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Article
Industrial restructuring: does it have to be "jobs vs. trees"?

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Industrial Restructuring

Does It Have to Be “Jobs vs. Trees”?

By Udo E. Simonis

Too often, debate between environmentalists and economists has quickly descended to an unseemly hassle over “jobs vs. trees,” with neither party doing much to advance their cause. Clearly a sustainable society will have to be one whose factories minimize waste and otherwise be more ecologically kind. But this does not mean a nation’s economic activities must go into reverse, as Udo Simonis demonstrates in the following article. His study of 32 industrialized countries shows that a number of nations have been able to cut back on activities by the worst environmental offenders, while their GNP continued to show impressive growth. As, for example, changes in the social relations of production (e.g., utilization, part-time vs. full-time jobs), or in the means of production (e.g., handcrafting, robotics).

Indicators of Change

Sheer quantity of output has for long been considered to be the indicator of a nation’s economic success. In Eastern Europe, the importance attached to this criterion led to “tonnage ideology.” In Western societies, steel production and transport volume were once considered to be central indicators of economic success; currently housing starts, energy consumption and the number of cars produced play this role. Today, however, such examples of energy and materials consumption may turn out to be signs of economic failure. Today, those countries which have drastically reduced their specific energy and materials consumption are at the top of the international list of economic performance. Whether or not the social environmental effects resulting from overtaxing the ecosystem, resource use efficiency – sometimes called “materials productivity” – has become a major new strategy for achieving sustainable development.

New Benchmarks Needed

Resource conservation, materials productivity, and environmentally significant structural change can not be appropriately described by the monetary values used in the standard national accounts. An alternative is to select indicators which serve as synonyms for certain characteristics of the production process. Only a few indicators are thus far available to be tested in a cross-national comparison of Eastern and Western economies. Our research used four such factors whose direct and indirect environmental significance is indisputable: energy, steel, cement, and the weight of freight transport. While not a precise picture of the real world, the results will at least offer some patterns of environmentally significant structural change.

The intensity of energy use is probably the central ecological dimension of the production pattern of a country. Steel consumption is also an indicator of structural environmental stress in that it reflects an important part of the material side of industrial society. Cement production is in itself a polluting process, and cement represents the material reality of the construction industry. The weight of freight transport is a measure of production volume since nearly all methods of transportation are accompanied by high material input as well as hazardous emissions.

Countries with high growth rates must therefore strongly engage in remedial (curative) environmental measures in order to achieve a net relief for the environment. In the former Czechoslovakia, a real decline in the four environmentally injurious areas took place; some of them even increased. The development profile of Czechoslovakia, with its lack of industrial structural change for the time under investigation, was representative of all the economies of Eastern Europe. This leads to several questions: Do all latecomers have to experience these stages of increasingly negative environmental impact? What is it that prevents old industrial countries from reaching an environmentally friendly development path? And a more general concern: What is to be learned from past experience, i.e., under what conditions can economic restructuring become a strategic variable, or point of departure, for sustainable development?

There is obviously room for refinement in the methods used in this study. The question of substitution processes (from steel to plastic, for example) is of high relevance here and the international trade in waste and the transfer of polluting industries need further investigation.

Advantage in Comparisons

But the advantages of comparing the development patterns of individual countries are evident. We can see, for example, that industrial restructuring was environmentally beneficial in many but not all industrial countries. The economically advanced countries featured fairly rapid structural change, but active pursuit of rapid economic growth, as in the case of Japan, can neutralize the impacts becoming evident. In the low- and medium-income countries among the industrial countries, distinct development patterns emerged. All in all, however, it is, unfortunately, not yet possible to speak of one dominant development pattern.

The differences observed in the development patterns should be of particular interest for future environmental policy in general, and structural policy in particular. Industrial restructuring can be a key to solving present and preventing future environmental problems. Obviously, the better the environmental impacts of industrial structures are understood and the earlier they are taken into consideration, the easier it should be to channel industrial development in a way concomitant with environmental conservation.

In this sense, the economic latecomers need not fall into the environmental trap of most of the forerunners. By the same token, there is enough evidence that some of the economic forerunners could do much better if they wish to escape being environmental latecomers. This, however, would require not only economic structural change but also a preventative environmental strategy. This means that environmentally benign market forces would have to be stimulated by structurally innovative policies.

Structural economic change in the Federal Republic of Germany, 1960–1987

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Domestic Product</th>
<th>Energy Consumption</th>
<th>Crude Steel Consumption</th>
<th>Cement Consumption</th>
<th>Weight of Freight Transport (Road and Railway)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1965</td>
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<tr>
<td>1985</td>
<td>350</td>
<td>240</td>
<td>240</td>
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<td>240</td>
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</tbody>
</table>

Source: Hücke, Mönch, Ranneberg, Simonis.