Excerpt from

Winiecki J., Benacek V., Laki M.: The Private Sector after Communism.

New Entrepreneurial Firms in Transition Economies.

Routledge Publ., New York, 2004, ISBN 0415318076

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NEW PRIVATE SECTOR: THE CZECH CASE

3.1. DATA PROBLEMS

The statistical comparison of new private firms with the old privatized firms in transition has been very difficult because state-owned and ex-state-owned large firms have continued not only to shed labor, but also to shed various activities unrelated to their core businesses. Thus, a small or medium-sized firm may be sometimes a still state-owned or privately-owned entity, new only in the sense of the date of its legal establishment. In terms of intra-firm behavior of management or employees it should be classified as an old firm. On this issue, see more in Chapter 2.

In addition, new investments, acquisitions, and mergers continuously erode the borderline between the two sets of economic agents. In any case, the availability of data on both (changing) sets of economic agents has been scarce. An alternative, second-best strategy, that we have taken, is to compare small and medium-sized enterprises and large enterprises, assuming that *de novo* (authentic) private firms are highly correlated with SMEs, while the former, now privatized SOEs remain highly correlated with the large firms.

The latter approach also raises some methodological problems. First, the depth of statistical reports on large enterprises (over 250 employees) may differ from the reports of the medium-sized ones (from 25 to 249 employees) and the small firms. The differences can be both in the wider or narrower choice of indicators and in the quality (reliability) of reporting. Thus, the extent of biases, errors and omissions rises as the size of the firm decreases. The biggest problems are with the statistics on small firms and on the self-employed (representing together approximately 15% of GDP). Their statistics are based on random surveys with a reduced set of indicators, often misinterpreted. The methodology of reporting may be changing over time, too. The time series are, then, not necessarily comparable.

The statistics used by this author are based on data from two primary, 17 secondary and five tertiary industries (construction, trade, catering & hotels, transport & communication, financial sector & other services) in accordance with NACE classification for 1995 and 2000. The firms were divided into three groups. Large firms with 250 and more employees, medium-sized firms with 20-249 employees and remaining small firms, including the self-employed workers. Medium-sized firms included a number of former SOEs, whose assets were separated from the large firms and privatized as an autonomous entity. Therefore, the results of middle-sized category of firms in some industries must be interpreted with some caution.

Another problem was that we were not able to distinguish between indigenous and foreign firms. Unfortunately, foreign-owned firms were not distributed in all three size-

categories in a uniform manner [see Benacek and Zemplinerova, 1997]; the smaller size of the firm, the less presence is there of foreign-owned firms. Foreign firms were more productive and profitable than indigenous firms: their labor productivity was on the average higher by 40% in 1995 and by over 70% in 1999. Given the foregoing, some industries with intensive FDI inflows would make comparisons of domestic (indigenous) small and large firms less reliable, since the outcome might have been strongly influenced by the foreign, rather than indigenous, large or small.

3.2. GENERALITIES

The economic statistics of the OECD countries for the last 20 years show that the SMEs have retained their important role in the national economies, in spite of a rapid ascent of multinational enterprises (MNEs). In fact, since 1986, we were observing a raising trend in the share of SMEs in aggregate employment in most economies of the European Union. SMEs may not only provide employment to the majority of work force but they may be in many mature market economies the most important net provider of new jobs. The network of SMEs, functioning as flexible and efficient suppliers of semi-finished products and services to large firms, has been also an essential factor behind the competitiveness of the OECD member countries on both the domestic and international markets. It is becoming accepted that there is a division of labor between the large and the small business firms [see Acs, 2003].

The preceding statement can be reformulated as a hypothesis that large and the small firms have different roles to play in modern market economies. Their respective roles should be evaluated from two different points of views with respect to:

- first, the competition between them inside the same industry; and
- second, the complementarity of their functions.

As to the former, the competition on globalized world markets is subject to dominant roles of MNEs and large domestic domestic companies. The relationship between them is theoretically explainable by oligopolistic Cournot or Bertrand adjustments of quantities of output or prices, resulting in changed market shares. The functioning of such imperfect arrangements may, however, be Pareto-improved if some outside competitors pose a potential threat to collusive behavior of dominant firms. The mechanism of competition from the side of SMEs is discussed by Pelkmans [1997].

As to the latter, the complementarity between larger and smaller firms may be explained by economies to scale. In some production lines the technologies are effectively applicable even at a family-firm scale. The advances in electronics and the expanding share of services in GDP opened new potential areas of business activities for SMEs.

In contrast with traditional domains of SMEs (such as agriculture, most of light industries, construction, and personal services) which were labor-intensive, modern domains (such as semiconductors, electronic design and testing, applied science, information, specific chemistry, healthcare, etc.), are generally both physical capital and human capital intensive. As it was extensively documented in Silicon Valley, SMEs can even build on economies of scale that are external to the firm [see, *i.a.*, Porter 1990 and Saxenian, 1994].

Another argument supporting the complementarity of SMEs and large firms is the dependence of large companies on flexible supplies (so called “backward links”) that are acquired *via* outsourcing. It was confirmed recently that the importance of

spillovers and networks has become a crucial condition for a growing high-wage economy. The spillovers are usually flowing from large firms (e.g., MNEs coming as foreign direct investors, see Blomström and Kokko [1994]) to indigenous firms, most of them SMEs. On the other hand, it is required that the indigenous firms do not lag too much in technological level, R&D, and human capital behind MNEs; otherwise their interaction will not lead to the desired complementarity.

To conclude, we can make a supposition that a modern high growth economy requires the existence of the following conditions:

- A balanced "division of labor" between large firms and SMEs;
- A competitive environment, where SMEs, as fringe competitors, play nonetheless an irreplaceable role in reducing the rents aimed at by colluding oligopolies;
- A contestable environment, where SMEs have a chance to wrest a market share from firms with market power;
- An institutional environment that precludes the existence of barriers to the development of SMEs such as the burden of bureaucracy, overregulation, etc., with its highly adverse effects, particularly on smaller firms, of high transaction costs; and
- More specifically, an institutional environment that supports the smooth functioning of:
  - # financial markets, such as capital markets, banking and insurance;
  - # R&D and supply of skilled labor and human capital;
  - # provision of public goods and transparent rules of public procurement; and
  - # law and order infrastructure.

Institutional changes in transition economies should try to improve the functioning in these areas.

The above considerations miss, however, one crucial factor that is not questioned any more within the Western civilization. It is now a generally accepted tenet that private ownership of capital for producing private goods is more efficient than the public ownership because it has superior incentives for governance, decision-making, risk bearing, innovation, competition and restructuring [Djankov and Murrell, 2002]. The private capitalist ownership in advanced market economies developed in a gradual evolutionary process, lasting in most Western countries over 150 years. It was subjecting the owners and the performance of their firms to long-lasting tests of viability and it created institutions that confined the behavior of enterprises to certain standards.

Therefore, the reemergence of the private sector in transition economies have been a priority throughout the region, at least in those countries, where a larger goal, that is the shift to a capitalist, market economy, has also been the priority. The private sector, however, may emerge in two complementary ways.

In order to find workable analytical concepts, we will define two typologies of the evolution of the private sector: "from above" and "from below", as stressed by Gruszecki and Winiecki [1991] and Winiecki [2000]. The first of these two methods is based on turning existing state-owned enterprises (SOEs) into private hands, for the achievement of which the activism of the government and its bureaucratic hierarchies is crucial. An alternative approach aims at creating the private sector through the establishment and expansion of *de novo* private firms. In the strategy "from below",

the mainstream of activity comes from the grass roots of the economy, i.e. it takes place at level of the autonomous firm. In the latter method, it is the entrepreneurial activism of private owners that matters first and foremest.

3.3. SIZE, STRUCTURE, AND PERFORMANCE OF *DE NOVO* PRIVATE FIRMS

The first step in our analytical inquiry about basic characteristics of the sector in question should be to find out how the development of *de novo* firms proceeded since the collapse of communism in Czechoslovakia. The interest in the establishment and expansion of the Czech authentic, entrepreneurial private sector, or the SME sector, was rather low, both in terms of the intellectual and political interest, until 1997.

Please, note, however, that the preoccupation with the voucher privatization, and generally privatization "from above", had easily explainable reasons at the time: 98.5% of aggregate output and employment was concentrated in the state, or ":socialized", sector in 1989! Thus, lobbying power of large enterprises apart, there were traditional, democratic politics-based reasons, explaining political elites' bias in favor of concentrating attention and resources on the privatization of state enterprises. For similar reasons, that is the large concentration of employment in failing privatized firms, the concentration on the privatization "from above", continued also after 1997, that is during the period of macroeconomic restraint, reinforced by the weaknesses of transformation strategy with respect to the financial sector.

The story is repeated, for example, in Poland. Even until now the privatization of badly performing, unprivatized heavy industry, as well as of the physical infrastructure sector (electricity, rail transport, etc.) is generating great emotions and political battles. In spite of the fact that the private sector - new and privatized together – supplies more than 75% of aggregate GDP.

While stressing the limited attention accorded to the new private enterprises, in the Czech statistical records we have found only one microcensus, where the businesses (enterprises) were classified into two categories: old and new (*de novo*). The businesses included a large number of small firms, which were practically the only *de novo* firms under Czech indigenous ownership. The census covered the years 1990-1996. The panel micro-data was based on the working history of 2284 workers, who worked since 1980s until December 1996. Fortunately, the panel also described the firms, where the workers had been employed earlier. But unfortunately no later extension of the project was undertaken (similar data gathering development we observed in Poland, see Chapter 5).

Jurajda and Terrell [2001] used the census in question for estimating the structure of firms that were classified into public sector (such as health service, education and state administration), state-owned enterprises (SOEs), privatized SOEs, and *de novo* firms. By using the Monte Carlo method, they estimated the proportion of employment that belonged to each of these ownership categories. The estimated results are indicated in Figure 3.1.

The bar in Figure 3.1, depicting *de novo* firms, shows that the process of privatization "from below" commenced in 1991 with the employment of approximately 8% of the total employment. Their size at that time was very small, in most cases equal to self-employment. The state sector was clearly dominant, comprising the rest of the economy (privatization "from above" was still in the offing).

In spite of the initial small share, the dynamics of *de novo* firms in the early transformation, 1991-93, period was staggering. We can put forward the hypothesis that the speed and the spontaneity of this process (at the end of 1993 over 30% of employees were working in the newly borne firms!!) was one of the most valuable assets that Czech society produced in its quest for prosperity.

Although the build-up of new businesses slowed down after 1993, we estimate that by mid-1996 the employment in *de novo* firms caught up with the employment in former SOEs (at that time nearly all privatized by the so-called "mass privatization methods", primarily the voucher privatization). The share of the SOE sector amounted to nearly 40% of the total. Afterwards, during the macroeconomic restraint and recession period (1997-99), and later during the relatively weak recovery, the growth of new indigenous businesses has been rather erratic. Years of large increases in the number of SMEs have been alternating with those of small decreases. Data on the changing numbers of firms in the post-communist Czech Republic for the 1991-99 period are shown in Table 3.1. The most recent data seem to confirm the pattern.

The dynamics of output growth has been greater in later years in the fast growing foreign firms (primarily large MNEs). Nonetheless SMEs continued to be the prime area of employment growth [see, Jurajda nad Terrel, 2001, from whom we reproduce present Figure 3.1, as well as Benacek and Zemplinerova, 1997, for earlier years].

Another statistical survey targeted on SMEs was made in 2001. Its size range was firms with the number of employees between 10 and 250. There, the distinction was made between *de novo* firms, privatized firms (acquisitions), and state-owned firms [see Mejstrik and Zemplinerova, 2001]. We can estimate from the rather limited sample of 195 enterprises, selected from 5 industries, that in the year 2000 approximately 55-70% of all SMEs were established as "green-field", that is *de novo*, firms and approximately 25-40% were acquisitions. Please, note however, that "acquisitions" category is comprised of both old state enterprises, or their spun off divisions, and firms taken over by other firms, either new private or privatized. So, the share of *de novo* firms might have been somewhat higher.

Even more importantly, the sample excluded micro-enterprises, employing 9 persons or less. Thus, the actual share of new private firms in the national economy undoubtedly was m u c h higher. As Table 3.2 indicates, there were large differences in these respects across industries. Unfortunately, these results were derived for firms with less than 250 employees only. It is certain that the extension of the sample to the remaining category of larger firms would decrease the average proportion of new firms in all firms. Then, it would make intuitively expected results compatible with the estimation of Jurajda and Terrell in Figure 3.1. That would also imply that the proportion of new firms in all firms with employment over 250 workers would have to be approximately as little as 25%, pointing to the rigidity in the sector of large firms.

The estimates from Table 3.2, plus extrapolated data from the previous studies of this author [Benacek, 1995 and 1997c] and findings of Zemplinerova [2001], concerning productivity, may now be used to estimate the share of the authentic, entrepreneurial private sector in GDP. Our aim will be to estimate not so much the share of domestic *de novo* firms alone in GDP, but rather the share of a partly (or even largely) overlapping category of authentic private firms, characterized by stable ownership and management and aiming at strategic restructuring of production. That latter category will, therefore, include *de novo* indigenous private enterprises (e.g.

"greenfield" domestic investments) and foreign acquisitions by strategic investors, who brought with them capital, new technologies, and competent management (i.e. prospect of good corporate governance). Table 3.3 presents the respective data.

The problem with the Czech new private sector is that a large part of it is concentrated in very small (micro) firms that are very heterogeneous and on which the statistics are very scarce. Moreover, as observed also by Laky in Chapter 4 in the case of Hungary, an unknown share of the very small (self-employment) firms are tax avoidance ventures. Nevertheless, we have included them among the authentic private firms because they were founded as start-ups and no safe methodology of eliminating them from the population of firms is available. As to the medium-sized firms, we have estimated that more than a third of firms with 10-250 employees cannot qualify as new private firms because they were just separated and privatized divisions of former SOEs. And a large part of the successful firms in that medium-sized category are in fact foreign-owned enterprises.

The remaining indigenous firms in Table 3.3 are represented to a large extent by enterprises privatized by managers, other insiders, or management funds. These firms have been often heavily indebted, showing no signs of a successful restructuring. On the other hand, large firms under foreign ownership, with approximately 30% share of GDP do not dominate the Czech economy (the way they do in Hungary).

Although the estimated 62.6% share of the aggregate authentic, entrepreneurial private sector in GDP [1] is relatively high, we should realize that more than 37% of GDP still remains afflicted by the unresolved, or ill-defined property rights problems, failed restructuring, excessive debt, and general firm-level instability. It is in the foregoing sector of the economy that the market rules of the game are not fully enforceable. These firms can survive only in the conducive political environment, generating explicit or implicit subsidies. Inevitably, the afflicted sector affects adversely the performance of the healthy one. The former contributes in many ways to the aggregate budget deficit. First, explicit subsidies require budget expenditures. Second, the other debt forgiveness reduces revenues. Next, a large commercial debt of afflicted firms raises the cost of borrowing for healthy firms.

Thus, the increase in the economic growth rate depends also on restoring the economic health of the afflicted sector. An alternative is the perpetual reallocation of resources away from economically healthy, but politically weak, sector to the politically important afflicted sector. The first meets political resistance; the second ensures reduced performance level and aggravating economic problems in the longer run.

Although the asymmetry between the conditions for expansion of *de novo* private firms and privatized SOEs (in favor of the latter) was apparent since the end of first wave of voucher privatization in 1993, one cannot deny that SMEs were nonetheless gaining ground throughout 1990s. In many respects the position of Czech SMEs in 1998 was comparable with that in developed industrial economies. According to CESTAT statistics [see Czech version of the bulletin, Czech Statistical Office, 2000] the ratio of registered entrepreneurs per 1000 inhabitants (so-called entrepreneurial density) was in 1998 139, while in Poland and Hungary the level was slightly more

[1] These estimates diverge from those of Selowsky, Mitra, et al. [2001] who estimate the Czech SME share at 53.5% of the aggregate value added. But is should be noted that they estimated the above share for firms up to only 50 employees.

than a half of that (see Chapter 2). Even if the Czech statistics might have been biased (including tax avoiding "forced" entrepreneurs), the intensity of private initiative in the Czech Republic in taking risks and running businesses was generally evaluated to be at the top among transition economies. Similarly Rona-Tas [2001] has estimated that Czech entrepreneurial activities have been among the most dynamic among the post-communist countries. Other statistics [see Szostkowski, 2003] show the Czech Republic's entrepreneurial density to be among the top 3-4 transition countries. Thus, at a minimum the Czech new private sector has been among the leaders in this respect.

Unfortunately, the comparative advantage, stemming from the early entrepreneurial propensities of the Czech population, was not reinforced by the well thought out regulatory regime and other public policy measures, enabling the new entrepreneurial firms to flourish. But politicians, caught in the alternative of supporting the rapidly expanding new private sector or the ailing privatized or non-privatized SOEs, sided – as in other countries – with the latter. For the old privatized or non-privatized state sector had been both much more numerous at the start of transition (see above) and much better organized as a lobby.

Another question to be asked, while discussing the impact of new private firms, is how *de novo* firms affected the labor market. Munich, Svejnar and Terrell [1999] investigated how the privatization "from above" and the emergence of *de novo* private firms changed the returns to human capital and how the new free wage setting modified the pre-transition narrow wage differentials in the state sector of the economy. The transition from the centrally planned to the market system resulted in a gradual increase in the rates of return to education, with the rates of return reaching West European levels by 1996.

This increase is found in all ownership categories of firms. For example, the return from a year of education was 5.6% in the state/public sector, 6.5% in privatized SOEs and 6.1% in the *de novo* private firms. As to the returns of a year of experience, the difference was much more substantial. It was 1.5% in the state/public sector, 2.2% in privatized SOEs and 3% in the *de novo* firms.

There was another feature, where *de novo* firms differed from the old firms. The wage policy differences are depicted in Figure 3.2. Although there was a general trend throughout the economy of increasing the wages during the first 20 years of working experience, the increase was faster in *de novo* firms. But in the public and the privatized sectors wages did not decrease with age after 20 years of experience, in *de novo* firms there was observed a sharp decrease in wages for workers with more than 30 years of experience.

It seems that the newly established firms remunerated particularly well younger experienced workers relative to the older ones. Also, they paid higher wages to the recent entrants into the labor market than it was the case in the privatized or public enterprises. Incidentally, this seems to be a more general pattern in post-communist transition. For example, similar conclusions are drawn in various studies on Poland and Hungary.

3.4. COMPARATIVE ANALYSIS OF SMALL AND LARGE FIRMS

Due to the already stressed lack of detailed statistics on Czech *de novo* firms, we have taken the whole SME sector as a proxy in order to quantify their characteristics. Table 3.4 compares the size structure of SMEs in the Czech Republic with that of the European Union as a whole and four different countries (two of them, Belgium and Austria, being E.U. members].

Under the communist economic system, *i.e.* until 1990, the size structure of Czech firms was nearly monopolistic; firms with less than 500 employees were scarce. The needs of the capitalist market economy dictated a radically different size structure. Taking into consideration historical roots (common rules of the game in the Hapsburg empire) and similarities in factor endowments, the Czech size structure of businesses should be expected to converge on the Austrian structure. Austria is a country with exceptionally large number of medium-sized firms and with low value added per worker in small firms. In another words, Austrian small businesses (like, for example, those in the United States) are highly labor-intensive with low capital requirements.

This type of specialization would be advantageous for Czech small firms because they have had typical post-communist country difficulties with acquiring capital. This characteristic feature is, *e.g.*, in contrast with, *e.g.*, that of SMEs in Belgium, where small firms are well endowed with capital and their value added per employee is therefore bigger than in large firms.

The tendency of SMEs to use labor more intensively than large firms was apparent in the Czech economy already in early transition. First, SMEs concentrated their activities to a large extent in labor intensive goods' and services' producing sectors (clothing, textiles, wood processing, metal working, glass, trade, personal services). Second, the overall allocation of resources in all industries (i.e. including the capital-intensive ones) favored more intensive labor usage that substituted for the expensive new physical capital. There are a few determinants of the described pattern:

a) Since transition means n e w b e g i n n i n g in shaping the size structure of the economy, the lesson from the economics of development applies. With little capital, new firms start in these sectors and branches of the economy, where capital requirements are l o w. That means, first of all, in retail trade, but also in light industries, construction, and personal services. Usually capital accumulated there serves further expansion, which gradually spills over to more capital intensive activities in the same branches and sectors, or to other more capital intensive branches of the national economy;

b) Those SMEs (the large majority), which have been established as *de novo* firms had very little capital at the start. The story was different in the case of privatized firms or those divisions that were spun off from larger state firms. The latter "inherited" capital at zero or heavily discounted price;

c) For the new private firms capital had to be acquired at the market. Although there was an excess supply of second hand capital (buildings, machinery, and equipment), so that prices were low, entrepreneurs had to pay nonetheless more than the prices, at which similar assets were transferred to the privatized SOEs.

d) Availability of credit lines to SMEs is traditionally restricted relative to those of large firms [for a theoretical rationale, see Luczka, 2001]. But in early transition economies entrepreneurs suffered additionally from the n o n -

existent track record of their earlier business performance and credit repayment;

e) And, in order to begin and end on a general note, relative wages between Czechs and employees in the E.U. countries suggested greater specialization in labor intensive activities. Traditional prescriptions of the theory of comparative advantages applied also to the Czech economy.

The size structure in the EU economies - outside the German speaking area - is dominated by small firms. The Czech structure still has some distance to cover in order to close the gap to the average in the European Union. There still remains a gap to be filled by future expansion in either the medium-sized firms' subsector (increase of employment by 30%, to reach the level of Austria) or in the subsector of small firms (increase of employment by 90%, to reach the average level of the EU). In either case, the expansion of SMEs must take place, as it has been the case so far, at the expense of the shrinking large firms' sector.

At the same time the SME sector itself should be expected to change its structure. Although its share in the aggregate Czech employment is not much different from that in advanced countries, some note an over-employment in the subsector of very small firms (micro-enterprises and sole proprietorships). There are too many part-time jobs, sometimes in parallel with the full-time employment in the state sector. Such firms are not very productive and they may even mask the existence of hidden unemployment.

Another aspect of the search for the potential room for expansion of SMEs may be highlighted by comparing the present situation in the Czech economy with that of the Taiwanese one. Taiwan is an industrially advanced country with approximately $18,000 per capita, whose development was overwhelmingly associated with SMEs. In 1998 the SME sector employed in the latter country 78% of the domestic labor force. Taiwan is at the one end of the continuum of the size structure of the economy; its SME sector is almost the largest among the middle to highly developed economies. Taiwanese SMEs function mainly as flexible providers of intermediate goods and services to large enterprises – their share in total final sales was only 31%. While the Belgian experience suggests capability of SMEs to absorb high capital intensity, the most important lesson from Taiwan is that SMEs are also able to absorb high, R&D-based technology.

The jump-start of SMEs in East-Central Europe was one of the most important developments in post-communist transition. However, SMEs' development reached so far neither the Taiwanese sophistication in the SME development, nor the growth rate of the formation of new firms and output growth observed at various times there and in some other high growth countries.

The only sector, where SMEs recovered very quickly and actually expanded their share of employment and output was manufacturing. This is surprising, since business cycle slowdown is usually most strongly affecting precisely the manufacturing sector and the recovery started only in mid-2000. After 1998 the position of large firms in manufacturing stabilized mainly due to intensive inflows of FDI. Thus, the performance of the large firms improved on the average, although they continued to shed employment (and many domestically owned large firms continued to suffer from the unfinished restructuring). Between 1995 and 2000 employment in firms with 500 employees and more decreased by almost one third

(32.4%). Thus, the pattern described in Chapter 2 has been present also in the Czech Republic.

The industrial sector, primarily manufacturing, has been stagnating in terms of total employment. What large firms lost was gained by small firms, but total, or aggregate, employment in 1995-98 increased only by 1.3%. A similar story in terms of relative shares of the small and large firms took place in a majority of sectors. More details are presented in Table 3.5. Small firms' share in total employment increased everywhere at the expense of large firms, except in construction and trade.

The dynamics of the SME sector was slowing down first after 1993. One reason of the slowdown is the very low starting point; the increases in absolute terms in the number of firms naturally could not go as fast after the first few years. The story has been repeated in other countries, also those considered in greater detail in Part II of this book. But the rate of expansion of output of the already existing private firms might have other contributing factors. For example, the slow restructuring in the domestically-owned corporate sector maintained the production factors (labor, capital) in inefficient large firms, which could not therefore be used in expanding SMEs. The latter could not outbid inefficient large firms in terms of wages and prices as non-restructured enterprises have been backed by soft fiscal policies, generous bank loans, and various bailout and "revitalization" schemes.

In Table 3.6 we compare labor productivities in SMEs and large enterprises in the years 1997 and 2000. One might have assumed that since new private firms are expected to be more adaptive and efficient, they should also display higher labor productivity. But with three exceptions for 1997, labor productivities across industries have been lower than in large firms.

The simple comparison of labor productivities across the size structure is not, however, a methodologically proper approach. First and foremost, large firms generally use more capital intensive technologies. In capital intensive industries the difference may be overwhelming; there, even the product structure is radically different. Where capital poor SMEs, especially small firms, have an advantage is c a p i t a l p r o d u c t i v i t y. As they combine their abundant labor (in accordance with their comparative advantage) with their scarce capital assets, they obtain much larger output, sales, and value added per unit of capital. This latter advantage carries over in many industries to total factor productivity as well.

It should be noted that under the specific circumstances of post-communist transition, SMEs still need not display lower labor productivity than the large d o m e s t i c firms, as was found by Zemplinerova, 2001. Given the slow restructuring and associated problems of privatized firms (see Chapter 2), SMEs may for a number of years perform better even with respect to indicators, where normal, healthy large firms usually display strong advantage. This comes clear as we compare SMEs with indigenous privatized SOEs and not with subsidiaries of multinational firms. In the industrial (secondary) sector approximately 40% of all large firms are firms established through the FDI and their productivity is approximately 85% higher than that of indigenous firms of similar size. That would substantially narrow the gap in labor productivity of SMEs (from 60.8% to 81% of the average for the subset of large domestic enterprises in 2000). And, certainly, the p r o f i t a b i l i t y of small firms need not be lower than that of large firms, as it is confirmed by scattered data from the very few countries for which there are some statistics available (see Hungary, Poland, and Estonia, in Szostkowski [2003]).

3.5. JOB CREATION AND JOB DESTRUCTION IN SMALL AND LARGE FIRMS

Czech SMEs have different factor proportions than the large corporate sector. The production of the former is more labor-intensive and the share of wages in value added increases as the size of the enterprise decreases. By contrast, for a variety of reasons, they at the same time proportionally invest less in physical assets. During the 1990-2000 period, Czech authentic private sector (SMEs and foreign investment enterprises) were important net creators of jobs, while the privatized SOEs were constantly losing jobs [see Jurajda and Terrell, 2002]. This is a development observed in all transition economies (see, *e.g.*, Bilsen and Konings, 1998, as well as McMillan and Woodruff, 2002]. In order to test empirically the differences in employment behavior between SMEs and large enterprises, we designed the model explained in Figure 3.3.

Model describes a situation in an enterprise where production is a function of labor subject to constant returns, described by π_0. Product Q_0 is sold at a perfectly free market at price P_0. As the productivity increases, the production function shifts to π_1. In no case the employment can remain at L_0 because production Q_1 has no demand. If the enterprise prefers to keep quantity unchanged (and internalize its ensuing rent into a higher profit), instead of decreasing sharply the price, subject to inelastic short-run demand D'_0, it will have to cut on labor proportionally with its increase in productivity. The employment will have to be reduced to L_1.

However, as the medium-run demand curve (D_2) becomes perfectly elastic, the firm can sell Q_2, what requires raising employment to L_2. The last change can happen exogenously from the demand side. For example, if the exogenous prices fall from P_0 to P_3, then the long-term demand shifts from D_2 to D_3. The employment must be adjusted proportionally to the demand shock and be cut from L_2 to L_3.

Now we can study whether the real economy behaves in accordance with this simple model. The relevant variables are employment, sales, and productivity in the firm. In the ideal case we should also test unit prices, but such variable is not empirically available for enterprises. We can drop it from our tests, given the condition that medium-term prices are exogenous and demand is perfectly elastic. Thus, any price change is reflected in the value of sales (P X Q), though this relationship is less than unity because even the short-run demand curve is not completely inelastic. The production (sales) values should be in constant prices, so that we can calculate more easily the volume of production (Q).

The model for testing will be:

$$\mathbf{L_i = a * Q_i^{\,b} * VA/L_i^{\,c} * \varepsilon_i} \ ,$$

where L = employment, Q = output (sales), VA/L = productivity, ε = error term,

i = 1, 2, …, 25 sectors, {a, b, c} = estimated coefficients.

It is assumed for the purpose of a hypothesis' testing (according to our model) that coefficient *c* should be negative and equal to unity.

Coefficient *b* should be positive, but its value is subject to more complicated relationships:

a) It depends on the way how a change in labor productivity is transformed into a shift of the supply curve. If the share of labor (wages * L) in value added is low

(i.e. the production is capital-intensive), than the reaction of the supply curve (like a shift of S_0 to S_1) is also small, what has insignificant impact on employment;

b) If the demand curve is inelastic, any potential increase in Q (due to a gain in productivity) offers little opportunities to a supply expansion. Instead of creating new jobs there is a price fall;

c) If the elasticity of production function is low, then an even sharp decline of unit costs has a low response in increased employment.

Coefficient *b* is expected to be higher for small firms than for corporations because their production is more labor-intensive, production function is more elastic and demand curve is flatter (it should be perfectly elastic for price-takers).

The foregoing model was tested on Czech data for 1997-2000 (taking logarithms of all variables). The sectors covered 15 manufacturing industries, 2 mining sectors, agriculture, forestry and 5 service sectors. The estimation of coefficients brought the characteristics shown in Table 3.7.

As Table 3.7 shows, both tests are in line with our hypotheses, since all coefficients are highly significant and have expected signs. SMEs reveal their tendency for high job creation during all four tested years, while the characteristics for large enterprises point to their job shedding propensity, even in those years, when they were expected to stabilize and later grow. The job creation in SMEs was promoted from three factors:

a) Growing demand for their products;

b) Elasticity of employment relative to production (higher than unity);

c) Less than proportional reduction of employment due to productivity increase.

Large enterprises had all these three characteristics reversed. The surprisingly high negative elasticity of employment *vis-a-vis* productivity changes can be explained by a reversed causal relationship: in order to gain competitiveness, these firms had to restructure their production and downsize their employment, inherited from the communist times of persistently excess demand for labor (see Chapter 1).

As stressed in Chapter 2, increased productivity in large, privatized firms stemmed for a number of years from continuous labor shedding, as the productivity levels per worker have been shifting upward toward the Western standards. The processes have usually been taking a long time, given the fact that 50% excess employment in communist enterprises had been a n o r m rather than an exception.

3. 6. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

The main findings in the Chapter can be summarized in the following manner:

- The lasting problems of the Czech transition, which became apparent at least since 1996, have their roots in the inefficient behavior of a significant part of the large domestic enterprise sector, that is the privatized SOEs. There, demand for the creation of authentic, self-reliant, well performing firms gave way, under political pressure to the “make haste slowly” approach, to various forms of support, a transition equivalent of “soft” budget constraint under communism. Given the preponderant role of the non-privatized and later privatized SOEs in the aggregate employment, the new entrepreneurial private sector has not been the policy priority throughout the transition period.

- This “soft” approach to the restructuring requirements of the SOE sector, reinforced the inherited redistributive behavior at the level of firms. Unfortunately, as most transition countries, including the Czech Republic, learned the hard way, the redistribution is from the more efficient to the less efficient, reducing the growth potential of the economy;
- The authentic, entrepreneurial private sector cannot be introduced “from above” as an act of social engineering, designed and implemented by the bureaucratic hierarchies. It can emerge, get established and expand, only through gradual steps taken one by one at the level of independent economic agents, making their decisions autonomously on factor and product markets. The grass roots’ initiative “from below” has been required.
- Notwithstanding the lack of government support, intrusive regulations, arbitrary bureaucracy, and failing judiciary, the sector of new private firms s has shown a high degree of viability and at the end of 1990s it became a dominant player on the market side of the Czech economy. It shows convincingly that the Smith’ian propensity to truck, barter, and generally make an effort to better one’s lot is natural in human beings. If barriers to the improvement of their lot are not too high - and they certainly went down dramatically in the post-communist era!! - individuals and their private firms will do their utmost to overcome the still existing (or newly reestablished) barriers. This is what happened in the Czech Republic as well.
- As restructuring problems will diminish in size and urgency, we may hope that more time, effort, and resources will be spent on the institutional improvements benefiting strongly the new private sector. These entail deregulation, debureaucratization, reduced fiscalism and simultaneously the arbitrariness of the tax bureaucracy, and the strengthening of the property rights enforcement. Every firm and every individual stand to gain therefrom, but smaller firms gain disproportionally more from less intrusive, low tax, and more smoothly functioning institutional framework.

Table 3.1

Number of firms in the Czech economy 1991-99 (in thousands)

Firms	1991	1993	1996	1998	1999
All registered firms	179	1119	1469	1781	1963
Self employed	...	...	1104	1328	1426
Juridical persons	54	133	231	297	343
SOEs	3.5	3.3	1.9	1.3	1.2
Public enterprises	...	...	16	15	15
Private firms and corporations	...	...	169	218	260
Sole proprietorships	...	...	1238	1484	1620
Sectors and subsectors: Firms in agriculture	...	...	121	128	130
Firms in manufacturing	...	...	198	235	251
Firms in construction	...	...	158	187	209
Firms in trade	...	...	467	576	627

Source: Statistical Bulletin, Czech Statistical Office, Prague, 2000

Table 3.2

Distribution of new and old enterprises
In a 2001 survey on SMEs
(Data for the year 2000).

Type of firms And industry:	Food	Clothing	Wood	Plastics	Information techno-logies	Total
New firms	(21) 54%	(33) 73%	(16) 67%	(15) 65%	(47) 73%	(132) 68%
Old firms	(16) 41%	(11) 24%	(7) 29%	(7) 30%	(16) 25%	(57) 29%
Total of all firms	(39) 20%	(45) 23%	(24) 12%	(23) 12%	(64) 33%	(195) 100%

NOTE: The numbers in brackets present the number of firms responding, the next number is the percentage of the given category in the given industry (or percentage of all responding firms in the last row).

Source: Mejstrik and Zemplinerova, 2001

Table 3.3

Share of the authentic new private sector (domestic and foreign)
In a given category of enterprises and in GDP
In the year 2000

Enterprise Category by size and type of ownership	Share of authentic Private firms in total number of firms in a given category in %	Share of all firms in total output (value added). Aggregate output = 100%	Estimated share of authentic firms in total output (value added). Aggregate output = 100%
0-9 employees	95.0	11.0	10.5
10-250 employees	63.0	34.0	21.4
over 250 (foreign)	90.0	30.0	26.7
over 250 (indigenous)	15.0	25.0	3.8
All firms	X	100	**62.6**

Source: Own simulation based on estimates from the study
by Zemplinerova [2001] and the data of the author.

Table 3.4

Size distribution of firms: Comparison of the Czech Republic
and selected countries (plus the E.U. as a whole) in 1990s

Country/ Area	Number of enterprises			Number of employees			Value added		
	Shares in total (in %)			Shares in total (in %)			Shares in total (in %)		
	1 - 99	100-499	500 +	0 - 99	100-499	500 +	0 – 99	100-499	500 +
USA	98.1	1.6	0.3	38.5	14.6	46.9	14.3	13.6	72.1
Japan	96.0	3.5	0.5	23.7	25.3	51.0	34.8	29.7	35.5
Belgium	98.9	0.9	0.2	45.4	19.5	35.1	54.4	18.6	27.0
Austria	86.1	12.1	1.8	40.6	36.0	23.4	27.4	36.4	36.2
Czechia	98.1	1.5	0.4	28.0	27.8	44.2	20.9	24.3	54.8
European Union	*98.9*	*0.9*	*0.2*	*53.3*	*16.2*	*30.5*	*50.0*	*21.4*	*28.6*

Source: OECD, Meeting of the Industry Committee – Scoreboard of Indicators, Paris, February 1998, p. 81 and the Czech Ministry of Industry, 2000. Data are for 1992, with the exception of USA (1993) and the Czech Republic (1998).

Table 3.5

Shares of SMEs in employment, sales value, and value added
In the aggregate figures for each sector of the Czech economy,
in 1995 and 2000 (in %)

Sector	Employment		Sales %		Value added	
	1995	2000	1995	2000	1995	2000
Agriculture	73,4	85,7	75,1	83,4	76,0	81,6
Industrial sector	35,1	46,7	29,2	35,2	28,4	34,7
Construction	72.5	80.6	72.0	74.3	75.1	77.4
Trade	83.9	83.4	88.3	86.6	89.2	85.3
Transport	18.2	26.2	49.7	39.6	31.8	23.9
Other services	82.6	84.7	88.4	87.0	84.4	82.4
TOTAL	54,6	61,3	63,6	62,6	53,9	53,7

Sources: SME database of CSO and estimates

Table 3.6

Value added per employee: Comparison of SME and large firms, 1997 – 2000

	1997			2000		
	SME	Large	SME/ Large	SME	Large	SME/ Large
Sector	CZK' 000	CZK' 000	in %	CZK' 000	CZK' 000	In %
Coal mining	253	416	60.9	241	518	46.5
Other mining	436	185	235.9	489	516	94.8
Food	250	446	56.1	290	579	50.1
Textile and apparel	141	188	75.3	201	241	83.2
Leather	144	143	100.7	161	167	96.5
Wood products	210	257	81.4	226	411	55.0
Paper & publishing	337	392	86.1	365	826	44.2
Coke, ref. petroleum	...	1060	...	...	1959	...
Chemical products	455	556	81.7	669	770	87.0
Rubber and plastic	316	354	89.2	353	522	67.8
Mineral products	321	440	73.1	406	593	68.4
Metals	266	310	85.9	328	390	84.1
Machinery and eq.	278	243	114.1	312	325	96.0
Electr. & optical eq.	306	261	117.1	346	371	93.3
Transport equipment	285	427	66.6	374	573	65.3
Other manufacturing	191	232	82.5	238	326	73.0
Electricity, gas, w.	347	853	40.7	539	1191	45.3
All industry	261	376	69.3	317	522	60.8
All economy	263	335	78.5	337	435	77.4

Source: Czech Statistical Office, database of SMEs, 2002, own calculations.

Figure 3.3:
Interdependence between the employment, productivity, supply and demand

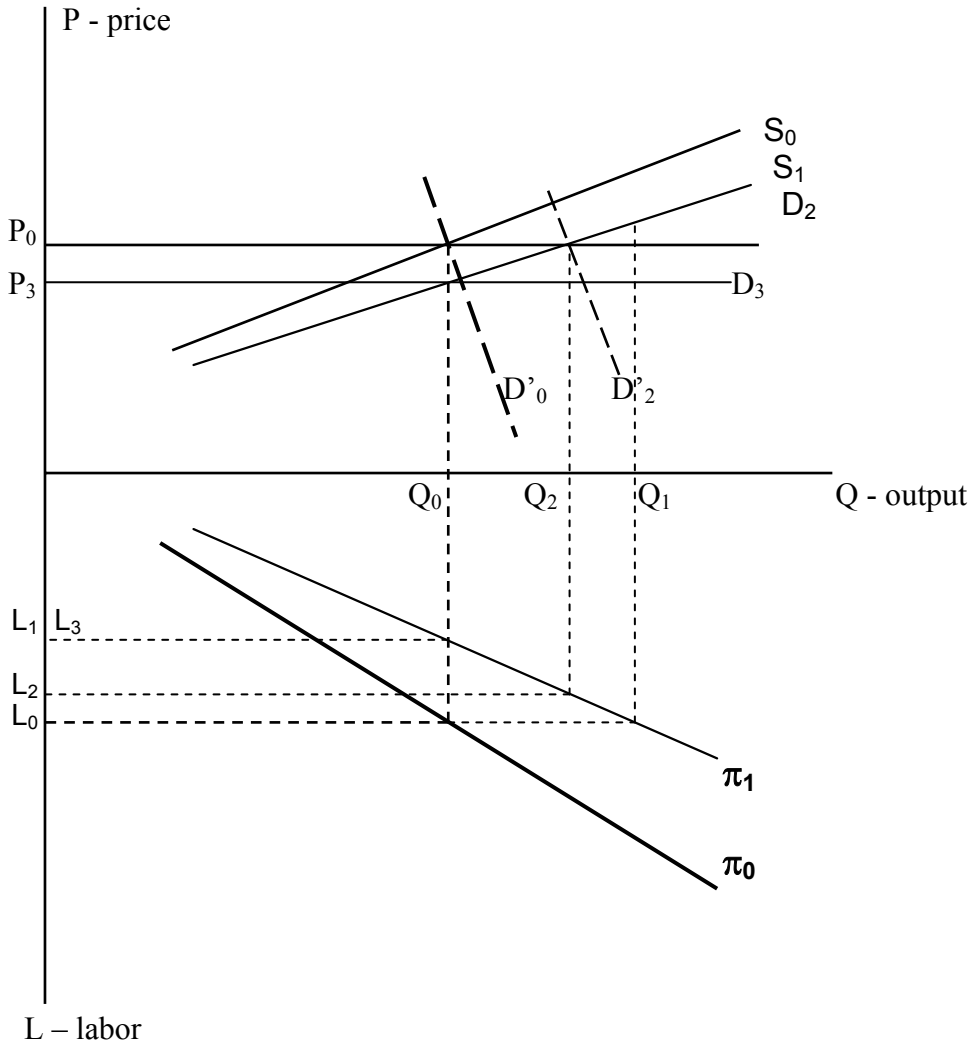

Table 3.7

A: SMEs (up to 250 workers)

	Coefficient	Standard error	t-statistics	P-value
Intercept	4.164	0.3598	11.57	0.000
Production (sales)	1.050	0.0189	55.63	0.000
L-productivity	-0.823	0.0573	-14.36	0.000
R-squared adj. = 0.969		SEE = 0.307		D-W = 2.09

Note: These enterprises had 60% share in total employment in 2000.

B: Large enterprises (with more than 250 workers)

	Coefficient	Standard error	t-statistics	P-value
Intercept	6.971	0.4759	14.65	0.000
Production (sales)	0.964	0.0327	29.41	0.000
L-productivity	-1.139	0.0682	-16.68	0.000
R-squared adj. = 0.907		SEE = 0.367		D-W = 1.58

Note: These enterprises had 40% share in total employment in 2000.

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