

ECONOMIC TRENDS 30

CZECH ECONOMY: AUTUMN 2001

Kamil Janáček

Eva Zamrazilová

Growth acceleration in the Czech economy, observed in 2000, continued in the first half of 2001. Gross Domestic Product grew, in the first half of 2001, by 4.0 % on a year-on-year basis, and by 3.9 % in the second quarter.

Domestic investment demand was the main pro-growth factor, increasing by 9.3 % year-on-year in the second quarter of 2001. Gross fixed capital formation increased by CZK 11 bill. The growth of building investments (CZK 6.6 bill.) was stronger than that of machinery ones (CZK 4.9 bill.) partly as a consequence of massive FDI inflow promoting developers greenfield investments.

The second biggest growth factor was household consumption which increased by 4.2 % (CZK 8 bill.). Acceleration of households consumption was caused especially by acceleration of wage growth accompanied by wider offer and use of consumer credits. Due to improving prospects of economic growth and declining unemployment, Czech households have been less cautious and increase their propensity to spend.

However, strong domestic demand is not the main factor behind acceleration of inflation observable from May to July. In July 2001, the headline yearly inflation rate reached its record-high since the end of 1998, standing at 5.9 %; consequently, it fell in September to 4.7 % y/y. It seems

most probable that speeding-up of inflation was only a temporary one and was not caused by fundamental macroeconomic factors but by the one-off ones.

This conclusion is supported by the evidence that no inflationary pressures have been coming from two important economic sectors – industry and construction, even under rapidly growing output in these industries. One of most profound feature of price developments (which represents a great difference in comparison with the situation in 1999 and 2000), has been the widening gap between the developments of consumer and producer prices. In September 2001 this gap widened to almost three percentage points, CPI standing at 4.7 % y/y and PPI at 1.8 % y/y.

Both industry and construction were growing rapidly in the first three quarters of 2001. Nevertheless, the growth of industrial output has started to be hit by weakening West European demand since the second quarter of 2001. Contrary to industry, construction is and will not be hit by the West European economic slowdown, strong demand in industry being supported by continuing massive inflow of FDI. Construction is undoubtedly the most rapidly growing economic sector in the Czech economy in 2001. At the same time, inflationary pressures that emerged in construction in-mid 2000, are now attenuated due to rapid growth of labour productivity, no inflationary risks threatening from this part of the economy.

Weakening West European demand has already started to hamper the Czech trade balance: trade deficit amounted to CZK 81.7 bill., January – September 2001. The most important factor of trade balance deterioration is the trade with Czech major trading partner Germany- which slipped to the red in July and August. While the imports from Germany continue to grow, the exports slowed rapidly. Anyway, quite robust economic growth led to

improvement of the ratio of the current account deficit to GDP which declined to 4.3 % in the first half of 2001 even under deterioration of the trade balance. As for international standards, this indicator thus reached the level of mid-term sustainability.

The economic growth is accompanied by the stabilisation on the labour market, rate of unemployment standing at 8.5 % in September 2001. At the same time, the ratio between unemployment and vacancies has been stabilized since Spring 2001, approximately 7 candidates falling upon one vacancy.

Main Macroeconomic Indicators

		1995	1996	1997	1998	1999	2000	2001f
GDP growth	%, real	5.9	4.3	-0.8	-1.2	-0.4	2.9	3.7
Industrial sales	%, real	9.2	6.8	6.1	0.6	-0.5	8.4	6.0
Industrial production	%, real	n.a.	2.0	4.5	1.6	-3.1	5.8	6.5
Construction output	%, real	8.5	4.8	-3.9	-7.0	-6.5	5.6	11.5
Retail sales	%, real	4.8	11.4	1.9	-7.2	2.1	4.6	4.0
Inflation	%, average	9.1	8.8	8.5	10.7	2.1	3.9	5.0
Inflation	%, e.o.p.	7.9	8.6	10.0	6.8	2.5	4.0	5.0
Net inflation*	%, e.o.p.	7.3	6.6	6.8	1.7	1.5	3.0	4.0
Industrial producer prices	%, e.o.p.	7.2	4.4	5.7	2.2	3.4	5.0	2.0
Nominal wages	%, average	18.5	18.4	10.5	9.3	8.2	6.6	9.0
Unemployment rate	%, e.o.p.	2.9	3.5	5.2	7.5	9.4	8.8	8.3
Exports	%, nom.	23.5	6.6	20.0	17.7	9.2	23.3	17.0
Imports	%, nom.	33.7	13.0	15.3	7.5	7.5	28.2	16.5
Trade balance	CZK bill.	-105.9	-155.8	-151.2	-76.3	-69.9	-126.8	-130.0
Current account	USD bill.	-1.4	-4.3	-3.2	-1.0	-1.1	-2.4	-2.4
Current account	% of GDP	-2.6	-7.4	-6.1	-1.9	-2.0	-4.8	-4.4
Financial account	USD bill.	8.2	4.3	1.1	2.6	2.5	3.4	3.0
Financial account	% of GDP	16.5	7.4	2.1	4.8	4.7	6.8	5.0
State budget	% of GDP	0.5	-0.1	-1.0	-1.6	-1.6	-2.4	-4.0
Gross foreign debt	USD bill.	17.2	21.2	21.6	24.3	22.9	21.5	22.0
Official FOREX reserves	USD bill.	14.0	12.4	9.8	12.6	12.9	13.1	14.0
M2 growth	%, e.o.p.	19.8	9.2	10.1	5.2	8.1	6.5	11.0
PRIBOR 3M	%, average	10.95	12.02	16.00	14.33	6.85	5.4	5.6
CZK/EUR**	Average	36.22	35.32	35.75	35.85	36.88	35.6	34.5
CZK/USD	Average	26.55	27.14	31.71	32.27	34.60	38.6	38.5

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

Note: *) target indicator of the CNB; consumer price inflation net of administered prices; **) until 1998 the CZK/DEM exchange rate converted by 1 EUR = 1.95583 DEM; n.a. = not available

Outlook

In 2001, domestic demand will be the decisive driving factor of GDP growth, especially investment demand and household demand will continue in rapid growth. Also government demand can be expected to revive slightly in the last quarter of 2001. The contribution of net exports of goods and services to GDP growth will remain negative, due to the economic slowdown in EU countries. However, this slowdown will not hamper the GDP growth; we continue to expect that GDP growth will reach 3.7 % in 2001. On the other hand, due to the slowdown of exports, the growth in industry will be by 1 percentage points lower to previous expectations - industrial output will increase by 6.5 % in 2001. Construction output will be pushed by strong domestic demand and its growth will be 11.5 %. Inflationary pressures emerging in some rapidly growing manufacturing industries are still attenuated as well as inflationary pressures in construction. At the end of 2001, the yearly increase of headline inflation will be 5.0 %.

Solid macroeconomic fundamentals and inflow of FDI are the main factors behind strong CZK. The policy of cutting the basic rates by Fed, ECB and other Central banks after the attack on the World Trade Center widened the interest rates differential between Czech and foreign financial markets. Moreover, in the environment of growing uncertainty, the transforming countries of Central Europe are estimated as a safer place for foreign investments. This situation could lead to a new wave of hot speculative capital inflow into the Czech Republic. Anyway, the Czech National Bank has a very limited space for the changes in its monetary policy. Therefore, it is highly

probable that the interest rates will remain unchanged till the end of the year 2001.

What Is Left of the New Economy?

Kamil Janáček

The concept of New Economy, so favoured and so often used in the second half of the Nineties, has lost a lot of its lustre. There is no proof that a new paradigm of economic theory has been enthroned, rendering „old“ economic laws invalid. The New Economy has not brought non-problem growth, steadily growing stock prices, or low inflation accompanied by low unemployment.

The dispute between the disciples of New Economics and the traditionalists goes on, and even the pronounced slowdown of the U.S. economy has brought no definite outcome in this dispute. However, some preliminary conclusions can be drawn by now.

What are the Teachings of the Theorists of New Economy

Even the very cautious Alan Greenspan, Chairman of the Fed, declared on July 10, 1998: „The United States is currently confronting what can best be described as another industrial revolution driven by the rapid acceleration of computer and telecommunication technologies“.

The followers of the new paradigm build on the following theorems:

- The traditional short-time Phillips Curve (the trade-off between inflation and growth) is not valid any more;

- Productivity increase will keep interest rates low;
- Technological industries (IT, software, etc.) are immune to the decline of demand, as well as to increased interest rates or exchange rates;
- Technological companies can have substantially higher returns than firms in traditional industries.

As the New Economy is not subject to the rules and laws of standard economic theory, it is implied that long-term economic growth can be much faster than in the past, that inflation will remain low regardless of the unemployment rate, and that the business cycle will be dampened (so that the world will see very few recessions).

On the other hand, the „traditionalists“, though they do not deny a big impact of the IT revolution on the economy, see its potential through a much more sober optic. For this group of economists, the term „New Economy“ means a mass use of information technologies in the economy - not a new era of economic development. Some of the parameters of the economy can change, but the main economic laws remain valid:

- Economic growth has its limits;
- Inflation will increase if the labour market becomes inflexible;
- Investments in IT (as in other capital) will decline if the aggregate demand goes down, or interest rates go up;
- The cyclical development of the economy is natural and will be preserved.

The Theoretical Fundaments

Traditional models of growth built on the concept of production function, which were developed in the 1950s, worked with two factors generating economic growth - labour and capital. In these models, if both factors grow in

the same proportion, there are constant returns to scale. If labour and capital grow at different rates, which is the reality of economic world, we are faced with diminishing returns. All that cannot be explained by the growth of labour and capital, is ascribed to technological progress. In Robert Solow's theory of production function, technological progress is an exogenous variable - „falling as Manna from the Heavens“ - and the theory does not explain what induces technological progress, or to its acceleration. In empirical analysis, technological progress is a residuum.

When, in the Seventies and Eighties, econometric analyses started to show that the growth of labour and capital can explain hardly one half of total product growth, it became clear that the existing paradigm is no more satisfactory, and that the „black box“ of technological progress needs a profound analysis.

One of the answers was the so-called New Theory of Growth, developed in the Eighties by Professor Paul Romer (and others). The new theory of growth puts technological progress into the centre of growth analysis, making it endogenous. It postulates that knowledge creation is an endogenous part of the production function, a part that reacts to market signals such as higher profitability or better education (skill). Growth based on (materialised or intangible) knowledge can, hence, accelerate and reach rates unseen in the past. Moreover, according to the new theory of growth, the increasing flow of knowledge transformed into products of information industries (software, financial services, the Internet, etc.) can bring increasing returns, being freed from the law of diminishing returns that reigned in the old, „physical“ economy. Knowledge generates further knowledge: the more mankind has learned and discovered, the better it has mastered the process of gathering knowledge, so that the flow of knowledge accelerates.

Is the Information Technology a Revolutionary Technological Advance?

The IT revolution is being compared with, and declared superior to, other revolutionary changes of the past centuries: the steam engine of the first industrial revolution, and the mass use of electricity at the start of the 20th century. Why the IT revolution is regarded as superior can be seen from Table 1: While the first industrial revolution (the use of steam power) in Great Britain led to a 1% annual increase of labour productivity, the use of electricity accelerated labour productivity growth to 2.3 %, and the IT era has driven it toward 3 %.

Table 1: Productivity Increase in the U.S. Economy
(annual growth rates in %)

	Labour Productivity	Total Factor Productivity
Era of Electricity		
1909 - 1919	2.1	1.3
1919 - 1929	2.3	2.0
Era of IT		
1985 -1995	1.4	0.5
1995 - 2000	2.9	1.5

Sources: US Bureau of Economic Analysis; OECD.

The followers of the New Economy are of the opinion that an annual productivity increase of 3-4 % is sustainable. They think that the impact of the IT revolution on the economy will be much stronger than that of steam power, electricity, automobile, or telegraph and telephone. In the past 200 years, annual GDP growth in the U.S. gradually increased from 0.6 % in 1800-1840 up to 2.3 % in 1960-1999. Growth by 2.5 to 3 % in the next few decades would thus be entirely within the long-term historical trend.

Criticism of the New Paradigm

The adherents of the classical paradigm however argue that a) productivity increase by 3-4 % annually is not sustainable; b) a substantial part of the productivity increase during the 1990s had a cyclical, not a structural (and so, lasting) character.

Moreover, as Table 1 also shows, the picture of effects of the IT revolution differs substantially, depending on whether labour productivity is used, or Total Factor Productivity.

Box 1

Measurement of productivity

Economists are using two main indicators to measure productivity:

- 1) Labour productivity is the traditional, generally used indicator - measuring output produced per a certain unit of labour time, usually per man-hour.
- 2) Total Factor Productivity is the output produced per unit of combined weighted inputs of labour and capital. TFP measures those changes in output that are not attributable to changes in the inputs of capital and labour. Thus it takes into account the change in productivity of both production factors.

Labour productivity can be increased by an enlarged use of capital per worker, though to remain sustainable, such increase has to be underpinned by technological progress („capital deepening“). Technological progress (together with organisational change in production) is also the main source of TFP growth. Technological progress reflected in TFP growth can increase productivity beyond the effects of enlarged use of capital.

Information technologies can increase productivity by three main ways:

- Increasing the volume of capital used per worker (capital deepening), when firms invest in IT;
- A speedup of growth of Total Factor Productivity in industries producing information technologies, thanks to technological progress;

- A speedup of growth of TFP in industries using information technologies.

Neither the followers nor the antagonists of the New Economy refute the fast growth of productivity in industries producing IT. However, the two groups totally disagree as to the effect of IT on the rest of the economy.

The disciples of the New Economy assert that IT has been the key factor behind the impressive productivity growth in the U.S. - and they assume that the higher pace of productivity increase will proceed. They argue that almost half of the speedup of productivity increase between the first and second half of 1990s was due to capital deepening. The remaining part of the speedup occurred thanks to a faster increase of Total Factor Productivity. (See Stiroh /2001/.) According to these data, roughly two thirds of the productivity increase represent the effect of production of IT, or investment in IT.

Yet Jorgenson and Stiroh /2000/ remind that although Total Factor Productivity increased in industries other than production of computers, there is no clear evidence that this was due to the use of IT. In spite of that, these authors mind that an increase of labour productivity by an average of 2.3 % is sustainable in the next decade. That would in the U.S. enable an average annual GDP growth of 3.5 % without an upsurge of inflation. (To compare: in 1975-1995 the U.S. GDP grew by an average of 3 % annually.)

In contrast, Robert Gordon, Professor of the Northwestern University, who is the most outstanding critic of the New Economy, minds that the whole increase of Total Factor Productivity outside the computer industry has been simply a result of the business cycle. In periods of dynamic growth, the employees work harder and with higher intensity, so that productivity

increases. In the recession which follows, productivity falls. Gordon moreover stresses (see Gordon /2000/) that if the production of computers and that of durables are excluded from the statistics, the remaining 88 % of the U.S. economy have shown no productivity increase - in data adjusted of the cycle. Yet it is into these remaining industries, where most of the IT investment has come. Gordon, consequently, concludes that the well-known Productivity Paradox is still valid (the Paradox was defined in 1987 by the Nobel Price winner Robert Solow: „You can see the computer age everywhere but in the productivity statistics.“).

The main reason why Gordon's conclusions differ substantially from those of the followers of New Economy is that he insists on using data adjusted of the effect of the business cycle. That is very reasonable: decreasing unemployment in the U.S. in the second half of the Nineties indicated that output was growing faster than the long-term trend. Professor Gordon asserts that it is no surprise that information technology so far has failed to increase Total Factor Productivity within the economy. He minds that computers of the Internet only substitute for some existing activities, but they are not creating new ones. (Music from the Internet simply replaces the compact discs, not creating anything new; visiting the consumer websites culminates in the middle of the workday, not in the evening - the result being lower, not higher labour productivity.)

Gordon's conclusions - that the U.S. productivity increase has had a cyclical, not structural character, hence is limited in time - have important consequences. If the labour productivity speedup stems mainly from capital deepening, this faster productivity growth can only last as long as the prices of IT keep declining. If the pace of technological progress in the IT sector slows down, productivity increase will be hit twice: first, Total Factor Productivity

increase in the IT industries will slow down; second, investment in IT within the rest of the economy will proceed at a lower rate. It has to be said that so far, trends in 2001 support the position of R. Gordon, rather than that of the New Economy.

The U.S. versus Europe and Japan

Discussion on the sustainability of productivity increase in the era of „New Economy“ has so far been concentrated on the U.S. The simple reason is that beyond the U.S., research of the impact of IT on the economy is almost non-existent. Investments in the information technologies have grown strongly in all the G-7 countries, yet their contribution to economic growth in Japan or in Europe is much lower than in the U.S. One reason is that the share of information technologies in the entire capital stock is only 3 % in Japan or Germany, against 7 % in the U.S.

Also the share of production of information technologies differs, being 7 % of GDP in the U.S., 6.5 % in Japan, and 3 % in Germany, respectively. This may also be one of the factors explaining the difference in average GDP growth rates in 1995-2000: 4.2 % in the U.S., 1.8 % in Germany, and 1.2 % in Japan. U.S. data however suggest that only one fourth of the labour productivity increase in the second half of the 1990s was induced by the production of IT. Investment in IT in the rest of the economy was a much more crucial factor. In Europe and Japan, investment in IT has been lagging behind the U.S., and only now this gap is being gradually closed.

Moreover, Europe or Japan cannot simply imitate the U.S., investing in the information technologies. They also have to undergo a painful process of restructuring their companies, increasing the flexibility of their labour markets and markets of production factors generally, as well as removing numerous

subsidies and the dependence of businesses on the government. And here, the catch-up in Europe is only in its initial phase.

2001: What is Left of the New Economy?

In the discussion on the „New Economy“, during the last years economists tended to exaggerated positions on the impact of IT on economic growth and productivity increase. Either they denied that anything changed at all within the economy, or they stressed that everything changed and that the new paradigm would result in a new era of economic development. As usually, the truth is somewhere in between.

The argument that all of the productivity increase in the 1990s in the U.S. was structural is hardly supportable, as the economic boom was fairly robust, and the economy was above its long-term trend. However, some microeconomic studies (see Stiroh /2001/) show that a good part of the productivity increase was structural. Industries that invested massively in IT in the first half of the Nineties, enjoyed the highest productivity increases at the end of the Nineties. If the productivity increase were of a predominantly cyclical character, the increase should be evenly spread over all industries.

What, then, is left of the New Economy paradigm? Is Paul Krugman right saying: „When you think about it carefully, you realise that the new paradigm simply does not make sense“ - ? Let us recapitulate:

Validity of the Phillips Curve: One cannot say that the trade-off between inflation and growth has lost its validity. It seems however that higher productivity based on the use of IT can bring the level of NAIRU down. Nevertheless - as shown by the U.S. example - it requires sufficient flexibility of the flows of labour and production factors in general.

Elimination of the Business Cycle: The present sharp decline of world economic growth has shown that investment in IT, and the whole IT sector, are not immune to a general fall of demand. However, information technologies can substantially alter the impact of inventories on the business cycle. Optimisation of inventories with the help of B2B, Internet commerce, etc., means that the share of inventories in GDP has fallen significantly, and the impact of cyclical changes in inventories on the business cycle is dampened.

Stability of Financial Markets: The IT revolution can undermine the stability of financial markets. The past decade has been characterised by a sharply increased volatility of both the U.S. financial markets and international financial markets. Online trading, online information and other benefits of the IT revolution made the financial markets more prone to a prolonged overvaluation of stocks and other assets, and to the creation of speculative bubbles. The truth is that nobody is able to understand and master this situation yet. It is evident that additional information and easier access to financial markets, enabled by modern information technology so far have not born a better-informed investor, nor have they created markets that are better judges of fundamental values.

These facts mean that although the parameters of the system are changing, the basic paradigm of economic theory remains unchanged. The IT revolution nevertheless brings some changes for economic policy, both fiscal and monetary.

The available facts show that the IT revolution increases the uncertainty of estimates of future productivity increase, and of potential output. Central banks hence cannot know *ex ante*, how large the productivity increase will be and how long it will last (see O'Neil /2001/). This increases the uncertainty of predictions of inflation or of the output gap, forcing the central banks to orient

monetary policy on shorter horizons. Monetary policy must be more adaptive, reacting quickly to new information on inflation, productivity change, or change of output.

The impact of the IT revolution on fiscal policy is less intense. Nevertheless the governments have to be aware of the effect of fast productivity increase on budget incomes. If fast economic growth brings additional incomes, governments are usually inclined - due to the political business cycle - to follow lax fiscal policies. But if the productivity increase is cyclical and limited in time, it would be more reasonable to repay the public debt with the additional incomes, rather than initiating new programs which can hardly be financed in times of recession.

To sum up, one can say that most of the economies still wait for the second phase of IT revolution (the diffusion of IT into all industries), and for the third phase (restructuring of these industries for full use of new technologies, enabling a sustainable increase in the rate of productivity growth). Hence it cannot be expected that we shall witness, in the near future, a lasting productivity increase by 3 to 3.5 % annually. But, even if productivity growth by 1 % annually does not sound very exciting, it is sufficient to increase the living standards and the potential of the economy.

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Wage Growth : Close to the Edge of Mid-term Sustainability

Eva Zamrazilová

While growth of wages was only moderate in 2000 (6.6 %), the picture somewhat changed in the first half of 2001. Speeding up of wage growth has been visible since the last quarter of 2000, and in the first half of 2001 wages accelerated further, average wage increasing by 9.3 %.

Structure of Wages

Wages in the business sector grew by 9.3 %, a slightly slower than in the public one (9.8 %). This was quite an opposite development to 2000, when wages in the public sector increased by 2.8 % and in the business one by 7.8 %. While wages in the business sector have been growing mostly gradually, the growth of wages in the public sector depends mostly on one-off changes in wage tariffs.

In spite of more rapid growth, the average wage in the public sector still remains lower than in the business one. The average wage amounted to CZK 14018; average wage in the business sector amounts to CZK 14404 and in the public one the wage is lower by approximately 14 %, (ie. CZK 1927) which means that average wage in the public sector stands at CZK 12477. For a more complete picture, one should note that volume of wages paid in the business

sector makes for more than three quarters of total volume of wages in the Czech Republic.

In a more detailed view, highest wages are paid in companies with foreign participation or ownership, their level exceeding the overall average by more than 30 %. Wages in this sector of Czech economy account for about one quarter of wages in the business sector - or 20 % of wages in the whole economy, their share gradually increasing. This shows that the impact of foreign direct investments on the level of wages in the whole economy is significant.

Industries with highest wages recorded highest wage growth, especially in some special services (financial etc.). On the other hand, industries with low level of wages showed only a slow growth, which led to further deepening of wage differentiation. The gap between wages in best and worst paid industries has thus been increasing. Banking, insurance, data processing and oil refining are placed at the top range with average wages exceeding or close to CZK 20000. Agriculture, textile industry, retail trade stand at the bottom with average wage under or around CZK 10000. It is worth mentioning that some services highly demanding for skilled and educated labour force, especially medicine and education still remain under the total average which seems to be a sad specific feature of the Czech Republic.

Naturally, differentiation according industries is not the only dividing line. There is a strong differentiation between individual companies within one industry depending upon financial situation and wage policy of individual companies. As for regional structure, best wages are paid in Prague – see Table 1. At the same time, Prague accounts for approximately one quarter of Czech employment. Prague has a unique position with high concentration of best paid

services and companies with foreign participation. Lowest wages belong to Moravian districts which are also worst hit by unemployment. Regional structure both of wages and unemployment has been preserving with only minor changes since the beginning of the Nineties as a consequence of previous economic structures. It is most probable that these differences will preserve in the longer time horizon, the outpace of Prague increasing.

Table 1: Regional Structure of Wages and Unemployment

	<i>Average Wage</i>	Share in Employment	Rate of Unemployment
Prague	16910	25.7	4.0
Mid-Bohemia	13615	8.4	7.3
South-west	12457	10.3	5.7
North-west	12263	8.6	12.0
North-east	11896	12.6	6.5
South-east	11836	14.2	7.5
Mid- Moravia	11756	9.7	10.3
Ostrava region	12208	10.4	15.4
Czech Republic	13491	100	8.5

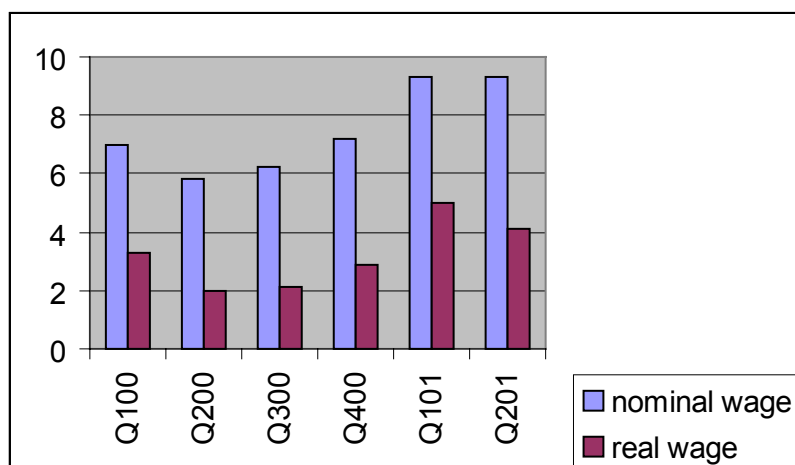
Source: Czech Statistical Office

While in 2000 growth of wages supported the statement that economic recovery was based on solid macroeconomic background, in 2001 wages seem to be one of possible sources of destabilization. Speeding-up of wages in 2001 arised a question of macroeconomic stability: will this wage growth be sustainable or may some inflationary pressures be provoked ? Considering this, both types of threats must be regarded – costs and demand inflationary risks.

Wages and Productivity

Considering cost inflationary pressures, developments of real wages must be analysed rather than the developments of nominal ones.

Figure 1: Nominal and Real Wage Growth (%)



Source: Czech Statistical Office

Figure 1 shows quite clearly that the growth of real wages really speeded up in 2001. At the same time, it is evident that – thanks to acceleration of the inflation in the second quarter – acceleration of real wage seems to be slower compared to acceleration of nominal wage in the second quarter. However, the developments of real wage in the second half of the year seems probable to be closer to the first quarter rather than to the second one since the inflation accelerated mostly as a consequence of one off factors that will not take place in the rest of the year.

Answering the question whether speeding of wages may speed up inflation one must first analyse the ratio between the developments of real wages and productivity of labour. This ratio belongs to the most significant indicators of macroeconomic stability. Naturally this indicator differs between individual economic sectors and industries – see Table 2.

Table 2: Real Wage and Labour Productivity (growth in %)

	Total economy		Industry		Construction	
	2000	H12001	2000	H12001	2000	H12001
Real Wage	2.6	4.5	2.2	2.5	1.0	2.6
Labour Productivity	6.1	5.1	8.0	6.7	10.7	15.6

Source: Czech Statistical Office

Labour productivity registered a slowdown in 2001, especially as a consequence of developments in employment. It is notable, that in 2000 the growth of productivity outpaced the growth of real wage significantly, this positive gap diminishing in the first half of 2001.

At the same time the different tendencies are observable in construction. Although the productivity of labour continues in rapid growth, wages are increasing only very moderately. Construction seems to be a key industry, since cost inflationary pressures are easy to be transferred to other industries (manufacturing, services etc.). Some signs of speeding-up wages seemed to appear in construction in mid-2000, however, at the end of 2000 and in 2001, these pressures seem to be attenuated, no inflationary pressures threatening from construction for the time being. It may be interesting to note that boom in construction observable over last 15 months is concentrated only to large commercial construction and to biggest companies over 1000 employees. This concentration enables to keep wage developments under control.

Situation in industry is also quite favourable with positive gap between growth in productivity and growth of wages still preserving - though diminishing. The situation somewhat differs as for primary and manufacturing industries. Mining and quarrying showed growth in productivity amounting to 8.4 % with the real wage increasing by 3.5 %. Solid growth in productivity was

however reached predominantly by decline in employment (by 5 %). Manufacturing registered productivity increase by 7.1 % and growth of real wage of 2.7 %. At the same time, rapidly growing manufacturing industries are the only ones demanding for new labour force, employment increasing by 2 % in the first half of 2001.

Inflationary pressures therefore do not seem imminent to come from industry. This is confirmed by the fact that industrial producer prices grow much more slower than the consumer ones. While producer prices grew more rapidly than consumer prices in 2000 (3.9 % and 5 % respectively), the developments are exactly opposite since the beginning of 2001. The gap between consumer and producer prices has been getting wider, reaching almost 3 percentage points in September. In September 2001 the yearly growth of producer prices reached 1.8 %, while headline inflation stood at 4.7 %.

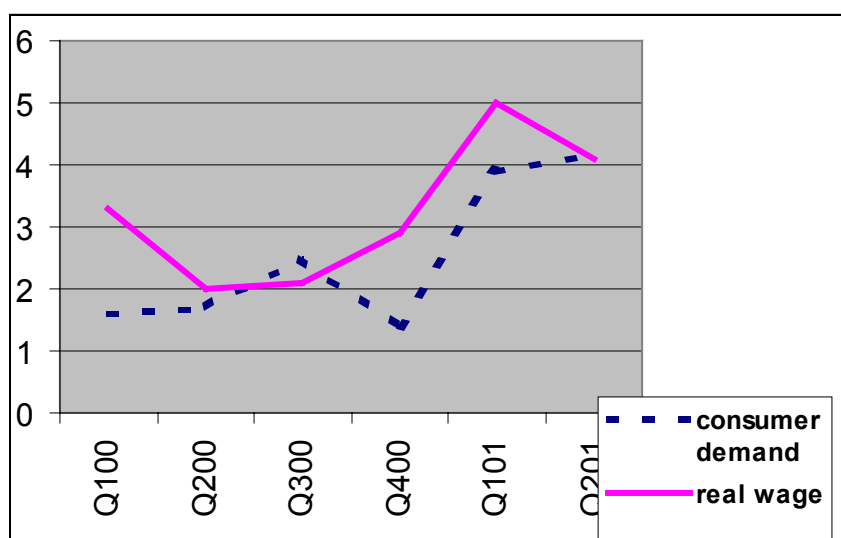
Keeping the outpace of productivity before wage growth enables the decline of unit labor costs of industrial products. The decline of unit labour costs has been one of the principal factors keeping the competitiveness of Czech exporters on foreign market even under the strong exchange rate of the CZK. This is especially important nowadays when Czech exporters will encounter the weakening West european demand and growing competition.

To sum up: major part of wage structures does not seem to be dangerous for macroeconomic stability. Excessive growth of wages not corresponding with productivity of labour seems to be limited to some service industries.

Wages and Demand

Figure 2 shows quite clearly that developments in consumer demand almost copy the growth of real wages. Until the beginning of 2000, Czech households were very cautious in their spendings due to uncertain prospects of the Czech economy which was hit by recession. Since 2000, their propensity to spend increased, the savings rate declining by 2 percentage points to 9 %. Moreover, Czech households started to use consumer credits to boost their spending. In 2000, the moderate growth of wages kept the household demand in reasonable limits not provoking demand inflationary pressures.

Figure 2: Consumer Demand and Real Wage (growth in %)



Source: Czech Statistical Office

In the first half of 2001 the propensity to spend continued to grow which was accompanied by the above mentioned acceleration of wages. Czech households kept the optimistic assessment about both their economic prospects and the macroeconomic prospects of the whole economy. The pressures on the labour market eased, economy continuing in solid growth. That is the reason why the consumers are not so afraid of losing jobs and are willing to spend or get indebted. At the same time, the offer of consumer credits widened – with a slight exaggeration we can say that almost everything can be bought on consumer credit. And the Czech households have started to get accustomed to

this way of getting things – a way, which is completely normal in Western world.

The growth of retail sales has been keeping solid levels, growing by 4.0 % January to July 2001. This is even a slowdown against 2000 when retail sales grew by 4.6 %. At the same time consumer demand increased by 3.8 % in the first half of 2001. This proves that the expenditures of households have been shifting to services instead of goods. Services are now accounting for more than 60 % of the total consumer basket which is an increase of more than 10 percentage points against 1993.

Some prices (housing etc.) are still regulated – therefore only about one half of services expenditures belongs to the area of non-controlled prices (transport, communications, hotels and restaurants, leisure time, culture). Some of these services may be a source of inflationary pressures (let us remind the impact of foreign recreation trips on Summer inflation), however these effects are not of fundamental character. To sum up, the conclusion is similar to that concerning cost inflationary pressures: growth of wages about 9 % seems to be on the edge of mid term sustainability not provoking demand inflationary pressures.

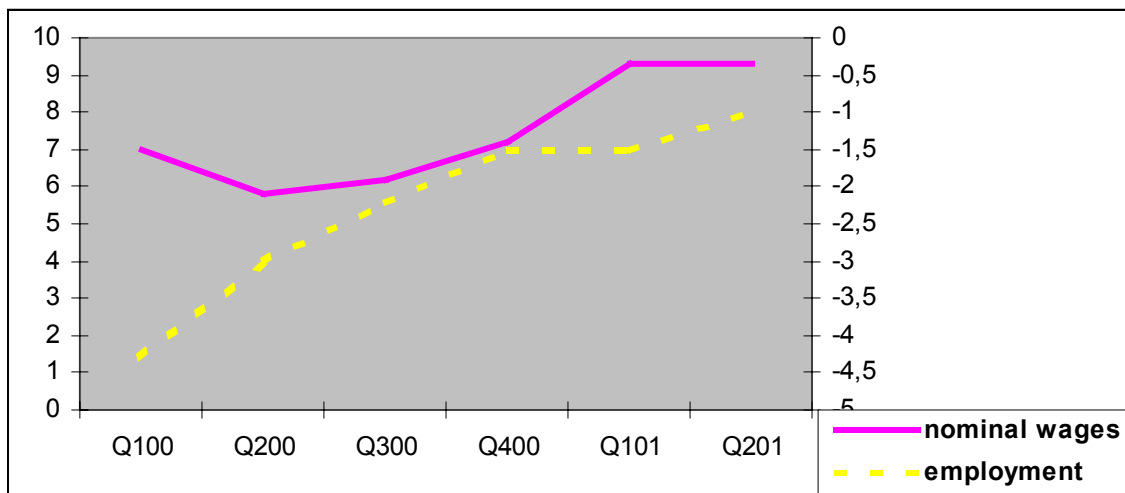
Final Remarks

Since the beginning of 2000 wage developments have shown to be affected by general process of restructuring in the Czech economy which speeded significantly during the recession. The rate of unemployment grew until Summer 2000 and the prospects of the labour market were not rosy. This was the main reason why trade unions reduced their wage demands and

accepted wages to go along with the developments of labour productivity. It must be stressed that these results were significantly affected by new foreign owners in many companies.

The ratio between real wage growth and labour productivity growth came dangerously close in the first half of 2001 – productivity of labour outpacing real wage by only 0.6 percentage points. The development of employment will not differ from the developments in the first half of the year. GDP will increase by approximately 3.7 % in 2001, headline end-year inflation amounting to 5.0 %. The growth of wages therefore seems to be close to the edge of mid-term sustainability. Wage bargaining for 2002 thus seems to be an important issue for future macroeconomic stability keeping in mind that wage-inflationary spiral is quite easily spinned but hardly broken.

Figure 3: Wages and Employment (growth in %)



Source: Czech Statistical Office

Restructuring in the Czech Economy: Some Empirical Evidence

Kamil Janáček

Eva Zamrazilová

Discussions about the speed and progress of restructuring of the Czech microsphere during the transition always was and still remains a hot topic. Due to lack of direct empirical evidence, some economists tend to deny any significant results of the restructuring process in the companies with domestic ownership. But, in reality, the restructuring of the Czech companies – far from being completed – is long on the track. And, this short analysis would like to show the achievements of the restructuring processes in the Czech Republic in the period of 1993 – 2001.

Starting Point

As we analyzed in different paper (See Privatisation in the Czech Republic: Results, Problems and Open Issues, Economic Trends No. 28, 2001), in the former Czechoslovakia, the elimination of the private property during the communist regime was almost complete. In 1989 in the Czech Republic, 98.5 % of GDP was produced in the state-owned sector. It means that no private enterprise practically existed at the start of transformation. Elimination of private entrepreneurial activity was one of the reasons why the country was lagging more and more behind in its economic performance. In state owned enterprises, or formal cooperatives, individual initiative and responsibility was largely lost, as was entrepreneurial know-how.

At the same time, the lack of managerial experience and almost absolute lack of managers with experience how to manage company in standard full-fledged market economy was another barrier of rapid transformation. For all these reasons, rapid privatisation was vital for overcoming this bottlenecks. It was important not only to privatise, but to privatise quickly. Transfer of the state property into the private hands was the necessary precondition how to acquire new capital, managerial, organizational and marketing skills, and to start the necessary restructuring of the companies.

The necessity of restructuring was emphasized by the fact that the privatised firms carried a high burden - that of large past debts from the communist era. Enterprised debts in the Czech Republic were not written off by the Government, so that the firms were privatised with all their liabilities. Unlike in Poland and in Hungary where double- or triple-digit inflation effectively wrote off the old debts of companies, in the Czech Republic inflation was succesfully kept at low levels.

That was a remarkable succes on the one hand. It preserved, for households, most of the purchasing power of their savings. But, on the other hand, it meant that Czech firms entered the phase of microeconomic restructuring with a substantial burden of past debts. The necessity of financial restructuring thus was a highest priority. Due to the weak and unexperienced banking sector where banks were closely tied with companies either due to loan links or via ownership relations, this restructuring was painful and followed the path of trials and errors.

It is often argued that in the past decade, only companies with foreign ownership underwent succesfully the restructuring. This view, however, is not supported by the facts. Empirical evidence indicates, rather, that companies

with sound management, good prospects on domestic and foreign markets, started early with restructuring and now show significant increases in productivity and profitability without respect to their ownership structure. Of course, among them is high share of foreign owned companies, as these had easier access to foreign financing, know-how, and could restructure earlier and faster.

Some Preliminary Results

As it was mentioned several times in the past, the fact that there are only indirect macro – and microeconomic data led to very extreme assessments of the restructuring process among economists. Nevertheless, one can prove the preliminary results on following empirical evidence.

Structure of Employment

The changes in the structure of employment (See Table 1) prove that as far as employment is concerned, the Czech economy underwent the shift from the structure typical for command or underdeveloped economies toward the structure typical for advanced market economies, where the share of primary sectors on employment is around or under 5 %, and share of services (tertiary sector) is around 60 % - or over.

Table 1: Structure of Employment, 1993-2001 (share in %)

Economic Sectors	1993	2001, Jan. – Aug.
Primary sector	6.7	4.8
Secondary sector	44.5	39.6
Tertiary sector	48.8	54.6

Source: Czech Statistical Office

At the same time, the significant structural shift occurred in industry. As shown in Table 2, we experienced a shift of employment from mining and quarrying to manufacturing, and in manufacturing towards industries with higher value added production. These changes would be impossible without fundamental restructuring inside of (some) manufacturing companies. Moreover, the majority of companies active in manufacturing are small and medium-sized firms, a notable difference to the beginning of transformation, when big “dinosaurs” prevailed. According to the Ministry of Industry and Trade, small and medium-sized enterprises account now for more than 60 % of employment, while it was only 10 % in 1992. Similarly, the share of small and medium-sized companies account for about 40 % of GDP and exports reaching similar proportions like in advanced European economies.

Table 2: Structure of Industrial Employment, 1994 – 2001 (share in %)

	1994	1998	2001, Jan.-Aug.
Mining and quarrying	7.3	5.8	4.6
Manufacturing	86.2	88	90
of which			
Electrical and optical equipment	7.2	8.4	10.7

Source: Czech Statistical Office

Exports

At the beginning of transformation, the Czech foreign trade was primarily oriented towards the soft COMECON markets. After the collapse of COMECON, Czech exporters were forced to shift themselves to demanding EU markets. Paralelly, the restructuring of the Czech economy had a strong impact on the structure of Czech exports (See Table 3). The share of machinery exports in total exports is continuously increasing. At the same

time more than 90 % of machinery exports is oriented towards OECD countries, and 80 % belongs to the EU markets. This proves that the Czech exports are able to compete on West European markets with high value added commodities. According to the data of Czech Ministry of Industry and Trade, the share of commodities with highest value-added exports (i.e. electronics, aviation, etc.), exceeds 10 %.

Table 3: Structure of Czech Exports, 1993 – 2001 (share in %)

SITC groups	1993	2001, Jan.-Aug.
Raw materials (2+3)	12.3	6.0
Chemical and intermediate goods (5+6)	39.4	31.3
Machinery, transport and industrial consumption goods (7+8)	40.3	57.1

Foreign Direct Investments

A few if any among the Czech economists deny the important impact of foreign direct investments on the modernization and restructuring of the Czech companies. The acquisition of the domestic company (privatization, direct sale) is always followed by organizational and technical restructuring; retained profits are being partly repatriated, partly reinvested.

Empirical evidence clearly shows that in recent years:

- inflow of FDI accelerated;
- growing if not dominant part of FDI in 2000 and 2001 are greenfield investments or re-investment of profits;
- the revival of investment activity in the Czech republic, registered from the second half of 2000, is closely tied with FDI and growing imports of machinery and technologies, used for modernization of the Czech firms.

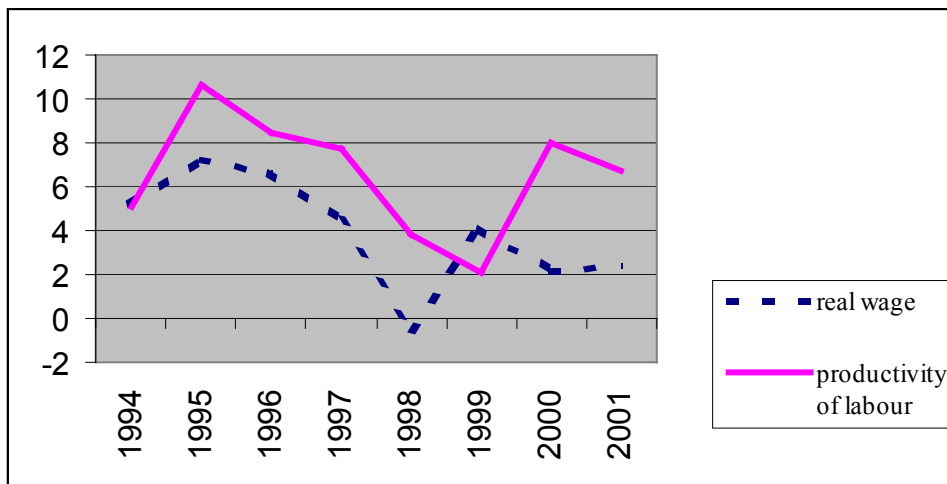
We can conclude that there is a direct link between the amount of FDI and acceleration of restructuring on the micro-level. The results of the restructuring we can also see on the developments of the labour productivity and improvement of the financial situation of the companies.

Labour Productivity

The results of restructuring inside Czech companies can be documented by the development of labour productivity and Czech wages in industry (cf. Figure 1). We can see the growing gap between the growth of labour productivity and growth of real wages: the labour productivity is growing almost three times faster, than the real wages.

This fact helps the Czech exporters to be competitive on demanding OECD markets even under strong (and - in the last two years - strengthening) Czech crown. At the same time, the outpace of labour productivity growth before the growth of real wages prevents the economy from cost-inflationary pressures. Moreover, the acceleration of the labour productivity growth is not only the result of undergoing restructuring, but also the necessary condition for the successful catch-up process with the EU countries.

Figure 1: Productivity of Labour and Real Wage in Industry



Source: Czech Statistical Office

Financial Situation of Companies

Due to the fact (as it was mentioned earlier) that the Czech companies entered the transformation with the high burden of the old debts from the communist era, the financial situation of the companies was fragile during the past decade. With low capital base, the Czech companies were heavily dependent on bank credits for financing their activities.

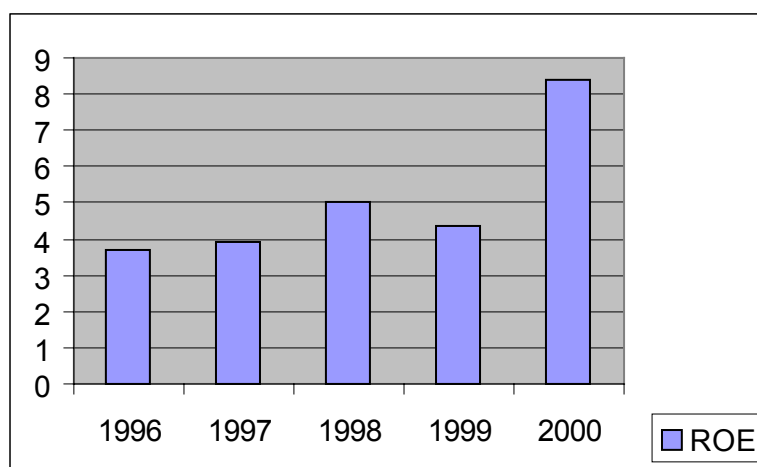
Comparative studies published in the second half of the Nineties compared the financing of the companies in manufacturing in the EU and in the Czech Republic. The typical EU company covered its financial needs by 70 % from its own resources; 25 % represented bank loans (predominantly medium and long-term) and 5 % finances came from the capital market. The respective figures for Czech companies were: 50 % of own resources, 45 – 50 % from bank loans (predominantly short-term ones) and under 1 % capital market. The necessity of financial restructuring and strengthening of capital base of the companies thus was of the utmost importance.

The speed and relative success of the restructuring can be seen also on the financial situation of the Czech non-financial companies (See Figure 2). While

return on equity fluctuated around 4 % during the period 1996 – 1999, it was over 8 % in 2000. Economic recession in 1998 – 1999 accelerated the financial restructuring inside non-financial companies. At the same time, the arrears of the Czech companies declined by CZK 36 bill. since the end of 1999, falling from CZK 197 bill. at the end of 1999 to CZK 163 bill. in the second quarter of 2001.

Another factor was the change in behaviour of the Czech banks. Czech banks stopped in the last two years the policy of generously granting the credits to the companies facing or undergoing privatisation and cleaned their balance sheets from bad debts. Restructuring and consolidation of the banking sector raised the robustness of the Czech banking system against macroeconomic shocks and structural weaknesses. This, in turn, will positively influence the financial health of their clients, including companies undergoing or finalising their restructuring.

Figure 2: Return on Equity, 1996 – 2000



Source: Czech Statistical Office

XXXXX

So, how far are we with the restructuring of the Czech companies? Data analysed in this paper show that in the majority of the Czech firms the restructuring not only started, but in many of them achieved significant results. Slowly, but surely the financial situation is improving; the same is true for export efficiency and productivity growth.

On the other hand, we ought to keep in mind that the restructuring is never ending story. The companies will continue in their efforts to adapt to the new trends on domestic and international markets, to shifts in demand and to technological innovations. Being able to adapt and to restructure – this is the only way how to survive in the world of growing competition.

<u>Authors:</u>	Kamil Janáček	### +420-2-24214666
	Chief Economist	✉ kamil_janacek@koba.cz
	Eva Zamrazilová	### +420-2-24436633
	Senior Analyst	✉ eva_zamrazilova@koba.cz

FAX + 420-2-24222839

FAX + 420-2-24222839

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Tel.: + 420 - 2 - 24 21 46 66

Fax: + 420 - 2 - 24 22 28 39

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