisons, we can conclude that the TPF in the CR was lower by 41.2 % than in the EU-15, in other words the TPF in the CR reached 58.8 % of the EU-15 level. This initial relative level of TPF in the CR (EU-15 = 100) in 1995 was extended forward by applying growth indexes of TPF in the CR and the EU-15. Calculation therefore shows that the relative level of TPF in the CR after 1998 increased in relation to the EU-15 with acceleration in 2003 and 2004.

---

[14] Calculation according to data by EUROSTAT, Structural Indicators, May 2005 (GDP per employed person in PPS).

3. Demand side of the economy

Macroeconomic performance as comprehensive expression of the economy's competitiveness is very closely linked with development of aggregate demand. From the short-term perspective, development of individual demand elements is vital for economic growth in a market economy because the economy can only produce what is demanded. As a general rule, GDP growth must be consistent with growth of domestic demand (final consumption and investments) and development in net export. Impact of demand components on GDP growth depends on their share in GDP and their real growth rate. Macroeconomic balance is reflected in the interaction between demand and supply. Changes in the structure of the overall demand (expenditure side of GDP) in the Czech Republic are shown in Table 4. The Czech economy is characterized by a relatively high share of public consumption, foreign trade and investment. The share of private consumption has been relatively stable on long-term basis, with relatively low values compared to old EU members.

Development of domestic demand (final consumption and gross capital formation) is generally crucial for the economic growth. However, in conditions of a small open economy, such as the Czech economy, development of foreign trade also has a significant impact. Growth of main demand components is shown in Table 5.

Real GDP grew on average by 2.1 % per year during 1996–2004. The growth rates in import and export of goods and services were substantially higher. Export grew during the same period by 9.7 % per year and the annual growth rate in import even exceeded 10 %. The total domestic demand (final consumption and gross capital formation) increased by 2.6 % per year, i.e. faster than GDP by 0.5 percentage point. Private consumption (household expenditures on final consumption) as a key component of total demand, which determines development of living standard reached annual growth of 3 %. The surplus of domestic demand compared to domestic supply (GDP) was very strong in 1996 and caused significant external imbalance, which forced the economic policy to react by introducing a restrictive policy with the aim to limit domestic demand. This policy led to the second recession in the Czech economy and domestic demand fell faster than GDP during 1997 and 1998. The Czech Republic entered the stage of dynamic and relatively stable development during 2000–2004. Domestic demand was still ahead of the growth of GDP during this period, recording the annual growth rate of 3.6 %, i.e. the growth rate was higher than that of GDP by 0.4 p.p. Faster growth of domestic demand compared to GDP did not result in deteriorated external imbalance due to positive development in terms of trade. (For more details on this topic see Spěváček, 2005b.)

The growth in exports in 2004 was exceptionally high (21.4 % compared to 7.5 % in 2003). The growth of investment also accelerated due to growing profits of companies, low interest rates and increasing investor confidence. The average annual growth rate in gross fixed capital formation during 2000–2004 was 4.7 %. Public consumption experienced relatively significant decline in the growth rate. Slower growth of private consumption (from 4.6 % in 2003 to 3,3 % in 2004) was influenced by strongly decelerated growth in real disposable income of households.

The growth of GDP accelerated to 6 % in 2005 and the growth rate in domestic demand fell at the same time. Final consumption rose by 2.0 % and gross capital formation stagnated due to a strong decline in inventory. This significant change on the demand side is related to strong deterioration in terms of trade in 2005.

3.1 Impact of demand on growth of gross domestic product

The contribution of main demand components to the growth of GDP during 1996–2004 divided into the contribution of domestic demand and the effect of foreign sector shows a strong influence of domestic final utilization (final consumption and gross capital formation – see Table 6) in 1996 and during 2000–2003. The growth of GDP during these years was driven from more than 100 % by growing domestic demand, while the contribution of foreign trade was negative. A significantly positive impact of foreign trade did not occur until 2004 and 2005. The balance of foreign trade in goods and services was positive for the first time in the history of the CR in 2005 and this led to a very high positive contribution of foreign trade to the growth of GDP.

The influence of final consumption and especially private consumption (household expenditure on final consumption) played a major role in domestic demand. With the exception of 1999 and 2002, the impact of public consumption (expenditure of government institutions on final consumption) was insignificant. Major fluctuations in development of investment were reflected in their impact on the growth of GDP. The negative contribution of gross fixed capital formation during 1997–1999 was replaced by a positive contribution (1.3 p.p. of GDP growth during 2000–2004). This contribution is higher than the share of fixed investment in GDP would suggest.

Table 4: The share of demand components in GDP (in per cent, current prices)

	Private consumption	Public consumption	Gross capital formation	GFCF	Export	Import	Balance of foreign trade
1996	51.7	21.2	33.0	31.4	49.5	55.5	-6.0
1997	53.0	21.8	30.6	29.9	52.7	58.1	-5.3
1998	51.6	21.0	28.5	28.3	55.1	56.2	-1.1
1999	51.9	22.3	26.9	27.0	56.5	57.7	-1.2
2000	52.2	22.1	28.8	27.7	64.5	67.5	-3.1
2001	51.5	22.2	28.9	27.6	66.5	69.0	-2.5
2002	51.1	23.0	27.9	26.6	61.5	63.6	-2.0
2003	51.5	23.6	27.1	26.8	62.2	64.4	-2.2
2004	50.2	22.5	27.8	26.9	71.2	71.7	-0.5

Source: ČSÚ (2005a).

Table 5: Final demand components (percentage annual change, constant prices of the preceding year)

	GDP	Final consumption	Private consumption	Public consumption	Gross capital formation	Gross fixed capital formation	Domestic demand	Export	Import
1996	4.2	6.6	8.8	1.5	10.1	7.6	7.7	5.5	12.1
1997	-0.7	1.4	1.4	1.4	-6.2	-3.4	-1.0	8.4	6.9
1998	-1.1	-1.4	-1.5	-1.0	-2.4	-1.1	-1.7	10.5	8.4
1999	1.2	3.0	2.2	5.4	-4.2	-3.5	1.0	5.5	5.0
2000	3.9	2.1	2.9	0.2	9.2	4.9	3.9	16.5	16.3
2001	2.6	3.0	2.8	3.8	6.3	5.4	3.9	11.5	13.0
2002	1.5	3.3	2.7	4.5	3.5	3.4	3.4	2.1	4.9
2003	3.2	4.4	4.6	3.8	1.3	4.7	3.5	7.5	7.9
2004	4.7	1.5	3.3	-2.7	7.9	5.3	3.2	21.4	18.4
Average growth (1996–2004)	2.1	2.6	3.0	1.9	2.7	2.5	2.6	9.7	10.2

Source: ČSÚ (2005a).

4. Macroeconomic stability

The relationship between domestic supply (GDP) and domestic demand (final consumption and gross capital formation) is vital for the macroeconomic balance because this balance is given by the interaction of supply and demand. The main source of macroeconomic imbalance is a situation when a country consumes more goods and services than it produces (domestic demand exceeds domestic supply). This gap needs to be covered by import exceeding the level of export (net export is negative). The relationship between domestic supply and domestic demand is shown in Table 7.

The deficit of foreign trade in goods and services culminated in 1996 and 1997 at CZK 95–99 mld (i.e. between 5 % and 6 % of GDP). During 1998–1999 the deficit decreased to a very low level of approximately 1 % of GDP as a result of restrictive measures introduced by Czech National Bank and the government. The foreign trade deficit reached an acceptable level between 2 % and 3 % of GDP during 2000–2003. A negative foreign trade balance was only recorded in the balance of goods. The balance of services recorded a surplus and partially compensated for the deficit in goods.

Significant improvement in the trade balance occurred in 2004 and 2005. This was a result of a strong growth in Czech export, which benefited from a high level of direct foreign investment during the previous years and the CR's membership in the EU. The foreign trade deficit in 2004 was 0.5 % of GDP and in 2005 the net export recorded positive figures.

4.1 Relationship between savings and investment

Although the gap between domestic supply and demand is to a great extent the main source of macroeconomic imbalance (internal and external), in order to obtain a more comprehensive picture this relationship needs to be extended by the impact of distribution of income between the national economy and the world. In this sense creation of disposable income and its use for consumption and savings needs to be considered. Balance at the macroeconomic level can be assessed according to the relationship between national savings and domestic investment. This relationship reveals a major source of imbalance due to a lack of national savings in relation to investment. This relationship is also important as it combines internal imbalance (relationship between savings and investment) with external balance (the gap between savings and investments needs to be financed from external sources and will therefore manifest itself as a deficit of the current account of the balance of payments). Changes in the level of investment and savings in the Czech economy are described in Table 8.

The decrease in the share of investment in GDP (investment ratio) from 32.5 % in 1995 to 27.8 % in 2004 was caused by weaker economic activities during 1997–1999, which were accompanied by relatively major decline in investment. Investment started to grow again from 2000. In international comparison, the investment ratio in the Czech Republic remains higher than in advanced EU member states. Over the last few years, the CR has held the second place in the group of new member states after Estonia. Rather than the level of investment, the structure and effectiveness of investment presents the main problem in the Czech Republic.

The decrease in the saving rate (the share of savings in gross disposable income) by almost 5 p.p. during 1995–2004 is very strong, although the saving ratio in the Czech Republic appears relatively high in international comparison (higher than in most advanced

market economies). However, these savings are insufficient due to great investment needs in the Czech Republic, which arise from the process of transformation connected with necessary structural changes and an outdated infrastructure. The gap between savings and investment, which is consistent with the deficit of the current account of the balance of payment, is relatively high and during 2000–2004 was on average equal to 5.5 % of GDP.

The analysis of the relationship between savings and investment according to individual **institutional sectors** (see Table 12) shows that the long-term decline in saving ratio was mainly caused by a significant decrease in the level of household savings and a decreasing level of savings in governmental institutions.

The **household sector** is the key sector with regard to generating savings and providing these savings to other sectors because the investment needs of the sector of non-finance companies and governmental institutions tend to be higher than their savings and they are therefore dependent on borrowing from other sectors. The situation when the household sector is less capable of financing net borrowing of non-financial companies and governmental institutions leads to increasing dependency of the economy on foreign savings. The significant increase of investment in the household sector caused by a strong growth in mortgage credit was among the factors deteriorating the gap between savings and investment.

Significantly declining creation of savings in the **governmental sector** (from CZK 83.8 mld in 1995 to 38.4 mld in 2003) and relatively large investment needs caused that the gap between savings and investment, which was still slightly positive during 1995–1999, turned during 2000-2003 to negative figures with strongly increasing tendency. This in itself predetermines a growth of the deficit in the sector of governmental institutions. A significant increase in creation of gross savings occurred in 2004 mainly due to a rapid growth of the economy and the subsequent higher tax revenue. Net borrowing of the governmental sector increased significantly during 2001–2003.

Public finance appears from the perspective of macroeconomic stability as the weakest point of the economic development. The expected admission to Euro zone around 2010 presents a high priority for fiscal consolidation. Savings in expenditure appear as necessary from this point of view, while their enforcement is very complicated, especially in the election year 2006. Sustainability of fiscal consolidation will be gradually complicated in the following years by pressures arising from ageing of the population.

Table 6: Contribution of demand components to GDP growth (constant prices of the preceding year, in percentage points of GDP growth)

	GDP	Final con-sumption	Private con-sumption	Public con-sumption	Gross capital forma-tion	Gross fixed capital formation	Domestic demand	Balance of for-eign trade
1996	4.2	4.7	4.4	0.3	3.3	2.4	8.0	-3.9
1997	-0.7	1.0	0.7	0.3	-2.0	-1.1	-1.0	0.3
1998	-1.1	-1.0	-0.8	-0.2	-0.7	-0.3	-1.8	0.6
1999	1.2	2.2	1.1	1.1	-1.2	-1.0	1.0	0.2
2000	3.9	1.5	1.5	0.0	2.5	1.3	4.0	-0.1
2001	2.6	2.2	1.4	0.8	1.8	1.5	4.0	-1.4
2002	1.5	2.4	1.4	1.0	1.0	0.9	3.4	-2.0
2003	3.2	3.2	2.4	0.9	0.4	1.3	3.6	-0.4
2004	4.7	1.1	1.7	-0.6	2.1	1.4	3.2	1.5

Source: ČSÚ (2005a), own calculations.

5. External economic balance

The two aspects of macroeconomic balance based on the relationship between domestic supply and domestic demand and the relationship between savings and investment are reflected in the country's balance of payment because the negative gap between domestic supply and demand or between savings and investment needs to be filled with foreign resources. This concerns the balance of trade and services (performance balance) in the first case and the total balance of the current account in the second case. In the context of the domestic economy a deficit of the current account represents a negative gap between national savings and investments.

Table 7: Creation and utilization of GDP (current prices, mld. CZK and per cent of GDP)

	GDP	Domestic demand	Balance of foreign trade	of which		In per cent of GDP		
				goods	services	total	goods	services
1995	1466.7	1529.9	-63.2	-107.7	44.5	-4.3	-7.3	3.0
1996	1660.6	1759.6	-99.0	-154.9	55.9	-6.0	-9.3	3.4
1997	1785.1	1880.2	-95.1	-155.2	60.1	-5.3	-8.7	3.4
1998	1962.5	1984.6	-22.1	-84.0	61.9	-1.1	-4.3	3.2
1999	2041.4	2065.7	-24.3	-65.8	41.5	-1.2	-3.2	2.0
2000	2150.1	2216.3	-66.3	-120.8	54.6	-3.1	-5.6	2.5
2001	2315.3	2374.0	-58.7	-116.7	58.0	-2.5	-5.0	2.5
2002	2414.7	2464.1	-49.5	-71.3	21.9	-2.0	-3.0	0.9
2003	2555.8	2612.3	-56.6	-69.8	13.2	-2.2	-2.7	0.5
2004	2767.7	2780.8	-13.1	-26.4	13.3	-0.5	-1.0	0.5

Source: ČSÚ (2005a).

Table 8: Gross disposable income, national saving and gross capital formation (mld. CZK, current prices)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gross disposable income (GDI)	1474.6	1646.3	1767.9	1944.0	2015.1	2111.3	2249.2	2313.0	2457.1	2636.4
Final consumption	1053.0	1211.3	1334.8	1424.3	1515.7	1597.8	1705.3	1789.9	1919.4	2011.2
Gross national saving (S)	421.6	435.1	433.0	519.7	499.4	513.5	543.9	523.0	537.7	625.2
Gross capital formation (I)	476.9	548.4	545.4	560.2	550.0	618.5	668.6	674.2	692.9	769.6
Balance of national current transactions (S–I)	-55.3	-113.3	-112.4	-40.5	-50.6	-105.0	-124.8	-151.2	-155.2	-144.4
Saving rate in per cent of GDI	28.6	26.4	24.5	26.7	24.8	24.3	24.2	22.6	21.9	23.7
Saving rate in per cent of GDP	28.7	26.2	24.3	26.5	24.5	23.9	23.5	21.7	21.0	22.6
Investment ratio in per cent of GDP	32.5	33.0	30.6	28.5	26.9	28.8	28.9	27.9	27.1	27.8
Difference between saving rate and investment ratio in % of GDP	-3.8	-6.8	-6.3	-2.1	-2.5	-4.9	-5.4	-6.3	-6.1	-5.2

Source: ČSÚ (2005a).

Table 9: Relationship between saving and investment by sectors (mld. CZK, current prices)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Non-financial corporations										
Gross saving (S)	176.4	217.0	177.6	232.4	260.6	322.4	336.6	300.7	352.5	388.4
Investment (I)	319.9	355.8	352.2	354.2	357.4	423.1	449.4	434.3	460.9	503.5
S–I	-143.5	-138.8	-174.5	-121.8	-96.7	-100.7	-112.9	-133.6	-108.3	-115.1
Saving rate	22.2	23.7	17.9	21.4	23.1	26.7	26.1	22.3	24.6	25.2
Net lending/ borrowing	-113.6	-119.5	-140.4	-75.9	-74.3	-83.9	-88.1	-87.7	-82.9	-82.3
Financial corporations										
Gross saving (S)	40.0	35.7	36.9	72.9	52.3	35.3	45.8	41.1	16.4	12.1
Investment (I)	28.9	24.8	22.4	16.9	13.0	16.1	19.2	21.1	9.7	10.2
S–I	11.1	10.9	14.5	56.0	39.3	19.2	26.6	20.0	6.6	1.9
Net lending/ borrowing	30.4	16.9	15.8	83.6	75.6	34.2	94.0	63.5	209.7	6.3
General government										
Gross saving (S)	83.8	79.0	82.0	82.6	64.4	47.1	58.6	47.2	54.1	113.2
Investment (I)	67.1	73.8	71.8	83.1	58.8	62.5	76.9	92.8	108.1	135.4
S–I	16.7	5.2	10.2	-0.5	5.6	-15.4	-18.3	-45.6	-54.0	-22.2
Net lending/ borrowing	-196.3	-51.2	-43.5	-98.5	-74.4	-78.5	-137.0	-163.0	-307.2	-81.5
Households										
Gross saving (S)	119.4	103.2	136.4	130.3	119.8	105.8	100.8	132.9	112.4	110.5
Investment (I)	59.7	92.0	97.7	103.5	116.5	115.4	121.0	122.7	112.1	116.7
S–I	59.7	11.2	38.7	26.8	3.4	-9.6	-20.1	10.2	0.9	-6.1
Saving rate	14.2	11.0	12.9	11.6	10.3	8.8	7.9	9.9	8.0	7.5
Net lending/ borrowing	222.1	39.8	62.0	50.1	22.8	19.1	6.7	48.1	21.5	15.9

Note: Saving rate of non-financial corporations is expressed as the share of gross saving of non-financial corporations on their gross value added (in per cent). Saving rate of households is measured as the share of saving of households on their gross disposable income increased by the changes in the net share of households on reserves of pension funds (in per cent). Source: ČSÚ (2005a).

Table 10: Current account (mld. of CZK)

	Current account	Trade balance	Bal. of services	Bal. of incomes	Current transfers
1995	-36.3	-97.6	48.9	-2.8	15.2
1996	-111.9	-154.9	52.2	-19.6	10.4
1997	-113.0	-155.2	55.9	-25.1	11.3
1998	-40.5	-84.0	61.9	-35.1	16.7
1999	-50.6	-65.8	41.5	-46.7	20.4
2000	-104.9	-120.8	54.6	-53.0	14.4
2001	-124.5	-116.7	58.0	-83.5	17.8
2002	-136.4	-71.3	21.9	-115.6	28.7
2003	-160.6	-69.8	13.2	-119.9	15.8
2004	-143.3	-22.3	12.5	-139.5	6.1

Source: ČNB (2005a).

Table 10 shows changes of the total current account deficit and balances of four basic components of the current account. With the exception of a few years (1995, 1998 and 1999), the current account deficit was relatively high and exceeded CZK 100 mld. The deficit of trade balance decreased significantly in 1998 and 1999 due to weak economic activity and then starter to decrease again during 2002–2004, although this time the reasons were different. This decrease was mainly attributable to strong inflow of

direct foreign investment, increasing influence of foreign companies and the production restructuring process. From 2001, the growing deficit of the balance of income (in particular repatriated and reinvested profit) became the main cause of the current account deficit, which is another, typically not positive aspect of strong direct foreign investment. The impact of the balance of services and current transfer is positive but not very significant.

Table 11: Current account (in percent of GDP)

	Current account	Trade balance	Bal. of services	Bal. of incomes	Current transfers
1995	-2.5	-6.7	3.3	-0.2	1.0
1996	-6.7	-9.3	3.1	-1.2	0.6
1997	-6.3	-8.7	3.1	-1.4	0.6
1998	-2.1	-4.3	3.2	-1.8	0.8
1999	-2.5	-3.2	2.0	-2.3	1.0
2000	-4.9	-5.6	2.5	-2.5	0.7
2001	-5.4	-5.0	2.5	-3.6	0.8
2002	-5.6	-3.0	0.9	-4.8	1.2
2003	-6.3	-2.7	0.5	-4.7	0.6
2004	-5.2	-0.8	0.5	-5.1	0.2

Source: ČNB (2005a), own calculations.

Another expression of current account balances (in percentages of GDP) is especially important for international comparison (see Table 11 and Figure 4). The current account deficit during 2000–2004 was on average around 5.5 % of GDP. The deficit of foreign trade was the main source of this high deficit in 2000 and 2001 and from 2002 the deficit was mainly attributable to the negative balance of incomes. The level of the current account deficit more or less stabilized during 2000–2004 but its structure changed dramatically. Significant improvement is expected in 2005. Assessment of the current account deficit requires more detailed examination of individual items because these have various impacts on the economy.

Figure 4: Current account (in percent of GDP)
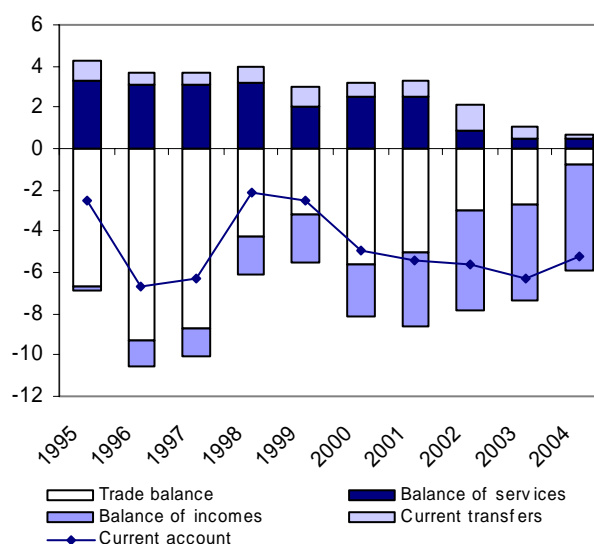
Source: ČNB (2005a), own calculations.

When assessing the deficit of the current account, it is impossible to mechanically determine a limit that presents a threat to the country's macroeconomic stability. Literature

often simplifies this issue and refers to the limit of 5 % of GDP as a warning sign from the point of view of macroeconomic balance. However, the impact of the current account deficit depends on the manner of financing the deficit (debt and non-debt financing, short or long-term capital), the use of the deficit (for consumption or investment), the amount of foreign debt and foreign exchange reserves, and the overall macroeconomic situation of the country. From this point of view the current account deficit in the CR does not appear as dangerous because it was mainly financed by direct foreign investment, promoted growth and did not increase the country's relative foreign debt (foreign debt in convertible currencies decreased slightly in 2004 compared to 2000 from 37.6 % to 36.8 % of GDP). However, an excessive current account deficit in combination with significant reliance of the economy on the inflow of foreign capital can prove to be dangerous for the country's financial stability due to sudden external shocks. Significant external imbalance is typical also for new EU member states from Central and Eastern Europe.

External imbalance is closely connected with internal imbalance. High deficits of public finance usually account for a major part of the current account deficit. The connection between imbalance in public finance and external imbalance poses a danger of the so-called twin deficit. For example reinvested profits are a part of foreign direct investment and typically have a positive impact on the economy. On the other hand, repatriated profit represents withdrawal of income from the country with an impact on national savings, currency rate and financial situation of some companies. Reinvested profit tends to prevail in the first stage of direct foreign investment inflow, while withdrawal of capital in the form of repatriated profit becomes more frequent in the following stages. The part of the generated profit intended for strengthening investment is thus reduced to the benefit of paid out dividends. This trend has also appeared in the CR, where the share of reinvested profit fell from 78 % in 2001 to 51 % in 2004. Increasing profit of companies with a majority share of foreign capital led in 2003 and 2004 to a significant increase in the volume of dividends paid out to foreign owners, while the volume of reinvested profit stagnated.

6. Conclusion

The growth of GDP on the supply side was largely supported by the growth of total factor productivity (its impact accounted for more than 70 %). The accelerated growth of TPF during 2000–2004 was caused by qualitative factors, which change very slowly and their impact is often demonstrated with a certain delay. This involved mainly the strong inflow of foreign direct investment, which culminated during 1999–2002. Direct foreign investment contributed to implementation of innovations, including ICT, and subsequently also to the increased competitiveness of the Czech economy. This phenomenon is further confirmed by the expansion of export with above-average growth in export of machines and transporting equipment. Other qualitative factors, such as the share of gross expenditure on research and development in GDP, quality of human resources and institutional factors, changed gradually and did not reach the average level for the EU.

Development on the labour market during 1996–2004 was characterized by an overall decline in employment. The situation only started to improve from 2005. The total employment in the national economy declined on average by 0.6 % per year during 1996–2004. The economic participation rate decreased from 73.2 % in 1996 to 70.8 % in 2004, and an increase to a rate above the 71 % is expected in 2005. The position of the Czech Republic in international comparison is slightly above the EU average. While the number of unemployed persons grew during 1996–2000, unemployment stabilized at the end of the last century and subsequently started to decline.

An analysis of six macroeconomic industries showed that industry had the greatest impact on the accelerated growth of the TPF, followed by other services and transport and communication. The average annual growth rate of TPF in the CR during 1996–2004 was twice as high as in the EU-15 (1.5 % versus 0.7 %). The difference between the TPF growth rate in the CR and in the EU-15 during 2000–2004 was very significant (2.3 % in the CR compared to 0.5 % in the EU-15). Convergence of TPF in the CR to the EU-15 level started in 1999 and this process further accelerated in 2003 and 2004. The level of TPF in the CR reached 63 % of the EU-15 level in 2004, compared to 59 % in 1995 and 57 % in 1998.

Changes in demand have a major impact on growth performance over short periods. Relatively significant fluctuations in development of individual demand elements were reflected in strong changes in GDP. This was the case especially in the second half of the 90's. The last five years have brought a certain degree of stabilization, especially in development of domestic demand, which also had a positive impact on the growth of GDP. The Czech economy is characterized by a relatively high share of public consumption, investment and foreign trade in the structure of demand. However, the shares of the individual components in internationally comparable prices change significantly. The share of public consumption remains very high, while the share of investment and foreign trade declines. The share of private consumption remains at approximately 50 %. The Czech economy recorded a faster growth of domestic demand compared to the growth of GDP on a long-term basis. Private consumption grew relatively fast (the average annual growth of private consumption was 3 % during 1996–2004, while GDP grew on average by 2.1 %). The higher growth rate in demand compared to GDP was facilitated by positive development of terms of trade in foreign trade. Contributions of the main demand components to the growth of GDP show a dominant impact of domestic demand on the growth of GDP until 2003. The impact of foreign trade

during 1996–2003 was mostly negative. The situation changed in 2004 and especially in 2005, and foreign trade became a driving force behind the Czech economy.

The relatively fast growth of the Czech economy during 2000–2005 was accompanied by opposite trends in **macroeconomic balance**. The relationship between domestic supply and demand was characterized by higher domestic utilization of GDP compared to GDP creation. This was reflected in the negative balance of foreign trade in goods and services. The foreign trade deficit culminated in 1996 and 1997. Positive development in foreign trade led to a significant decrease in the performance balance deficit and the trade balance recorded a surplus in 2005. The balance of services was in surplus and compensated partially for a deficit in the balance of goods. However, the surplus in the balance of services has decreased significantly over the last few years. The decreasing deficit of trade balance did not have a significant impact on the total current account balance due to the increasing deficit in the balance of incomes. The outflow of primary income, especially in the form of growing reinvested and repatriated profit, started to play an important role in this regard. This was caused by a strong inflow of direct foreign investment and a growing influence of companies under foreign control. The current account balance during 2000–2004 was approximately 5 % of GDP. A positive impact of foreign trade occurred in 2005 when the current account deficit fell below 3 % of GDP. As this deficit is financed mainly by the inflow of direct foreign investment, it supports growth in investment without increasing the country's foreign indebtedness and therefore is need not to be seen as dangerous for future development of the economy.

A negative gap between national savings and domestic investment was the main cause behind the current account deficit in the domestic economy. The saving and investment ratios declined on a long-term basis. From the perspective of main institutional sectors of the economy, adverse development of savings occurred in the household and governmental institution sectors. The decrease in household savings was influenced by a strong growth in loans (especially mortgage) provided to households. The situation when the household sector is less capable to finance non-financial companies and governmental institutions leads to increasing dependency of the economy on foreign savings. Generation of savings also declined in the governmental sector. This fact combined with increasing investment turned the originally positive difference between savings and investment into a negative one. What's more, capital transfers to the benefit of other sectors led to a strong growth in net borrowing of the governmental sector, which exceeded the Maastricht criterion of 3 % of GDP during 2001–2003. The overall development of macroeconomic balance shows that a macroeconomic policy supporting growth must be linked with the aim of macroeconomic stability, which is a vital condition for balanced economic growth and full implementation of the growth potential.

References

Aghion, P., Lewitt, P.: *Endogenous growth theory*. Cambridge, MA, MIT Press 1998.

Auer, J., Müller, W.: Bilaterale Wirtschaftsvergleiche mit Polen, Ungarn, ČSFR, Jugoslawien, Rumänien und Sowjetunion. *Statistische Nachrichten*, 1993, No. 8.

Barro, R. J., Sala-i-Martin, X.: *Economic Growth*. New York, McGraw-Hill 1995.

Benáček, V.: Král není nahý. *Ekonom*, 2004, No. 31, pp. 32–34.

Blanchard, O. J., Diamond, P., Hall, R. E., Yellen, J.: The Beveridge Curve. *Brookings Paper on Economic Activity*, 1989, No. 1, pp. 1–76.

Boltho, A., Holtham, G.: New approaches to economic growth. In: Jenkinson, T. (ed.): *Readings in Macroeconomics* (2nd edition). Oxford, Oxford University Press 2000, pp. 237–247.

CEP: Měříme správně HDP? Praha, Centrum pro ekonomiku a politiku 2005, No. 39.

Crafts, N.: `Post-neoclassical endogenous growth theory`: What are its policy implications? In: Jenkinson, T. (ed.): *Readings in Macroeconomics* (2nd edition). Oxford, Oxford University Press 2000, pp. 261–274.

ČNB: Zprávy o inflaci. Praha, Česká národní banka 2004 a 2005.

ČNB: Statistika platební bilance. Praha, Česká národní banka 2005 (a).

ČNB: Platební bilance 2004. Praha, Česká národní banka 2005 (b).

ČNB: Stav přímých zahraničních investic k 31. 12. 2003. Praha, Česká národní banka 2005 (c).

ČSÚ: Evropský systém účtů – ESA 1995. Praha, Český statistický úřad 2000.

ČSÚ: Zahraniční obchod – časové řady 1994–2000, Praha, Český statistický úřad 2002.

ČSÚ: Zaměstnanost a nezaměstnanost v ČR podle výsledků výběrového šetření pracovních sil za 1. čtvrtletí a za 2.čtvrtletí 2004. Praha, Český statistický úřad 2004.

ČSÚ: Analýzy a prognózy makroekonomického vývoje ČR. Praha, Český statistický úřad 2004 a 2005.

ČSÚ: Čtvrtletní národní účty ČR. Praha, Český statistický úřad 2004 a 2005.

ČSÚ: Roční národní účty. Praha, Český statistický úřad 2005 (a).

ČSÚ: Časové řady – zaměstnanost a nezaměstnanost v ČR podle výsledků VŠPPP. Praha, Český statistický úřad 2005 (b).

ČSÚ: Rychlé informace – Tempo růstu celkové zaměstnanosti se dále zvýšilo. Praha, Český statistický úřad 2005 (c).

ČSÚ: Věda a technologie – ČR a mezinárodní srovnání ve světle statistických čísel; 1995–2004. Praha, Český statistický úřad 2005 (d).

ČSÚ: Zahraniční obchod ČR v lednu až prosinci 2004. Praha, Český statistický úřad 2005 (e).

ČSÚ: Zaměstnanost a nezaměstnanost v ČR podle výsledků výběrového šetření pracovních sil za 1. čtvrtletí a za 2. čtvrtletí 2005. Praha, Český statistický úřad 2005 (f).

ČSÚ: Zdroje podnikání a účetní přidaná hodnota nefinančních podniků v období let 2000 až 2004. Praha, Český statistický úřad 2005 (g).

ČSÚ: Dlouhodobý vývoj (ne)zaměstnanosti a HDP se zaměřením na částečné úvazky. Praha, Český statistický úřad 2005 (h).

ČSÚ: Statistická ročenka ČR 2005. Praha, Český statistický úřad 2005 (i).

ČSÚ: Bilance nefinančních aktiv 1995–2002. Praha, Český statistický úřad 2005 (j).

ČSÚ: Vývoj české ekonomiky v 1. až 3. čtvrtletí 2005. Praha, Český statistický úřad 2005 (k).

ČSÚ: Databáze ročních národních účtů. (5. 11. 2005) (l).

ČSÚ: Aktuality ČSÚ za listopad – prosinec 2005. Praha Český statistický úřad 2006.

CzechInvest: Investiční projekty agentury CzechInvest 1994 – 1. pol. 2005 (databáze projektů k 30. 6. 2005). Praha, CzechInvest 2005 (30. 11. 2005).

EC: European Commission, December 2004 Update of the Convergence Programme of the Czech Republic (2004-2007), An Assessment. Brussels, European Commission 25 January 2004.

EC: Labour Market and Wage Developments in 2004, With Special Focus on Risk of Jobless Growth. Luxembourg, European Communities 2005, Special Report No. 3. (b)

ECFIN: Statistical Annex of European Economy. Autumn 2000. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2000.

ECFIN: Statistical Annex of European Economy. Autumn 2002. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2002.

ECFIN: The EU Economy: 2003 review. Luxembourg, European Commission 2004, No. 6 (a).

ECFIN: Statistical Annex of European Economy. Autumn 2004. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2004 (b).

ECFIN: Economic Forecasts. Autumn 2005. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2005 (a).

ECFIN: Statistical Annex of European Economy. Autumn 2005. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2005 (b).

ECFIN: Public Finances in EMU – 2005. Brussels, European Commission, Directorate General ECFIN – Economic and Financial Affairs, 2005 (c).

ECFIN: Employment in Europe 2005. Recent Trends and Prospects. Brussels, EC, Directorate General for Employment, Social Affairs and Equal Opportunities, 2005 (d).

EUROSTAT: The ESA 95 Input-Output Manual. Luxembourg, EUROSTAT 2002.

EUROSTAT: Labour Cost in Europe 1996–2002. Luxembourg, *Statistics in Focus*, 2004, No. 9 (a).

EUROSTAT: Science and Technology. Luxemburg, *Statistics in Focus,* 2004, No. 10 (b).

EUROSTAT: Structural Indicators, Luxembourg, EURO-STAT 2005 (a).

EUROSTAT: National Accounts, Luxembourg, EURO-STAT 2005 (b).

EUROSTAT: Decreased FDI flows for the EU25 in 2004. Luxemburg, EUROSTAT, *Statistic in Focus*, 2005, No. 32 (c).

EUROSTAT: European Union foreign direct investment yearbook 2005. Data 1998–2003. Luxemburg, EC 2005 (d).

EUROSTAT: Yearbook 2004, Data, Long-Term Indicators. Luxemburg, EUROSTAT November 2005 (e).

EUROSTAT: Structural Indicators. Luxembourg, EURO-STAT 2006.

Galuščák, K., Münich, D.: Structural and Cyclical Unemployment: What Can We Derive form the Matching Function?. Praha, ČNB, 2005, ČNB Working Paper Series, No. 2.

Gordon, R. J.: *Productivity Growth, Inflation, and Unemployment.* The Collected Essays of R. J. Gordon. Cambridge, Cambridge University Press, MA 2004.

Hájek, M.: Ekonomický růst a souhrnná produktivita faktorů v České republice, 1992–2003. Praha, Centrum ekonomických studií VŠEM 2004.

Hájek, M.: Ekonomický růst a souhrnná produktivita faktorů v České republice v letech 1992–2004. Praha, Centrum ekonomických studií VŠEM, 2005, CES VŠEM Working Paper No. 5.

Havlik, P.: Structural Change, Productivity and Employment in the New EU Member Statepp. Vienna, WIIW Research Reports, January 2005.

Havlik, P., Podkaminer, L., Gligorov, V. et al.: Accelerating GDP Growth, Improved Prospects for European Integration. Vienna, WIIW, 2005 Research Reports No. 314.

HCSO: Gross Domestic Product 2004. Budapest, Hungarian Central Statistical Office, October 2005 (25. 11. 2005).

Hrstková, J.: Virtuální investice. *Ekonom*, 2004, No. 12, pp. 57.

Hurník, J., Navrátil, D.: Supply-Side Performance and Structure in the Czech Republic (1993–2003): Macroeconomic View. Prague, Czech National Bank, September 2003, CNB Research Paper.

Hurník, J.: Potential Output: What Can the Production Function Approach Tell Us? Prague, Czech National Bank, May 2005, Economic Research Bulletin, No. 1.

Hunya, G., Geishecker, I.: Employment Effect of Foreign Direct Investment in Central and Eastern Europe. Vienna, WIIW, August 2005 Research Reports, No. 321.

IMF: The 5th Balance of Payments Manual. Conceptual Framework. Washington, IMF 1993.

IMF: Growth and Institutions. World Economic Outlook. Washington, IMF, April 2003.

IMF: The Global Demographics Transition. World Economic Outlook. Washington, IMF, September 2004.

IMF: Czech Republic. Staff Report for the 2005 Article IV Consultation. Washington, D.C., IMF, July 20, 2005.

Jaroš, J.: Growth Accounting in Transitive Economies. *Prague Economic Papers*, 2002, No. 2, pp. 149–166.

Jorgenson, D. W., Griliches, Z.: The Explanation of Productivity Change. *Review of Economic Studies*, July 1967, No. 99, pp. 249–283.

Jorgenson, D. W., Griliches, Z.: Issues in Growth Accounting: A Reply to Edward F. Denison, *Survey of Current Business*, May 1972, Part II, No. 5, pp. 65–94.

Kadeřábková, A. a kol.: Ročenka konkurenceschopnosti české ekonomiky. Linde, Praha, 2005.

Kadeřábková, A., Spěváček, V., Žák, M.: Růst, stabilita a konkurenceschopnost II (aktuální problémy české ekonomiky při vstupu do EU). Praha, Linde 2004.

Kejak, M.: Endogenní růstové modely. *Finance a úvěr*, 1998, No. 7, pp. 445–465.

Král, P.: PZI a jejich vliv na tempo dlouhodobého růstu v ČR. *Bankovnictví*, 2004, No. 2, pp. 18–20.

Kubíček, J., Tomšík, V.: Král není nahý, ale ani bohatý. *Ekonom*, 2004, No. 34, pp. 46–47.

Landesmann, M. et al.: Structural Developments in Central and Eastern Europe. Vienna, WIIW 2000, Structural Report.

Landesmann, M., VIdovic, H., Ward, T.: Economic Restructuring and Labour Market Develpments in the New EU Member Statepp. Vienna, WIIW December 2004, Research Reports, No. 312.

Lommatzschová, K.: Jak přepočítat HDP. *Ekonom*, 2004, No. 31, pp. 30-32.

Lucas, R. E. Jr.: *Lectures on Economic Growth.* Cambridge, MA, Harvard University Press 2002.

Mankiw, N. G., Romer, D., Weil, D. N.: A Contribution to the Empirics of Economic Growth. *Quarterly Journal of Economics*, 1992, pp. 407–437.

MF ČR: Konvergenční program České republiky (aktua-lizovaná verze). Praha, Ministerstvo financí ČR 2004.

MF ČR: Makroekonomická predikce České republiky. Praha, Ministerstvo financí ČR 2005.

MF ČR: Makroekonomická predikce České republiky. Praha, Ministerstvo financí ČR 2006.

MPO: Analýza vývoje ekonomiky ČR a odvětví v působnosti MPO za rok 2004. Praha, Ministerstvo průmyslu a obchodu ČR 2005 (30. 11. 2005).

Musil, P.: Vliv investičních pobídek na příliv přímých zahraničních investic do ČR. *Národohospodářský obzor*, 2005, No. 3, pp. 42–50.

Novotný, J.: Výnosy z přímých zahraničních investic a jejich rozdělení v České republice. *Politická ekonomie*, 2004, No. 6, pp. 741–755.

OECD: OECD Benchmark Definition of Foreign Direct Investment (3rd. edition). Paris, OECD 1995.

OECD: The Sources of Economic Growth in OECD Countries. Paris, OECD 2003.

OECD: Understanding Economic Growth. Paris, OECD 2004 (a).

OECD: National Accounts of OECD Countries. Paris, OECD 2004 (b).

OECD: Purchasing Power Parities and Real Expenditures, 2002 Benchmark Year. Paris, OECD 2004 (c).

OECD: OECD Economic Outlook. Preliminary Edition, No. 78. Paris, OECD 2005 (a).

OECD: OECD Science, Technology and Industry Scoreboard. Paris, OECD 2005 (b).

OECD: Economic Surveys: Slovak Republic. Vol. 2005/16. Paris, OECD September 2005 (c).

OECD: National Accounts of OECD Countries. Paris, OECD 2005 (d).

OECD: Going for Growth. Paris, OECD 2006.

Podkaminer, L., Hunya, G. et al.: Back from the Peak, Growth in Transition Countries Returns to Standard Rate of Catching-up. Vienna, July 2005, WIIW, Research Reports No. 320.

Potočnik, J.: Europe Needs a Wake-Up Call, International Symposium – Natural Science in Contemporary Society. Ljubljana, Slovenian Academy of Science and Arts, 21 October 2005.

Ravasio, G.: Real Economic Convergence: The Macroeconomic Dimension of Enlargement. Paper for High Level Seminar between EU Member States. Paris, December 2000.

Rogers, M.: *Knowledge, Technological Catch-up and Economic Growth.* Cheltenham UK & Northampton USA, Edward Elgar Publishing 2003.

Singer, M.: Srovnání temp hospodářského růstu. In: *Měříme správně HDP?* Praha, CEP 2005, No. 39, pp. 29–53.

Slavík, C.: Reálná konvergence České republiky k EU v porovnání s ostatními novými členskými zeměmi. Praha, Univerzita Karlova, Fakulta sociálních věd, CESES 2005. **Solow, R. M.:** Technical Change and the Aggregate Production Function. *Review of Economics and Statistics*, August, 1957, pp. 312–320.

Spěváček, V. a kol.: *Transformace české ekonomiky. Politické, ekonomické a sociální aspekty*. Praha, Linde 2002.

Spěváček, V.: K vývoji souhrnných ukazatelů reálného důchodu v České republice. Praha, CES VŠEM 2005.

Spěváček, V.: K vývoji souhrnných ukazatelů reálného důchodu v České republice. *Statistika*, 2005, No. 3, pp. 188–204 (b).

Spěváček, V., Vintrová, R.: Jak rychle rostla česká ekonomika? *Ekonom*, 2005, No. 16, pp. 50–53.

Srholec, M.: *Přímé zahraniční investice v České republice. Teorie a praxe v mezinárodním srovnání*. Praha, Linde 2004.

Šmídková, K.: Můžeme mít obojí? Reálná a nominální konvergence v období přílivu přímých zahraničních investic. *Finance a úvěr*, 2001, No. 6, pp. 364–376.

Thirlwall, A. P.: *Growth & Development. With Special Reference to Developing Economies* (seventh edition). London, Palgrave Macmillan 2003.

Tomšík, V., Kubíček, J.: Aktuální makroekonomický vývoj České republiky. Newton College, Brno 2005, Working Paper No. 4, pp. 15–32.

Törnqvist, L.: The Bank of Finland´s Consumption Price Index. *Bank of Finland Monthly Bulletin*, 1936, No. 10, pp. 1–8.

UN: System of National Accounts 1993. Brussels/Luxembourg, New York, Paris, Washington, D.C., United Nations 1993.

UNECE: Economic Survey of Europe No. 2. Geneva, New York, United Nations 2005.

UNECE: Economic Survey of Europe. Geneva, New York, United Nations, různá vydání.

UNCTAD: World Investment Report 2005. Washington, UNCTAD 2005.

Van der Ploeg, F., Tang, P. J. G.: The macroeconomics of growth: an international perspective. In: Jenkinson, T. (ed.): *Readings in Macroeconmics* (2.nd edition). Oxford, Oxford University Press 2000, pp. 248–260.

Varadzin, F., Frait, J., Červenka, M.: *Ekonomický rozvoj a růst*. Praha, Professional Publishing 2004.

Vintrová, R.: Co neodhaluje HDP při analýze ekonomického růstu a reálné konvergence. Praha, CES VŠEM 2005, Working Paper No. 1 (a).

Vintrová, R.: What GDP Indicators Do Not Tell You: Alternative Indicators of Economic Growth and Real Convergence. *Finance a úvěr,* 2005, No. 11–12, pp. 579–595 (b).

Vláda ČR: Strategie hospodářského růstu. Praha, vláda ČR (2. 12. 2005).

WB: Global Economic Prospects 2006. Economic Implications of Remittances and Migration. Washington, World Bank 2005.

Žďárek, V.: Analýza vztahu mezi mírou nezaměstnanosti a vývojem HDP v České republice v letech 1993 (1995) – 2004. Brno, ESF MU 2005 (mimeo).

I.P.Pavlova 3
120 00 Praha 2
Czech Republic
tel +420 841 133 166
bulletin@vsem.cz
www.cesvsem.cz