Chapter V

FOREIGN TRADE : A LEADING OR A LAGGING SECTOR?
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Foreign trade provided no impetus for rapid growth, whether during the period prior to the Revolution or after. It may even be hypothesized that foreign trade was a lagging sector in the economic development of the country. When expansionary forces failed to arise from the country's external sector, the state found itself driven by military and economic compulsions to assume responsibility for initiating and sustaining a faster rate of industrialization. Once it assumed this responsibility, it subordinated foreign trade to the requirements of rapid industrialization. We shall first discuss the reasons why exports failed to induce rapid economic growth in Russia/the Soviet Union and then examine the rigorous import-substitution policy or autarky that successive Governments there pursued.

Models of Foreign Trade and Growth

Foreign trade has played different roles in different countries in the process of economic growth. On the basis of the experience of the developing countries of the past and the present, we have so far had three simple models of the relation between foreign trade and national economic growth. The first model, which is largely based on the experience of Great Britain and the United States but which is also applicable to several others, especially West European countries, is the one in which the expansion of trade stimulated growth. A rise in exports leads to increased economic activity in the export sector. This
in turn causes a chain of secondary repercussions culminating in widespread investments in various industries catering to the domestic market. This is the case of trade as the leading sector or as "the engine of growth". There are several variants of this model.

The second model is the one in which foreign trade acts as the balancing sector. Here the foreign market relieves a developing country from the need to seek a balance, whether as an outlet in demand balance or as a source of production in balance for supply. Although foreign trade always balances domestic demand and supply, it is necessary to emphasize this function by means of a special model inasmuch as such a model helps differentiate that function from other models. Japan is usually cited as a country where foreign trade acted as the balancing sector. Exports did not lead to economic growth there, but they certainly provided close support.

The third model is one in which foreign trade lags behind domestic growth. This model is based mainly on the experience of Latin America and some countries of Asia. A variant of this model is equally relevant to Russia in the nineteenth century and

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to the Soviet Union until recently.

In this model, foreign trade is doomed to lag behind domestic growth partly because of the failure of the developed countries to buy primary commodities as their development proceeds and partly because of the need for the developing countries to buy capital goods from the developed countries. The factor limiting the demand of the developed countries is the low income-elasticity of the demand for primary goods due to Engels' Law and the slow rate of population growth in the developed countries. To these factors we may also add protection of domestic agriculture and industry. It is argued that while the capacity to export is more or less fixed, the need to import rises considerably with economic development. The need to import arises from the high import content of the development investment programme. Imports are also needed to meet temporary shortages in consumption goods.

This model, which is also called the Prebisch model, ignores one of the important factors causing the lag in the foreign trade of backward countries: it attributes the lag in the export sector to the demand factors alone. It does not take into account the possibility of inelasticity in the supply of exports. Tardiness in the growth of exports may arise from severe resource constraints. An unfavourable land-man ratio in old and over-populated economies like Russia/the Soviet Union puts them in a competitively disadvantageous position in the world market in respect of natural-resource products. It (This in combination

3 Ibid., p. 306.
with inelastic world demand for primary products) affects the performance of their export sector. It causes slow growth in exports and determines the pattern of development in those countries.

**Resource Constraints and Competitive Disadvantages**

Slow growth of exports is a characteristic feature of old and overpopulated countries like Russia/the Soviet Union. In contrast to new export economies like Canada and the United States, old and overpopulated economies are characterized by an unfavourable land-man ratio. Hence they are at a competitive disadvantage in the international market in respect of their natural-resource products. Their reserves of unexploited natural resources lack the richness and variety of the recourse base of the newly settled regions. True, they have abundant labour. This abundance of unskilled labour, however, does not constitute an export advantage. This is because unskilled labour is not a significant factor in modern industry.

In short, the export base of an overpopulated backward country is bound to be narrow in relation to its population. With an unfavourable land-man ratio, the economy can produce very little surplus for export. Where subsistence economy dominates, the peasants would hesitate to produce for export. Their export production would, therefore, expand far more slowly than elsewhere. Besides the unfavourable land-labour ratio, there is a rapid

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decline in mortality rate in an overpopulated country even though there is no substantial improvement in the economy for a variety of reasons. In such an economy the expansion of the export industry at a sufficiently high rate to induce rapid growth may prove difficult.

In the long run, sustained growth in the export industry is limited by a number of factors. For instance, inelasticity in the supply of resource products may result in the operation of diminishing returns in the export industry. Such inelasticity may arise on account of exhaustion of resources as in the case of minerals. Or it may arise from the fact that the climate suitable for the raising crops is confined to a few limited areas. Any attempt to bring more areas under the plough would escalate the costs. Once the areas under cultivation are exhausted, an increase in the demand for products cannot be met by extending cultivation to new areas. Thus the supply of resource products remains inelastic in the long run.

Short-run inelasticity in supply, which arises from uncertainty in weather conditions, leads to scarcity, though temporary, of natural resources. This temporary scarcity, however, can lead to the development of alternative sources of supply.

Growth of the resource-based export industry depends also

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on the income and price elasticities of demand for resource products. These elasticities, however, vary with the type of primary products concerned. For example, food products, which are subject to Engel's Law, have low elasticity of demand in high-income countries. The low-income elasticity of demand for foodstuffs, and for those raw materials for which substitutes exist, adversely affects the growth of the resource-based export industry. Similarly, the responsiveness of demand to price changes differs from commodity to commodity. The demand for foodstuffs is inelastic. A rise in their prices may, therefore, lead to shift in the source of supply if an alternative source of supply exists.

Thus, in an old and overpopulated export economy like Russia/the Soviet Union, the growth of exports was constrained by limited resources. The export-sector, therefore, failed to have any significant impact on the economy. It remained only a small part of the economy, unlike in new economies such as Canada and the United States, where the size of the export sector was large enough to determine subsequent development.

Lagging Export Sector

On account of unfavourable location, poor resource endowment, absence of natural transport facilities, and the prevailing international economic conditions, foreign trade could not become "the engine of growth" in Russia/Soviet Union. On the contrary, the export sector there proved a lagging sector throughout the process of economic development both before the Revolution and

7 Mani, n. 1, p. 88.
after. One of the major factors behind the export sector proving to be a lagging one was the enormous pressure of population on the limited resources of the country for this made it well nigh impossible to generate sufficient exportable surpluses. Because of the narrow resource base of the export-sector, Russia was unable effectively to compete with new export economies like Australia, Canada, and the United States in the markets of Europe.

Russia had only a tenuous connexion with the rest of the world till the middle of the nineteenth century. As a result, its foreign trade was quite negligible until the 1860s.

When Western Europe became deficit in foodstuffs, Russian exports were stimulated temporarily for a decade. Its foreign-trade turnover, which averaged some 237 million roubles annually between 1851 and 1860, rose to an average of 707 million roubles in the decade 1871-80. Thereafter, however, for over a quarter of a century, it remained almost stagnant - 707 million roubles per annum in the years 1871-80, 642 millions in 1881-90, and 719 millions in 1891-95. During the same period, while Russia's economic growth, particularly industrial development, was getting accelerated, the exports lagged: they grew at an annual average rate of 0.88 per cent. However, towards the end of the nineteenth century, there was a sudden and sharp rise in the foreign-trade turnover. It almost doubled within five years under the pressure from the Government. There was a steady growth in foreign trade thereafter up to 1913.

Russia's difficulties in expanding its trade stemmed from its reliance on its exports of resource products. The supply of these resource products was relatively inelastic owing to an unfavourable land-man ratio. About 70.6 per cent of Russia's exports consisted of agricultural products during 1909-13. Roughly half of the agricultural products exported consisted of grain; and meat and dairy products constituted another large part. Other important items in Russia's exports in 1913 were raw materials and semi-manufactures, largely lumber and petroleum.

Tsarist Russia was also a developing country. Hence the structure of imports in 1913 was of the same kind as can be expected for a nation using its foreign trade to industrialize. During the early stage of industrialization, Russia's dependence on imports was high. There was need to import especially raw materials and capital equipment. Russia was unable to pay for these imports from its limited export earnings and even with imported capital.

It has been estimated that three-fourths of Russia's imports comprised producer goods. Two major items of import were (1) machinery and equipment and (ii) cotton and other textile raw materials. Consumer goods (for the most part luxury items) accounted for about 27 per cent of all the goods imported in 1913. Interestingly more raw materials and semi-manufactured materials were imported in 1913 (48.6 per cent) than manufactured goods (both producer goods and consumer goods) (32.8 per cent). Yet

9 Ibid., p. 43.
10 F.D. Holzman, "Foreign Trade," in A. Bergson and S. Kuznets, (footnote contd.)
another noteworthy feature was that imports increased more rapidly than home production.

Russia, moreover, did not have any "invisible" exports with which to compensate for the considerable expenses incurred on its "invisible" imports. Its Finance Ministers were always at their wit's end to create a large favourable trade balance in order to meet their debt obligations and to attract foreign capital. They succeeded only at the cost of much-needed development imports. I.A. Vyshnegradski introduced the Tariff Act on 1 July 1891 both to provide protection to the domestic industries and to curb imports for balance-of-payments reasons.

In spite of a large trade surplus, which averaged 25 to 30 per cent annually on the eve of the First World War, Russia had to resort continuously to borrowing from abroad in order to meet its debt obligations. In 1913 the foreign debt of Russia amounted to 7.5 billion gold roubles or approximately 23.75 billion. This was roughly half of the net foreign debt of the United States in those days. The flow of foreign capital to Russia was limited by the small size of the domestic market and the stagnation in exports. Russia's creditworthiness was low in

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11 "Even the capital imports were insufficient for the purpose of meeting the deficit on invisible account." See Baykov, n. 8, p. 4.

in the European financial markets. This was due to the fact that its capacity to repay the loans it had taken was limited. The capacity to repay was limited because of the limitations on the country's ability to increase its exports.

**Trade During the Soviet Period**

After the October Revolution, at the crucial time of recovery and "reconstruction" of the economy, Soviet leaders and planners were confronted with problems in their foreign-trade sector more serious than those their predecessors had been confronted with. This was due to the acute shortage of exportable commodities at home and disintegration and the Great Depression in the world economy.

The First World War and the Revolution completely disrupted the Soviet economy and its external economic relations. Foreign trade almost ceased in 1918 and 1919 on account of the economic blockade that was clamped on the country, and it was still negligible in 1920 and 1921.

Economic recovery began in 1921 under the New Economic Policy (NEP). Foreign trade also picked up and registered a fairly sharp rise from the depths to which it had fallen in 1919-20. Even then it never reached the pre-war level. By 1927, the year when "reconstruction" or economic growth began, exports (in terms of the prices of 1913) rose to about 34.7 per cent and by the same date imports increased to 38.9 per cent of what they had been in 1913. Imports thus increased more rapidly than exports during the

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Holzmann, n. 10, p. 286.
period before the Five-Year Plan. The First Five-Year Plan was characterized by large deficits. The imports would have increased even more to meet the requirements of recovery but for the country's inability to increase exports more rapidly and/or to obtain long-term credits. The shortfall in foreign exchange forced the Soviets to cut back on imports, mostly consumer goods.

In the inter-war period the volume of Soviet foreign trade fluctuated widely. In relation to domestic output it never reached the status it had in the period before the Revolution. It took a tremendous upward spurt during the First Five-Year Plan, reaching the peak in 1930, and then declining to a very low point in 1939. The total trade turnover increased from 1,415 million roubles in 1929 to 1,643 million roubles in 1930 and then declined to 271 million roubles in 1939. Exports increased from 724 million roubles in 1929 to 813 millions in 1930 and fell to 104 millions in 1939. Imports shot up from 691 million roubles in 1929 to 830 millions in 1930 only to decline to 167 million roubles in 1939.

Interestingly, in relation to domestic output, exports rose only to a limited extent. The share of exports in national income increased from 3.1 per cent in 1929 to 3.5 per cent in 1930 and declined to 0.5 per cent by 1937.

The increase in volume was substantially more than that indicated by the value figures. This is so because of the decline

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14 Ibid., p. 286.
15 Ibid., p. 290.
### Table 1

**Indices for Exports, Imports, and Terms of Trade in USSR, 1929-1959**

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
<th></th>
<th>Imports</th>
<th></th>
<th>Terms-of-trade index</th>
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<tr>
<td></td>
<td>Volume index</td>
<td>Price index</td>
<td>Volume index</td>
<td>Price index</td>
<td></td>
</tr>
<tr>
<td>1929</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<tr>
<td>1930</td>
<td>135.7</td>
<td>82.7</td>
<td>141.3</td>
<td>85.1</td>
<td>97.2</td>
</tr>
<tr>
<td>1931</td>
<td>146.1</td>
<td>60.1</td>
<td>161.5</td>
<td>77.1</td>
<td>77.3</td>
</tr>
<tr>
<td>1932</td>
<td>127.8</td>
<td>48.7</td>
<td>115.8</td>
<td>68.0</td>
<td>71.6</td>
</tr>
<tr>
<td>1933</td>
<td>118.5</td>
<td>45.2</td>
<td>62.5</td>
<td>63.2</td>
<td>71.5</td>
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<tr>
<td>1934</td>
<td>102.9</td>
<td>44.0</td>
<td>47.1</td>
<td>56.0</td>
<td>78.6</td>
</tr>
<tr>
<td>1935</td>
<td>90.5</td>
<td>44.0</td>
<td>51.5</td>
<td>52.8</td>
<td>83.3</td>
</tr>
<tr>
<td>1936</td>
<td>68.2</td>
<td>49.3</td>
<td>59.4</td>
<td>54.1</td>
<td>91.1</td>
</tr>
<tr>
<td>1937</td>
<td>71.5</td>
<td>60.4</td>
<td>54.5</td>
<td>63.9</td>
<td>94.5</td>
</tr>
<tr>
<td>1946</td>
<td>64.9</td>
<td>125.2</td>
<td>95.7</td>
<td>111.3</td>
<td>112.4</td>
</tr>
<tr>
<td>1950</td>
<td>189.1</td>
<td>119.1</td>
<td>160.4</td>
<td>124.3</td>
<td>95.8</td>
</tr>
<tr>
<td>1959</td>
<td>571.2</td>
<td>119.1</td>
<td>525.8</td>
<td>132.6</td>
<td>89.7</td>
</tr>
</tbody>
</table>

in prices with the onset of the Great Depression. According to one index, the volume of exports increased by 46 per cent, and the volume of imports by 61.5 per cent, from 1929 to 1931.

An important feature of the Soviet foreign trade during the period under consideration was the sharp deterioration in the terms of trade. The rapid increase in the volume of exports during the period of the First Plan did not match the decline in export prices. As a result, the value of exports declined by about 20 per cent from 1929 to 1931. The prices of imports, however, did not fall commensurately with the prices of exports.

While the export prices fell from 100 in 1929 to 60.1 and 48.7 in 1931 and 1932 respectively, import prices declined from 100 to 77.1 and 68.0 respectively. Thus, the Soviet commodity terms of trade dropped from 100 in 1929 to 77.3 in 1930 and then 71.6 in 1931. This decline in commodity terms of trade was not offset by increasing productivity in either agriculture or industry in this period. As Holzman puts it, this implies that the single factorial terms of trade turned just as sharply against the country as the commodity terms of trade. This further implies a sharp reduction over these years in the imports that the Soviet Union could purchase per unit of domestic resources expanded on exports.

As a result of all these developments there was a trade deficit every year from 1929 to 1932, except in 1929. These

16 Ibid., p. 287.
17 Ibid., p. 287.
18 Ibid., pp. 287-9.
deficits were large. They amounted to 18.6 per cent of the exports in 1928; 36.2 per cent of exports in 1931; and 22.4 per cent of the exports in 1932. The deficits on invisible account further added to the balance-of-payments problem of the Soviet Union. These deficits were financed partly by gold shipments but mostly by high-cost credits.

Part of the trouble of the Soviet Union in expanding exports was due to its continued dependence on traditional items like grain, timber, and oil for the bulk of its foreign exchange earnings. In the peak years, 1930 and 1931, foodstuffs accounted for 31.6 per cent and 35.2 per cent of the total exports. The share of timber products was 16.4 per cent in 1930. Oil accounted for another 15.1 per cent.

The Soviets exported a large amount of foodstuffs and even oil during this period not because there was a surplus of production over domestic consumption but because there was need to step up export earnings to pay for their development imports. Without these developments imports it would have been impossible for them to implement the First Five-Year Plan. Domestic consumers were temporarily kept under strict rationing in order to make surpluses available for export. Beginning in 1932, as soon as the emergency needs were met, the export of essential commodities was drastically reduced. The sort of export campaign that was undertaken at the cost of domestic consumption during the

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19 Ibid., pp. 289-90.
First Five-Year Plan could not have been sustained for long without serious economic and political consequences.

While the export sector was experiencing severe lags, the import sector was not. The need to import for both recovery and economic development grew fast during the period; so much so that imports were expanded despite the impossibility of paying for them from export earnings.

**Competition from New Export Economies**

The revolution in transport technology enabled the United States (and later Argentina, Australia, and Canada) to invade and conquer the grain markets of Europe. The Americans operated in the grain markets of Europe between 1871 and 1895 on so massive a scale that it is often described as an "American invasion."

The tremendous increase in the American export of foodstuffs in the period 1871-95 brought down the world prices of grain by one-third or more. This fall in the world prices was reflected in the downward trend of Russian export prices as can be seen from the Table 2.

In some particular years - as for instance in 1894 - the price level was: for wheat, 46.7 kopeks per pood; for rye, 35.2 kopeks per pood; and for barley, 29.1 kopeks per pood or half the level reached in the 1870s. The fall in the export prices meant

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### Table 2

**PRICES OF PRINCIPAL RUSSIAN GRAIN EXPORTS, 1871-1895**

*(In Kopeks per Pood)*

<table>
<thead>
<tr>
<th>Period</th>
<th>Wheat</th>
<th>Rye</th>
<th>Barley</th>
</tr>
</thead>
<tbody>
<tr>
<td>1871-75</td>
<td>90.1</td>
<td>65.7</td>
<td>60.6</td>
</tr>
<tr>
<td>1876-80</td>
<td>85.1</td>
<td>63.1</td>
<td>56.1</td>
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<tr>
<td>1881-85</td>
<td>76.7</td>
<td>63.4</td>
<td>52.0</td>
</tr>
<tr>
<td>1886-90</td>
<td>64.6</td>
<td>42.5</td>
<td>37.6</td>
</tr>
<tr>
<td>1891-95</td>
<td>55.6</td>
<td>46.6</td>
<td>35.9</td>
</tr>
</tbody>
</table>


that the maintenance of a rate of export sufficient to pay for imported manufactured articles was possible only at an increasing loss to the agrarian population.

Even in normal years, Russia was in no position to withstand the competition of new export economies like Argentina, Australia, Canada, and the United States in the world market. At one stage it was in such bad shape as to be unable to compete even with an old country like India. No wonder, then, that it found itself gradually pushed out of its traditional markets.

For instance, prior to the American entry into the European markets, France and the United Kingdom were the principal markets
for Russian wheat. According to British import statistics, wheat from Russia accounted for 20.0 per cent, 33.0 per cent, and 26.9 per cent of the total British wheat imports in the periods 1861-65, 1866-70, and 1871-75 respectively. In the latter seventies, however, following the American entry into the British market, the share of Russian wheat declined to a mere 15 per cent of the total British imports of wheat. Thereafter Russia lost its position in the British market. In no subsequent period was it able to recover its earlier position in the British market. After the mid 1890s, the United Kingdom imported only about a fifth of its requirement of wheat from Russia. In 1896-1902 just about 6 to 7 per cent of the wheat it imported was from Russia. During the 1880s and after, Russian wheat was directed more and more to the markets of the nearest countries of Central and Southern Europe, mainly to Germany and Italy, which were then increasingly protecting their markets.

To understand the behaviour of the foreign trade of Tsarist Russia we have to consider, in greater detail than is usually done, its resource endowment, its natural resources, transport facilities, population pressure, etc. Comparison with the resource endowment of its major competitors in the world.

Competitive Disadvantage:
Russia's failure to hold its own international competition


22 Ibid., p. 480.
and turn the existing world economic situation to its own benefit was due mainly to its unfavourable factor endowment. Generally the economic historians who have written on Russia, whether of the East or of the West, start with the stock assumption that Russia was very rich in natural resources. Some even assert that there is a basic similarity between the United States and Russia in geographical area, density of population, endowment with natural resources, and the rapidity of industrial development. In reality, however, viewed in historical perspective, Russia was less endowed with natural resources than many Western countries, not to mention the United States. Further, in utilizing its natural resources, it had to overcome many more handicaps and consequently spend additional efforts than other peoples. The implication of this for the cost of production is obvious.

Russia suffered several disadvantages in comparison with its competitors. This was evident from the variety of pressures exerted and inducements offered by the successive Finance Ministers to maintain exports at a desirable level.

Grain dominated Russian exports. Yet, paradoxically enough, Russia did not produce more grain per head of population than the large grain-importing countries. Export of grain was possible only because of an under-consumption of bread or substitution of cheap rye-bread for wheat-bread. The Government had to use special pressure such as intensified activity by tax-collectors immediately after the harvest to realize Vyshngradski's famous slogan: “Let us starve, but export.” Perhaps it is hard to find
many cases of this sort in the history of world trade.

Most comparisons between the agricultural resources of Russia and other countries are based either on ignorance or on a deliberate neglect of certain important differences in natural conditions (a factor most important for agriculture in any country) in relation to population pressure. The nature of the climate and the resulting character of the soil imposes far more severe limitations both on the extent of cultivation and on productivity of land. For instance, both thermic and precipitation aspects of the Russian climate establish rather narrow limits for an advantageous exploitation of agriculture. Again, it is well known that the yield of small grain, particularly wheat, in the steppe regions usually does not reach the high levels attained in the moister and cooler areas of Western Europe or in the mid-western region of the United States. This is due mainly to an insufficiency of moisture which makes the application of fertilizer less efficient.

Climatic conditions of Russia not only affected productivity but also caused violent fluctuations in production and brought on frequent famines and droughts. The excessive dependence of Russian agriculture on the vagaries of the notorious climate of the country was thus partly responsible for striking feature of exports. Grain exports, particularly wheat exports, fluctuated violently from year to year and upset export earnings.

The quantity of wheat exported often declined or increased

23 See Chapter IV of the present work.
threefold or fourfold within short periods. Thus, in 1904-5 the quantity of wheat exported was 52.4 million quintals; in 1907-8 it was just 15.4 million quintals. In 1909-10 exports rose again to the high level of 64.7 million quintals, only to fall in 1911-12 to 22.6 millions. The average deviation of wheat exports over a period of twenty-two years (1892-93 to 1913-14) as a percentage of average exports for the whole period, was 32.24 The export curves reflected quite well the variations in total production or in yield per acre. In Russia, perhaps more than in any other major grain-exporting country, the size of the crop during any year determined the size of the exports during the following year. In other words the correlation between the size of the crop raised and the quantity of wheat exported was very high for Russia. The coefficient of correlation between wheat exports and wheat production in the case of Russia over the period 1892-1913 was .77, whereas, in the case of the United States, its principal rival, it was considerably low .49. Wide fluctuations in exports thus partly contributed to Russia's losing its traditional markets and to the low prices of its exports.

Among the major cereal-exporting countries of the world in the nineteenth century the position of Russia was peculiar. From most of its competitors in the world grain market Russia differed in not being a new country. Unlike its younger competitors such as Australia, Canada, and the United States, it had not evolved its agricultural products. The element of speculative

24 Timoshenko, n. 21, pp. 475-7.
25 Ibid., p. 477.
investment which was so conspicuous in the agricultural development of new countries, had played no part in the development of Russian agriculture. Agriculture in Russia had to support a much larger population than elsewhere. For a grain-exporting country European Russia, on the eve of the First World War, had a relatively dense population. A comparison of the density of population per square mile in European Russia and the principal overseas agricultural countries would be revealing:

### TABLE 3

**Density of Population in European Russia and Other Principal Overseas Agricultural Countries**

<table>
<thead>
<tr>
<th>Countries</th>
<th>Year</th>
<th>Population per sq. miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Russia, exclusive of Poland</td>
<td>1897</td>
<td>53.5</td>
</tr>
<tr>
<td>United States</td>
<td>1910</td>
<td>30.9</td>
</tr>
<tr>
<td>Canada</td>
<td>1901</td>
<td>1.4</td>
</tr>
<tr>
<td>Australia</td>
<td>1901</td>
<td>1.3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1901</td>
<td>7.4</td>
</tr>
<tr>
<td>Argentina</td>
<td>1895</td>
<td>3.4</td>
</tr>
</tbody>
</table>


These figures refer to the whole territory, including the land unsuitable for agricultural exploitation. The extent of such
agriculturally unsuitable land in Russia, with its extensive
Arctic tracts and other wastes and swamps, was far larger than
in the other countries mentioned above - barring, possibly,
Canada. Thus, while Russia had to support a relatively large,
population, its agricultural output per unit of cultivated area
was very small.

Besides, Tsarist Russia was less endowed with transport
facilities than many other countries. Before the railway era,
the only means of transport was waterways. Roads were almost
non-existent. Russian rivers, however, have many drawbacks.
They mostly flow in the wrong direction, i.e. south to north.
Many flow into closed waters. The Volga, for example, flows
into the Caspian Sea. Also, the rivers are frozen most of the
year. Even after the introduction of railways the transport net-
work that emerged was inadequate for a vast country like Russia.
Whereas in Western Europe the railway era was preceded by a
period of extensive building of highways, and also of waterways,
railroad construction in Russia began at a time when the highways
were non-existent. Railroad construction itself proceeded
irregularly.

Inherited Disadvantages

It is a well-known fact that the Soviet economy in the
twenties was an economy of acute shortages. This meant that the
country had little surplus to spare for export. One of the basic
factors causing shortages of exportable goods was the resource
endowment inherited from the Tsarist regime. As we have already
noted elsewhere, Russia's exports consisted largely of agricultural products, especially foodstuffs. Soviet leaders inherited an overpopulated backward agriculture from their predecessors. However, before and during the First World War an enormous expansion of agricultural production occurred not only in the new export economies (which were Russia's principal competitors), but also in the importing countries of Europe, whereas Russian agriculture remained more or less stagnant. The high density of population, the antagonistic climatic conditions, and the consequent poverty of the soil made it almost impossible for Russia's rural economy to make any appreciable headway. The villages of Russia were, when the Revolution took place steeped in the old, traditional, individualistic, primitive, and rootedly conservative ways and culture. It was thus clear from the beginnings of Soviet rule that without radical structural and technical improvements the country's agriculture would remain for ever backward and that it would not be able to support any plan for a rapid economic development of the country based on an exchange of primary commodities for manufactures.

To these long-term problems must be added certain immediate difficulties that confronted the Soviet State on the "agrarian front" in the twenties. The land reform introduced in 1917-18 not only broke up the large estates which had played an important role in the grain exports of pre-war days but also equalized peasant holdings, and this led to a considerable increase in the number of peasant farms. However, in respect of livestock and agricultural equipment the equalization was far less marked.
Poorer equipment and an uneconomically high ratio of labour to both land and capital thus characterized Soviet agriculture in the twenties. The poor and middle peasants' margin for any accumulation of capital to rectify this situation was far too narrow, if not non-existent. Any effort to bring about considerable improvement in the material equipment of agriculture would have entailed a very large investment of capital on the part of the State. And at least until the early 1930s Soviet industry unequal to the task of supplying agriculture with adequate modern machinery and fertilizers.

Yet another fact that we need to note about Soviet agriculture in the mid twenties was the failure of the marketable surplus in agriculture to attain its pre-war level once again despite the recovery both of the cultivated area and of the gross production. The total agricultural area in 1926 stood at 95 per cent of the pre-war normal. The gross harvest also was more than it had been in 1913. And yet the surplus placed on the market outside the village was no more than 70 per cent of the pre-war amount. As for grain, the situation was even worse. The gross production was nearly nine-tenths of what it had been in 1913, but the marketed surplus of grain was less than half of the pre-war amount. This is to say, the peasantry sent away only 17 per cent of the total yield to market. Only 13 to 14 per cent of the

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total harvest realized in 1926-27 was marketed. In contrast, as much as 26 per cent of the total harvest used to be marketed in the pre-war period. Meanwhile both urban and rural demand for agricultural products increased rapidly under the impact of economic development and population growth. The apparent gap in urban consumption resulting from the shrinkage in the marketed grain supplies was met by reducing the export of grain. Thus, not even in the peak year of the post-war period did export of grain exceed a third of the pre-war quantity. As soon as the question arose of importing machinery extensively to carry out large-scale industrial construction, the Government was faced with a dilemma. Should it reduce urban food consumption or prune the import plan? Neither of the alternatives was easy as agriculture was in no position to sustain the required volume of exports. The dilemma was sought to be resolved both by reducing urban consumption through rationing and by cutting non-essential imports. In addition, and more importantly, the Soviet leaders, like Tsarist Finance Ministers Vyshnegradsky and Witte, resorted to coercive methods to mobilize the resources needed for expanding exports. When the taxation measures failed to produce the desired result, they took the extra-ordinary step of forcible collectivization of agriculture. Collectivization in its turn led to a marked decline in grain and livestock production: so much so that the expected annual increase in agricultural production and


29 Ibid., pp. 214-21.
consumption did not come off (see Table 4).

<table>
<thead>
<tr>
<th>Year</th>
<th>Bread</th>
<th>Grain</th>
<th>Potatoes</th>
<th>Meat</th>
<th>Butter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>1928</td>
<td>174.4</td>
<td>250.4</td>
<td>87.6</td>
<td>141.1</td>
<td>51.7</td>
</tr>
<tr>
<td>1932</td>
<td>211.3</td>
<td>214.6</td>
<td>110.0</td>
<td>125.0</td>
<td>16.9</td>
</tr>
<tr>
<td></td>
<td>0.70</td>
<td>0.70</td>
<td>2.97</td>
<td>1.55</td>
<td></td>
</tr>
</tbody>
</table>


Thus, the Soviet Union also was obliged, like Tsarist Russia, to resort to "starvation exports." These could only be emergency measures. They could not have been sustained for long periods (in the changed political set-up) without serious economic and political consequences. Inevitably, therefore, there was a drastic decline in Soviet agricultural exports after 1932.

In the case of industrial exports the situation was slightly different. During the recovery period, industries, particularly the mining industries, which were responsible prior to the Revolution for the bulk of the country's industrial exports, made a slow recovery. Later, during the Five-Year Plans, when the process of rapid industrialization was well under way, most of the industrial commodities were not available for export purposes. For instance, take petroleum products. With
industrialization and the collectivization and mechanization of agriculture, domestic demand for petroleum products began to grow very rapidly. The oil industry shifted its orientation from exports to domestic consumption. The ratio of exports to total output fell from 53 per cent in 1927-28 to 5 per cent in 1940 for light fuels, and from 69 per cent in 1927-28 to 22 per cent in 1940 for distillate fuel oil. And by the late thirties the Soviet Union became a net importer of crude oil and products. There was no great demand for industrial products that could be spared - as, for instance, timber and fur - in the international market.

**Inelastic Demand for Exports**

An unusual feature of Soviet economic development was that there was a great "spurt" in the development of the country's economy at the same time that there was an unprecedented and prolonged disruption in the world economic order. It is unnecessary for our purposes here to go into all the details of the international economic situation between the two world wars. This is a subject on which much has been written, and all the facts are well recorded. What we need to do here is to recall two aspects of the international economic situation of the period which were relevant to the development of Soviet foreign trade. First, there was a general disintegration of the international economy which affected all countries, including the Soviet Union.


31 Ibid., p. 225.
Second, there was a dislocation specifically in the relationship between the Soviet Union and the Western world. These aspects are related to each other in some ways.

First, let us take the general disintegration. The First World War witnessed a violent breach in the evolution of the world economic system. During the four years of the war the production and distribution of goods and the mechanism of trade in the belligerent countries were governed primarily by the exigencies of war. The territorial changes that came about as a consequence of the war and reparation conditions of the peace treaties signed at the end of the war added to the dislocation already caused. Before the world economy could find its equilibrium once again after the upheaval, the Great Depression struck. The spurt in the economic growth of the Soviet Union coincided with these unhappy days in the world.

The First World War aggravated a tendency towards overproduction in some branches of world agriculture. War conditions and the remarkable improvements in agricultural techniques led to an expansion of agricultural production. There was a steady rise in prices which encouraged new export economies like Argentina, Australia, Canada, and the United States not only bring more and more land under the plough but also to increase production per acre by the application of new techniques. Wheat

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acreage in these four countries expanded from 80 million acres in 1913 to 112 millions in 1919. The countries of Europe, being cut off from their normal supplies, also expanded their agricultural production at this time. Thus, with the European belligerents relying upon themselves increasingly for their supplies of food, the augmented output from the new export economies glutted the markets. Prices fell by more than half between 1920 and 1923. The demand for some of the important agricultural products, especially cereals, ceased to expand at the pre-war rate owing to changes in income, in taste, and in the rate of population growth and on account of spread of protectionism.

The annual rate of growth of world population declined from 1.5 per cent in the decade preceding the war to 0.9 per cent between 1913 and 1929. This decline was due entirely to losses in population in Europe. The population of Europe was smaller by about 22 million in the 1920s than it was prior to the war. Also, on account of rising incomes in the industrialized countries, the demand shifted from low-quality foodstuffs to those of higher quality. Thus, the primary producers,

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33 World trade in volume recovered to 1913 level by 1927, stayed above 1913 level until 1931, and was slightly above 1913 level by 1936 (with 1913 as equal to 100, the index stood at 120 in 1929, and only 102 in 1936). This was a dismal record when we recall the kind of secular growth in world trade during 1850 and 1914. Further trade in primary products was restricted while trade in manufactured goods grew rapidly for a few years. And by 1929 the total world market was already shrinking as the Great Depression struck; Jonathan Hughes, n. 32, p. 244.

34 Ibid., p. 243.
including the Soviet Union, were confronted with a situation that was entirely new at the end of the war. And with the bumper harvest in 1928 and the American slump, the world prices of agricultural products collapsed.

Even more important was a tendency on the part of the industrialized countries towards economic nationalism during the period between the two world wars. This tendency first showed itself during the First World War. In the chaotic conditions of those years every country in the world sought desperately to isolate itself and preserve its domestic markets for its own products to maintain income and contain unemployment. The European countries built up strong protective forts against foreign agriculture. This aggravated the difficulties of countries relying on export of primary commodities for economic development.

Agriculture can be viewed in two ways. It may be regarded either as a source of food for the nation or, from a private point of view, as a business run for the sake of profit. In Europe torn by the war or fear of war it was first view that largely determined agricultural policy. Each nation strove to make itself agriculturally self-sufficient, at least in respect of the staple of life. A Protective tariff policy was generally adopted for the purpose. Recourse to protectionism was no new thing, but now the scope of it was enlarged so as to exclude foreign products altogether in some cases. New techniques of

35 Arndt, n. 29, pp. 11-14.
protection were adopted in addition to the imposition of prescription of quotas and fixed prices, conclusion of clearing agreements, and other devices to control and direct international trade in agricultural products. Furthermore, domestic production was sought to be raised through a variety of measures, many of which were often concealed. Agricultural nationalism was dramatized by what was called the "Battle of Wheat" in Italy in 1925 and a decade later by a somewhat broader "Battle of Production" in Germany. These depressing factors in a world economy would in any case have severely hampered Soviet efforts to expand trade. Over these gloomy features of the international economy or because of them came the disruption in Soviet economic relations with the Western countries. This multiplied the difficulties confronting the Soviet Union.

The war in its wake had left a profound rift between the Soviet Union and the Western world. The West refused first to trade with the young Socialist country and later to grant long-term credits. This boycott kept down the volume of Soviet foreign trade. And then came the decision of the banks in the West not to accept Russian gold. The gold blockade was followed by the financial blockade. When the Soviet Union sought to sell cheap to push its products in a depressed world market and to re-establish old contacts in foreign markets, a slanderous Press campaign was mounted against it for its "dumping" and "forced labour". No wonder, then, that this led the Soviet leaders to propound theory of capitalist encirclement.

However, the net effect of all these factors was to make
Soviet imports exorbitantly costly, besides introducing an element of uncertainty in the pursuit of a "crisis-free" economic development. Hence import substitution was considered easy, certain, less costly, and inevitable.

Viewed against the background of the supply inelasticities arising from the country's narrow resource base and the inelastic world demand for its products, the argument that the Soviet Union deliberately withdrew from the world economic order does not seem to hold water.

Thus, because of its relatively narrow resource base and the inelastic world demand for its products, the country was not able to expand its exports so as to generate the dynamic forces that would induce rapid economic growth. Meanwhile, the State adopted a strategy of expanding domestic market for the products of the growing industry. Import substitution or autarky became a most significant part of this strategy.

Protection of Domestic Market

After 1877 the tariff policy of the Tsarist Government increasingly assumed the character of a protective policy. The following Table clearly indicates the magnitude of change that came about in Russian commercial policy by 1891. This change in trade policy, which was to occur on a much larger scale in the Soviet period, reflected, as Olga Crisp put it, "the concern of the Russian government for the most intensive possible development

<table>
<thead>
<tr>
<th>Commodity</th>
<th>1860 tariff (in gold kopeks per pood)</th>
<th>1891 tariff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>Free</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Iron-ore</td>
<td>Free</td>
<td>10.5</td>
</tr>
<tr>
<td>Pig iron</td>
<td>5</td>
<td>45 - 52.5</td>
</tr>
<tr>
<td>Roiled iron</td>
<td>20 - 50</td>
<td>90 - 150</td>
</tr>
<tr>
<td>Rails</td>
<td>20</td>
<td>90</td>
</tr>
<tr>
<td>Machinery</td>
<td>30</td>
<td>250</td>
</tr>
<tr>
<td>Locomotives</td>
<td>75</td>
<td>300</td>
</tr>
<tr>
<td>Agricultural</td>
<td>Free</td>
<td>70 - 140</td>
</tr>
<tr>
<td>machinery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw cotton</td>
<td>Free</td>
<td>120 - 135</td>
</tr>
<tr>
<td>Cotton goods</td>
<td>28 - 110</td>
<td>33 - 135</td>
</tr>
</tbody>
</table>

of all branches of the national efforts" to accomplish the "national economic task of making Russia entirely independent of foreign markets in all that is essential for her existence."

Drive Towards Autarky

The actual trade policy adopted under centralized planning was one of a high degree of import substitution. Capital goods, prototypes, etc. were imported. This imported capital was later used to construct industries that would help make such imports unnecessary by their output.

The plans allowed for imports of only two classes: goods which were not available in required quantities within the Soviet Union, and goods which could be produced but not as quickly as necessary or at low enough cost (see Table 6). Gerschenkron points out that the Soviet Union exported "solely in order to obtain the wherewithal for payments for imports."

The Table demonstrate how far domestic production replaced imports as the major source of supply during the 1930s.


39 A. Gerschenkron, Economic Relations with the USSR (New York, 1945), p. 47.
<table>
<thead>
<tr>
<th>Commodity</th>
<th>1928</th>
<th>1930</th>
<th>1932</th>
<th>1935</th>
<th>1937</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>-</td>
<td>88.4</td>
<td>64.4</td>
<td>46.0</td>
<td>54.8</td>
</tr>
<tr>
<td>Zinc</td>
<td>-</td>
<td>90.3</td>
<td>43.6</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Aluminium</td>
<td>100.0</td>
<td>100.0</td>
<td>74.1</td>
<td>0.3</td>
<td>-</td>
</tr>
<tr>
<td>Rubber</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>60.3</td>
<td>-</td>
</tr>
<tr>
<td>Cotton</td>
<td>30.2</td>
<td>15.4</td>
<td>5.4</td>
<td>2.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Rolled Ferrous Metals</td>
<td>-</td>
<td>-</td>
<td>17.0</td>
<td>2.0</td>
<td>0.7a</td>
</tr>
<tr>
<td>Iron, Steel Pipes and tubing</td>
<td>29.0</td>
<td>10.7</td>
<td>11.4</td>
<td>5.5</td>
<td>-</td>
</tr>
<tr>
<td>Turbines, generators boilers</td>
<td>-</td>
<td>89.0</td>
<td>77.0</td>
<td>19.0b</td>
<td>-</td>
</tr>
<tr>
<td>Machine tools</td>
<td>-</td>
<td>-</td>
<td>66.0</td>
<td>14.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Metal Cutting Machines</td>
<td>66.4</td>
<td>58.1</td>
<td>54.5</td>
<td>-</td>
<td>2.0c</td>
</tr>
<tr>
<td>Machinery</td>
<td>-</td>
<td>19.0</td>
<td>7.3</td>
<td>1.0</td>
<td>-</td>
</tr>
<tr>
<td>Automobiles, buses, trucks</td>
<td>-</td>
<td>66.4</td>
<td>3.9</td>
<td>0.2</td>
<td>-</td>
</tr>
<tr>
<td>Tractors</td>
<td>75.4</td>
<td>81.2</td>
<td>0.0</td>
<td>0.0</td>
<td>-</td>
</tr>
</tbody>
</table>

The policy of import substitution on a large scale on the part of the Government both before and after the Revolution was due partly to military, and partly to economic, considerations.

A country driven primarily by military pressures to take the initiative in promoting speedy development of its domestic industries would pursue a high degree of self-sufficiency in the economic policies; for the augmenting of military strength within the shortest possible time necessarily entails creation of domestic production facilities in areas such as machinery, steel, etc.

Autarky and the Size of Domestic Market

Even if there had been no military pressures, the Government would still have adopted the policy of import substitution and for purely economic reasons. A high degree of import substitution was an imperative of strategy that the Government devised to promote rapid industrialization through market creation.

If the market for consumer goods in backward countries is limited, then the market for the capital goods would be even more narrow in comparison with the scales of production existing in the advanced countries. The number of units of any particular type of machine that would be demanded in such an economy would be small not only because the market for the final goods concerned is restricted but also because the existing capital stock is small and generates little demand for replacement. Hence, even

if the necessary technical knowledge and skills for the domestic production of capital goods are available, there would be few economic incentives to do so. In such conditions, imports on a large-scale, if allowed, would certainly defeat the very purpose of the Government strategy for promoting rapid economic development; for large-scale imports would mean that the domestic output and employment generated by a given amount of investment would always diminish proportionately to the share of imports in total investment expenditure. In other words, the investment

41 Majority of Soviet leaders felt that on the basis of comparative advantage, the country would remain a granary of Europe and industry would never be developed. A basic premise on which the monopoly of foreign trade was founded was Protectionism. In a letter to Stalin on 18 December 1922, Lenin pointed out that "no tariff system can be effective in the epoch of imperialism when there are monstrous contrasts between pauper countries and immensely rich countries... that under the circumstances indicated any of the wealthy industrial countries can completely break down such tariffs barriers." He further pointed out only State monopoly of foreign trade can "provide real protection for our Russian industry... any other form of protection would be absolutely fictitious;" Lenin, On the Foreign Policy of the Soviet State (Moscow, 1973), pp. 411-12.

Stalin also considered protection to be the primary duty of the monopoly of foreign trade and referred to it as "the shield and breast-plate of our young socialist industry;" cited in A.P. Rosenholz, Fifteen Years of the Foreign Trade Monopoly (Moscow, 1933), pp. 9-10; Stalin later elaborated on this point, "... for the workers, the abolition of monopoly of foreign trade would mean a refusal to industrialize the country.... That would mean an inundation of the U.S.S.R. with goods from the capitalist countries, a decrease in industry because of its weakness, an increase in unemployment, a decline in the standard of living of the masses...." in J.D. Yanson, Foreign Trade in the USSR (London, 1934), p. 24.
multiplier would be reduced. A Government aiming to maximize the aggregate national output through its economic policies would, therefore, take appropriate steps to ensure that the multiplier effect (and the "linkage effect") of the investment is not weakened, and thus reduce the growth rate. It would prevent leakages in the multiplier effect through a protective tariff policy or discriminatory monopoly trade under the aegis of the State.

The proponents of the infant-industry argument maintain that protection is needed to create demand to match new supply. Gunnar Myrdal, for instance, says that "one of the difficulties of industrial development in underdeveloped countries, and one of the great hindrances to giving real momentum to a development policy, is that internal demand must be built up simultaneously with supply." He adds: "The exasperating slowness of any self-engendered process of 'natural growth' calls for import restrictions that afford a means of bypassing altogether this process of 'natural growth' and creating at once the necessary demand for a particular domestic industry."


44 Ibid., p. 276.
Thus, the rationale for the policy of import substitution adopted in Russia both before and after the Revolution is to be found in a variant of the infant-industry argument. The case for the protection of infant industries rests on the assumption that the country has a latent comparative advantage in the industry or group of industries proposed to be protected. Temporary protection is justified to bring out the comparative advantage through realization of economies that would be impossible if shelter from established producers is not provided.

Basically, then, State intervention is justified because the assumptions on which the case for free trade rests — viz perfect competition and constant returns to scale — are not realized in practice. Imperfections in competition or the small size of the domestic market do not provide access to internal and external economies. This makes temporary protection necessary to equalize competitive conditions or to secure productivity gains in the protected industries.

These variants of the infant-industry argument are thus based on the presence of unrealized internal and external economies. The internal economies of scale argument starts by

45 V. Bazarov argued that "in terms both of its climatic conditions and the abundance of its natural resources /the country/ has all that is required for the people inhabiting it to form an almost self-sufficient economic organism"; "Principles of Long-Range Planning," in Spulber, ed, Foundations of Soviet Strategy for Economic Growth (Bloomington, Ind., 1964), p. 222.

noting that a new producer would have to start on a small and uneconomic scale because of the small size of the domestic market and that he would be unable to produce at low costs. Protection provides opportunities to capture internal and external economies previously unrealized.

With given natural resources and capital, a higher level of productivity can be attained in a wider market. If the level of productivity depends on the size of the market, a widening of the market through protection would contribute to productivity growth. This would mean that it would lead to an improvement in the dynamic efficiency of the economy.

For individual industries, an increase in the size of the market resulting from autarky contributes to higher productivity in various ways. The expansion of production would in its turn make possible the use of more efficient production methods. Besides, the opportunities for specialization in a wider market offer further potential gains. Again, a large increase in the demand for various commodities would facilitate large-scale production in newly established plants. On the level of the national economy, an increase in the size of the market raises productivity via the working of internal and external economies, a lessening of uncertainties, etc. An improvement in productivity, in its turn, enlarges the market through its effects on higher incomes. A multiplier-type relationship is obvious when the interdependence of incomes and productivity reinforces the effect

47 This argument is based on Bella Balassa's analysis in The Theory of Economic Integration (London, 1961), pp. 103, 114.
of any of the above factors. This would give a leverage to the impact of third factors increasing productivity.

The Soviet policy of import substitution is also explained by the need to realize external economies. Establishment or expansion of an industry would yield external economies and give rise to a divergence between social and private returns. The market evaluation of the comparative advantage may not conform to the investment criterion of social profitability, and Government support for industry that yields external economies may then be advocated to correct the market mechanism.

As an industry's scale of output expands, firms within the industry might benefit from any downward shift in their cost curves as a result of "external technological effects." These external technological economies effect a firm's output via changes in its production function. If the price of the product of the expanding industry falls as its output increases, firms in other industries which use the product of the expanding industry as an input would also realize lower production costs. This would effect profits of firms in other industries. This may be termed "external pecuniary economy."

If, as the result of an expansion in output of the protected industry, production costs are lowered for firms in other...

48 Ibid., p. 114.

industries for technical or pecuniary reasons, costs would be less than the private cost of production.

The argument of external economies in so far as it relates to a poor country might be broadened to support general protection for industry by claiming that the profitability of any single industry is a function of the total number and diversity of industries in the economy. Cost reductions in any single industry may be especially dependent upon the economies of a large number of other industries. More generally, inter-industry external economies stem from the complementarity of industries on the side of costs, reinforcing the doctrine of balanced growth, which stresses complementarities on the side of demand. Protection to facilitate the growth of a range of industries may then allow each industry to become profitable by supporting these inter-industry relationships.

Viewed from the point of view of static equilibrium, autarky would appear to have led to a misallocation of resources and a reduction in real national income in the Soviet Union. If, however, it is viewed dynamically, it would appear to have increased the rate of growth by enabling industries to capture internal and external economies through market expansion. The dynamic effects of autarkic policies are also well reflected in the changed comparative advantage of the Soviet Union. As the country industrialized the prices of industrial products rose

two to fourfold, and the increase in the prices of primary products ranged from six to fifteenfold. These relative price changes suggest that the comparative advantage moved from primary products to industrial products. This is also reflected in the changed structure of trade.