

**STRATEGIC POLICIES FOR GROWTH  
IN POST-SOCIALISM: THEORY AND EVIDENCE  
BASED ON THE CASE OF BALTIC STATES**

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*While the 'market failure' argument is an insufficient theoretical and practical rationale for policy intervention in post-socialism, the notion of strategic policies for growth is more suitable to capture the policy context of post-socialist economies. A crucial element of this notion is the strategic technology policy which contains three important aspects outside the mainstream policy perspective. First, it departs from the policies based on the notion of market failure. Second, it identifies weak administrative capabilities in post-socialist economies and tries to conceptualize a policy approach which takes such weaknesses into account. Third, it recognizes the importance of differences between industrial sectors, thus denying the usefulness of across-the-board policy solutions. Based on the above-introduced concept of strategic technology policy, the paper develops a policy framework which addresses the issues of industry and technology restructuring in post-socialist economies and applies it to the Baltic countries.*

**1. Introduction**

The Baltic countries are often cited as examples of successful 'transitional economies' in terms of stabilization and institutional transformation and, more specifically, in terms of comprehensive price liberalization and price competition, free foreign trade, almost full current account convertibility at a unified exchange rate, and rapid progress in small-scale privatization and bank reform. While we recognize that stabilization and transition do play a role in the growth prospects of post-socialist economies, we do not hold that such prospects constitute an automatic consequence of stabilization and transition. A radically-transformed institutional framework can, in terms of privatization, and trade and price liberalization, be interpreted as successful transition; and yet, growth prospects might remain bleak and structural stalemate persist. The point of departure for this paper is the proposition that stabilization and

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transition are not sustainable if capitalization and technological and industrial restructuring do not follow.

A departure from the mainstream perspective of 'transitional economics' becomes necessary with the inclusion of capitalization, and industrial and technological restructuring as legitimate issues with far-reaching implications for the choice of analytical perspective. The very idea that there is a 'progression' towards some 'standard' model of an 'open market economy', however vaguely defined, must then be rejected in favour of the proposition that the key process is not transition, but the creation of a new type of capitalism. Thus the internal dynamics of this process should be the central focus of analysis and not some external quantitative measure of 'progress'.

The aim of the paper is to develop a policy framework which addresses the issues of industrial and technological restructuring in post-socialist economies and to apply it to the Baltic countries. The main concept around which I build the analysis is 'strategic technology policy' (STRTP) by which I mean the explicit targeting for the improvement of technological and related capabilities, a policy developed on the basis of co-ordination between groups of enterprises and government [Radošević (1994)].

The STRTP concept contains three important aspects outside the mainstream policy perspective. First, it rejects the notion of market failure as the core concept of policy. Second, it recognizes the weakness of administrative capabilities in post-socialist economies and tries to conceptualize a policy approach which takes it into account. Third, it recognizes the importance of differences between industrial sectors, questions the usefulness of across-the-board policy solutions and, yet, does not target sectors.

In the first part of the paper, we explain the difference between strategic policies and policies based on the market failure argument. In the second, we develop the concept of strategic policies for growth. In the third, we analyse several strategic policy issues on the basis of the empirical evidence gathered in the Baltic states. In the fourth, we discuss the export contests, the policies of strategic foreign investment and of restructuring within the STRTP context, and the main opportunities for their application in the Baltic states. In the conclusions, we summarize the main arguments.

## 2. 'Market failure' vs strategic policies

Our central argument is that a new set of policies are needed if post-socialist countries are to tackle the issue of growth. While stabilization and transition policies constitute a necessary condition for growth, they are not sufficient. And sometimes, depending on how they are implemented, they may actually hinder growth. The epithet 'strategic' means that the policy is designed in such a way as to take account of the strategic interaction between government and domestic and foreign enterprises. This type of policy should be distinguished from those drawing their legitimacy from the 'market failure' argument.

### 2.1. The market failure argument

Market failure is widely accepted as an argument for policy intervention. It is defined as the failure of the price system to sustain desirable activities or to stop undesirable activities [Bator (1958)]. It recognizes the following problems with markets as allocation mechanisms:

1. The market cannot assign a price to knowledge, or to any other public good, because of their non-rivalrous and non-excludable character.
2. The learning potential involved in the use of knowledge makes it inherently difficult to use current prices as the criteria for optimal allocation.

What is the solution or remedy to this defect of markets? In the mainstream perspective there are two alternative solutions: centralized (Pigovian) and decentralized (Coasian).

The centralized solution takes existing markets and property relations as given and assumes that private/public activities are clearly distinguishable. The imposition of taxes or subsidies by the government then serves as a mechanism for correcting market failures. Critics of this view argue that the centralized solution underestimates the difficulty of finding incentive schemes which would guarantee the internalization of the costs of restructuring within enterprises while markets and property relations may not be taken as given. The tax/subsidy solution makes severe demands on the information-gathering ability of the authority, which must know the cost functions of the parties involved. Where this is impossible we can talk about 'government failure', or the failure of centralized modes of control in the allocation process.

The decentralized approach assumes that there is nothing inherently 'public' about public goods. Any public good can be provided privately if property rights are clearly defined; thus a new property structure will possibly induce the private provision of public goods. The decentralised approach reduces the problem to 'missing markets', and assumes that setting up markets can solve most restructuring problems.

### 2.2. Problems with the market failure argument in post-socialism

1. The assumption that prices convey all the essential information needed by enterprises to restructure and adjust is unrealistic. Even if the government imposes the appropriate subsidies and taxes on some activities or commodities, it may fail to change the behaviour of enterprises because of the latter's deficiencies in knowledge and capability. Even more importantly, current prices cannot be used to compute the long-term viability of enterprises in the post-socialist context. As prices did not reflect real scarcities in socialist economies, they induced distortions whose cumulative impact could not disappear overnight. Thus current product prices cannot be used as the sole criteria for judging the viability of specific production activities.

2. Moreover, the market failure argument abstracts from the imperfections of the institutional set-up in correcting 'market failures'. The assumption that the government has perfect information and is able to impose appropriate taxes and subsidies is particularly unrealistic in post-socialism where prices are not the best conveyors of market signals and opportunities. Quite apart from the special problem of 'infant government' [Kuznetsov (1995)], it must be recognized that the post-socialist government operates in a fluid institutional set-up which is only partly formed by government legislative actions and where the public/private distinction is very much blurred.
3. Strong interdependencies and strategic uncertainties prevail in post-socialism because of changes in property regimes, the transformation of old production networks, and the emergence of new networks. Uncertainties regarding privatization methods and outcomes hinder firm-level adjustment. For example, the outcome of privatization and restructuring in one sector will strongly affect the market prospects of other, related sectors. Alternatively, a single foreign investment in a given sector might radically change its competitive prospects. In this context, the decentralized approach to policy-making may be as problematic as the centralized.

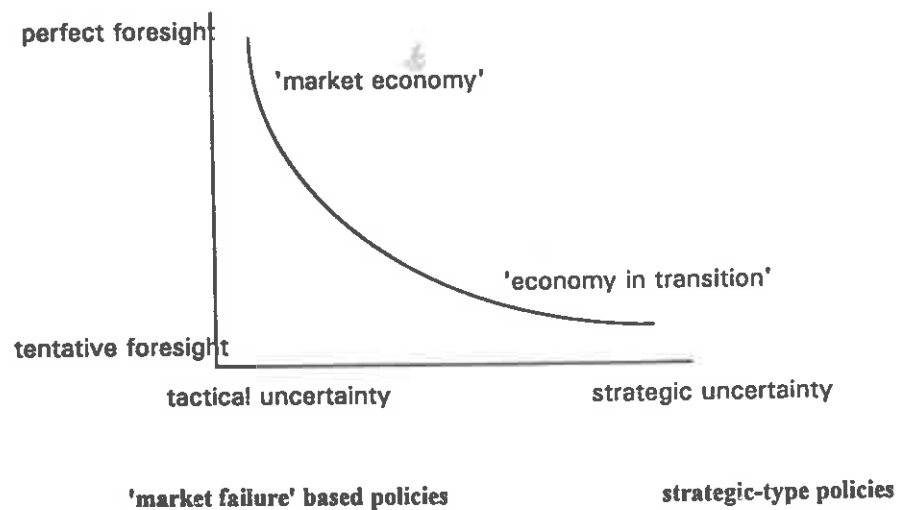


FIGURE 1

'Market failure'-based policies vs strategic-type policies

Much of the uncertainty under post-socialism does arise from the difficulty in anticipating, even partially, the behaviour of the government, enterprises and

other organizations. In a 'market economy' with a given property regime, the government may have a relatively accurate foresight on the market positions of different branches, and uncertainties are most often non-strategic. In the 'transitional economy', government foresight on the positions of different sectors and companies is highly imperfect, and strategic uncertainties regarding future options prevail (see Figure 1). Such characteristics of a post-socialist economy thus call for a different rationale in support of policy intervention.

### 2.3. Strategic policy

The strategic policy orientation (STO) assumes that market failure is pervasive rather than being confined to some particular markets and that firms base their decisions not only on current prices and levels of protection, but also on their assessment of long-term competitive advantage [Cody et al. (1990)]. Therefore strategic policies take into account market and government failure costs, in an attempt to minimize them. While the market failure argument assumes that there is a symmetry of incentives between domestic and foreign sales and that variations across sectors are irrelevant, STO presumes that foreign sales are more important than domestic sales, on account of learning effects from exporting, and that variations across sectors do matter.

The general expression for strategic policy capability is:

$$STRpc = f(Ke, Kg, Kng)(Se, Sg, Sng) \quad (1)$$

$STRpc$	=	strategic policy capability
$Ke, Kg, Kng$	=	learning rate of enterprises, government and non-government business-related organizations
$Se$	=	initial strategic awareness level of enterprises
$Sg$	=	government policy capabilities
$Sng$	=	degree of institutional development of non-government business related infrastructure.

This conceptualization yields three observations.

First, policy outcomes are the result of the interaction between enterprises and the government, along with the non-governmental business-related organizations. These latter are not only an indispensable element for strategic policy-making, but may also serve as a compensatory mechanism where government policy capabilities are low.

Second, bargaining is implicit in our policy formation framework. The most typical policy formation route is that of horizontal policy, without explicit preferences for specific enterprises or sectors. In this respect, strategic policy tries

to avoid the traps of vertical industrial policy in post-socialism, namely the impossibility of using current profitability as an indicator of the long-run viability of enterprises and the absence of a well-developed government policy capability. However, horizontal industrial policy has its own problems. The biggest one in the post-socialist context is that it is too slow to be effective considering the scale of the problems and the speed of change in other dimensions. SPO tries to overcome this handicap by developing highly focused horizontal policy, thus trying 'to get the best of both worlds'.

Third, the extent of restructuring is determined by the rate of learning of the actors involved in the policy process. If we do not take into account institutional learning, we may fail to understand the differences in final outcomes between countries with relatively similar factor endowments. However, we are far from understanding what factors shape the pattern of institutional learning.

#### *2.4. Institutional preconditions for strategic policies*

SPO assumes that the degree of policy success is conditioned by the institutional development of government-business relations and perceives the missing or very fragile 'structures of mutually consistent expectations' [Foray (1995)] (which might shape co-operative/competitive strategies of agents) as the main policy problem of post-socialism. This problem is exacerbated by the undeveloped state of financial systems which normally discharge some of the required co-ordination functions. Co-ordination should here be understood in the broadest sense, to encompass a wide range of informal mechanisms or associations which can function as mechanisms of non-market articulation of market and structural incentives [Robertson (1992)]. These mechanisms (consumer and producer associations, university-industry associations, restructuring committees, different forms of self-organization of industry, etc.) operate in some countries as developed networks, functioning in complementarity to the dynamics of market forces, negotiating over 'market failures', and lubricating the functioning of complex economic mechanisms.

In post-socialist economies, the old forms of co-ordination are inappropriate and the new are not yet built-up. More than government-business co-ordination links, these economies need new forms of intra-industry co-ordination, information exchange and negotiation. The existence of such 'non-market mechanisms of market articulation' would improve the coherence and integration of co-ordination mechanisms and, hence, greatly facilitate and deepen restructuring. This should be done primarily by building 'grey zone' institutions or mechanisms of information and knowledge exchange, and co-ordination between public and private spheres.

These mechanisms are crucial because restructuring in post-socialist economies cannot be carried out through 'hands-off' policies which have so far resulted in short-term, passive, broad-brush approaches to privatization, ignoring the clear need for a long-term, active and technological approach [OECD

(1994)]. Unfortunately, administrative capabilities for this latter option are very limited. What we need, therefore, is a perspective which can explain the institutional context of successful co-ordination within industry under conditions of weak and incompetent government.

#### *2.4.1. Contests: A non-market-based competitive mechanism in post-socialism*

Contests are institutional structures in which firms compete for valued economic prizes or rents offered by governments (such as access to credit) while actively co-operating in other dimensions [World Bank (1994a)]. They have been noted as an important factor in explaining the fast growth of the East Asian economies [see also Chang (1994)], with both market-based and contest-based competition disciplining and facilitating structural transformation.

Contests involve rewards (preferential access to credit and foreign exchange), rules (export requirements), and referees (fair rules of the game). In some post-socialist economies where governments frequently bail out state enterprises through 'soft loans', or take very different positions on the privatization of different enterprises, the latter are actually involved in a kind of contest. The questions arising are to what extent rewards or rents received by enterprises are productive, what are the rules for distributing these rewards, and are the rules of the game fair and transparent? In short, post-socialism is rich in contest-based competition, especially in the form of privatization procedures. Enterprises and banks also engage in contest-based competition for government favours in the form of access to soft finance and of special treatment from the banking sector. Clearly, the quality of the contests (productive use of rewards and of fair rules) might, to a great extent, explain the final outcomes of the restructuring process in post-socialist economies.

In the conceptualization formula above, contests represent the most important element within the Sng variable. Although contests are run by the government, they would be impossible without well-developed non-government business-related infrastructures to facilitate investment co-ordination, information exchange and provision of export credits. If these mechanisms are undeveloped, contests are likely to be non-transparent, with unclear rules and rewards [World Bank (1994a)]. They may then easily turn into collusion, thus weaken competition and encourage rent-seeking behaviour. If, however, such mechanisms are well-developed, contests may inhibit rent-seeking behaviour by assuring that rules cannot be altered arbitrarily. This is especially important in the case of privatization and restructuring policy. Unfortunately, our knowledge of contests run by post-socialist governments is still anecdotal and vague.

### **3. Strategic policies for growth in post-socialism**

In Table 1 I try to classify the dominant policy types in post-socialism. Only stabilization policies were applied in the early days of post-socialism. The

rationale was that these economies were essentially 'highly distorted' import-substituting economies. It is now clear, however, that stabilization policy is unsustainable unless accompanied by micro restructuring [Bruno (1992)]. There are debates on how much stabilization is required and on how stabilization may actually inhibit transition [Portes (1993)]. But we will assume the 'necessity' of macro stabilization and move on to a consideration of the core issues of the 'economics of transition', namely privatization, price and foreign trade regime liberalizations, bank reform and enterprise restructuring.

TABLE 1  
Portfolio of economic policies in post-socialism

Dominant policy types in post-socialism	
Stabilization policies	Monetary policy Fiscal policy Incomes policy Exchange rate policy
Transition policies	Price and foreign trade regime liberalizations Privatization Bank reform Enterprise restructuring
Policies that directly address restructuring and growth (Strategic growth policies)	
Strategic technology policy	Export credits contests Strategic FDI (subcontracting) policy Strategic restructuring policy

The key question at this stage is whether transition policies are sufficient to tackle the restructuring and growth issues? If not, what policies would be? In discussing the appropriateness of transition policies and in developing the concept of 'strategic policies for growth', we will seek to place the discussion into the context of the post-socialist Baltic states.

a) Price and foreign trade liberalizations constitute a *sine qua non* for the survival of very small economies because they have to trade a very high

proportion of their GDPs. But this means that they cannot implement their restructuring policy through foreign trade policies (e.g. tariff and non-tariff protection). Thus price and foreign trade liberalizations are necessary, but not sufficient conditions for restructuring.

b) Privatization policy modifies but does not solve the restructuring problem. It is an indispensable condition for restructuring but it does not by itself restructure. If pursued as the only government objective ('privatization at any price'), it may neglect the production potential within state-owned enterprises. It is not clear that the static welfare effects and long-term consequences of such a stance are always positive. Whichever method of privatization is adopted, there will remain an unresolved tradeoff between numbers of privatized and restructured enterprises (See Figure 2).

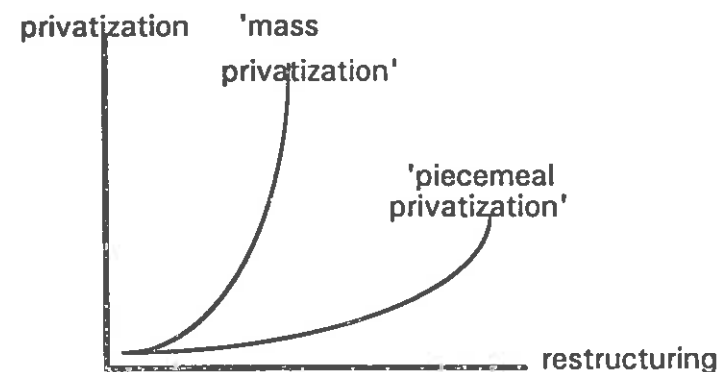


FIGURE 2  
Privatization vs. restructuring trade-off

In the case of mass privatization, the number of privatized enterprises is likely to be relatively much higher and the burden of restructuring is transferred from the state to the new owners. But mass privatization does not solve the problems of agency and of 'turn-around' management. In the case of piecemeal privatization, privatized enterprises will probably have been restructured as they will already have identified owners or core investors. However, the state is still left with a number of unpurchased enterprises and burdened with the responsibility of their restructuring. In either case, the restructuring burden is reduced if the state can implement legal, financial, and organizational (pre-privatization) restructuring, leaving operational restructuring to the new owners.

- c) From the transition perspective, the role of banks is resolved through privatization and by securing competition. From our perspective, such policies are not sufficient to ensure that capital will be directed towards exports and industry rather than towards real estate, securities and imports. A shift from an economy dominated by financial capital towards one dominated by industrial capital is not resolved by the establishment of a competitive, private banking system, least of all in post-socialist economies where financial systems are rudimentary and where the diversion of financial resources into financial rent-seeking drains scarce resources away from industrial restructuring.
- d) Improved corporate governance on the enterprise level and the breaking-up of large conglomerates are seen as the ultimate objectives of enterprise restructuring [EBRD (1994)]. However, the breaking-up of large conglomerates does not by itself necessarily improve enterprise competitiveness. Piece-meal enterprise restructuring neglects the scope for sectoral restructuring which is often a natural complement to individual restructuring.

### 3.1. Post-socialist holding companies and technology accumulation

According to the orthodox perspective, conglomerates are non-competitive organizational forms inherited from the closed socialist economy and, as such, must be split up into individual enterprises. And this has indeed been the dominant practice within privatization programmes of the economies in transition. However, conglomerates tend to reappear in different forms, either through the re-concentration of previously legally-separated enterprises (Poland, Czech Republic), or through the mass (as in Lithuania) or insider (as in Russia) privatizations. They thus reappear as financial-industrial groups, investment stock companies, or post-socialist holding companies. They may no longer exist from a legal point of view, nevertheless they function as real corporations [Maldeikis et al. (1995)], whether the law prohibits bank-enterprise ownership links and imposes tight competition policy or not.

The 'mainstream perspective' treats the existence of these market forms as market imperfections and as weaknesses of the transition process. From another point of view, they are valuable organizational structures, able to build up organizational know-how, import foreign technology and diffuse it through the economy [Amsden and Hikino (1994)], and able to play a constructive role in rebuilding the production systems of post-socialist economies by generating a critical threshold demand for R&D, and by creating subcontracting networks. If industry is to be deconcentrated at the pre-privatization stage, then stronger public support for newly created small enterprises is required. The idea that small enterprises can grow in institutionally poor environments is not empirically confirmed by the experience of other countries. In most post-socialist economies the institutional and infrastructural conditions (such as small busi-

ness finance, technical support, etc.) for the growth of small firms cannot be created quickly.

Conglomerates, or post-socialist holding companies, constitute a mechanism which prevents the full deconcentration of industry and the restructuring of company portfolios. Moreover, they can also be a mechanism for capturing government, and for siphoning off the surplus from the economy.

From the transition orthodoxy perspective, the generic assets and organizational know-how generated by such institutional forms are irrelevant. But, by taking into account the notion of technological accumulation, we argue that business groups form a mechanism for the acquisition of scarce capabilities enabling them to diversify into start-up industries relatively quickly and at low cost [Amsden and Hikino (1994)]. In our view, the transition orthodoxy, by recommending the splitting-up of such groups as a general recipe, is actually confusing two issues—splitting-up as a way of improving the dynamic efficiency of the economy by getting rid of excessive hierarchies and non-entrepreneurial enterprises, and splitting-up as a form of competition policy and a way of imposing hard budget constraints [Stiglitz (1993)]. The problem is that the role of the government in technology generation and diffusion, if any, is not made explicit in the orthodox conceptual framework. Hence the 'trade-off' between the benefits of conglomerates, as generators of organizational know-how, and their costs in terms of rent-seeking behaviour, is not addressed. In practice, however, the main issue is whether government can force these groups to export and, also, to compete in domestic markets.

The above analysis of technology and industrial restructuring issues demonstrates the insufficiency of the orthodox transition policy framework. While it is true that foreign trade liberalization and privatization are necessary but not sufficient conditions of transformation, imperfect institutional forms, such as post-socialist holdings, might actually play a positive role in the structural transformation of post-socialist economies.

### 3.2. Strategic policies for growth

Amongst strategic policies for growth, strategic technology policy is a key component. However, STRTP is seldom feasible as a separate, self-sufficient policy, as technological and industrial problems are intertwined with those in finance, marketing and others. Technology is often part of a restructuring package as embodied in foreign investments or determined by subcontracting relationships. However, as technology is a decisive component of long-term growth and the main source of productivity enhancement, the criteria and objectives of restructuring should be firmly referenced to the ability of industry and firms in order to upgrade technology.

The implicit assumption of orthodox post-socialist transition policies is that the collapse of production and the deterioration of technology were in some sense inevitable because the old industrial capacity was unviable in a market

context. We argue that this is only partially true and that the collapse would have been less precipitate had the state acted in a more prudent and less ideological manner. Lack of clear leadership for change and pervasive co-ordination failures must share the blame for the abrupt decline due to the weaknesses of inherited production structures. In particular, the failure to restructure the technological potential (as embodied in the technology-intensive sectors) will prove detrimental in the long run; this will become increasingly evident when the economies in question move from the current phase of small-scale investments in trade and commerce to the industrial investment phase.

SPO is not just an academic theorizing or an attempt to introduce a new concept into the policy arena. It is the daily practice of post-socialism—but practised in a rather incoherent and very often damaging way. Governments of post-socialist economies have to decide frequently whether to allow a certain enterprise to go bankrupt, how to push a particular enterprise towards privatization or how to reorganize it prior to privatization, how to manage state-enterprises better, etc. [Kilvits (1995)]. Although implicit industrial policy is an everyday matter, no clear policy framework and criteria for strategic interaction with enterprises are being adopted. The dominant pattern is ad hoc policy-making based on expensive learning by trial and error. Many post-socialist governments still support weak enterprises at the expense of strong ones and of consumers, weaken foreign competition by imposing high duties and fail to apply transparent bankruptcy procedures. Moreover, many of them refuse to become involved in the restructuring of large-scale enterprises, yet provide them with subsidies and other privileges. For example, in Lithuania, the government exempted 284 enterprises from paying taxes for periods of 2 to 3 years [ERC (1995)]; this exemption was awarded without clear criteria and probably reflects the success of rent-seeking behaviour. Any attempt by a government to define objective criteria for the selection of enterprises to be 'saved' as opposed to those which will have to pay debts or go bankrupt represents a movement towards SPO.

### 3.3. Strategic technology policy

STRTP is an attempt to reconcile, on the policy level, the necessity of structural change with the need to maintain openness and a liberal market environment under conditions of low administrative capability. Strategic technology policy is an explicit targeting of companies or groups of companies for the improvement of technological and related capabilities by co-ordination of groups of companies and governments. Its essence is a highly focused horizontal policy. The basic targets of STRTP are deficiencies in technological and administrative capabilities (such as quality control, information systems-building and inventory management which are generic techniques applicable in all sectors). However, the actual policy practice is usually sector-specific. Hence the design of STRTP is based on the specificities of sectoral technological capabilities and on the

relationships between the latter and the production and science systems on the economy level.

STRTP and related policies for growth represent an attempt to introduce technology into the transition policy framework as an ultimately decisive factor for growth. The technological wastage evident in post-socialist economies and the shift from engineering to natural-resource-based production were not inevitable. Many of the inherited technological capabilities are viable in a market economy context. Is it hence entirely irrelevant whether Latvia exports 71% of its sawn timber [Gulans (1995)] or, alternatively, high quality furniture? STRTP assumes that whether the technology capital, embodied in people, enterprises or equipment, should be firmly rooted in the centre of the policy arena is a relevant issue.

## 4. Strategic technology policy in post-socialist Baltic states

The following analysis is based on our visits to eight Baltic enterprises as well as on six case studies.<sup>1</sup>

### 4.1. Technology sectors and restructuring

Restructuring prospects differ significantly between sectors, e.g. between light industrial sectors and engineering-based industries. Light and primary-producing sectors rely mainly on domestic resources (wood, food processing) and on the accumulated production know-how. Their production networks are relatively simple in that the input suppliers come from the region or country and the actual production is highly localised. We will call such sectors the production-know-how-based sectors.

Engineering-based sectors, by contrast, are those where equipment is the key to technological capability. They are more capital-intensive and, crucially, they are in bad shape. These sectors used to be all-Union-based with only weak links with local enterprises. They were oriented entirely towards the Soviet market and considered as export enclaves within the Baltic economies. Their current problems, however, are of a different degree and character. Good examples of such industries are the chemicals industry in Estonia and electric train and railway carriage production in Latvia (Riga Carriage Works).

In the third-type sector, knowledge (or organized R&D) is the key component of success. In the case of the Baltic countries, this is mainly the electronics sector. Technological development during Soviet times was mainly of the

<sup>1</sup> Case studies are produced within the EC/ACE project: Industrial Restructuring: the Baltic States, Achievements, Obstacles and Perspectives of Post-socialist Reform, co-ordinated by CERNA-Ecole des Mines, Paris. The enterprises visited were in Riga (electric train and railway carriage manufacturer; two electronics enterprises; plywood producer), Tallinn (tooling factory; electronics R&D institute), and two chemicals factories in the Kohtla Jarve region. For a list of case studies within this project see von Hirschhausen (1997).

import-substituting type. Enterprises of the third-type sector were producing within a basically closed economy imitative products which were technologically far behind. However, in this sector, accumulated skills, primarily those of design engineers, are transferable, and the technologies used are not highly capital-intensive. We will call such sectors R&D-based sectors.

#### *4.2. Key technological constraints*

In production-know-how-based sectors the main technological problems are in quality control and operational management. Low product quality, high costs, long production delays are problems caused by organizational weaknesses. Solutions are to be found primarily in better operational management. While capital investments are not vital, basic equipment is outdated.

In engineering-based sectors the technological bottlenecks are more complex. They are related to the state of the capital stock as well as to the much bigger problem of re-orientation from Eastern to Western markets. Achieving higher quality is much more problematic in this sector's plants, as they require a combination of new equipment and re-organization on a large scale. Many of these plants are not viable under any sets of market prices. In R&D-based sectors the problems are to a certain degree similar to those found in engineering-based sectors, as far as equipment and organization are concerned. However, the fact that here the know-how is mainly human-embodied makes the problems more tractable. A complete transformation of production landscape is, nevertheless, inevitable in electronics, as the structure of the industry (dominated by big enterprises) is wholly incompatible with contemporary market requirements.

#### *4.3. Organization*

In production-know-how-based sectors the organizational problems are relatively minor and can be solved through a simplification of organization and more flexible links with similar or complementary producers (network organization).

In engineering-based sectors organizational restructuring is very costly and almost impossible to implement with the current level of demand and the existing management competences. A good example is the electric train and railway carriage production in Riga where the existing 'flow' (line) type of production process is utterly unsuitable for current low levels of demand and for plans of diversification into other production lines, such as trams. The advantage of the 'flow' system is its ability to turn out high volumes with a limited range of products. Its limitation is its sensitivity to bottlenecks and it is especially unsuitable for low levels of capacity utilisation. At full capacity, the factory was producing 2-3 units a day while today it produces one in two days. The flow process thus creates huge slack and is very wasteful in terms of working capital. The factory layout hence requires almost complete reorganization.

In electronics, big enterprises are now in the process of being restructured into holding companies. This latter mode of organization would give them much needed flexibility. It would also improve the prospects for joint ventures as foreigners are reluctant to cooperate with wholly state-owned enterprises. The main organizational problem in this sector is the management of networks of small firms and of their links with users.

#### *4.4. 'Splitting-up' big Baltic enterprises: Technological impacts*

In the previous section we argued that splitting-up of big enterprises should not be adopted as a general principle. There are, of course, cases where splitting-up is exactly what is needed. For example, in the case of 'Eesti Kivioli', the Estonian chemicals enterprise which combines production of primary petrochemicals and of shale oils with applied chemistry products like hair shampoos, there are difficulties in keeping together production lines with different markets and no core competencies. Similarly, many of the cost-effectiveness problems in the case of the Riga Carriage Works derive from the multiplicity of activities under the same roof. Metal produced in own furnaces is of low quality. Too many parts are produced 'in-house'. By reorientating itself towards the function of an assembler, and by subcontracting out many of the in-house production lines, the Riga Carriage Works could achieve flexibility and price competitiveness. However, the process of 'splitting-up' should not be a simple separation into independent enterprises, which are then free to go their own way, but rather a process of restructuring within which 'splitting-up' is a mechanism of achieving strategic objectives.

#### *4.5. Marketing and technology build-up*

Distribution and marketing are not only essential elements of successful business, but also a condition of technological learning. A close interaction with buyers and users is an important input for technological development. There are big variations between different sectors in this dimension, too, in the Baltic states.

In production-know-how-based sectors distribution is not sophisticated. These sectors turn out products for which customers do not need intensive interaction with producers as long as specifications correspond to those accepted as market standards. The usual channel of distribution is an agent working on commission. Only in the case of big quantities does the customer directly supervise quality. Sometimes these commodities are sold through several intermediaries. Typical examples are plywood production in Latvia or garments in Estonia. If quality problems can be solved by returning the product and/or price reductions, then only occasional interactions are needed.

In engineering-based industries the distribution problem is different, as the products are mostly designed according to the users' specifications. A lack of constant pressure from users in the Soviet period has bequeathed big prob-



lems on the technological side. Even if they produced higher quality products, producers would hardly be able to charge appropriate prices for higher quality in Western markets as they do not have image and credibility. The options are either to continue to underprice products for quite some time and thus endure losses, or to shift back to lower value-added categories for which an adequate price is received. By contrast, when they export to Russia, the market is undemanding and there is no pressure to improve performance or quality. For plants with the greatest difficulties to re-orientate towards the West, this market duality cannot be overcome without some sort of external pressure or incentives.

In R&D-based sectors a good knowledge of users' needs through close interaction in all phases of product development is essential. The Soviet system, with its ever suppliers markets structure, was very bad in terms of learning users needs. Entry barriers against R&D-based products on foreign markets are thus too high for small Baltic firms. Consequently, large-scale growth in this sector cannot occur without infrastructural support. A case in point is Tallinn electronics association (a grouping of 17 small firms) which assists its members in accessing foreign markets and in establishing technical co-operation. The point is that it is often marketing which is the key bottleneck and not necessarily technology barriers.

#### *4.6. Finance, technological development and trade*

Different production networks operate through different financial and payment mechanisms. In the case of production-know-how-based sectors, like woodworking, relatively little working capital is needed. The production cycle is short (three to four months) and often there is no need to pay in foreign currency for raw materials. In short, know-how-based production networks have adjusted relatively easily to the new context.

The survival of engineering-based sectors is entirely dependent on barter, which is, however, an inconvenient method of payment when shipments are small. In other words, entry barriers to such sectors are not marginal. Yet those Baltic governments which are more helpful in setting up barter schemes (usually gas and oil for Baltic products) directly support the survival of these sectors. Unfortunately, for many smaller-scale plants the only solution is cash-based trade which, in turn, reduces the already low level of effective demand.

All enterprises in the Baltic states have ended up with debt and liquidity problems after the currency reforms. Again, engineering-based sectors have been hit hardest, with only some being compensated. Their biggest problem is the lack of finances for working capital. While their need for long-term loans is severe, their lack of 'cash flow' is a daily problem. One must, however, emphasize that eliminating huge inefficiencies in operations would significantly reduce their working capital needs. But this would require not only knowledge but finances, too. Thus, they are trapped in a 'catch 22' situation.

In R&D-based sectors the main problem is finances for product development. Even though their new products are based on assembling and minor software-based reconfigurations, they still find it difficult to finance even a few months of engineering development. There is a lack of 'soft' finances or schemes for product development finances. Institutional sources of such finance, like the Estonian Innovation Foundation, are few in number and significantly underfunded.

#### *4.7. Research and development*

In production-know-how-based sectors, upgrading is a process of gradual shift from lower towards higher value-added activities. In the Baltic states, this often takes the form of a shift from commodities like wooden boards or clothes made according to wholesalers specifications, towards products such as own-designed furniture or clothes targeted at specific markets' needs. In short, development essentially means the involvement of non-tangible elements like marketing, design, user specifications. This is only partly a problem of equipment. Baltic producers are still on a very low rung of this ladder. It is our feeling that business communities in Baltic states have not yet grasped the main bottlenecks inhibiting their shift to higher value-added activities.

In engineering-based sectors development cycles are longer than Western producers (source: interviews). The cause of this lag has more to do with slack in organization than with very low level usage of CAD/CAM methods. This latter deficiency indicates a low level usage of simulations which, in turn, reduces the possibilities of finding robust designs, as well as cheaper and more reliable design solutions. For example, the Riga Carriage Works does not have one single PC in its development department and possesses only a few automatic drawing machines. (They do have 20 CNC machines in the ball-bearing and gear-box shop.) As a result, according to the technical director, the units produced have low durability and comfortability. Although a given unit of the product has 1500 parts, they still use a card system to control the production process.

In R&D-based sectors the only way out of the crisis is the development of new products. For example, VEF, the Latvian telephone producer, renewed 50% of its product range during the 1993-94 period. These are mostly small developments of 3 to 4 months duration using, on average, five engineers. Design is mainly adaptive, with heavy use (40%) of Western components. The main problem here consists of getting rid of old debts and, at the same time, of introducing new products. A sort of 'soft' finance for R&D would improve the situation. Even so, the hitherto predominant 'screwdriver innovation' pattern seriously limits the scope for independent, commercially viable developments. A suggested solution is to stimulate joint ventures with other similar Baltic producers or, even better, to become an R&D subcontractor to Western firms. However, these involve short production runs which can hardly be the basis for the redevelopment of an entire sector.

#### 4.8. Knowledge base

The knowledge base of the individual enterprise is usually not the only one on which its growth is based. R&D institutes, technical centres, testing and quality control institutions and suppliers and buyers all make significant contributions to the enhancement of the enterprise's knowledge base. In the Baltic states, as in most of the post-socialist countries, industrial R&D capacities are being totally neglected as an element of industrial restructuring. This probably stems from a certain obsession with the exclusive restructuring of individual enterprises while neglecting the sectoral restructuring. It is naturally difficult in very small countries to think in terms of sectors, as they barely exist. In the Baltic economies in particular, the only sectors were on All-Union level. However, even in such small economies, some coherent configurations have been created and these should be restructured as a whole rather than through piecemeal privatizations, e.g. in the case of the oil shale industry in Estonia and its oil shale institute. There have been no attempts to integrate ex-Soviet production and R&D enclaves into national economies. Leaving former branch institutes to sink or swim is not the best way to develop technological knowledge employable under new market conditions.

Although all three states have started to restructure or even dismantle of their Academy of Sciences systems, they have made no attempt to link these institutions with industry. The dominant policy orientation is either to fully privatize at any price, or to keep them as simple budgetary institutions. What is actually needed are joint public/private sources of science funding. A good scheme along these lines is the Estonian Innovation Foundation. Its future is uncertain, however, owing to the lack of understanding of R&D financing. It seems that, in this context, more has been done in the Baltic countries by the enterprises and R&D institutions themselves than by the governments. A good example is, again, Tallinn electronics association, and the bridging and intermediary role of the EKTA institute.

#### 4.9. Technology networks: Erosion or restructuring?

The Soviet system was characterised by vertical rather than horizontal links and by organizational autarky. The break-down of the system necessitated the restructuring of these links as well as the creation of new networks. The case of the Baltic economies confirms our general conclusion that with the opening-up of the economy it is mainly the simple production networks, as those in wood-working and the garment industry, that have re-orientated themselves easily to world markets. Their speedy integration into subcontracting networks and their rudimentary clustering on local levels have been possible wherever there was know-how available. In the cases of more complex production networks, as those in machinery sectors, where inputs have to be supplied from several enterprises and where costs per unit are much higher, such networks are deteriorating on account of cash-flow problems, or barely surviving through barter.

The R&D-based sector is in-between these two extremes, with some parts being completely destroyed, while new networks are created simultaneously.

The case of the Baltic economies also confirms the conventional wisdom that where old networks of production have been destroyed, a shift in relative prices alone (through domestic and foreign liberalization) is insufficient to create new networks. As Pack (1993, p. 1) puts it: "Prices are one half of a scissors, the other being technical skills. Successful new industrialised countries don't develop solely from the correct pattern of relative prices." Since there are many non-market elements behind production and technological networks, restructuring in Baltic economies was generally a much longer process in which only the simpler networks have survived with minimum redefinition, and helped by the fact that they were traditionally more Western-oriented and/or locally-oriented and by the generally faster rate of privatization within the sectors they predominated.

#### 4.10. Conclusion: A retreat to initial comparative advantage—loss or gain?

In the Baltic states the lowest drop in output has been recorded in sectors based on local raw materials and exporting heavily to the West [von Hirschhausen (1997), Radošević (1997)]. Again, the most notable example is the wood and furniture industry. This parallels the experience of the NICs. The drastic currency devaluation and change in relative prices which resulted from liberalization in these countries favoured primary or resource-based over industrial production [Katz (1993)]. There has been a significant shift from activities with high domestic resource costs (DRCs) to those with low DRCs [World Bank (1994b)]. Our rather descriptive evidence suggests the same pattern for the Baltic countries.

This retreat into resource-based or initial comparative advantage is accompanied by the weakening of technological efforts and also by the elimination of import-substitutive or closed-economy-type technological development. The old technological capabilities are lost, at least in their old enterprise form. In the case of networks with mainly embodied technological capability, the prolonged erosion of the enterprise base irreversibly erodes the very technological capability which might form the basis of future innovations.

How to evaluate this retreat into initial comparative advantage? Is it an inevitable step back, with huge costs in terms of lost technological learning, or simply a reallocation of human skills into more productive uses? We do not believe that there are any general answers to these questions. They are very much sector-dependent and very much conditioned by political factors.

### 5. Opportunities for strategic growth policies in the post-socialist Baltic states

The previous section described, through stylized facts, the situation in the industries and enterprises of the Baltic region from a technology perspective.

It is a very rough picture based on tentative insights derived from the study of a few firms and sectors rather than based on a full technological audit. Our position is that ultimately successful restructuring is inseparable from technological transformation. It is equally our feeling that the typical actual transition policies beg for technological perspectives.

Privatization cannot be an objective in itself. The criteria of its success should be increased efficiency as well as technological transformation and upgrading. FDI cannot be an objective in itself either. If FDI is not accompanied by new technology, or if it brings only inward-oriented technologies, it might actually lock the economy onto a low growth path.

However, technological transformation cannot be implemented through technology policy alone. It should by now be clear that it is difficult to discern the boundaries between STRTP and other policies. STRTP can only be implemented as part of a growth policy package.

### *5.1. Financial systems and restructuring*

A developed financial system might, to a great extent, reduce the need for co-ordination and active intervention by the State in industrial restructuring. A transition economy's need to correct market failures in restructuring is inversely related to the degree of development of its financial system; the need for contest-based institutions and discipline is likewise related to the country's financial system.

The relative financial depth of the Baltic countries can be approximated by the M2/GDP ratio. In East Asia this ratio was on average 52% in the period 1971–80 and 70% in the period 1981–90 [World Bank (1994a)]. This is significantly above the comparable ratios in other NICs and well above current levels in the Baltic states. For example, in Estonia, M2/GDP was only 25% in 1993 [Rajasalu (1994)]. This figure indicates shallowness in the financial system and a need for compensatory government policy.

In all three Baltic states banks have accumulated significant capital. The capital accumulated in private banks originates from commercial operations at the beginning of the 1990s. Banks also continue to accumulate capital through debt/equity swaps. From our perspective, it is crucial whether financial or industrial capital will dominate in the Baltic countries. This is a particularly burning issue in Latvia where financial speculative capital has, through its impact on the exchange rate, had an ambiguous effect on industry.

Capital markets perform their allocative function in three ways: they aggregate savings, allocate funds to competing investments and monitor performance [World Bank (1994a)]. The level of aggregate savings in Baltic states is rising. For example, in Latvia, the total assets of commercial banks increased from 192 ml Lats to 1076 ml Lats during 1993–94 [Dovladbekova and Muravskaya (1995)]. However, the pattern of allocation of funds to competing investments in Baltic states is still far from being conducive to restructuring, although the

situation is improving. During 1991–92, almost all loans granted by Baltic commercial banks were short-term. However, in Lithuania, this tendency changed in 1994, with the long-term loans constituting just under 20% of all loan portfolios by the end of 1994 [Maldeikis et al. (1995)]. In addition, loans are increasingly granted to private rather than state-owned enterprises.

It seems, at least in the case of Lithuania [Maldeikis et al. (1995)], that the main beneficiaries of the project finance from banks are the wood and food-processing industries i.e. simple production networks. There is a lack of willingness on the part of banks to finance long-term investment projects.

Privatization and competition in capital markets do not, alone, solve the banking sectors problems in restructuring. Lack of adequate information is particularly serious in capital markets where acquiring information to facilitate better selection and monitoring of projects is the key function. As market failure is much more pervasive in capital than in commodity markets, it is imperative to regulate the banking system. Estonia seems to have made the most rapid progress in this respect.

Excessively tight regulation, however, intended to encourage prudent behaviour and enhance solvency, can reduce the level of competition among banks and increase the average spread between borrowing and lending rates. At the same time, wide spreads reduce the efficiency of resource allocation, by reducing the volume of investment that can be supported by a given level of savings. However, market power enjoyed by banks may raise intermediation margins, resulting in monopoly rents for the banking sector. Most governments are hence reluctant to rely entirely on private markets to allocate capital. In the Baltic states it will be some time before governments realize that they should complement private banking by steering banks towards the financing of industrial restructuring or by using state banks. If the state retains a large share of deposits in publicly-owned commercial banks, then it can more easily play a direct role in industrial restructuring. Eventually, however, this may impose higher costs and lower lending discipline, phenomena which would slow down or block restructuring. The key is to limit lending to trade, real estate and securities operations but to stimulate lending to manufacturing and agriculture, especially in the light of STRTP objectives. In the case of the Baltic states, it is still unclear how governments will manage this important trade-off.

### *5.2. Protection and export credit contests in the context of industrial restructuring*

From an activist industrial policy perspective, protection is seen as necessary so that firms can gain the experience needed to lower their costs and, consequently, to become viable. Learning, induced through increasing domestic production, is associated with capital- and knowledge-intensive industries. In the activist view, the short-run allocative costs of establishing internationally uncompetitive industries will be outweighed by the long-run benefits of rapid

productivity increase and by the derived benefits in linked sectors. Even if we discount the fact that many infant industries do not enjoy learning by doing or other economies of scale, these potentially modest economies can only induce modest spillovers and linkages which may, in due course, be more than offset by the increases in the potential X-efficiency losses from protection [Leibenstein (1976)]. Thus the Baltic economies do not have the preconditions to pursue a protectionist foreign trade policy. As they are very small, the strategic trade policy (which allows, through subsidies, the possibility to improve the strategic position of domestic producers already with some market power) is not a viable option either [Bander (1988)].

What, then, are the possibilities for the Baltic states in terms of introducing incentives to export? A remaining mechanism for small countries is to introduce contests for access to credit, especially access to export credit. These contests must discriminate in favour of foreign sales, not only for reasons of balance of payments, but more so for the learning and spillover effects of exports. From the technological perspective, export is essential for the technological learning and spillovers coming from permanent contact with foreign buyers. Bank licensing policy might also be used as a powerful instrument of contest-based competitive discipline, e.g. if it favoured those banks granting more export credits. In the case of restricted export quotas to the EU, individual quotas should be distributed according to prior share in total exports, not just prior exports to the EU.

Contests for export credits reflect SPO as they require the establishment of clear rewards and rules. They can be implemented through state or commercial banks. From the STRTP perspective, it is important to discriminate in favour of export sales to highly demanding and sophisticated markets, on account of the learning potential of exporting to these markets.

### 5.3. Strategic foreign direct investment policy

Foreign investment policy is a powerful instrument for small economies to pursue their restructuring objectives. Scanty evidence on Baltic industries shows that restructuring is faster in enterprises at least partly owned by foreign investors. The importance of the latter in the Baltic case stems particularly from the small size of the economies. One investment, for better or worse, may radically change the whole structure of a sector. This calls for the development of strategic FDI policy, aimed at increasing the long-term benefits of FDI and initially playing the attractive locations card for EU markets. The Baltic economies are subject to a complex network of investment-related trade measures emanating from the EU, including trade measures which strongly influence FDI (like rules of origin), local content requirements and regional free trade agreements. They might be able to use their current and future preferential status vis-à-vis the EU to maximise the technological benefits from FDI.

Strategic FDI policy seeks to maximize not only the direct effects of FDI in terms of employment and trade balance, but also its indirect effects or spillovers. The most important indirect effects are: training and re-employment of manpower from foreign company affiliates into other domestic firms, knowledge transfers to domestic firms through the 'demonstration effect' and improvements in local 'best practice', competitive pressures, and clustering or spreading of domestic subcontracting networks.

TABLE 2  
Typology of types of FDI in the Baltic states, with examples\*

The direction of deepening			
<i>Foreign market oriented</i>	<i>Resource-based</i>	<i>Extractors</i> – wood industry in Estonia	<i>Processors</i> – 'Kellogg's breakfast food factory in Latvia
	<i>Cost-based</i>	<i>Offshore</i> – clothing industry in all three countries – furniture industry in all three countries	<i>Source factories</i> – bicycle production in Lithuania
	<i>R&amp;D driven</i>	<i>R&amp;D subcontracting</i> – EKTA companies in Tallinn	<i>High-tech joint-ventures</i>
<i>Domestic market driven</i>	<i>Importers</i> – Trading companies – 'Coca Cola' in all three countries – 'Statoil' and 'Lukoil' chains of petrol stations in Estonia – Telecom investments in all three countries	<i>Focused factories</i>	

Note: \* This typology is based on Lorraine (1991).

Discouraging cases of FDI can be found in Lithuania where individual enterprises have been sold to domestic entrepreneurs, only to be resold to foreigners [Maldeikis et al. (1995)]. This deprives the government of any policy capability vis-à-vis FDI. By the same token, a policy of excessive tax incentives

for FDI courts the danger of attracting investors who only seek low-cost locations. There is then a real danger that they leave when tax and cost conditions change. Only when the foreign investor makes significant commitments can he be locked into the national economy.

In this respect, a model case for the Baltic states might be Singapore whose economic planning agency has the job of locating appropriate foreign investors [World Bank (1994a)]. The Baltic states should likewise use FDI as a basis for rapidly upgrading their technology. Otherwise much of current FDI may harm the Baltic economies in the long term by locking them into low value-added activities. A good example of this is FDI in sawn timber in Estonia, which is unlikely to provide a basis for transition into higher-value-added activities.

Selective, strategic FDI policy will be easier to pursue once sustained growth is resumed. However, it is possible to influence FDI towards an export-oriented direction even in the present phase. From our perspective, it is important to understand the technological position of the FDI affiliate within the parent company structure as well as the company's long-term motivation in order to modify its initial objectives towards national economic and technological objectives. The taxonomy presented above may illuminate some of the relevant policy issues (Table 2).

#### 5.4. Subcontracting strategic policy

In a subcontracting relationship, supplies from a subcontracting company form part of the value chain of a principal, and marketing and distribution functions are transferred to the principal. This channel of technology transfer and of market access is growing in importance in the Baltic economies, and it seems very likely that it will be the dominant channel of exporting in some sectors, like textiles and garments, the wood industry and machinery. Subcontracting seems to be the only way for firms in engineering and the metal industry to survive [Kilvits (1995)].

So far most of the subcontracting arrangements have been based on lower costs of production. However, in a few cases (e.g. in some of the EKTA/Tallinn 'spin-off' companies) we have cases of speciality subcontracting. This means that the principal is purchasing parts or products on account of the specific advantages, which the subcontractor possesses in terms of quality, know-how and technology.

The experience of some East Asian countries shows that this channel can be used as a powerful mechanism of technology transfer and of market access [Hobday (1995)]. However unfavourable the initial subcontracting position might seem, the access to foreign markets and the constant pressure to upgrade technological capability in order to satisfy the principals' requirements may be used as a tool for technological learning. Depending on how much attention is paid to FDI on government level in the Baltic countries, it is striking how little awareness there is of the potential of subcontracting.

#### 5.5. Privatization and restructuring

In the Baltic states, employment (to a certain extent) and government revenue are the main concerns with privatization. Privatization is often taken as an objective in itself. For example, in Latvia, 'the state's governing structures essentially absolved themselves of any responsibility for the operations of state-owned enterprises' [Gulans (1995)]. The near absence of pre-privatization restructuring, apart from splitting-up in some cases, confirms that political rather than economic and technological criteria have dominated the privatization process. The table below shows the patterns of privatization and restructuring that have emerged.

TABLE 3  
Privatization and restructuring in the Baltic states

Type of restructuring	Estonia	Latvia	Lithuania
Pre-privatization restructuring	none	none	none
(De)centralized	centralized	centralized	?
Dominant type of large-scale privatization	public sales	lease plus purchase option	mass privatization
Future path of privatization	public sales	mass privatization international tenders public offerings	international tenders public offerings

Mass privatization in Lithuania has created a new structure, namely the private investment funds, which might in due course develop into restructuring and capitalizing agents. The policy problem is how to assist them and how to force them to export, while avoiding 'government capture'.

In Latvia, the leasing method of privatization has been applied alongside others. It allowed organizational and operational restructuring to proceed through leases, pending full financial and legal restructuring. This method may be administratively the least demanding and, moreover, may minimize the danger of 'government capture'.

In Estonia, the direct sales method has imposed a heavy burden on the capacity of the government to properly handle the privatization procedures and to maximize long-term benefits for the country. With several big enterprises

with slim chances of finding private buyers without a change in production profile, this burden will not ease in the immediate future.

Will the Baltic economies be inhabited by small firms or dominated by a few big firms? If we extrapolate current, short-term trends, we may hypothesize that Lithuania will be dominated by several big holding companies, while Estonia might be dominated by small firms. In Lithuania, the crucial problem is to handle the relationships between the big holding companies and the state. In Estonia, however, it is vital to develop a public/private infrastructure to support small firms. In Lithuania big holding companies may internalize infrastructural activity, but they may also capture the government.

In Latvia and Lithuania, and indeed in the other post-socialist economies, there is a convergence towards a diversification of privatization methods, as all countries adopt a variety of methods. This tendency might lead to much more similar industrial structures than it is possible to envisage today. However, the convergence is occurring within very specific national patterns. In Lithuania, investment funds are already a reality and, as such, constitute a factor strongly influencing the future pattern of privatization. It appears that they will also play an important role in Latvia. Once those countries introduce some form of mass privatization, the influence of investment funds will surely increase.

#### 5.6. Administrative capabilities to carry out strategic policies

In our model of strategic policy we emphasize the important role of administrative (government and non-government) capabilities in industrial and technology restructuring. The effectiveness of policies cannot be separated from the effectiveness of the administrative institutions that implement them.

The Baltic countries experience confirms that the obstacles to an effective role for the state are not so much rooted in the propensity of the state to intervene as in the difficulty of constructing strategies of involvement commensurate with limited capacity to intervene [Evans (1993)]. Although the Baltic governments refused to do anything for industrial restructuring, the very magnitude of their economic problems is pushing them towards active, non-ideological involvement. Will the Baltic post-socialist state be an effective agent of industrial transformation?

Which restructuring paths are more administratively demanding? Which less? Is Estonia's German-type privatization more demanding than its policy capabilities allow? Why did Latvia have to abandon its initial privatization approach, decentralized through ministries? Is its option of land restitution commensurate with its administrative competencies? What are the administrative demands of mass-voucher-based privatization in Lithuania?

Several cases of administrative incompetence reiterate the importance of this aspect of any strategic policy. Mass privatization in Lithuania has been

implemented in an institutional vacuum which has set off a chain of ad hoc legal changes because privatization was introduced without establishing any institutional system for trading shares. The Lithuanian Securities Commissions was established only in September 1992, and the Stock Exchange in September 1993, i.e. nearly two years after the introduction of mass privatization [Maldeikis et al. (1995)]. As a result, much of the trade in shares is off-market while most enterprises are unable to raise capital in the stock market. The legal treatment of investment funds has also been problematic; initially, they were all closed-type but, subsequently, they were forced to become open-type. In all three countries, there are significant restitution problems. In Latvia and Lithuania, the powers of the Register of Land Books are too limited for the tasks assigned to them. In Latvia, the State Property Conversion Department, set up in 1991, operated for only 6 months after which privatization matters were handed over to various ministries. This made the process more complicated and slowed down privatization. More recently, a State Property Fund as well as a Privatization Agency (agricultural privatization is the sole responsibility of the Agriculture Ministry) were set up.

In Lithuania, the government initially forbade commercial banks to participate in the process of privatization or to acquire shares in enterprises. However, a new Law on Commercial banking makes it possible for commercial banks to invest in industrial enterprises and to establish other financial institutions, though restricting the share of capital invested to 10%.

TABLE 4  
Subsidies in the Baltic countries (in % of GDP)

	Pre-reform/ Post-reform	Pre-reform	Post-reform
Estonia	1991/93	2.5	1.3
Latvia	1991/93	0	0.2
Lithuania	1989/93	17.2	1.4
Economies in transition (mean)		8.5	6.2

Source: EBRD (1994).

Baltic governments have, in general, failed to generate purposeful policies aimed at restructuring and developing industries. This is caused partly by problems of state administrative capability. Yet, in addition, there is an important

political element which reinforces the reluctance to take an active role in restructuring. Many of the big industrial enterprises built after WW2 were part of the All-Union system of production, with large percentages of Russians in their payrolls. As horizontal links were almost non-existent under Soviet planning, Baltic countries hardly treat these enterprises as part of their domestic economy. This phenomenon has tended to produce a negative attitude to industrial restructuring in general.

On the other hand, low levels of subsidization in all Baltic economies (see Table 4) demonstrate the ability of the Baltic governments to withstand political pressures to pour money into 'white elephants'.

Administrative learning is in process. New institutions to handle some of the above issues are being formed. Estonia has set up a foreign investment agency. In Lithuania, a privatization agency and a Lithuanian investment promotion agency have been set up, a public investment programme for 1995-97 was adopted and, in addition, a development bank has been founded. In Latvia, a development agency has been set up with the aim of attracting foreign investment and facilitating exports.

#### 5.7. Non-government business related infrastructure

In the Introduction, we emphasised the importance of non-government business-related infrastructure in shaping and implementing strategic policies. These 'grey zone' institutions are crucial in articulating business needs and in raising the strategic awareness level of enterprises. They are irreplaceable information structures which constitute a bridge between the government which is often not knowledgeable enough on industry problems and the individual enterprises. They reduce the strategic uncertainty and contribute to the formation of common expectations.

Unfortunately, we do not have a clear overview of the development of such institutions in the Baltic economies. However, some examples may illustrate what we have in mind. In Lithuania, the Association of Commercial Banks of Lithuania unites 19 commercial banks, and supports research, training, and the preparation of legislation in the banking sphere. The Investment Group of Lithuanian Banks, which unites five banks, has also been formed. Its aim is to consolidate resources for the financing of large-scale investment projects [Maldeikis et al. (1995)].

Constructive support for small firm development can also be provided by big enterprises. Big Baltic firms have substantial unused space and, in some cases, they can use this as a basis for technical co-operation. For example, VEF (Riga) is trying to invite small firms in electronics to produce on their premises. For VEF that would mean flexibility and might form the nucleus of a future subcontracting network. VEF is also supporting the development of a technology centre on the basis of an old branch research institute. Alfa (Riga) is renting out space to small firms, but (so far) without any strategic objectives.

The point here is that big enterprises can fulfil some infrastructural functions. This is especially important when public institutions do not see the need to support such activities. Such self-organization can act not only as a compensation for pervasive 'government failure', but also as a bridge for the mediation of market failures.

#### 6. Conclusions

In production-know-how-based sectors, export product quality standards constitute the most important immediate objective of STRTP. This is especially so in the case of the food industry. The second critical area is the improvement in operational management, cost reduction and introduction of organizational innovations to enhance cost sensitivity and flexibility. These bottlenecks could be resolved through developing a market for infrastructural services or through public-private programmes.

In engineering-based sectors, enterprises may be forced to transform into assemblers which import quality components and assemble products. Another option is subcontracting or, in other words, production of components for foreign principals. Both options require radical internal reorganization and a completely new set of competencies. The required shift towards market-oriented enterprises is particularly radical and governments have to be involved directly, as the structural bottlenecks are too serious for individual enterprises to cope with.

In R&D-based sectors, the most likely solution is subcontracting, joint ventures or FDI built around engineering skills. The possibilities for independent development are so limited that co-operation is essential for exporting. R&D support and help in obtaining international co-operation are the best ways for governments to assist these sectors.

What must be targeted is not sectors but, rather, the generic technological capabilities and the mechanisms of acquiring these capabilities. The final design or outcome of such programmes (activities) can not be known in advance by the parties involved. By definition, there is a strong element of *indeterminacy* in strategic policies; by contrast, under market failure policies, the welfare effects of each intervention ought to be computable. Under the former policies, as the outcome is not known in advance, the implementation is more important than the initial design. The policy process becomes a learning activity in itself.

Whether centralized or decentralized solutions should be applied cannot be determined a priori either. If the costs of rent-seeking behaviour are prohibitive, the free market solution is first best, even if everything may beg for government intervention.

More important than any individual intervention is the building-up of an institutionally rich system of government-business relations, and of self-organizing mechanisms within business and industry. In such an environment,

there are greater possibilities for correcting both government and market failures. Whether the Baltic countries stick to their traditional ideological positions vis-à-vis the free market and government intervention, or manage to overcome this highly misleading dichotomy, will play an important role in the progress of their economic transformation.

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### Zusammenfassung

Während "Marktversagen" kein hinreichendes theoretisches und praktisches Argument für ein wirtschaftspolitisches Eingreifen im Post-Sozialismus darstellt, erscheint das Konzept einer strategischen Wachstumspolitik dafür geeigneter. Ein wesentliches Element dieses Konzeptes ist die strategische Technologiepolitik, die drei wichtige Gesichtspunkte enthält, die außerhalb der gängigen wirtschaftspolitischen Blickrichtung liegen. Erstens, sie distanziert sich von Vorgehensweisen, die auf dem Argument des Marktversagens beruhen. Zweitens, sie identifiziert administrative Schwachpunkte in post-sozialistischen Volkswirtschaften und versucht, eine Vorgehensweise zu entwickeln, die solche Schwächen berücksichtigt. Drittens, sie erkennt die Notwendigkeit einer Differenzierung zwischen Industriezweigen und leugnet daher den Nutzen pauschaler wirtschaftspolitischer Lösungen. Basierend auf dem oben eingeführten Konzept einer strategischen Technologiepolitik entwickelt der Aufsatz ein wirtschaftspolitisches Handlungsgerüst, das die notwendige industrielle und technologische Restrukturierung in der post-sozialistischen Wirtschaft berücksichtigt, und wendet diese auf die baltischen Staaten an.