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INDUSTRIAL POLICY IN AUSTRIA
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Dezember 1989

Die in den Materialien zu Wirtschaft und Gesellschaft
veröffentlichten Artikel geben nicht notwendigerweise die
Meinung der AK wieder.
This paper was originally prepared for a lecture before the Institute of Industrial Economics of the Chinese Academy of Social Sciences (CASS) in November 1988. A revised version was presented to the 16th annual conference of the European Association for Research in Industrial Economics (EARIE) in Budapest, August 1989. The paper focusses on those aspects of Austria's performance and experience in industry and industrial policy which I considered most relevant for a Chinese and Eastern-European audience. But we ourselves may also benefit when we try to look at our own things with the eyes of others.

Günther Chaloupek
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1. Basic facts about Austrian manufacturing industry

1.1. Growth of industrial production and the Austrian economy

Throughout the post-World-War II period, industrial production was the main determinant of growth of the Austrian economy. From 1960 to 1986, value added in Austrian manufacturing industry grew at an average annual rate of 3.9 percent. After an acceleration of expansion around the year 1970, growth rates have declined since the middle of the seventies parallels to the development of GDP. For the period of 1979/86, growth of manufacturing production on average was only 1.9 per cent p.a., compared to 2.7 per cent p.a. 1973/79 and the exceptional 7.4 per cent p.a. 1968/73. As is well known, the decleration of growth rates after 1973 is a phenomenon which can be observed in all industrialized western economies.

Table 1

Growth of Austrian manufacturing output in international comparison

<table>
<thead>
<tr>
<th></th>
<th>Real value added in manufacturing</th>
<th>Real value added per person employed (productivity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>3.9</td>
<td>7.4</td>
</tr>
<tr>
<td>OECD-Europe</td>
<td>3.5</td>
<td>6.1</td>
</tr>
<tr>
<td>OECD-average</td>
<td>4.2</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Despite the slower pace of industrial expansion, manufacturing output in Austria grew faster than in the countries of OECD-Europe, and from 1968 to 1979, faster than the average of all OECD-countries.

The picture is even more favourable if we make the international comparison on a per capita basis. Productivity viz. manufacturing output per person employed grew faster in all subperiods in Austria than in OECD-Europe and — except for the very last subperiod — faster than the average of all OECD-countries.

It was the growth dynamics of Austrian industry which laid the basis for the Austrian economy's catching up with the more advanced industrial nations after the Second World War.

The gap in real income which separated Austria from the western European economies in the fifties has been closed. In 1955 Austrian GDP was more than one third below OECD-average and 25 percent lower than in countries of the European Economic Community (later to be founded in the fifties). This gap was partly attributable to war time destructions but mainly due to the economic stagnation from which Austria suffered during the interwar period. For most of the two decades between 1918 and 1938 the newly formed central European states had pursued policies of national economic autarky highly unfavourable to international division of labour and reasonable cooperation between their small economies. (1) After the war, a progressive reorientation of the Austrian economy, especially of her external trade took place from the formerly dominant east central European countries to the west European market economies. (2) The risks of such a reorientation were considerable since it was clear that Austria would have
to face the tough competition from the superior west European economies under the conditions of intensifying economic integrations.

In the middle of the eighties, the gap in real GDP between EEC(10)-countries and OECD-average and Austria appears virtually eliminated even though there is still some difference to the most highly advanced countries such as Germany, Sweden, Switzerland and the USA. Per capita GDP valued and purchasing power parities is about the same in Austria as in Belgium, Italy, the UK and the Netherlands, 5 per cent below that of France, 12 per cent below that of Germany (According to OECD, Purchasing Power Parities and Real Expenditures 1985). While there is still room for further catching up for a country like Austria which originally was among the poorest of west and central Europeans nations it is quite an achievement to have entered the ranks of the advanced industrial economies.

Of course, many factors have contributed to this catching up process: above all the favourable development of the European economy, the dynamic forces of Austrian enterprises, a high degree of political and social stability and a cooperative attitude of the big interest groups ("social partnership"), a comparatively high overall economic stability with moderate inflation and generally expansive economic policies. It is a difficult task to single out the role of industrial and structural policies not to speak of determining their quantitative contribution. Before I turn to these principal questions which are the main subject of my paper let me briefly turn to some principal features characterizing the industrial sector of the Austrian economy.
1.2. Contribution of manufacturing industry to GDP

As in other industrialized countries, more than half of GDP in Austria originates from tertiary activities. In 1988, the contribution of the manufacturing sector was only slightly higher than one fourth. If we add construction and energy, the share of the secondary sector was 36.6 per cent, which is a decline of 3.4 percentage points compared to 1976, at current prices.

The picture changes considerably, however, if one looks at the respective shares at constant prices (1983). In real terms, the share of "industry" (in the narrowly defined sense) as well as that of manufacturing as a whole (including small business) was slightly higher in 1988 than in 1976; whereas in nominal terms, the figures for the respective shares show a decline.
Table 2

Shares of industry and manufacturing in Austrian GDP

<table>
<thead>
<tr>
<th>Industry</th>
<th>current prices</th>
<th>constant prices(^1)</th>
<th>Manufacturing</th>
<th>current prices</th>
<th>constant prices(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>20,5</td>
<td>21,8</td>
<td>26,8</td>
<td>28,8</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>20,8</td>
<td>20,2</td>
<td>27,4</td>
<td>26,6</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)constant prices 1983

This divergence between nominal and real income accounts suggests that economic growth still significantly depends on the growth of industrial output. This conclusion is strongly supported by the most recent developments. If economic growth in Austria has significantly accelerated in 1988 and 1989 (more than 4% each year, compared to less than 2% p.a. from 1979/87), this was largely due to higher growth of manufacturing industry. In 1988 and 1989 real manufacturing output grew at a rate of more than 6% p.a., compared to less than 2% p.a. in the period of 1979/87.

1.3. Ownership in Austrian industry

It is a common stereotype in Austria that due to the smallness of the country her industry is dominated by small and medium sized enterprises and industrial plants. This is true in the sense that the overwhelming majority of plants belongs to the category of less than 500 employees. However, if we measure by employment shares, plants with more than 1000 employees account for almost 30 per cent of the industrial labour force,
with another 15 per cent in the category between 500 and 1000 employees. Hence, if the small and medium sized (below 500) accounted for 98 per cent of all establishments, the corresponding share in total industrial employment is only 55 per cent. (3) The average size of industrial enterprise in Austria appears not to differ greatly from that of most European countries except Germany. (4)

This is all the more remarkable if one takes into consideration the structure of ownership in Austrian manufacturing industry. Like in other western European countries, a sizable part of the industrial labour force is employed by multinational enterprises. But unlike other small European countries such as Switzerland, the Netherlands or Sweden, Austria does not have big multinational enterprises of its own. Thus Austria is a case of "passive multi-nationalization", and the share of these enterprises has increased steadily over the postwar period. In 1978, 22.5 per cent of the industrial labour force was employed by subsidiaries of foreign companies, up from 18.8 per cent in 1969. (5) Meanwhile, the share of foreign owned companies has increased to more than one third in 1985.

At the same time, a large part of the industrial labour force is working in enterprises which are directly or indirectly state owned: almost 28 per cent in 1978, up from 26 per cent in 1969. In the last years, however, employment in state owned enterprises declined substantially.

Looked at from the viewpoint of ownership in enterprises, if there is a "mixed economy" in the true sense of the word in Western Europe, this controversial term applies to Austria's industry. Only in France the share of nationalized industry came anywhere near the Austrian figure when it...
reached its peak at 18.6 per cent in 1982 immediately after a wave of nationalization measures which have been largely taken back since. In Finland, the corresponding share was 13.7 per cent in 1987, in Italy 13 per cent in 1978; for other European countries between 0 and 10 per cent.

Turning back to Austria, the residual employment share of some 50 per cent is accounted for by private Austrian ownership. These private Austrian enterprises make up the bulk of small and medium sized firms. Only 3 of them can be found in the list of the biggest 20 industrial enterprises which are predominantly either state owned or subsidiaries of foreign multinationals.

Thus the Austrian economy represents a specific type of state influence on the economy (7): whereas according to indicators such as tax share or public consumption's share in GDP Austria occupies a middle position among European countries, the involvement of the government in running enterprises is comparatively high. I will return to this aspect later.

1.4. Structure of industry

Traditionally the structure of Austrian industry has been characterized by a high share of heavy industries, of iron and steel production in particular. The strong position of the steel industry is the main cause of the high share of steel processing industries such as machinery, equipment and structural metal products, metal products, and in part at least also electrical engineering.
After 1945 employment in industry was expanding with only short interruptions until 1973. In that year the peak level was reached at 676,500. Since 1973 employment in industry fell by more than one fifth to 533,000 in 1988. During the eighties the share of basic industries—particularly that of the steel industry—was reduced significantly whereas the share of industries such as electrical engineering, machinery and equipment increased. From a long run perspective, the fall of the share of traditional low wage industries (textiles, apparel, leather) is the most striking consequence of structural change.
Table 3

Employment in Manufacturing

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>18.929</td>
<td>2.9</td>
<td>12.997</td>
<td>2.1</td>
<td>9.503</td>
<td>1.8</td>
</tr>
<tr>
<td>Iron and Steel</td>
<td>40.995</td>
<td>6.3</td>
<td>39.253</td>
<td>6.4</td>
<td>25.705</td>
<td>4.8</td>
</tr>
<tr>
<td>Oil</td>
<td>8.001</td>
<td>1.2</td>
<td>8.798</td>
<td>1.4</td>
<td>6.342</td>
<td>1.2</td>
</tr>
<tr>
<td>Pottery, China etc</td>
<td>29.068</td>
<td>4.5</td>
<td>25.749</td>
<td>4.2</td>
<td>22.287</td>
<td>4.2</td>
</tr>
<tr>
<td>Glass</td>
<td>9.849</td>
<td>1.5</td>
<td>7.713</td>
<td>1.3</td>
<td>7.440</td>
<td>1.4</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>61.004</td>
<td>9.4</td>
<td>61.606</td>
<td>10.0</td>
<td>55.563</td>
<td>10.4</td>
</tr>
<tr>
<td>Paper and Products</td>
<td>17.663</td>
<td>2.7</td>
<td>13.341</td>
<td>2.1</td>
<td>12.586</td>
<td>2.4</td>
</tr>
<tr>
<td>Pulp, Paper, Printing</td>
<td>10.421</td>
<td>1.6</td>
<td>9.230</td>
<td>1.5</td>
<td>9.056</td>
<td>1.7</td>
</tr>
<tr>
<td>Film</td>
<td>1.665</td>
<td>0.3</td>
<td>1.966</td>
<td>0.3</td>
<td>2.199</td>
<td>0.4</td>
</tr>
<tr>
<td>Wood Processing</td>
<td>27.422</td>
<td>4.2</td>
<td>26.548</td>
<td>4.3</td>
<td>24.894</td>
<td>4.7</td>
</tr>
<tr>
<td>Food, Beverages and Tobacco</td>
<td>51.877</td>
<td>8.0</td>
<td>49.152</td>
<td>8.0</td>
<td>42.934</td>
<td>8.1</td>
</tr>
<tr>
<td>Leather and Products</td>
<td>19.430</td>
<td>3.0</td>
<td>15.857</td>
<td>2.6</td>
<td>10.982</td>
<td>2.1</td>
</tr>
<tr>
<td>Foundry</td>
<td>12.761</td>
<td>2.0</td>
<td>9.989</td>
<td>1.6</td>
<td>7.999</td>
<td>1.5</td>
</tr>
<tr>
<td>Non-Perrous Metals</td>
<td>8.575</td>
<td>1.3</td>
<td>8.039</td>
<td>1.3</td>
<td>7.648</td>
<td>1.4</td>
</tr>
<tr>
<td>Machinery, Equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural Metal Products</td>
<td>69.830</td>
<td>10.8</td>
<td>80.415</td>
<td>13.1</td>
<td>72.285</td>
<td>13.6</td>
</tr>
<tr>
<td>Vehicles</td>
<td>29.321</td>
<td>4.5</td>
<td>32.505</td>
<td>5.3</td>
<td>29.448</td>
<td>5.5</td>
</tr>
<tr>
<td>Metal Products</td>
<td>62.179</td>
<td>9.6</td>
<td>57.943</td>
<td>9.4</td>
<td>50.709</td>
<td>9.5</td>
</tr>
<tr>
<td>Electric Engineering</td>
<td>62.003</td>
<td>9.6</td>
<td>72.684</td>
<td>11.8</td>
<td>72.143</td>
<td>13.5</td>
</tr>
<tr>
<td>Textiles</td>
<td>65.787</td>
<td>10.2</td>
<td>44.134</td>
<td>7.2</td>
<td>32.348</td>
<td>6.1</td>
</tr>
<tr>
<td>Apparel</td>
<td>38.328</td>
<td>5.9</td>
<td>31.977</td>
<td>5.2</td>
<td>25.581</td>
<td>4.8</td>
</tr>
<tr>
<td>Gas</td>
<td>2.886</td>
<td>0.4</td>
<td>4.017</td>
<td>0.7</td>
<td>4.964</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>647.994</td>
<td>100</td>
<td>613.913</td>
<td>100</td>
<td>532.619</td>
<td>100</td>
</tr>
</tbody>
</table>
On the whole, changes in industrial structures which have taken place during the eighties can be considered an improvement even though the decline in total employment in industry accelerated during this period.

2. Main elements of Austria's industrial policy

2.1. Investment promotion

Investment has traditionally been the central focus of industrial policy in Austria. If a GDP growth rate above the European OECD-average was the main goal of economic policy, investment has always been considered the key variable. The basic idea was that a high rate of investment (share of investment in GDP) is a necessary (though not sufficient) condition to achieve a high rate of economic growth. And in fact, ever since the nineteenfifties, Austria's overall rate of investment was higher than for the average of OECD-countries. (1960/86 in Austria 25.8 per cent, compared to 21.6 per cent for all OECD-countries and 22.4 per cent for OECD-Europe). The case for generous investment incentives was based on a growth theory of the Solow rather than Harrod-Domar type: it is technological progress which is the main source of productivity growth; technological progress is "capital-embodied"; hence, investment in new plant and equipment is the ideal means of transmission of new and more productive technology into production. (8)

It is important that an investment policy of this type is essentially of long term nature. This implies that investment incentives should not be manipulated according to short term, cyclical conditions. If there have
been many changes in the particular instruments of investment promotion, these changes were not made for the sake of anticyclical intervention, of short term stabilization or "fine tuning", as has been the case e.g. in Swedish investment policy.

Whereas Austria's overall investment rate has been high by international standards, the case is less clear for industrial investment. A comparison of industrial investment between countries encounters serious statistical difficulties. At least it appears fairly safe to conclude that investment in the manufacturing sector has a smaller share in total investment in Austria than in many other OECD-countries. From 1976 to 1984, manufacturing investment accounted for 14.7 to 18.4 per cent of total investment. Compared to other components of GDP, the path of industrial investment shows a greater degree of discontinuity, with sudden upward jumps in certain years followed by years of stagnation. In the last three years, from 1986 to 1988, manufacturing investment reached between 53 and 55 billion ASH annually which implies a sudden increase of more than 40 per cent compared to the preceding three years. The accelerator-effect resulting from this increase is dampend considerably by the fact that more than half of these investment goods are imported.

Ever since the 1950's, two kinds of investment incentives have been applied in parallel: indirect (i.e. tax) incentives and direct incentives (loan subsidies and guaranties).

2.1.1. Tax incentives

Starting from the early fifties, accelerated depreciation has the main tax incentive. In addition to normal depreciation 40 to 60 per cent of the
cost of equipment and 20 to 25 per cent of construction cost could be written off in the years of acquisition. Accelerated depreciation was later supplemented by alternative incentives such as the allowance to deduct an additional (to normal depreciation) 20 per cent of the cost of fixed assets from taxable profits and the possibility to form a financial reserve up to 25 per cent of taxable profits to be used for investment in plant and equipment within the next five years.

In combination with a (theoretical) rate of corporate income tax between 45 and 70 per cent these tax provisions acted as a strong incentive to use current profits for capital investment in order to avoid or at least defer taxation.

2.1.2. Direct incentives

There are various forms of interest subsidized loans and loan guaranties which may be granted upon application to enterprises for investment projects. Such schemes were considerably expanded in the years following the recession of 1975. At its peak, the cash equivalent of interest subsidies and other grants amounted to 11 per cent of total investment in industry in 1981, but has been reduced since. (9) Under more normal conditions, however, tax incentives were more important than direct incentives.

2.1.3. Issues of investment policy

Investment policy in Austria shows a remarkable degree of long term continuity even though many - I should say too many - new instruments have been invented during the course of the last 30 years. This factual continuity is all the more remarkable because certain issues of investment
policy were debated intensively and sometimes also controversially for most of the period.

There was consensus that Austria needed an above-average rate of economic growth and therefore a strong propensity to invest. Whereas the conservative Peoples Party and the economists of the employers' associations took the position that general incentives are indispensable while everything else could be left to the market economists of the social democratic party and trade unions argued for selective incentives in order to increase productivity of new investment. They were convinced that tax incentives did not sufficiently promote structural change in industry because it was primarily the existing enterprises which benefitted from these incentives while newly founded enterprises and new production units which have low profits or even losses during their first years were in need of other kinds of financial support. By this reasoning, direct incentives which could be granted selectively were preferable to tax incentives. Incentives were to be channeled towards investment into "growth branches" where the productivity of investment and labour was highest. In the concept of these economists, investment policy should be embedded in a comprehensive system of economic planning for which the French "planification" which was en vogue in the sixties was proposed as a model. (10) When the social democrats came to form the government in the seventies, they did not really try to put these ambitious concepts into practice.

There are several reasons for the failure to realize this kind of investment planning. First, systems of comprehensive (macro-)economic planning in Europe turned out to be ineffective and hence it was
impossible to define "growth branches" with a degree of precision sufficient for practical purposes (11). Second, the alleged selectivity of direct investment incentives is largely a myth; an evaluation of loan subsidy schemes shows that they are distributed widely among all sectors of the economy. Furthermore, it is obviously quite impossible to coordinate these schemes which are administered by many different institutions and have increased in number continuously; third, the focus on the national economy was too narrow for a small open economy such as Austria. If there ever was a chance for the project as a whole then international markets would have been the only promising focus. But this was only understood by east Asian countries, and this is one of the secrets of success of the MITI-model.

Direct investment incentives can serve their purpose, but they should not be seen as an alternative to tax incentives but rather as supplementary instruments. Unlike tax incentives for which continuity is essential loan subsidies tend to lose their original incentive character as time goes on while the fiscal costs are increasing if new schemes are added without termination of existing older ones.

2.2. Promotion of research and development (R&D)

It appears that for many years Austria's industrial policy rested on the tacit assumption that technological progress implanted through new investment came like "manna from heaven". The comparative neglect of R&D in the first two decades of Austria's postwar economic development cannot be considered an altogether irrational policy. The obvious contrast between high growth rates and very low R&D-efforts can easily be explained
by looking at the "state of technology which Austria had inherited from the interwar period. This technology was backward and did not embody methods which had already become fairly commonplace in the USA some time ago (for example, the broad strip mill, large paper machines, the catalytic cracking process, modern kilns, efficient methods of internal transport, etc). These methods were then introduced in a comparatively short time (assisted, in part, by Marshall aid), and technology was lifted abruptly to a higher level. Thus a process of catching up with other countries took place and this largely explains why product per man in manufacturing rose in Austria by 5 per cent per annum in the period from 1950/52 to 1967/69. We have absorbed technology faster than it can be currently produced, drawing it, as it were, from a stock of accumulated knowledge." (12)

Such reliance on import of know how had become increasingly inappropriate during the sixties. In 1968, two special funds for the promotion of R&D were established: one for industrial R&D, and one for scientific research. Only in 1970 a separate Government ministry for science and research was formed. In the eighties, additional schemes for R&D-promotion were added designed to push forward the application of microelectronic technology and also biotechnology and to improve the cooperation between universities, research institutions and industry. R&D-promotion is mainly done by grants and subsidies paid out of several public funds. Generally, tax incentives cannot easily be applied for R&D purposes for practical reasons.

Since the late sixties, both enterprises and the state have constantly stepped up their R&D-efforts and financial expenditure for that purpose as well. (13) Total expenditure on R&D was 0.9 per cent of GDP in 1970 and
1,3 per cent of GDP in 1987. In the last ten years, public funds available for R&D-promotion have doubled their contribution to the financing of industrial R&D which was only 4 per cent in 1975. There was a shift of emphasis in industrial policy from investment to R&D-promotion which lead to a restructuring of financial support measures towards R&D.

Compared to other European countries, such as Germany, the Netherlands, Sweden or Switzerland, total expenditure on R&D is still quite low in Austria. For the enterprise sector, this comparison is even less favourable for Austria. The main reason for this deficiency must be sought in the structure of ownership in Austrian industry which I have described previously. Even though foreign multinationals contribute a substantial part to industrial R&D in Austria - e.g. one third in 1975 (14), they tend to concentrate strategic R&D-activities in their headquarters which are outside of Austria. Private medium sized enterprises often lack the capacity for systematic R&D-activities. Production in nationalized enterprises until very recently has been largely concentrated in basic activities (steel, non-iron metals, oil) where R&D cannot be expected to open up growth perspectives.

Given these circumstances, to design an R&D-policy for the industrial sector is not an easy task. It is important to give incentives for medium sized enterprises to intensify their efforts which, however, implies a considerable dispersion of funds. For a small country it is difficult to make adequate provisions to ensure that Austrian inventions and new product developments materialize in industrial production inside the country. Nonetheless, to maximize value added is the basic idea of R&D-policy.
2.3. The role of nationalized industry

As I have mentioned before, among western industrialized countries Austria has the highest share of state ownership in industry. Nationalization of these enterprises was enacted shortly after World War II when the newly formed Austrian state tried to secure formerly German owned enterprises from being seized by the allied powers. In the late fifties Austria's nationalized steel plants obtained a leading position in technology (oxygen blown steel making - so-called LD-process, continuous casting process) on the international level. (15)

During the last phase of economic expansion before 1974 state owned industries were growing rapidly. In this period, the two biggest steel producing enterprises were merged ("Voest-Alpine", VA) while other enterprises were reorganized. Under the holding company (ÖIAG) Austria's nationalized industry on the whole appeared to be competitive in world markets.

When the international crisis of steel production was sparked off by the recession of 1974 the Austrian enterprises at first appeared comparatively resistant and strong. Medium term investment projects were carried through. Employment was kept at a constant level whereas in other countries steel plants had to reduce their work force. The strategy of ÖIAG and of VA in particular was to compensate the fall in demand for their basic products by entering new fields of production such as industrial machinery, structural metal products, turn key factories and electronic devices. Before 1983 the nationalized enterprises managed to survive almost without subsidies from the state budget. In the following
years, however, it turned out impossible to maintain production and employment at the previous level in the steel industry. At the same time, some of the other firms (chemical, electrical engineering) ran into serious difficulties. Employment in all ÖIAG-enterprises had to be cut from 115,000 in 1980 to 93,000 in 1987. At the same time the financial support by the state averaged more than 10 billion ASH annually for the years 1983/88.

It would take too much time to tell the full story of nationalized enterprises during those critical years. The attempt to use state owned enterprises as an instrument for structural change in Austrian industry as a whole and also of employment policy turned out a failure. Those firms which tried to enter new fields of production on a large scale in fact had embarked on a dangerous venture for which they did not have enough know how, experience or financial backing. Others had been too slow in changing their product patterns according to shifts in demand as well as maintaining competitive positions internationally. There was too much political intervention with management decisions without sufficient awareness of the economic costs of these interventions. Certain practices of decision making tended to obscure responsibilities, formal responsibility frequently did not correspond with actual influence. Easy credit facilities by banks which had enough reason to be convinced that the state would bail out enterprises in case of trouble created conditions which resemble Janos Kornai's "soft budget constraint". (16)

When crisis became acute in late 1985 a complete reorganization of nationalized industry was initiated. The influence of political parties on the supervisory boards of enterprises was eliminated, new managements were
appointed, big companies were split up into smaller ones while between the top holding company and the production firms several intermediate holding companies were established for the different branches of production. Partial privatization of some major enterprises was effectuated. According to the medium term strategic plan the goal is to stabilize employment at present levels with a substantial stepping up of international operations which will include systematic acquisition of enterprises in other countries ("multinationalization"). In the present stage, any judgements about the results of these sweeping reforms would be premature.

Under this point I mention only in passing that another type of nationalization of industry was at best partly successful: industrial concerns of the two big nationalized commercial banks. In the second half of the 19th century banks of the "credit mobilier"-type played a leading role in the industrialization of the old Austro-Hungarian empire. Nationalization of these banks took place during the depression of the thirties and in 1946. In the postwar period, banks could not play an active-strategic role as had been the case in earlier history. The postwar experience rather suggests that banks are far from being ideal steering units of industrial enterprises. On the contrary, there are several cases of enterprises where the pressure exerted by the ownership holding bank to maintain competitiveness was insufficient. In the end it was the bank which was forced to extend credit facilities beyond reasonable limits.
<table>
<thead>
<tr>
<th>Branch</th>
<th>Total Sales in Bill ASH</th>
<th>Total Employment</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOEST-Alpine</td>
<td>Steel 56.7</td>
<td>59.005</td>
<td>S</td>
</tr>
<tr>
<td>ÖMV</td>
<td>Oil 47.6</td>
<td>9.270</td>
<td>S</td>
</tr>
<tr>
<td>Siemens Austria</td>
<td>Electr. 17.2</td>
<td>15.574</td>
<td>FM</td>
</tr>
<tr>
<td>Philips Austria</td>
<td>Engineering 15.2</td>
<td>9.800</td>
<td>FM</td>
</tr>
<tr>
<td>Steyr-Daimler-Puch</td>
<td>Auto 13.2</td>
<td>12.487</td>
<td>S/B</td>
</tr>
<tr>
<td>Chemie Holding</td>
<td>Chemicals 10.9</td>
<td>6.059</td>
<td>S</td>
</tr>
<tr>
<td>Constantia Holding</td>
<td>Paper, Woodproc. 10.9</td>
<td>6.100</td>
<td>P</td>
</tr>
<tr>
<td>General Motors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>Auto 9.3</td>
<td>2.600</td>
<td>FM</td>
</tr>
<tr>
<td>Schärdinger</td>
<td>Food 8.8</td>
<td>1.527</td>
<td>P</td>
</tr>
<tr>
<td>AMAG</td>
<td>Aluminum 7.9</td>
<td>5.103</td>
<td>S</td>
</tr>
<tr>
<td>Elin</td>
<td>Electr. Engineering 7.9</td>
<td>8.120</td>
<td>S</td>
</tr>
<tr>
<td>Unilever Austria</td>
<td>Food 6.9</td>
<td>3.700</td>
<td>FM</td>
</tr>
<tr>
<td>Hoechst Austria</td>
<td>Chemicals 6.5</td>
<td>2.090</td>
<td>FM</td>
</tr>
<tr>
<td>Bau Holding</td>
<td>Construction 6.5</td>
<td>5.051</td>
<td>S/B</td>
</tr>
<tr>
<td>Leykam</td>
<td>Paper 5.8</td>
<td>2.825</td>
<td>S/B</td>
</tr>
<tr>
<td>Porr</td>
<td>Construction 5.2</td>
<td>3.601</td>
<td>S/B</td>
</tr>
<tr>
<td>Swarovski</td>
<td>Glass 5.1</td>
<td>4.877</td>
<td>P</td>
</tr>
<tr>
<td>Veitscher Magnesit</td>
<td>Stone 5.0</td>
<td>3.096</td>
<td>FM</td>
</tr>
<tr>
<td>Danubia</td>
<td>Chemicals 4.8</td>
<td>808</td>
<td>S</td>
</tr>
<tr>
<td>Lenzing</td>
<td>-</td>
<td>3.894</td>
<td>S/B</td>
</tr>
</tbody>
</table>

Ownership:  
S = state owned (directly)  
S/B = state owned through nationalized banks  
FM = foreign multinational  
P = private Austrian
2.4. Attractive location for subsidiaries of foreign owned companies

There are several reasons for the high share of foreign owned and multinational companies in Austrian industry which I have already mentioned. Austria has traditionally had excellent institutes for technical education and high standards of engineering and labour skills. For historical reasons there was a scarcity of capital, especially venture capital for the financing of industrial enterprises. Transforming inventions into industrial production often was impossible without the help of foreign capital. After 1945 many foreign companies discovered that highly qualified Austrian labour was available at a cost which for a long time was considerably below Western European levels and which is still some 20 per cent lower than in Western Germany. A stable political climate and peaceful industrial relations further increased Austria's attractiveness as a location of industrial production establishments. For German and Swiss enterprises geographical vicinity and common language are another important aspect.

From the 1960's onwards, these advantages were systematically used in a deliberate policy of "acquisition" of foreign owned industrial subsidiaries. During the seventies and eighties, long run employment stability was highest in the foreign owned sector of industry. In the seventies and eighties, its contribution to technological modernization of Austrian manufacturing industry was substantial. Some of the big multinational companies have built new plants in Austria in the last ten years. Subsidiaries of medium sized foreign firms (especially German and Swiss) play an important role in the restructuring of some of the older industrial regions where traditional industries have declined. Foreign
owned industrial companies have been a strong support for the growth of exports since a large part of their production is delivered to mother companies or to branches in other countries. The attitude of labour towards multinationals has been generally favourable.

However, it is increasingly felt that industrial policy should not exclusively rely on foreign capital and foreign owned enterprises. Strategic functions, especially R&D, are still largely reserved for headquarters which are far more demanding for surrounding business services than steering units of lower hierarchy. Also, foreign companies cannot legitimately be expected to take into account national interests as much as Austrian owned enterprises do. Hence, a sufficient degree of industrial autonomy is hardly conceivable without strong own industrial enterprises, no matter be they privately owned or nationalized.

2.5. Equity finance and capital markets

Austria's savings ratio is high by international comparison (over 10 per cent for most of the eighties). But there has traditionally been a strong preference for liquid forms of savings, especially for deposits, whereas bonds, stocks and other long term assets did not become popular until a few years ago. Thus, for most of the postwar period, enterprises had to rely mainly on two sources of finance: accumulation of retained earnings was the main source of internal finance, whereas capital from outside mainly took the form of bank credit. Even with the high profits of the fifties and sixties, the share of equity finance declined continuously and bank credit became ever more important. But this tendency was not
seriously considered a problem even though it was obvious that it could not continue indefinitely.

With the reappearance of recessions and the slowdown in economic growth after 1974 the risk involved in insufficient equity capital became evident both in private and state owned enterprises. Banks suddenly realized the risk burden of credit to industry. In case of a serious recession financial crises in industrial enterprises can easily spill over into the banking systems.

In the eighties, several measures were taken to facilitate outside equity financing of industrial companies. There has been a remarkable revival of capital markets and a revival of the Vienna stock exchange during the second half of the eighties. Even though risk capital has become available to industry on a greater scale, the share of equity capital (on average around 20 per cent) is still too low. If at present a much larger part of savings takes the form of long term assets, the volume of these markets in Austria is still rather modest. It will take many years to push the share of equity capital in industry to the required level.

2.6. Export capacity

The increasing export and import shares are perhaps the most essential form of structural change in industrialized economies. This is particularly the case in the manufacturing sector Austrian manufacturing industry in 1973 exported 35.4 per cent of total value added, but 52.4 per cent in 1984. Even with a falling share of the secondary sector in GDP, the relative performance of the economy largely depends on the
manufacturing industry's capacity to raise exports and to gain additional shares in world markets. For an industrialized country, an elaborate system of export financing and promotion is an absolute necessity. But in the long run, it is the international competitiveness of industry that decides about economic performance.

In my view, the new theory of international trade developed in the seventies (17) is of particular importance for small, open economies such as Austria. It is economies of scale which lead to "arbitrary" specialization by nations on certain products within monopolistically competitive industries. As a historical tendency, specialization becomes finer and finer, both in respect of final products and of intermediate products. This leads to an increasing subdivision of industries and also explains the empirical phenomenon of increasing intra-industry trade between countries. It has been shown that intra-industry trade is the most rapidly expanding sector of commodity trade between industrialized countries. (18) "Increasing subdivision turns less and less on differences in traditional factor endowments and more on the ephemeral factors such as learning curves and the other constituents of dynamic economies of scale."

The new theory of international trade contains an important message for small countries. They have a chance for survival between the industrial giants if they specialize successfully in an international division of labour which is constantly changing. By flexible specialization also small and medium sized industrial enterprises can be successful.
Free trade is, of course, a vital necessity for international division of labour and for small countries in particular. Enterprises themselves must be orientated towards international markets. If a small economy wants to grow, it can do so only by increasing exports.

3. Concluding Remarks

My concluding remarks will be brief. First I have to mention the changes concerning investment promotion which result from the tax reform taking force 1989. Tax incentives for investment have been considerably reduced in a double sense: accelerated depreciation has been abolished altogether, the possibility to form a tax free reserve has been reduced from 25 per cent of profits to 10 per cent. The principal instrument of investment promotion now is the allowance to deduct 20 per cent in addition to the full cost of fixed assets from taxable profits. At the same time the corporate income tax rate has been reduced from 50 per cent to 30 per cent.

There are obvious similarities to the tax reform of the United States. The Austrian tax system will be more neutral towards alternative uses of income or corporate profits. Investment expenditure is treated less favourably than before. In my view these changes are quite reasonable for the following reasons. Austria's economy and industry in particular have now reached a stage where other factors of international competitiveness deserve increased attention: research and development, more enterprises operating in international markets or entering new foreign markets, acquisition of foreign subsidiaries, increasing the number of high-brow professional employees etc. In other words: the "software" will continue
to increase in importance relative to "hardware". The reduction of the corporate income tax rate also has the aspect of simplification: previously existing possibilities to circumvent the 50 per cent rate were abolished. - On the other hand, tax provisions to account for the high risks of capital investment will be high by international comparison even after the reform.

On the whole, the reform does not imply that our investment policy was wrong in the past but that circumstances have changed. The tax reform will also favour a further strengthening of the role of capital markets, especially the stock market. I have already argued that a higher share of equity finance of companies and their investment is desirable. There will be more reliance on market forces, and even if we cannot be sure we may assume that markets will function sufficiently well.

Nationalized enterprises will continue to form an important sector of Austria's industry. After the structural reforms nationalized industry as a whole is on the path of recovery from the crisis of 1985. According to strategic concepts it will increasingly be operating on an international scale. The example of the Finnish Nokia shows that multinationalization is possible even for a latecomer. Privatization will be limited in such a way that the state holding company will maintain a majority of shares in the big companies. This view is not generally accepted in Austria but I believe that for a long time to come state ownership is necessary to avoid the risk of battles over the control of the companies which might be a severe threat to their stability. For the privately owned industrial companies the main task will also be to continue in their efforts for internationalization.
With respect to European economic integration, it will be necessary to ensure that Austria can participate in the ambitious internal market program of the EEC on an equal footing. But our relationship to the economies of Eastern Europe is also important. For this reason, Austria has a vital interest in the success of the economic reforms of the Eastern European economies.
Footnotes

(1) See the contribution of A. Teichova, in: W. Fischer (ed), Handbuch der europäischen Wirtschaftsgeschichte, Vol 6, Stuttgart 1987

(2) In 1937, 32 per cent of all imports came from and 28 per cent of all exports went to East European countries. By 1955, these shares had declined to 9.5 and 9.9 per cent respectively.

(3) Figures for 1984; however, this share has been rising during the last decade, whereas the share of the big establishments went down. See the official report on small and medium sized enterprises for 1987

(4) See Helmut Kramer, Österreichs Industrie im internationalen Wettbewerb, Vienna 1985


(6) See G. Chaloupek/W. Goldmann et al, Öffentliche Unternehmungen und die Frage der Privatisierung; Chamber of Labour, Vienna 1987, p 29


(12) Josef Steindl, Import and Production of Know How in a Small Country; The Case of Austria, in: Industrial Policies and Technology Transfer between East and West, Vienna-New York 1977 (Macmillan), p 211


(17) E. Helpman/P. Krugmann, Market Structure and Foreign Trade, Cambridge 1985

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K. Steiner (ed), Modern Austria. Palo Alto: Spos Inc, 1981; see especially the contribution by F. Lacina, Development and Problems of Austrian Industry

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