# Industrial Policy in Japan and the Policy Choices for Central and East European Countries - A Commentary on Some Controversial Issues

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Nobuko Inagawa has written an excellent paper on the relevance of Japanese experiences for a successful integration of Central and Eastern European countries (CEECs) into the world economy. Talking about the case of Japan is particularly interesting - and potentially controversial - compared with the experiences of other leading economies or successful late-industrializers. The reason is that Japan - or rather: a significant part of its political, bureaucratic and academic establishment - currently is the only major challenger to the so-called "Washington consensus" on how to go about structural change in developing and post-socialist transition economies. Here, I want to concentrate on three issues, which could be seen somewhat controversially when utilising Japan's experiences and drawing policy lessons for CEECs:

- 1. Did Japan ever experience a "transformation", suitable as a "tertium comparationis" with today's CEECs?
- 2. Are such experiences helpful with respect to the policy problems of today's CEECs?
- 3. To what extent is the experience "translated" into theory and to what extent is it made use of by Japanese institutions and researchers?

### 1. The experience of systemic change in Japan

Comparing Japan's past with the present experience of the CEECs is of course tricky. If we think of a "transformation" as a full-scale switch from a command economy to a market economy *and* from collective or state ownership to private ownership, we have to admit that

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<sup>&</sup>lt;sup>1</sup> This paper was prepared as a commentary to Nobuko Inagawa's contribution ("Experience from other countries. The case of Japan") for the conference "Integration of Central and Eastern European Countries into the World Economy - Internal and External Strategies", held at Duisburg University, April 24-26, 1997). I am grateful to Dipl.-Volksw. Sonja Förster for her helpful comments.

Japan never experienced anything quite like it. At least, there are two periods of considerable systemic change, which deserve to be called "transitions". The first transition took place during the last century, when Japan changed from a feudal system into a late-coming modernizer. Usually, the Meiji Restoration of 1868 is understood as the critical event. 1868, however, was more important as a political, not as an economic turn of the tide governmental power was transferred from the old shogunate to the new power holders acting in the name of the Meiji emperor. In economic terms, already the 1850s were a time of intensifying foreign contacts, importing foreign know-how and industrial learning - by doing. The late 1870s and early 80s were important in setting up a functional financial system and in adopting a successful macro-economic stabilization program. During that period, more or less run-down state factories were privatized as well. Consequently, in the early 1880s, Japan underwent an economic reform which was close to today's recipes of the "Washington consensus" of the IMF, World Bank and US Administration's establishment. As such a reform package would have to encompass macro-economic stabilization, structural adjustment, and liberalization, including privatization and deregulation, Japan encountered at least a ,,2/3 Washington-type reform" in those days.

Institutional economists, however, would argue that a well-functioning market economy is in need of external institutions, to allow citizens to fully utilize private ownership: Privatization has to be embedded in a civil law society which takes logical precedence over the former and has to take care of competition law, insolvency law, liability, etc. (Streit/Mummert 1996, p. 9-10). In Japan's case, a reformed civil law system was instituted only during the latter decades of the 19th century, i.e. after the stabilizing reforms. Before, there was a chaotic coexistence of new laws imported from the West and old customs or laws. With respect to mining for instance, an important industry during the first half century of industrialization, ordinances of 1869 and 1872 opened opportunities for private engagement, although actual government policy was heavily biased in favour of state mines. The 1873 mining law established public ownership for all unmined ores and government guidance for private interests on the basis of the "Bergregal" (mine royal) concept. Only in 1890, a new ordinance based on Prussian concepts was established, safeguarding the freedom of mining enterprise and a fair allocation of mining rights (Sumiya/Taira 1979, pp. 211-225). An encompassing Civil Code only took effect in 1898, defining such basic concepts as property and ownership, although even that code left much to be desired (e.g., in terms of mortgaging or leasing stipulations). 1890 to 1910 may be considered the period during which Japan's legal system took shape.

Summing up, Japan's first major transition into a modernizing economy took about 30 to 50 years during the latter half of the 19th century; it was hardly a consistent reform, but rather a long trial-and-error process. Distinguishing between the related tasks of choice *of* rules and choice *within* rules (e.g. macro-economic policies, etc.), it is noteworthy that in Japan's case the more encompassing and thus logically preceding choice of rules was dealt with rather belatedly

The second period which could be termed a "transition" occurred after World War II. Actually, at least four issues have to be distinguished. First, recovery during the immediate post-war period was handled very much along the "rules of the game" of the war economy. A priority production system (*keisha seisan hoshiki*) was started in 1947 to get the basic upstream coal and steel industries working again. The system clumsily, but effectively channeled capital and materials into the industries, making use of such wartime regulations as the materials mobilization plan (*busshi doin keikaku*), the capital control plan (*shikin tosei keikaku*), and (industrial) controls associations (*toseikai*) (Okazaki/Ishii 1994).

The second issue was the post-war structural reforms, heavily influenced by the US occupation authorities. Usually, three reforms are considered the most important ones:

- the dissolution of the pre-war enterprise groups (zaibatsu),
- reform of industrial relations, introduction of unions, of collective bargaining, and of the right to strike,
- land reform.

These changes came closest to a redefinition of the rules of the game. The labour reform touched upon the setting of one of the major markets, the factor market for labour. The land reform redefined ownership patterns for agricultural industry. More important, it wiped out an influential interest group, which could have slowed down further economic progress through its rent seeking behaviour, like in so many other countries. The *zaibatsu* dissolution certainly influenced management and decision making patterns of the whole economy, by outlawing holding companies and forbidding incriminated\_individuals, including *zaibatsu* family members, to hold office. In terms of ownership patterns, it was also effective in taking ownership rights away from the zaibatsu families, but the overall impact may have been smaller than originally intended: When the government tried to sell the stocks bought from the families in exchange for bonds soon to be devalued, it could not spread them easily among the population. More than half were picked up by institutional investors, i. e. they remained in

industry. Moreover, the revisions of the Antimonopoly Act by 1953 again allowed former *zaibatsu* member companies at least to cooperate loosely, giving rise to the post-war enterprise groups (*kigyo shudan*).

The third important pillar were stabilization efforts. True enough, the production priority system was successful in the first place. However, it was financed to a significant degree by creating new money. Combined with the rigidity of the regulative mechanisms, this soon resulted in mounting budget deficits, inflation and unemployment. Being unsustainable, the system had to undergo a severe stabilization effort from 1949 based on the Dodge Line, named after an American expert. It involved a prohibition of budget deficits, an expenditure cut plus a fixed single exchange rate of 360 yen per US dollar. Apart from this well known policy line, it should not be forgotten that as early as 1946 Japan started with policies to handle the problem of bad credit and debt attributable to the (lost) war effort. These measures, known as the Enterprise Reconstruction and Reorganization Policy (*Kigyo saiken seibi seisaku*) and the Financial Institution Reconstruction and Reorganization Policy (*Kinyu kikan saiken seibi seisaku*), helped to insulate ongoing production from the problem of old debts, meant a solution for distributing the losses due to writing off bad debts between shareholders and creditors, and reduced both uncertainty about the reconstruction and the incentive for moral hazard behaviour (Kodama 1994).

The story of the post-war transition would be incomplete, though, without mentioning a rather controversial aspect of Japan's post-war transition: the introduction of industrial policy. Applying the terminology of Japanese researchers (Komiya 1995, pp.53-54, Goto/Irie 1994), typically Japanese "industrial policy" (sangyo seisaku) makes use of

- industrial structure policy (*sangyo kozo seisaku*), thereby influencing ressource allocation, either on the basic level of providing infrastructure like roads or electric power, or affecting inter-industry allocation, not shirking away from intervention (e. g. by preferential taxation), and of
- industrial organization policy (*sangyo soshiki seisaku*), thereby manipulating industrial organization, i. e. the size and number of firms within an industry (e. g., making sure of a small number of fierce competitors) and cross-industry organizations (for instance, with respect to small and medium enterprises).

Industrial policy worked through the following means:

- regulation (particularly with respect to entry/exit authorization and price),
- administrative guidance combined with extralegal sanctioning mechanisms,
- cartel authorization and toleration,
- external protection
- subsidies/government intervention in the allocation of funds,
- taxation/depreciation allowances.

It should be noted that there was a complex interplay of measures, diverse in different industries. The role of subsidies or - in a wider sense - government intervention in the allocation of funds -, for instance, can easily be overrated. It has been argued that the national budget was hardly used for promoting industries. Even for semi-governmental institutions, one has to distinguish between the roles of MoF and the Central Bank, namely stabilising the system, according to Calder (1993), of the Japan Development Bank, helping structurally weak industries, and of long-term credit banks like the Industrial Bank of Japan, helping growing industries (on the latter, Ueda 1997).

As is well known, it has been very hard to convincingly verify the positive impact of industrial policy in Japan. There are various methodological reasons for such a sceptical view (also: Pascha 1997):

- an effective "rate of promotion" for each industry is difficult to calculate due to the variety of measures,
- rather low promotion could nevertheless have been important as a signaling device (Horiuchi/Sui 1993),
- different historical phases have to be distinguished meaningfully,
- the success of industries *without* significant assistiance has to be convincingly accounted for,
- it is impossible to know for sure whether promoted industries would have been less successful *without* industrial policy,
- hypotheses would have to be cross-checked with evidence from other countries, and thus
  with respect to their somewhat and possibly importantly different arenas for industrial
  policy action,

• depending on the "goal" deemed relevant (growth, productivity, welfare), industrial policy may have been more or less successful (Beason/Weinstein 1994).

This is not the place to evaluate the case for (or against) industrial policy. It just goes to show that a lot of evidence has to be gathered and weighed to evaluate the role of industrial policy in post-war Japan adequately.

Summing up, Japan's first major transition during the Meiji era actually covered some 50 years and was rather a gradual process of systemic magnitude. The post-war transition up to the 1950s was *not* only characterized by the introduction of industrial policy, which was actually the most evasive aspect of the post-war program. Rather, apart from industrial policy, severe command-type measures, like the priority production system, to overcome economic emergencies, institutional reforms like the *zaibatsu* dissolution, macroeconomic stabilization measures, and - frequently forgotten - a "reappraisal" of corporate balance sheets have all been relevant.

## 2. Comparing Japan's experience with the policy problems of CEECs

It should now be discussed whether the Japanese experiences can shed some light on CEEC policy issues. In this commentary, we cannot do that in a very detailed manner. Rather, we want to touch on some principal problems involved.

With respect to the first transition period (late nineteenth century), it is doubtful whether a great many lessons can be learnt for modern CEE economies. There are several charateristics, which draw a rather clear line between Japan's past and CEEC's presence: (a) The external environment is very different (accessibility of foreign and home goods markets), access to international capital and know-how, etc. (b) Japan as an extremely underdeveloped economy experienced very different problems from economies with well-developed, though ill-allocated capital stock. Of course, some lessons can be drawn: for instance, it can be shown that a workable banking and financing system is a necessity for a market economy (Ohkawa/Ranis 1985).

The more interesting case is Japan's post-war period up to the 1950s. There are several reasons:

- Japan started into its unique high growth-period. Never before or after were growth rates as high as during the 50s and 60s.
- Japan switched from a war economy into some kind of market economy, a war economy being a command-type economy and thus somewhat similar to the starting conditions of today's CEECs.
- Key macro-economic problems like a severe decline in industrial output, fiscal instability, inflation and unemployment, were similar in Japan and the CEECs.

However, one should also not overlook considerable differences:

- Japan's experience of the war economy was a rather short one. Although the 1930s were a period of gradual military build-up, the National General Mobilization Law (*Kokka Sodoin Ho*) was enacted as late as 1938, with many of its provisions taking effect much later (Nakamura 1983, particularly pp. 302-310 with a timeline of economic controls), a totally controlled economy not being reached before 1943, barely two years before the breakdown.
- In particular, Japan was lucky to possess a well-experienced class of entrepreneurs, which had already been active in the pre-war market economy. In this respect, the purge of the leading group of *zaibatsu*-connected, elderly business leaders should not be overrated.
- The Allied military government took care that law and order the rule of law, reliability of contracts, etc., being important prerequisites for a functioning market economy were kept intact. Organized crime, which flourishes in chaotic social environments, was not allowed to take over, although as is well known it could occupy some niches.
- External economic conditions were much more favourable in the case of post-war Japan than for today's CEECs. This holds for access to the world market, particularly the US market, and the surprise demand push through the Korean War. This set-up influenced the feasibilty of stabilization and structural adjustment efforts considerably.
- More specifically, despite having lost the war, Japan was not cut off from its neighbouring "natural" trading partners in a similar way as the CEECs, which lost most important supply and demand channels when the CMEA (Council for Mutual Economic Assistance) network broke down.

# 3. On the difficulties of drawing lessons from Japan's transition and industrial policy experience

How could the Japanese experience be made useful for CEECs? I want to stress once more that in this commentary, I am not so much interested in a "valid answer" *per se*, but want to concentrate on Japanese positions and contributions.

Taking this interest as a point of departure, it is noteworthy that quite a clash occurred between the mainstream view, represented by what is nowadays called the "Washington Consensus", and voices within the Japanese government and the research establishment close to it. In order to understand this debate, one has to take a side-step, because the dispute originally ocurred with respect to drawing lessons for developing economies, not for postsocialist reform economies (Wade 1996). In 1989, the World Bank issued research results on financial sector reform, for instance in its 1989 World Development Report. The thrust of the argument was to reject selective interventions in the financial market, e. g. by offering cheaper interest rates for industries or firms considered "strategic". The Japanese government, slowly developing into the world's biggest aid donor in the late 80s and early 90s, emphasized the role of "guided" (financial) markets for successful development. Actually, such a policy line was a cornerstone for the 2 billion dollar ASEAN-Japan Development Fund, which was thought to become the first major step of the Ministry of International Trade and Industry's (MITI) so-called "New AID plan" to build mutually reinforcing production networks between Japan and Southeast Asia, along a philosophy somewhat poetically termed "kyosei" (coexistence, symbiosis) (Hatch/Yamamura 1996, pp. 128-129). The Development Fund was set up by the Ministry of Finance (MoF) and administered through its OECF. Hence, the World Bank statements could be interpreted as an implicit critique of the position of some of Japan's most important policy institutions and its strategies, and thus of the world's no. 2 soon to be no. 1 - aid donor.

In order to overcome the stalemate of clashing opinions, the Japanese side got the World Bank in 1991 to undertake a study of the East Asian development experience, largely financed by Japanese money. The study finally appeared as the famous *Miracle* study in 1993 (World Bank 1993). It is the result of several compromises, and thus its overall conclusions are not totally clear, containing rather obvious logical inconsistencies (Wade 1996, p. 27; Sonobe 1994, pp. 104-109). It did acknowledge that considerable interventions took place in East

Asia, though, and that at least some (financial) market interventions were not harmful, but indeed may have worked under peculiar circumstances. It did not elaborate too much on institutional preconditions for successful development like culture or form of government (authoritarianism vs. democracy). It did stress the pro-neo-orthodox "market-friendly" approach, making its first appearance in the 1991 World Development Report and encompassing the call for macro economic stability, openness of the economy, human capital development and a rule-based system. This is the basis of what was to be termed the "Washington consensus" (Williamson 1994).

For our discussion here, it is important to note that the *Miracle* study could not quieten dissenting opinions on the role of interventions. It moved the Washington stance somewhat into acknowledging this role, but did so by paying the price of producing inconsistencies, and thus possibly poured "oil on the fire", as a German saying goes. With respect to Europe, the Japanese government had already started earlier, before the 1993 *Miracle* study, to apply its line of reasoning to CEE. The issue surfaced in 1992, when MITI tried to "sell" its development model to the Russian government and the Commonwealth of Independent States (CIS) (Rowley 1992). The recommendations are based on the understanding that there are many similarities between post-World War II Japan and post-socialist CIS: "These include a plunge in output with accompanying high inflation, shortages of raw materials, an impending break-up of state (or corporate, in Japan's case) monopolies and the need to convert military oriented production to civilian needs" (ibid., pp. 59-60). The Japanese report to the CIS contained the following recommendations:

- divide the state monopolies into competing companies,
- have them supplied by chains of smaller companies,
- channel funds not only through private banks, but also through government institutions,
- encourage capital accumulation through preferential taxation,
- ensure the supply of essential goods through a "priority production programme",
- breed able bureaucrats (ibid., p. 60).

It is quite clear that both the diagnosis of the situation and the recommendations not only refer to Russia and the rest of CIS, but basically to other CEECs as well. Compared to what the Japanese government had to say on developing economies, the remarks on CEECs are remarkably similar. The reference to a priority production programme as an immediate post-transition measure is different, the rest is almost identical. We already mentioned the

additional advice to learn from Japan's system of handling the old debt problem (Kodama 1994). Compared to the Washington consensus, it is again the emphasis on interventions that distinguishes it, leading the Japanese team sent to Russia to remark: "'Market mechanisms cannot be almighty'" (Rowley 1992, p. 59). What are the problems with this kind of advice? We do not try to discuss this from a Washington consensus perspective here. Rather, we want to concentrate on problems inherent in the Japanese position.

If one tries to\_investigate\_the workability of Japanese-style industrial policy, there is little theoretical ground to build upon. Starting from a conventional economist's point of view, a defender of industrial policy has to name considerable externalities, which would lead to significant market failure, and he has to show that industrial policy does not lead to even more devastating government failure (Okuno-Fujiwara/Hori 1994, among others, follow that line). Particularly the latter point is very tricky. One would have to refer to a complex theory on which conditions helped - and might help in other countries and time periods - to neutralize the danger of government failure. This theory would have to discuss the role of institutions, and such a workable institutional theory can hardly be found these days.

Only recently, there have been considerable efforts in Japan to work on such a theory. (Aoki/Kim/Okuno-Fujiwara 1997) argue that the role of the Japanese state was "market-enhancing", rather than simply "market-friendly" in terms of World Bank terminology. They want to overcome the dichotomy between the neoclassical/orthodox market-friendly view, which stresses the danger of government failure, and the developmental state view, which belittles it. Their "market-enhancing view emphasizes the role of government action in promoting private-sector coordination" (Aoki/Murdock/Okuno-Fujiwara 1997, p. 19). For instance, the state may play a role in offering financial intermediaries (banks) the chance to collect rents ("contingent rents"), which create an incentive for them to diligently monitor the non-banks and avoid risky loans. Following such a policy of what the authors call "financial restraint", the state does not actually have to intervene in the allocation of capital flows (developmentalist view), nor does it leave the markets alone (market-friendly strategy), rather it helps the financial intermediaries to play their role better by setting incentives to make these agents obey the interests of their principals, the depositors.

Although this is an interesting point of view, it does not circumvent some of the usual problems associated with the "state-friendly" developmentalist view: For the state to function

in the interest of the whole, it has to be insulated from influential pressure groups like landlords, big industrialists, etc. The preconditions still have to be investigated more intensively. Therefore, market-enhancing mechanisms can hardly be applied to any developing country. With respect to CEECs or "transition economies", as this group of authors calls them, the policy recommendations are rather sketchy and are hardly useful to distinguish good from bad policy: Similar to Japan's historical path and to China's more recent experience, they recommend a rather slow transition, "with a gradual decrease in the direct role of the government in coordinating economic activity and a concomitant rise in the role of more decentralized institutions" (Aoki/Murdock/Okuno-Fujiwara 1997, p. 23). These are extremely interesting contributions, but so far one should probably not go beyond welcoming them as a promising beginning.

Not unrelated to the lack of theory, empirical evidence on the success of industrial policy is hard to find. The Japanese government is quite aware that studies evaluating the outcome of actual policies are still unsatisfactory (see, for instance, the survey by Goto and Irie (1994) on behalf of the publication of MITI's 17-volume History of Industrial Policy, in No. 4 of the MITI Research Review, of which many contributions were utilized for this commentary). True enough, the empirical foundation of the Washington consensus may itself be shaky, but there is a disturbing discrepancy between the methodological level of empirical contributions from Washington and from Tokyo to the ongoing academic debate.

It does not help the pro-industrial policy case that in Japan there never was a clear-cut strategic blue-print based on well-developed considerations on which actual policy was based. Rather, policy evolved over time in leaps and jumps. If one wants to learn from it, one has to undertake a difficult "reconstruction" of "regularities" underlying the murky experience and to make sense of them in a hopefully consistent manner.

There is also the impression that the debate between Washington and Tokyo is not handled in a very transparent manner. It is difficult to find the pro-industrial policy stance treated in a careful and explicit way. Most statements are either somewhat superficial policy statements or contain rather vague conclusions. For instance, it is not enough to come to the conclusion that research "has shown that limitations of the market mechanism (market failures) exist in certain situations, and policy can work effectively" (Goto/Irie 1990, p. 73). Nobody doubts anyway that this *can* happen, but the issues involved in proving that intervention actually was

better than non-intervention and that such lessons can be transferred elsewhere are much more complicated, as could be shown in part 2. When one takes promising recent research led by eminent economists M. Aoki (Stanford) and M. Okuno-Fujiwara (University of Tokyo) into account (see above), one wonders whether despite of its brillance and prominence in the recent debate (see Kimura's (1997) report on a workshop of the International Economic Association in Tokyo), it really helps to overcome the Tokyo/Washington clash exemplified in the *Miracle* study. When one accepts the question of financial market intervention as the decisive "battleground" between Washington and Tokyo, then the Aoki/Okuno-project, originally also led by the deceased Hyung-Ki Kim, and sponsored by the World Bank's Economic Development Institute and Stanford University, does not move much beyond the Miracle study World Bank view. Does the "financial restraint" argument favoring institutional arrangements for "contingent rents" in the financial sector go beyond earlier statements? Two observations: First, Joseph Stiglitz, a prominent economist who took part in the Miracle project, is among the co-authors of the financial restraint-paper. Second, the reference to policy lessons for transition economies in Aoki's and Okuno's strategy paper is rather vague arguing for "a gradual decrease in the direct role of government" (Aoki/Murdock/Okuno-Fujiwara 1997, p. 23). One gets the impression that, again, a compromise was sought which allowed everyone ,,to save one's face", and that deriving policy implications rigorously was considered less important.

Finally, it should be noted that the debate is not only influenced by "purely" scientific considerations, but also by the interests of the parties taking part. Two such concerns should be duly taken note of. The first is the possible self-interest of the Japanese bureaucracy, which through promoting the idea of successful industrial policy raises its own position both abroad and at home. The second is national material interest, in terms of a public good beneficial for most or all actors in the Japanese environment. Being able to offer an ideology different from the Washington consensus, raises Japan's national influence abroad. Business opportunities may arise through being involved in the restructuring processes of other countries. This holds in particular, if interventions are among the very means such a process is thought to be in need of.

Consider the case of a recent seminar on policy-based finance in Africa, held in Nairobi in March 1997 and sponsored by the Japan Development Bank and the World Bank (JDB Dispatch 1997). Participants and organisers seem to have agreed that it is still to early for

African countries to apply East Asian type policy-based finance tools. The main reasons are that there is still too little competition within the respective economies, that governments consult industry too little on which sectors should be "preferred" and that current policy-based finance is not independent of politics. This is an appraisal acceptable both to Tokyo and Washington (and to the Aoki/Okuno project). The final sentence of the report on the seminar however rings a bell: "They [all participants; W.P.] also agreed that policy-based finance at this time should be applied by a development financial institution with healthy appraisal and judgment abilities, and on the condition that, unlike past African systems, the market mechanism works properly in the financial sector" (ibid., p. 3). Apart from the modifying final half-sentence, this seems to imply that due to its assumed past merit, institutions like JDB are indeed able to apply policy-based finance interventions properly. This would be a dangerous conclusion: It is in the interest of both the Japanese bureaucrat-donors and of the African states, but it is not founded on convincing theoretical and empirical evidence. The possiblity of abuse can hardly be excluded, and it is to be feared that what applies to Africa as a group of developing economies, could just as well have been said with respect to CEE transition economies.

#### 4. Conclusion

Summing up, in this commentary we could only draw a rough sketch of the problems involved in trying to apply Japanese transition experience to CEECs. There appear to be four seperate issues, which call for careful and distinct appraisal:

- 1. In an immediate post-shock environment, rather severe and heavy-handed government action may be helpful to keep the economy going. In Japan's case, this was the priority production system, which of course would have been unsustainable in the long-run, in case of a decisive economic upturn.
- 2. Also, the shock environment may be the only chance to adopt ground-breaking institutional reform, like the land reform and the *zaibatsu* dissolution in Japan's case. As is well known, reform on a constitutional level i. e., resetting the rules of the game is difficult to achieve in "normal times", because such a reform can usually and quite paradoxically not be implemented against the will of those powerful groups disadvantaged by it.

- 3. Whatever one may hope from other, possibly more activist or interventionist policies, switching from a transition phase into a sustainable upturn necessitates a successful stabilization of the economy, with workable mechanisms of allocating the factors of production, among them capital.
- 4. The most tricky issue is interventionist industrial policy, for instance with respect to selective credit allocation. There *may* be a "window of opportunity" for such a strategy between post-shock stabilization and the stage of a mature "frontier economy" with the state no longer in a position to orientate its behaviour at catching-up. However, even after many years of research two points are uncertain even *if* such a policy was successful in Japan: (a) the institutional and other *preconditions* which were necessary to achieve this outcome, and (b) whether conditions elsewhere nowadays allow for achieving similar results.

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