

INTRODUCTORY NOTES

Criticism of the World Bank Report “The East Asian Miracle”

1. The WB argues that industrial transformation in E.A. was market conforming: started with labour intensive (given factor endowments) before moving to capital-intensive industries: the move to capital-intensive industries also results from the rise of income due to labour-intensive strategies. Therefore, industrial policy may have been irrelevant.

The problems with this argument are:

- income also rose because of industrial transformation, which was shaped by industrial policy;
- there has been little market conformity in the way industries have been nurtured - therefore, whether the resulting industrial structure is market-conforming is an irrelevant issue, since the process of producing such structure has not been left to the market. Moreover, if industrial policy can result in market-conforming industrial structures, that is just as good for the case for industrial policy;
- the speed of transformation was certainly accelerated by industrial policies;
- in the absence of any actual example of market-based industrialisation this century, the burden of proof is really on those who believe that such a progress is feasible.

(pp. XII-XIII).

2. The WB argues that Total Factor Productivity (TFP) in supported industries is lower than in neglected ones. As an example of that, the superior TFP in the “neglected” textile industry is compared with the inferior TFP in the “supported” machinery industry.

The problems with this argument are:

- empirical evidence:
 - (i) textiles was heavily protected, and can benefit from the international multi-fibre agreement (MFA);
 - (ii) there is sufficient conflicting evidence about the TFP in different industries, rendering the argument useless.
- theoretical: there are more than sufficient arguments to dismiss the whole concept of TFP, namely:
 - ⇒ TFP is a tautological concept [$y = k^\alpha l^\beta \tau$, where $\alpha + \beta = 1$; $\tau = \text{TFP} = y/(k^\alpha l^\beta)$] - in other words, TFP is a residual, exogenous black-box. This raises two sets of problems. First, obviously, the more inputs are added to the equation, the lower the size of the residual. Second, changes in relative prices may involve mis-interpretations of the results (example: if technology is stable and the relative prices of K and L change in favour of K, TFP will show a decline in technological progress);
 - ⇒ TFP is based on the assumptions of perfect competition ($y/k = \alpha = r$; and $y/l = \beta = w$) and full employment, neither of which holds;
 - ⇒ Productivity is embodied in both labour and capital, rather than being an exogenous factor (τ);
 - ⇒ Capital cannot be measured because of the “capital controversy” problem, where ($K = \sum_i p_i K_i$; $p_i = \text{MPK} = r$; $\text{MPK} = \alpha = y/k$. But y/k cannot be obtained without p_i , which, in turn, cannot be obtained without y/k). Thus, the results of the one-sector

model, which underlies the concept of TFP, cannot be extended when there are more than one sector (since K cannot be added up).

- there are other indicators of industrial social efficiency, which are not captured by TFP, namely:
 - (i) the impact on the BoP (example, a lower TFP machinery and ship-building industry may have contributed to the availability of forex for investment elsewhere in the economy);
 - (ii) the spillovers to other industries and to the economy as a whole (example: a lower TFP machinery industry may have contributed to raise the TFP in the textiles industry and to knowledge spillovers across the whole economy);
 - (iii) there is no evidence that the targeted high spillover and forex-generating industries would have developed at all in the absence of industrial policies. (pp.XIII)

3. The WB argues that other LDCs should not adopt industrial policies because of the differences in institutional development, namely a capable bureaucracy and a well developed forum for government-business dialogue.

The problems with this argument are:

- it is true that institutions matter; but it is very strange that for the WB institutions only matter when it comes to replicating the EA model, not when the free-markets are advocated universally.
- The WB does not discuss the process of how institutions are created, develop and learn. The WB study assumes institutions as another static factor endowment. Precisely, one of the crucial elements of policy is to drive and accelerate the learning process, including institutional development.

(pp.XIV-XV)

The Concept of Transaction Costs

“Transaction costs” is used to refer to the costs of coordination, costs of correcting coordination failure, or, in other words, costs of running an economy.

The concept does not imply that the costs of coordination are larger or smaller than the costs of coordination failure; it only implies that both coordination and coordination failure have a cost.

The concept does not imply that costs of coordination are more or less important than production costs. It only implies that, as in the case of production costs: (i) transaction costs can and must be reduced through a better understanding of the process of coordination and through innovation; and (ii) the costs of coordination matter for any strategic decision concerning investment, competition, expansion and innovation.

(pp.X-XII)

The Context of the Industrial Policy Debate

Capitalist economies differ substantially from each other. The distinct characteristics and features of different capitalist economies shape their patterns of capital accumulation and economic policy-making, and may or may not help them to adjust to changing conditions in the world economy (pp. 2).

The main literature debates investigating this field are focused as follows:

- Social corporatism (the Nordic model):
 - ⇒ Features:
 - (i) low unemployment;
 - (ii) low inflation;
 - (iii) rising levels of income;
 - (iv) relatively painless and non-divisive adjustment;
 - (v) strong trade unions (labour-market rigidities?);
 - (vi) high taxation (disincentive to hard-work?).

- ⇒ Explanation:
 - (i) centralised tripartite bargaining between the state, employers and unions;
 - (ii) equalitarian wage policy;
 - (iii) active labour-market policy (retraining, etc.).
- (pp. 2-3)

- Industrial Policy debates:
 - ⇒ Definition: the promotion of capital accumulation, innovation and productivity growth through policies more effective than macroeconomic policies because of their direct and particularistic (selective) nature;
 - ⇒ Focus of the debate:
 - (i) the coordination problem (new institutional economics);
 - (ii) technical change and the process of learning (capitalism is not a system in constant equilibrium, but a system in constant flux where learning plays a crucial part);
 - (iii) the government failure versus the market failure debate and the logic of interest-group politics in the capitalist economy.
- (pp. 4-5)

THEORIES OF STATE INTERVENTION (pp. 7-32)

1. Efficiency: the Market Failure Literature (pp. 7-12)

1.1. Public Goods and the problem of non-excludability due to imperfect assignment of property rights (pp.8-9)

- Concepts:
 - ⇒ Private good: can only be consumed by those who pay for it;
 - ⇒ Public good:
 - (i) non-rivalry in consumption: consumption by one does not affect consumption by others;
 - (ii) non-excludability in consumption: once provided for one, others can also have access to it;
 - (iii) it is not feasible to exclude non-payers.
- Problem with the public good: under-provision of the public good under market conditions due to a property rights problem:
 - ⇒ Understating of the public preference for public goods (willingness to pay does not reflect public preference);
 - ⇒ Free-rider problem.
- Need for the intervention of the state:
 - ⇒ Individual rationality leads to collective irrationality: each individual maximises its own net benefits by paying less and getting more, which makes everybody worse off (under-provision of the public good);
 - ⇒ The State must intervene in order to:
 - (i) make the society to pay for the public good through taxation;
 - (ii) overcome the problem of incomplete markets.
- Critique of the “Public Good” argument for state intervention:
 - ⇒ Technological innovation may solve the problems associated with the provision of public goods [Critical note: the problem of public goods derives from property rights, not from technological problems];
 - ⇒ The collectivity providing the good may not be the State.
[Critical note: but there might be cases when only the State can provide the good because only the State has the resources, the institutional capacity and the repressive authority to do so].

1.2. Non-competitive Markets due to small number of interdependent agents (pp.9-10)

- Concepts:
 - ⇒ Non-competitive markets are characterised by a small number of interdependent agents, monopolies or oligopolies, whose individual actions are not negligible, and whose individual best strategies depend on the other agents strategies;
 - ⇒ Non-competitive markets can emerge as a result of:
 - (i) the intent to increase market power and reduce uncertainty (collusion, trust, cartel);
 - (ii) non-bounded technology (constant or increasing returns to scale); and
 - (iii) natural monopolies (non-feasible divisibilities).
- Problems:
 - ⇒ Firms face a downward sloping demand curve;
 - ⇒ Thus, output is less than optimal;
 - ⇒ And a share of consumer surplus is transferred to producers.
- Need for state intervention:
 - ⇒ Market outcomes are inefficient and not fully predictable;
 - ⇒ Hence, the State must intervene through:
 - (i) anti-trust legislation: breaking up of monopolies; forcing monopolies to comply with marginal cost pricing or taxing monopolies to the amount of the market-rent; and/or
 - (ii) state ownership of the assets.
- Critique of the “Non-competitive market” argument for State intervention:
 - ⇒ Theory of the second best: rectifying market imperfections in some but not all markets may not guarantee the attainment of optimality.
[Critical note: this is not a good argument against State intervention because it does not exclude the possibility of successful intervention and may call for wholesale government ownership in order to ensure global optimality];
 - ⇒ The State cause the distortions that generate non-competitive markets; hence, rather than trying to correct for non-competitiveness, the State must simply withdraw
[Critical note: Many, if not all, competitive markets have been transformed into non-competitive ones, even without State intervention or collusion - this may have been caused by business cycles, structural adjustment, non-bounded technology and price wars, or sheer luck].
- General critique on this debate: if the assumption of self-perpetuating competitive markets is unrealistic, it may be pointless to argue in favour or against State intervention to correct for non-competitive markets since there would be no criteria according to which such markets should be corrected. (pp 10).

1.3. Externalities due to untraded spillovers (pp 10-12)

- Concepts:
 - ⇒ Conceptually, externalities are a problem of property rights assignment;
 - ⇒ Externalities arise when individual preference systems (or utility functions) are not completely unrelated, and if the occurring spillovers to others are untraded or not properly compensated for;
 - ⇒ Spillovers can be positive (example, knowledge), in which case the generator of the spillover must be compensated for; or negative (example, pollution), in which case the generator must compensate the others.
- Problems:
 - ⇒ If spillovers are not properly accounted for, private costs and benefits will differ from social costs and benefits. When the spillover is positive, the private benefit accruing to the generator will be less than the social benefit and the provision of the spillover will be sub-optimal. If the spillover is negative, the private costs accruing to

the generator will be less than the social costs and the society will not be properly compensated for the loss.

- The need for State intervention:
 - ⇒ Transaction costs associated with the assignment of property rights (collection and processing of information, negotiating, writing and reinforcing of contracts) can be so high that makes the voluntary assignment of property rights unfeasible;
 - ⇒ The State should intervene to ensure the cheap, optimal provision of positive externalities by subsidising prices (ex., of education, health, social infra-structure) and the providers of positive externalities (ex., firms involved in R&D);
 - ⇒ The State should also intervene to penalise and discourage the provision of negative externalities (ex., pollution tax, pollution regulations).

- Critique of the “Externality” argument for State intervention:
 - ⇒ Externalities are negligible, so that there is no case for this argument [Critical note: most goods actually produce negative externalities in the process of production in the form of pollution; and many produce linkage effects or pecuniary externalities. Therefore, the question is not whether externalities exist, but under which conditions should market transaction or non-market transactions be adopted];
 - ⇒ Correcting for one set of externalities may create another, and is threatening for freedom.
 - [Two critical notes. First, it cannot be said, à priori, that the gains from solving one set of externalities are smaller or larger than the losses of creating another set of externalities. Second, externalities, themselves, are a limitation to freedom because they are untraded interdependencies - one part wants to trade and the other does not].

2. **Morality: Paternalism and Contractarianism** (pp. 12-18)

2.1. Paternalism: the State as social guardian (pp.12-14)

- Concepts - the moralistic argument for State intervention as the social guardian:
 - ⇒ Merit goods: on one hand, the society may wish to encourage the consumption of some goods that have a higher social than private return; hence, individuals may fail to pay the marginal social benefit (ex., education). The State should encourage the provision and consumption of such goods through subsidies, etc.;
 - ⇒ Demerit goods: on the other hand, the society may wish to discourage the consumption of some goods which bear a higher social than private cost (ex., tobacco, drugs). The State should deter the consumption of such goods through taxation, regulation, etc.;
 - ⇒ Immoral markets: the society may not find it morally acceptable to organise market transaction for certain goods and services (ex., police and security, blood donations, basic health services, etc.). The State should introduce non-market transactions for such goods.

- Critique of the concept of the “moralistic (or paternalistic) State” from the point of view of methodological individualism:
 - ⇒ The moral State (social guardian) argument is paternalistic, and is flawed in that it attaches different values to the society and the individual and arbitrarily prefers the values of the society to that of individuals;
 - ⇒ The argument for the paternalistic state is a first step on the road to serfdom (against the individual liberties).

2.2. Contractarianism as derived from methodological individualism (pp. 14-15)

- Concepts:
 - ⇒ Individuals enter voluntary contracts with each other for the purpose of securing individual (and individually valued) benefits of cooperative effort;

⇒ Contractarianism is most consistent under the unanimity rule because of Arrow's impossibility theorem (whereby different utility functions cannot be added into a social utility function).

- The State under contractarianism:
 - ⇒ The State reflects a voluntary contract between the individual members of the society;
 - ⇒ The State must play a minimalist role, restricted by the contract agreed by the individual members of the society, and which does not restrict the individual freedom of the members of the society;
 - ⇒ The role of the State:
 - (i) provision and reinforcement of the law and the rules of the game by which contracts are agreed and implemented;
 - (ii) protection of the property rights;
 - (iii) provision of public goods and services that cannot be provided privately;
 - (iv) provision of the monetary and competitive framework; and
 - (v) provision of the means through which the rules and contracts can be changed.
- Critique of methodological individualism and contractarian State:
 - ⇒ Denouncing any moral arguments for State intervention, other than those presented by contractarians, is as meaningless as presenting moral arguments for State intervention without discussing the role of moral in society and economic life. Contractarianism is not a “scientific” point of view which can do with no morality, but is rather a different sort of morality which praises the individual above society;
 - ⇒ The concept that each individual knows better its own best interests is not without problems:
 - (i) there is no intrinsic reason why individuals should always pursue their own good, since their decisions are based on imperfect information, expectations change and future preferences are unknown;
 - (ii) there are individuals who are not fully responsible;
 - (iii) the border line between what is normal and abnormal is flawed;
 - ⇒ The notion that the State results from the free will of individuals coming into voluntary contracts is historically flawed:
 - (i) the building of the modern capitalist State was almost always initiated by the rulers;
 - (ii) the market is a very new institutions, which has been preceded by the State (and not otherwise).
 - ⇒ Contractarianism does not necessarily guarantee minimal State, because individuals can gather together to write a new social contract endorsing heavy intervention. There is no intrinsic reason to believe that free individuals choices would always lead to a minimal State.

3. **Intention: The Political Economy Literature** (pp. 18-25)

3.1. The autonomous State approach (pp. 18-19)

- Concepts:
 - ⇒ The Marxist concept: State autonomy with respect to the specific interests of factions of given interest groups - example, the autonomy of the capitalist State with respect to the interests of specific fractions of capital and in the interest of capitalist accumulation as a whole;
 - ⇒ The Neo-classical concept: the predator State maximises its net revenue even at the cost of social productivity (ex., high taxes penalise hard-working families), and designs property rights the political system so as to achieve its goal. This is an exercise in constrained maximisation, because the need for re-election constraint the action of the State.

- Critique of the concept of State autonomy:
 - ⇒ The predator State approach does not take into consideration the diversity and complexity of the modern State, its institutions and political system;
 - ⇒ The abstract concept of autonomy does not mean anything particularly:
 - (i) what is the meaning of autonomy?;
 - (ii) different States may face different degrees of autonomy;
 - (iii) different States may have different degrees of autonomy in different areas;
 - (iv) the same State may face different degrees of autonomy over time.
- Advantages of the concept of State autonomy: helps to overcome the naivety of the concept of the welfare State (or the State as a social guardian).

3.2. The interest group approach (pp. 19-22)

- Concepts:
 - ⇒ General: the State is an arena within which economic interest groups or normative movements contend, or ally to, each other in order to shape public policy-making. Hence, State intervention is motivated and shaped by the interest groups by which it is influenced;
 - ⇒ The Marxist version: the State serves the dominant class as a whole, even if at the costs of fractions of the capital;
 - ⇒ The Neo-classical version:
 - (i) regulation is required, and thus designed, for the benefit of the industry; because
 - (ii) producers, because of their smaller number relative to consumers, can more efficiently organise their action to capture the State.
- Critique of the “interest group” concept of State intervention:
 - ⇒ Apart from sophisticated Marxist models, this concept does not analyse in detail the problems associated with interest group politics and collective action, namely:
 - (i) the importance of group size in the efficiency of group action;
 - (ii) the existence and operation of incentive and sanction mechanisms within the group;
 - (iii) the existence and operation of socially determined constraints for agenda-formation (norms which constrain interest-group utility maximisation and even the formulation of interest-group agenda);
 - (iv) the process of interest-group politics and action (how they actually operate, put their agendas forward and seek their implementation) – how surplus is appropriated is as important (if not more) for capital accumulation as who gets the surplus;
 - ⇒ Interest-group politics may be better understood only when the particular process of contest for political and economic rights in a particular society is analysed in detail.
- Advantages of the concept of “interest-group” politics: it puts the debate concerning State intervention (motives, outcomes, failure, etc.) within its own political background.

3.3. Self-seeking bureaucrats (pp. 22-24)

- Concepts:
 - ⇒ Bureaucrats are individuals who maximise their individual utility from the status and activity of their bureau.
 - ⇒ Bureaucrats are budget maximisers because most of their motives and interest are positive functions of the budget of the bureau. These are: salary; perquisites of the bureau; public reputation; power; patronage; output of the bureau. Apart from these, bureaucrats also have an interest on other management aspects such as the ease of making changes and ease of management of the bureau;

- The State under self-seeking bureaucrats:
 - ⇒ Politicians, who are vote maximisers, may impose a constrain on the utility maximiser bureaucrat because of the need to please the general public (after all, budget maximisation implies tax increases);
 - ⇒ However, bureaucrats hold an information advantage over the politicians and the general public because of their superior expertise and access to information regarding their actions;
 - ⇒ Additionally, each bureau act as a monopoly – the only provider of a certain service – and therefore there is no criteria to judge de bureau’s performance against;
 - ⇒ Politicians cannot but monitor that bureau costs do not exceed their benefits, which is an incentive for bureaucrats to over-supply their services;
 - ⇒ Therefore, State intervention is justified on the grounds of output maximisation in order to maximise individual bureaucrats’ utility functions.

- Critique of the “self-seeking bureaucrat” State:
 - ⇒ The scope for bureaucrats power differ according to political and institutional settings, namely: how bureaucrats are selected; the degree and process of subordination of the bureaucracy to political decisions; the operation and efficiency of auditing systems; the role of the media and other forms of political and social expression.
 - ⇒ Additionally, it is more likely that predator bureaucrats tends to under-provide, rather than over-provided, given the fact that they face constrained utility maximisation functions (after all, the budget cannot be expanded at one’s will);
 - ⇒ Finally, bureaucrats do not only act on self-interest because. They have to conform to the objectives of the organisation and their behaviour also depends on the decision-making framework in which they operate.

4. Ability: the Government Failure Literature (pp. 25-31)

So far, the literature has assumed that the State knows what to do and is capable of doing it, independently of the motives why the State intervenes - to correct market failure (public goods, non-competitive markets and externalities); for moral reasons (paternalism and contractarianism); or for political economy reasons (its own, if autonomous, influenced by interest groups or driven by self-seeking bureaucrats). But does the State know what to do and can it do what it intends to do?

4.1. Information Problems (pp. 26-27)

- Concept:
 - ⇒ Three sets of information are required to formulate and implement a policy successfully:
 - (i) information to formulate/decide on the policy (information about the nature of the problem, the policies available and their likely outcomes, the expected linkages, the participant agents, etc.);
 - (ii) information about implementation, which involves monitoring of the lower level bureaucrats and the agents at which the policy is targeted;
 - (iii) information concerning the outcomes of the policy, which is necessary to decide on whether to continue, discontinue or correct the policies;
 - ⇒ There are two major informational problems that may hamper the State’s ability to intervene successfully:
 - (i) scarcity of information: information required is so vast that its collection, let alone processing, are beyond the capacity of the State because of time and resource constraints;
 - (ii) informational asymmetries within the State (higher and lower levels) and between the State and the firms give advantages to the agents, prevents or distorts the formulation, implementation and monitoring of the policies, and allows for moral hazard to emerge (ex., industries which never come out of infancy).

⇒ Therefore, State intervention is flawed from the beginning, because the State does not have information to take decisions correctly, or the ability to enforce its own decisions on the implementing agents.

- Critique of the argument:
 - ⇒ The informational problems faced by the State are often exaggerated. The State has no less information or more information asymmetries than the private sector. If informational problems are so severe as to prevent any successful State intervention, they also render useless any managerial planning and strategy formulation at firm level;
 - ⇒ More exaggerated, still, is the belief that the private sector has access to almost perfect information. Hence, the assumption that informational problems put the State in disadvantage vis-à-vis the private sector by assuming that the private sector is free from such informational problems;
 - ⇒ The State may have more information than the private sector because of its capacity to develop more sophisticated information networks (ex., statistics institutes);
 - ⇒ Information available to the State may be of a different order as well, namely more global information, better suited for more global management of the economy (or for ensuring the economic efficiency of decisions taken) and free from sub-goal bias;
 - ⇒ The information requirements for decision-making, and the difficulty to collect and process such information, are often exaggerated;
 - ⇒ The crucial question is not whether informational problems exist or not (for both the State and the private sector), but what is the best institutional framework and arrangements to minimise such problems;
 - ⇒ Finally, it is exactly because of informational problems that people plan their activities and life ahead, in order to minimise the risk and losses that may occur due to imperfect information.
- Advantages of the concept:
 - ⇒ Requires that the informational issues (scarcity and asymmetry) and the institutional arrangements needed to deal with informational problems be addressed;
 - ⇒ Acknowledges that knowledge and information are not fully appropriated and known; hence, recognises the world of uncertainty and risk where economic change and innovation thrive;
 - ⇒ Questions the naivety of the assumptions of the omnipotent State (and omnipotent private sector and markets).

4.2. Rent-seeking (pp. 27-31)

- Concepts:
 - ⇒ Rent is that part of payment to an owner of resources over and above that which those resources would command in any alternative use (ex., the monopoly profit over and above normal producer surplus);
 - ⇒ Attempts to capture rents are rational from the individual point of view, and may even be socially desirable if the cost of appropriating rents is more than offset by its benefits (ex., innovation);
 - ⇒ If the context of rent-seeking is a competitive one, agents trying to capture rents spend their resources on resource creation (ex., new technologies). If the context of rent-seeking is not competitive, resources are wasted on resource allocation away from optimality.
- Rent-seeking and State intervention:
 - ⇒ The problem with the rent-seeking due to State intervention is threefold:
 - (i) producers spend their resources trying to capture the State's favours and influence policy-making;
 - (ii) this creates a non-competitive context, leading to wasteful resource allocation;
 - (iii) this reduces the confidence in the market operation and outcomes, hence requiring more intervention and creating more rent-seeking;

⇒ Thus, the State should restrain itself from intervening in the economy, in particular from intervening through selective policies aimed at particular sectors and activities and at restricting entry, because such intervention is deemed to be influenced by wasteful rent-seeking, and to create more wasteful rent-seeking.

- Critique of the “rent-seeking” argument against State intervention:
 - ⇒ The nature of rent-seeking costs (against which resource waste has to be measured) is not clearly defined:
 - (i) transfer costs (ex., bribing) are not social costs;
 - (ii) the only costs involved in rent-seeking are those associated with assignment of property rights, which are transaction costs and always exist, with and without State intervention;
 - (iii) hence, the question is not whether State intervention creates transaction costs, but which costs are the smallest;
 - ⇒ A much more serious cost of State intervention than the waste from rent-seeking (which is a one-off cost) is the cost associated with the promotion of inefficient producers. To prevent that cost to occur, the State would better pursue selective policies, aimed at particular activities, agents and efficiency targets;
 - ⇒ Restrictions to enter are not only created by State intervention, but also by the private firms, because:
 - (i) competitive markets are not self-perpetuating – economies of scale, business cycles and continuous innovation, price wars, sunk costs due to asset specificity, uncertainty and risk linked with competitive games, structural adjustment of any sort or sheer luck have transformed many, if not all, competitive markets into non-competitive ones;
 - (ii) winners in competitive and rent-seeking games are willing to invest to keep their gains. Hence, the real issue is not whether entry is, or should be, restricted, but how to maximise the social net benefit in restrictive markets;
 - ⇒ Rent-seeking may be directly unproductive but indirectly highly productive, and its costs can be more than offset by productivity gains (ex., R&D and patents, infant-industry protection and learning);
 - ⇒ If the State has the ability to withdraw the rent when necessary – either because the industry has matured, or the agent is not complying with performance standards, or else – then a system similar to competitive conditions will operate.

5. Conclusions about Theories of State Intervention (pp. 31-32)

- The market failure/welfare State argument for State intervention:
 - ⇒ Markets fail for different reasons, which in turn require different forms of State intervention to remedy market failure:
 - (i) Public goods: taxation and subsidies to pay for it, in order to remedy for under-provision;
 - (ii) Non-competitive markets: anti-trust regulation and State ownership in order to remedy for sub-optimal output, producer rents and loss of consumer surplus;
 - (iii) Externalities: subsidisation of positive externalities and taxation and regulation of negative ones in order to correct for untraded interdependencies.
 - ⇒ Two major problems concerning this argument are raised by the literature, namely:
 - (i) Whom does the State represent? The society as a whole?
 - (ii) Can the State achieve what it sets out to do?
- The political economy argument addresses the first question (the nature of the State):
 - ⇒ Discussion of the nature of the State intervention:
 - (i) autonomous (autonomous from fractions of capital and predator State);
 - (ii) interest-group motivated (role of interest-groups in shaping the State’s policy-making process and outcome);
 - (iii) self-seeking bureaucrats (the State as a collection of utility maximiser individuals).

⇒ Despite the contribution of such arguments for the understanding of State's action, it is necessary to analyse in more detail the process of interest-group formation, organisation and action in the particular context of particular societies.

- The government failure literature addresses the second question (the ability of the State):

⇒ Discussion of the problems faced by the State:

- (i) Informational failure, namely scarcity of information and information asymmetries;
- (ii) Rent-seeking, or the wasteful use of resources (cost) to capture the State favours and shape its policies.

⇒ Despite its contribution for the debate on State intervention, the government failure literature errs:

- (i) by comparing government failure with hypothetical perfect markets (ex., assuming that firms have all the information they need and face no information asymmetries, unlike the State; and that competitive markets are self-perpetuating, if the State does not interfere);
- (ii) by not addressing the most important costs of general information and government failure (ex., the need for planning to deal with information failure; the promotion of inefficient producers; or the restriction of innovation).

- For the sake of coherence of later arguments, the literature on market failure (which does not address government will and ability), and on morality (particularly methodological individualism and contractarianism, which do not address any real issue) are rejected from the debate.

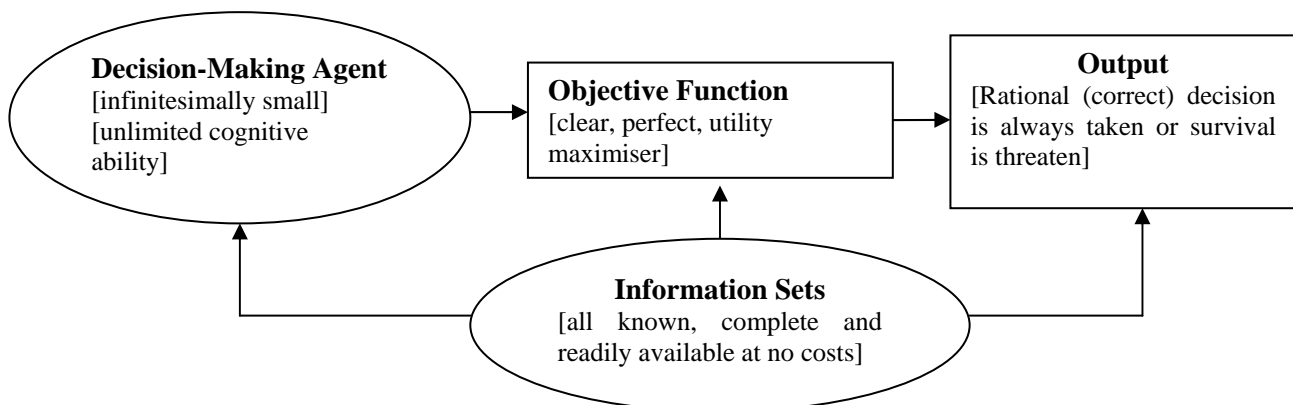
A NEW INSTITUTIONAL THEORY OF STATE INTERVENTION (pp. 33-54)

Two questions may arise from the debate on State intervention, namely: is there a way to remedying government failure? Is there a theoretical framework that may better guarantee a net benefit from State intervention?

1. Remedying Government Failure I: The Information Problem (pp 34-7)

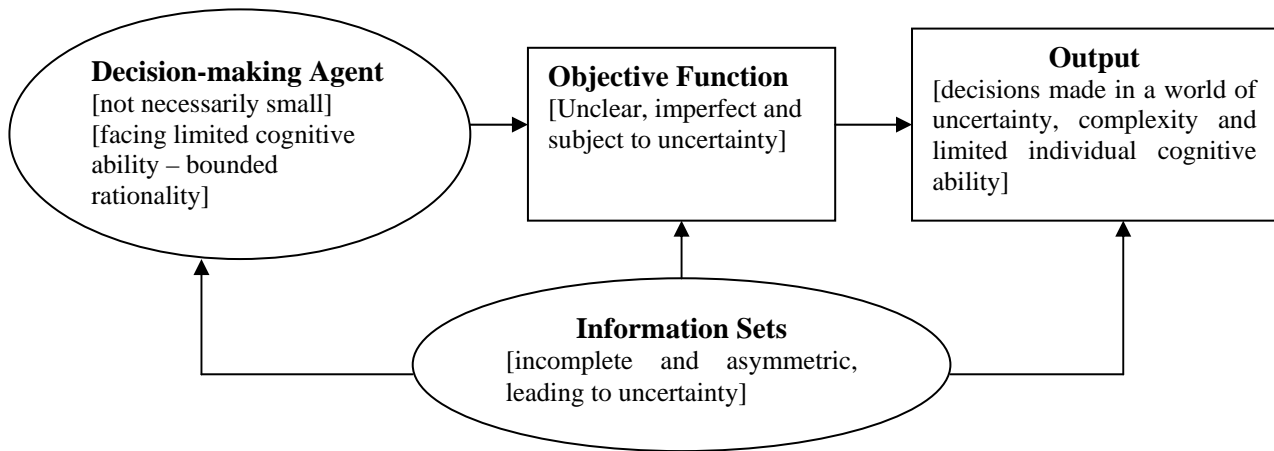
1.1. Substantive rationality versus procedural rationality (pp. 34-5)

**STANDARD DECISION-MAKING MODEL GIVEN UNBOUNDED RATIONALITY:
GOAL IS TO ENSURE THAT THE CORRECT DECISION IS TAKEN**



The decision-making process bears no costs, and both the information sets and objective functions are perfect. Hence, the only goal is to ensure substantive rationality (that correct decisions are taken), and what matters the most is the individual expertise. After all, agents have all available knowledge such that they can always make the correct decision.

**DECISION-MAKING MODEL GIVEN BOUNDED RATIONALITY:
GOAL IS TO DEVISE AN EFFICIENT DECISION-MAKING PROCESS**



The decision-making process is costly, and the information sets and objective functions are imperfect. Hence, the main goal is to devise an efficient decision-making process, which can be cost efficient and improve the chances of success (or minimise costs or losses) in the presence of uncertainty and complexity. What matters the most, in a world of uncertainty and complexity, is the efficiency of the decision-making process (procedural rationality). After all, given that knowledge is limited, decision-making agents cannot know ex-ante whether his/her decision is correct.

... the elaborate organisation that human beings have constructed in the modern World to carry out the work of production and government can only be understood as machinery for copying with the limits of man's ability to comprehend and compute in the face of complexity and uncertainty (Simon, H. 1979:50, as quoted in Chang 1996:34).

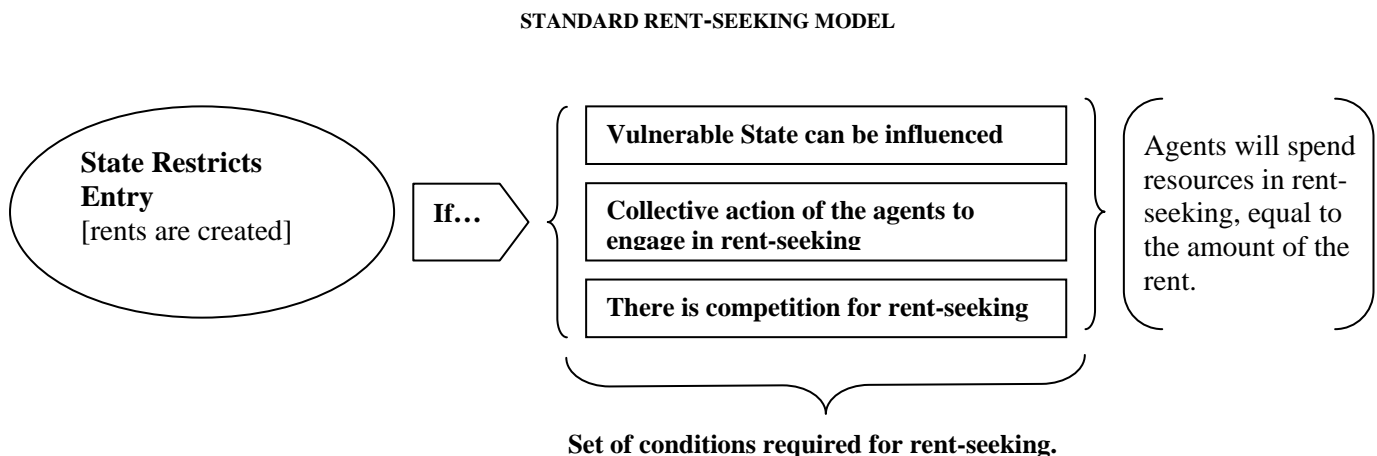
1.2. Mitigating the information problem (pp. 35-8)

- Given the limited capacity of the government to collect and process information, successful government intervention can only be achieved at an informational cost;
- The first objective, thus, is to improve the decision-making capacity of the government, through improving its ability to collect and process information:
 - ⇒ Collection of information requires more human and institutional resources. However, having more information is not of much use if there are severe bottlenecks with the processing of the information;
 - ⇒ Ability of processing of information is determined by the decision-making structure, the most important dimension of which is its degree of centralisation:
 - (i) Less layers of decision-making the better;
 - (ii) Perceptions of the World derive from experience – need to prevent sub-goal identification;
 - (iii) To encourage global efficiency – need of centralised information and decision-making. Central institutions are better suited to ensuring global efficiency, not because they are superior beings, but because they do not suffer from sub-goal identification;
 - (iv) Top decision-makers should be assigned only strategic tasks – limited cognitive ability will reduce focus on strategic decision-making problems

if top decision-makers are responsible for both strategic and day-to-day tasks.

- The second objective is to reduce information asymmetries at two different levels:
 - ⇒ Within the State, between different levels of the bureaucracy (decision-making and implementation):
 - (i) Degree of discretion available to an organisational participant should be linked to the characteristics of its activity (this reduces the need to spend resources measuring the activity of someone whom, because of not controlling the variables influencing its performance, can always blame the others). If it is easy to observe activities and outputs and relate them, less discretion should be allowed (and vice-versa);
 - (ii) Organisational loyalty should be developed inside the organisation.
 - ⇒ Between the State and other agents (firms, etc.):
 - (i) State-promoted Industry associations as information clearing houses;
 - (ii) Plan contracts between supported industries and the government;
 - (iii) Laws making regular reporting of targeted industries compulsory;
 - (iv) Contests, by which the government and business exchange information.

2. Remediating Government Failure II: the Rent-seeking Problem (pp. 38-45)



What would happen if these conditions were not to hold? There would be no rent-seeking. Hence, rent-seeking does not automatically arise as a result of State restricting entry. In other words, artificial scarcity (or the existence of rents) alone does not create rent-seeking. The three conditions set up must hold for rent-seeking to happen. (pp. 38).

2.1. First condition for rent-seeking: the vulnerability of the State (pp. 38-40)

- For agents to engage in rent-seeking, there must be some way of influencing the outcome of the contest, that is the State's allocation of rents;
- The State can prevent rent-seeking by making itself invulnerable, and making sure that the agents to know it, by:
 - ⇒ Increasing the share of decision-making held by bureaucrats not dependent on elections;
 - ⇒ Reinforcing the "organisational loyalty" of the bureaucracy;
 - ⇒ Voluntarily abdicating its power to make decisions, through:
 - (i) Setting clear rules for contests not dependent on discretion: picking winners by random choice (unlikely), imposing the discipline of the queuing (first arriving gets the rent), etc.;

- (ii) Establishing indicative planning, hence binding the action at all levels to clear policies (the more particularistic policies are, the better);
- (iii) Allocating rents on the basis of performance (past and future), hence ensuring that costs are more than compensated by benefits;

- A State “invulnerable” to external influence, but which pursues objectives that are socially undesirable (ex., predatory State), is not good – in this case, the society would desire that the State is vulnerable, so that its objectives can be changed.
- Some forms of “invulnerability” (ex., picking winners only on the basis of performance) yield higher efficiency gains than others (ex., picking winners at random).

2.2. Second condition for rent-seeking: agent’s collective action (pp. 40-1)

- Rents are often given to a group of agents, rather than individuals, because of the following: influencing activities requires a large set-up cost (hence, there are economies of scale involved); and fairness requires that agents with equal attributes receive equal rents.
- Rents of private nature (ex., licensing of a firm or an innovation patent) cannot be shared; hence, they do not suffer from the collective action problem since they do not require collective action. To overcome rent-seeking in this case, the State has to be vulnerable only to performance, and able to overcome competition for rents;
- Rents of public nature - or from a public source, but where the rent itself is privately appropriated – (ex., a tariff), can be shared (the fact that one benefits from the tariff does not prevent others from benefiting from it). These rents require collective action; hence, they are subject to the collective action problem (when an interest-group has to be created). If the rent-seekers fail to organise themselves there will be no rent-seeking.

2.3. Third condition for rent-seeking: competition for rents (pp. 41-4)

- Standard theory assumes that creating monopolies (either privately or through State created rents) is a “competitive industry”. This is often not the case:
 - ⇒ If it is a monopoly (because of economies of scale, licensing or something else), then there are not rent-seeking activities, since the rent can be fully appropriated without having to spend resources in seeking it;
 - ⇒ If it is an oligopoly, one’s best action depends on the action of others and the common knowledge about this fact. If knowledge is imperfect, the oligopoly framework (interdependence between agents and the environment) creates uncertainty that, in turn, can be eliminated through collusion – which requires binding contracts and communication between the agents. If collusion is possible, the rent can still be appropriated with nil social costs.
- Even in non-competitive rent-seeking there might be significant unproductive and wasteful use of social resources:
 - ⇒ One may spend resources to create entry barriers into the rent-seeking market since such rents are cheaper – however, imperfect foresight can seriously limit the scope for such action;
 - ⇒ If rent are distributed through franchise binding or bribery, costs may still very high – these costs can be reduced if entry into the politics and rent markets is restricted (ex., only bindings from excellent performers or from a specific industry are accepted).

2.4. Concluding remarks about rent-seeking (pp. 44-5):

- What causes rent-seeking is the existence of political competition, not the absence of economic competition (which creates rents, but not rent-seeking);
- Why not get rid of the rents altogether (avoiding State-made artificial scarcity) and thus get rid of the problem altogether? There may be three reasons why not:

⇒ Rents are created in any dynamic economic with imperfect information through innovation, economies of scale (constant and increasing returns), business cycles and even through competition (price wars), irrespectively of State intervention. Hence, getting rid of State created rents does not mean getting rid of the rents altogether;

⇒ Although the existence of rents alone does not make a dynamic economy, rents may be required to promote investment, innovation, R&D and long-term contracts to minimise strategic and parametric uncertainty. Hence, getting rid of the rents altogether may seriously jeopardise dynamic progress, particularly in the case of late-comers that have to catch-up;

⇒ State created rents may have three major advantages. One, they may encourage institutional and organisational innovation. Two, they may reduce transaction costs involved in rent-seeking, coordination and wasteful competition (ex., price wars). Three, they may minimise uncertainty and ensure that economic change goes above and beyond what the market alone could deliver.

- The real question is not how to get rid of the rents altogether, but how to reduce rent-seeking activities. This raises another question: at what level of the political economy system should competition be restricted or encouraged – this depends on specific societies and processes of interest group formation and operation.

3. A New Institutional Theory of State Intervention (pp. 45-53)

3.1. The nature of economic costs (pp. 46-8)

- Neo-classical economics:
 - ⇒ Goal of economic activities: to achieve allocative efficiency between economic units;
 - ⇒ There are not costs involved in trying to achieve allocative efficiency:
 - (i) Market allocative activities are costless and are determined by the price structure which is set up and implemented at no cost;
 - (ii) Market failure is inefficient to the extent that it does not allow for optimality, but they are still costless;
 - (iii) The correction of market failure by the State is costless too, although it only indirectly allows for optimality (second best).
 - ⇒ Production costs are important but they are an engineering problem.
- Critique of the neo-classical economics:
 - ⇒ There are at least two major types of costs of production which are economic costs:
 - (i) Costs of technical change and innovation, as well as the costs of learning associated with the tacit and institutional nature of knowledge – these activities are at the core of modern economic activity;
 - (ii) Costs of organisation and monitoring associated with the fact that production is not only a technical process (involving a relationship between workers and machines), but it is also a social, or labour, process (involving the control over labour power and labour);
 - ⇒ Transaction or allocative costs exist because economic activities involve relationships not only between people and things, but also between people. This creates the problem of limited cognitive capacity and associated uncertainty, resulting in different types of costs:
 - (i) Costs associated with definition, assignment and protection of property and other rights;
 - (ii) Costs associated with writing, monitoring and enforcing contracts;
 - (iii) Informational costs;
 - (iv) Costs associated with changing contracts, rights and other rules of the game.

3.2. Transaction costs and State intervention (pp. 48-53)

- Mainstream models compare the costs of government failure with the costless allocative role played by the market. This is misleading, because both State and market allocation incurs costs. The question, thus, are: which one, the State or the market, can achieve the same allocative efficiency at lower costs in each particular case; and which one can achieve, in each particular case, higher efficiency;
- Therefore, the role of State intervention should be understood from two distinct points of view:
 - ⇒ Lowering transaction costs through:
 - (i) Ensuring the assignment of property rights in order to avoid the problem of externalities – untraded interdependencies (ex., rents associated with R&D – patents, subsidies, etc.);
 - (ii) Reducing macroeconomic instability to lower transaction costs that would otherwise incur in order to create microeconomic environments that make rational calculations possible (ex., excess stock of raw materials or excess liquidity);
 - (iii) Ensuring coordination and lowering the transaction costs associated with coordination, in pure coordination problems (many agents and multi-equilibria that are equally preferred by each part); and general coordination problems (at any equilibrium point no agent wishes to change its behaviour or that the other changes it, but both would prefer the coordinated outcome – ex., complementary investment).
 - ⇒ Promoting economic change above and beyond what the market alone would be able to do.
- To solve the coordination problem, the State does not have to supersede all market transactions – this would likely be prohibitively costly and inefficient. The State can:
 - ⇒ Change the institutional settings, by encouraging and promoting industry associations (which reduce bargaining costs), and/or social corporatism (by which workers and employers are respectively organised and conduct centralised and nationwide bargaining);
 - ⇒ Exert ideological influence through the media, education system, etc;
 - ⇒ Provide a focal point for coordinated action (ex., the indicative planning around which decisions and bargaining take place).

THE POLITICAL ECONOMY OF INDUSTRIAL POLICY (pp. 55-90)

The traditional role of the State in economic development has been focused on five points: (i) improvement in income distribution (welfare State); (ii) provision of public goods; (iii) provision of competition regulation; (iv) control of negative externalities; and (v) provision of macroeconomic stability. These arguments for State intervention are all based on the idea that such intervention is required due to market failure (we have already seen that market failure is not a good enough argument for State intervention, in itself, due to the problems of government failure).

Does industrial policy make sense? Yes, because the allocation of capital is as important, if not more, than the aggregate capital formation for productivity growth. Therefore, macroeconomic measures are insufficient for industrial development, and industrial policies are required. There are two dimensions to industrial policy: the static dimension, concerning coordination; and the dynamic dimension, concerning economic change. Actually, industrial policy may be preferred to both unregulated markets and other forms of State intervention.

1. The Industrial Policy Debate (pp. 56-61)

1.1. Does manufacturing matter? (pp. 56-8)

- The argument for industrial policies in the developed countries:
 - ⇒ De-industrialisation, as measured by a falling share of manufacturing employment and manufacturing value added on total employment and GDP;
 - ⇒ De-industrialisation signals the declining economic competitiveness;
 - ⇒ Hence, industrial oriented policies are required to stop the declining trend.

- The argument against industrial policies:
 - ⇒ A demand driven structural adjustment is taking place in the developed economies: as income rises, the demand for services rises more than proportionally. This is why the share of manufacturing employment and output is falling;
 - ⇒ Hence, industrial policies would only distort the market allocation of resources and lead to inefficiency.

- Analysis of the debate:
 - ⇒ The relative share of employment and output of the different sectors in the economy depends on relative productivity and relative prices. Hence:
 - (i) The declining share of manufacturing employment may signal higher productivity of this sector relative to the others;
 - (ii) The declining share of manufacturing output may signal that due to superior productivity the relative prices of manufacturing goods are declining relative to the other sectors;
 - (iii) Thus, the rising share of employment and output of the services sector may signal the productivity disadvantage of this sector relative to manufacturing;
 - (iv) Therefore, neither the declining shares of manufacturing output and employment necessarily mean de-industrialisation (in the sense of falling competitiveness), nor the increasing share of services necessarily means a demand-driven structural adjustment. Both trends can be the direct result of the productivity differential between both sectors;
 - (v) However, it must be acknowledge that de-industrialisation (falling competitiveness of the manufacturing sector) can be taking place, and will certainly affect the speed and magnitude of the change in the relative shares of output and employment.
 - ⇒ Even if one accepts that there is a demand-driven structural adjustment towards services due to the rise in income, one still has to explain how income has risen. The rise in income is most certainly associated with the growth of productivity in the manufacturing sector;
 - ⇒ Given that most services are non-tradables, the question which arises is how to ensure continues growth of productivity and incomes without falling into balance of payment crisis;
 - ⇒ Most importantly, accelerated industrialisation is a crucial concern for latecomer economies that have to catch-up with the advanced industrial economies;

- Hence, manufacturing (and for this case industrial policies) matters since it is the major source of income and productivity growth, balance of payments sustainability and technological innovation.

1.2. What is industrial policy? (pp. 58-61)

*We propose to define industrial policy as a policy aimed at **particular industries** (and firms as their components) to achieve outcomes that are **perceived by the State** to be **efficient** for the **economy as a whole**. (pp. 60).*

Attention to the emphasis:

- ❖ *Particular industries*: hence excluded from the domain of industrial policy are policies aimed at the industry in general (educational investment, infra-structural investment, R&D investment); and policies aimed at groups other than industry (regional policy, group policy);
- ❖ *Efficient*: to emphasise that the guiding principle of industrial policy is efficiency (including the reduction of transaction costs), and not other principles (such as income distribution and equality);
- ❖ *Economy as a whole*: the ultimate aim of industrial policy is the efficiency of the economy as a whole. When the interests of the efficiency of a particular industry and that of the economy as a whole clash, the later is permitted to dominate;
- ❖ *Perceived by the State*: meaning that it is the perception of the State, rather than that of different interest groups, which is allowed to dominate; and that the perception of the State is not necessarily correct for everybody.

2. The Logic of Industrial Policy I: the Static Dimension (pp. 61-71)

Industrial policy is a policy intended to affect particular industries (not the industry in general) in order to achieve the outcomes perceived by State as efficient for the economy as a whole. This is an argument for selective State intervention (ex., monitoring entry, establishment of mechanisms for ex-ante coordination, regulation/overview to restrain/supplement profit incentives, etc.).

Why not let markets to carry out spontaneous coordination?

2.1. The nature of the coordination problem (pp. 61-5)

- Perfect competition does not require ex-ante coordination:
 - ⇒ *Perfect competition*: economic agents are negligible, there is no interdependence between their actions, and technology is binding due to decreasing returns to scale (DRS). In this context, a unilateral action by any individual agent would be unable to change the aggregate outcome. Given the nature of technology, each agent and each market would face a single optimum output level at which returns are maximised; and no agent would face an incentive to dominate the market. Hence, no ex-ante coordination would be required;
 - ⇒ *Critique of the perfectly competitive model*:
 - (i) The model of perfectly competitive markets only holds under DRS, but most industries face no binding technology, this is, they face either constant returns to scale (CRS) or increasing returns to scale (IRS) technology. If this is the case, and information is less than perfect, the problem of ex-ante coordination arises (see detailed discussion below);
 - (ii) If everybody knows precisely everything about everybody else's plans, no coordination mechanism, price or any other, is necessary. Hence, equilibrium in the perfectly competitive model is attained only because the coordination problem is assumed away from the beginning (pp. 62);
 - (iii) The concept of *perfect competition*, itself, is flawed. In order to be *perfect*, the competitive environment requires perfect information. If everybody knows everybody else's activities, there is no competition, or even an incentive to competing. Innovation and advertisement would not bring any advantage to those investing in it, because everybody would instantaneously appropriate all information. Hence, *perfect competition* means the absence of all competitive activities, since it requires that everybody know all facts (pp. 63).
- How the coordination problem may arise?
 - ⇒ *Marx*: capitalist firms are islands of planned economies in an otherwise chaotic capitalist sea of anarchy. The failure of the capitalist markets to coordinate represents a waste of social resources;
 - ⇒ *Coordination failures* are due to: information failures, which create uncertainty; and sunk costs (costs associated with the "sinking" of physical investment due to asset specificity), which increase the costs of failure, or the risk associated with uncertainty.

⇒ *Constant returns to scale (CRS)*: technology is not binding and agents face no limits to the output they can produce.

- (i) Firms may behave as individuals ex-ante in a large number setting, but there is no guarantee that markets will clear ex-post since each firm can produce as much as it is capable of. Thus, even in industries characterised by CRS there may be a small number of firms, which may create the ex-ante coordination problem;
- (ii) If each firm can predict precisely how much each other firm will produce, and at which costs, the coordination problem does not arise. However, given that information is less than perfect, there is no way to determine the number of firms and level of output in an industry characterised by CRS. Hence, unless ex-ante coordination mechanisms are established, all firms may overproduce, and none will have the incentive to be the first to restrain output.

⇒ *Increasing returns to scale (IRS)*: firms have to produce at full capacity in order to maximise their returns because of high fixed costs. Additionally, sunk costs (costs of activity specific physical assets which “sink” with the investment if this fails) increase the opportunity cost of entry and exit, making physical assets less than perfectly flexible. This generates non-competitive markets (oligopolies and monopolies) because each firm has an incentive to capture the market, and the market is too small to accommodate all firms. This leads to *strategic uncertainty*, whereby firms may over or under-invest, in either case generating significant waste of resources or opportunities. Strategic uncertainty arises because of imperfect information and sunk costs, particularly in new or expanding industries:

- (i) *Price wars*: if many firms enter an industry facing IRS, they will be involved in a price war to undercut competitors. Such price wars are wasteful for four main reasons. First, fixed costs are not recovered, which leads to bankruptcies. Second, asset specificity (sunk costs) prevent resources to be relocated and tend to increase with fixed costs and IRS. Third, the huge losses from the price war may hamper further investment and innovation even for the firms which have managed to survive and stay in the market. Finally, a price war may increase the concentration of the market power;
- (ii) *Over-investment*: if firms anticipate that only a small number of firms may enter a certain industry, in the absence of ex-ante coordination many may in fact invest. This leads to price wars, penalises all suppliers and generates a huge waste of resources;
- (iii) *Under-investment*: if firms anticipate that many firms will try to enter a certain industry, they will restrain from investing in order to avoid the price war (and associated losses from sunk costs). This penalises the industry.

- Neo-classical economics and the unsatisfactory “solution” of the coordination problem:
 - ⇒ Mixed or randomised (probabilistic) strategy games, which yield the highest average payoff only if the same game is repeated an infinite numbers of times. However, given innovation and technological change, it is unlikely that a recurrent situation may occur at all, making probabilistic analysis less than meaningful;
 - ⇒ Evolutionary Stable Strategy (ESS), whereby individuals do not randomise (which avoids the problem of non-recurrent situations), but there are a sufficient number of different types of agents for the aggregate outcome to be the same as when individuals randomise. Problems:
 - (i) Even in the purest biological world, ESS only holds approximately because infinite populations and time would be required to reach the peak of a continuous fitness function (as selection becomes progressively weaker towards the peak of the continuous fitness function);
 - (ii) The meaning of ESS is even less clear when the concept is applied to economic life. First, in advanced industrial economies, innovation and technical change occur so rapidly that the selection mechanism does not have time to work to its full extent. Second, the agents in economic life (being humans) can learn and transfer not only the inherited genetic

characteristics but also the acquired (through learning) characteristics. Thus, they can both change their behavioural characteristics (ex., vertical or horizontal integration, spreading out of their technology, etc.) as well as the selection mechanism itself (ex., through advertising), and so improve their chances of survival. By doing so, they can change the ESS itself.

2.2. Industrial Policy as a device of coordination (pp. 65-70)

- *The problem:* IRS technology creates non-competitive markets, where agents are not negligible and their individual actions are important for other agents' actions and for the aggregate outcome. The coordination problem arises because of imperfect information concerning each other's actions, and because of sunk costs, or the costs of failure due to asset specificity of physical investment. This creates uncertainty and waste of social resources. Furthermore, neo-classical economics fails to address the problem of coordination failure, because its "solutions" abstract from innovation and technical change, and from the ability of economic agents to learn and acquire new characteristics, to change the selection mechanism and to pass the acquired characteristics in addition to the inherited ones. If markets fail to coordinate, and if such failures produce wasteful costs, then there is a case for ex-ante (or non-market) coordination.
- *Ex-ante coordination through industrial policy:* the main aim of industrial policy as a coordination device is to prevent strategic uncertainty (and by so doing, avoid both over and under investment), in order to avoid waste of social resources (due to price wars and sunk costs in the case of over-investment) and loss of opportunities (in the case of under-investment). Industrial policy is required because markets fail to coordinate and private ex-ante coordination is too costly because of costs of private bargaining and enforcing of contracts (ex., collective action problem if there are many firms, monitoring the implementation of the agreement, firms may not trust each other, decide how to share a market or which firm should exit and how to compensate for it).
- *What can industrial policy do as a coordination device?*
 - ⇒ *Investment coordination:* ensuring optimal entry (this is, avoiding over and under-investment) (pp. 66-7):
 - (i) Licensing entry;
 - (ii) Conditional entry (ex., conditional to changes in demand);
 - (iii) Regulating capacity expansion, through, for instance, industrywide investment plans (or investment cartels).
 - ⇒ *Recession Cartel:* if there is a short-term, unforeseen downturn in demand, firms may get involved in wasteful price wars to undercut competitors, resulting in huge sunk costs, possible long-term negative effects on investment and innovation and more market concentration. Recession cartels can be organised privately, but the costs of private bargaining can be huge (ex., if there are many firms - collective action problem; if firms do not publicly announce prices and make separate deals with separate buyers there may be high monitoring costs; or if firms do not trust each other, there may be no working cartel at all) (pp. 67-8).
 - ⇒ *Negotiated exit and capacity scrapping:* if the downturn in demand is long-term, it may be necessary to reduce the actual capacity of the industry. Private negotiations may be too costly. If all firms remain in the industry, some will go bankrupt, resulting in high sunk costs. The first to exit will lose while improving profit opportunities to the others, so that no one wants to make the first move. Some may prefer to remain in the industry despite high losses, if they are uncertain about the duration of the downturn, and if they consider the costs of re-entry too high. State-driven capacity reduction can be significantly more efficient than private bargaining alone (pp. 68-70):
 - (i) Side-payments: compensation for firms which accept to exit the market;
 - (ii) Coordinated scrapping of capacity by all firms;
 - (iii) Mothballing: stripping the equipment down and concreting in the mountings, so that it takes considerable amount of effort to put it back to production (cheaper than actual scrapping though, being more adequate when there is uncertainty concerning the time span of the downturn);
 - (iv) Market segmentation.

2.3. Concluding notes on the case for industrial policy as a coordination device (pp. 70-1)

- Why can markets fail as coordination devices, and why are coordination failures costly?
 - ⇒ The perfectly competitive model: agents are infinitesimally small due to DRS technology, no interdependencies arise that are not fully traded, and everybody knows everything. Hence, coordination as a problem is (and can be) assumed away;
 - ⇒ However, this model may not hold:
 - (i) Conceptually, the model is flawed: “perfect competition” means the absence of any competitive activity, since everybody knows everything;
 - (ii) CRS: no reason why markets would clear ex-post because technology is not binding; as a result, the number of firms may be small giving rise to interdependencies which, if information is less than perfect, generates the coordination problem;
 - (iii) IRS: there is a strong case for non-competitive markets where strong interdependencies develop amongst the small number of agents. Informational imperfections lead to strategic uncertainty in a world of interdependence with independent agents, and high sunk costs increase the risk of uncertainty (or the cost of failure), leading to either over or under-investment.
 - ⇒ Neo-classical market-led “solution” is unsatisfactory:
 - (i) Mixed strategy (or randomising): innovation changes the environment and behaviour of firms in each new round, making randomising meaningless;
 - (ii) Evolutionary Stable Strategy (ESS): the ability of economic agents (human beings) to learn and acquire new characteristics and to pass the acquired characteristics through codified knowledge changes both the behaviour (genes) and the environment (selection mechanism), thus changing the ESS as well.
 - ⇒ Coordination failures are costly because of the sunk costs (costs of failure) associated with the specificity of physical investment (cost accruing to agents); and because of the costs of opportunity losses (accruing to the whole industry).
- Why is industrial policy required and what are its main aims, as a coordination device?
 - ⇒ If markets fail to coordinate, and coordination failures are costly, there is a case for ex-ante coordination;
 - ⇒ Setting private coordination ex-ante can be highly inefficient and costly, due to costs of bargaining (ex., collective action problem, decision on who moves first, settling compensation for voluntary exit, and so on) and monitoring, as well as informational problems;
 - ⇒ Industrial policy may help to cut down transaction costs associated with coordination, and ensure optimal entry in order to prevent strategic uncertainty and associated price wars, sunk costs and costs of opportunity losses.
 - ⇒ Industrial policy can be pursued in order to:
 - (i) Coordinate investment decisions (licensing entry, conditional entry, regulating capacity expansion through, for example, investment cartels) – avoids strategic uncertainty, price wars and sunk-costs;
 - (ii) Adjust the industry to short-run downturn in demand (through recession cartels) – avoids price wars and sunk costs;
 - (iii) Adjust the industry to long-run downturn in demand (side-payments for voluntary exit, cartel scrapping and mothballing, and market segmentation – avoids price wars and sunk costs and the first mover dilemma, and reduces monitoring costs.

3. The Logic of Industrial Policy II: the Dynamic Dimension (pp. 71-9)

It has been shown that industrial policy may be capable of dealing with the coordination problem (mostly associated with the level and structure of demand). But can it deal with economic change? If the answer is “no”, then industrial policy can cause more long-term harm than good, even in its static dimension. To answer this question, one has to investigate the nature of economic change and the possible role played by industrial policy in this process. Additionally, it is also necessary to compare what industrial policy and markets, alone, can achieve in order to decide whether industrial policy can reach targets over and above what markets, alone, can.

3.1. Knowledge, change and evolution (pp. 72-4)

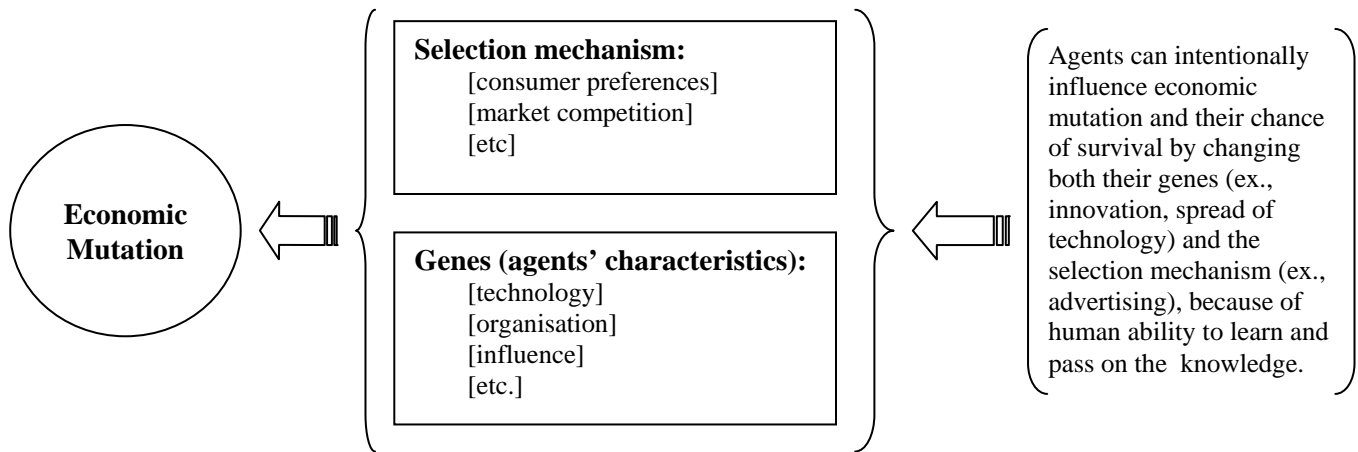
- The problem for economic theory:
 - ⇒ What orthodox economics considers as data (knowledge and information), in fact keeps changing;
 - ⇒ Hence, any theory trying to explain the economic process has to explain how the knowledge, fragmented and dispersed as it is – giving individual’s different experiences – can be transmitted;
 - ⇒ This problem is made more difficult because knowledge is not fully codified – there is a large component of tacit element involved in the production and accumulation of knowledge;
 - ⇒ Thus, if the dispersed and fragmented pieces of knowledge were to be put together deliberately, it would require a level of knowledge from the directing individual which no single person can possess.

- What libertarians have to say about this (ex., the Austrian school):
 - ⇒ Since no single person or small group of individuals can possess all the necessary knowledge, deliberate coordination of all knowledge cannot be consciously brought about;
 - ⇒ Therefore, competition (as a natural selection process) is the way out towards economic change through a process of evolution beyond human comprehension. Hence, economic change, which requires the transmission of knowledge, can only be brought about by the market mechanism, because such a mechanism is “...*highly conducive to the achievement of many different individual purposes not known as a whole to any single person, or relatively small group of persons.*” (Hayek 1978:183).

- However, there are crucial differences between biological and economic evolution, the most important of which is that in the latter the units of selection (the agents) have the capacity to intentionally mutate and change the selection mechanism, at least to a degree. This is due to the human ability to learn and to pass on the acquired knowledge through codification (ex., writing a book on business organisation) and institutionalisation (ex., introducing in practice the lessons in the book) (pp. 74-5).

Table 1: Biological and Economic “mutation” compared

	Biological Process	Economic Process
Mutation	A random process associated with lack of conscious planning.	Often intentional, because humans can learn and change behaviour. Each firm is a conscious learning centre.
Transmitted characteristics	Only hereditary characteristics are transmitted.	Also acquired characteristics are transmitted, because humans can codify and store knowledge, and learn from experience.
Selection mechanism and the agents	Natural selection is independent of the actions of individual agents.	The selection mechanism is not “natural” – agents can change it.
Chances of survival	Natural selection of the fit.	Agents can change their chances of survival by changing genes and the selection mechanism because of their ability to learn and pass on acquired characteristics.



Hence, the agents through their strategies can influence the process and outcome of economic mutation. Even in the absence of a central or global conscious process of change, each firm and economic agent is a conscious learning centre, which pursues intentional survival strategies. Thus, there is nothing “natural” about the selection process and mechanism in economic life. This results from the simple fact that agents can learn (from codified knowledge and from others and own experience), pass on knowledge [through codified (ex., a manual) and institutional (ex., organisational innovation) means], and use the knowledge so acquired to formulate and implement their strategies.

3.2. Industrial Policy as a device to promote changes (pp. 74-9)

- *Coordination* (pp. 75-6): in a world of interdependency, the existence of a better alternative does not necessarily mean the advent of a change (pp. 75). Coordination may be required for the economic agents to commit themselves to the change. This is the case when the best strategy of any one agent depends on the strategy of the others.

⇒ Example 1- change associated with new products, processes or technology (ex., from QWERTY or Windows to a better alternative):

- (i) All agents use the dominant technology;
- (ii) There are networking interdependencies between them;
- (iii) There are costs associated with changing to a better alternative (ex., training costs, capital embodied costs, costs of not being able to network with the other agents);
- (iv) If one agent changes alone, he will be penalised: he will pay all the costs, educe the costs for the others to change (socially, the change is desirable; privately, it is not);
- (v) Coordination is required: all, or a significant group, decides to make the change together (the best strategy of each agent depends of the other agents strategies);
- (vi) Ex-ante private coordination may be impossible (ex., too much uncertainty due to imperfect information), or too costly (ex., bargaining, enforcing the contract, etc.);

⇒ Example 2 – different industries complement each other (ex., input-output, technology, technological spillovers, etc):

- (i) No investment will accrue to industry A without complementary investment in industries B and C. If the capital stock of a country consists of an intricate web of interlocking elements, then it is difficult to replace one part without a costly rebuilding of other components;
- (ii) There is a costs associated with coordination failure (ex., no demand for output of an industry);
- (iii) Ex-ante coordination is required, but it may be very difficult to carry it on privately, unless all costs and benefits are internal to one firm;

- ⇒ Coordination failure is due to the presence of sunk costs or costs of failure (due to asset specificity), uncertainty due to imperfect information (ex., firms do not trust each other), and costs of bargaining, writing, implementing and monitoring contracts;
- ⇒ Industrial policy may provide more efficient solutions for coordination, such as:
 - (i) Indicative planning: shows where to go with certainty, as long as it provides focal points (including public investment) for complementary investment;
 - (ii) Financial incentives for cooperative research into specific areas and new industries.
- *Codifiability of knowledge and the product cycle (pp. 76-7):* the limited codifiability of technical knowledge requires that the problem of knowledge generation be incorporated into industrial policy. This can better be done using the theory of the product cycle. The dynamics of industrial policy, in this case, focus on encouraging experimentation and learning in the infant-industry phase (Table 2).

Table 2: Characteristic of Industrial Activities and Policies in different phases of the Product Cycle

	Product Cycle		
	Infant industry	Mature Industry	Senile Industry
Characteristics of Industrial Activities	<ul style="list-style-type: none"> ◆ Experimentation ◆ Different ways of doing coexist ◆ Little codified knowledge 	<ul style="list-style-type: none"> ◆ Best practices are adopted ◆ More codification of knowledge ◆ Re-structuring of the industry 	<ul style="list-style-type: none"> ◆ Production shrinks ◆ Sunk costs of highly specific assets and labour
Characteristics of Industrial Policies	<ul style="list-style-type: none"> ◆ Ensure market stability to help innovation: <ul style="list-style-type: none"> ⇒ Patent system; ⇒ Subsidies; ⇒ Tariffs, etc. ◆ Institutional arrangements to cope with expected externalities (ex., regulation of negative externalities; compensation for positive externalities). ◆ Dynamic coordination: <ul style="list-style-type: none"> ⇒ Product and technological standards; ⇒ Cooperative R&D; ⇒ Competing investment (to avoid over and under investment) ⇒ Complementary investment (focal points) 	<ul style="list-style-type: none"> ◆ Consolidation of the institutional settings ◆ Static coordination <ul style="list-style-type: none"> ⇒ Investment decisions ⇒ Responses to demand fluctuations ⇒ Reduction of transaction costs 	<ul style="list-style-type: none"> ◆ Negotiation of exit and capacity scrapping ◆ Retraining and re-location programmes

- *Diversity of sources of innovation (pp.77-8):* given the uncertainty that obscures early efforts to explore new fields, it would be quite unwise to concentrate all efforts on a single approach to a still cloudy goal. Innovation is basically a chase over a moving target, a job at which nobody can claim absolute superiority (pp. 78).
 - ⇒ Unless human rational is unbounded (due to humans having unlimited cognitive capacity), there will be a pressing need to preserve diversity of the sources of knowledge in an ever-changing world.
 - ⇒ Is it not an argument for *laissez-faire*?

- ⇒ There are three major problems with the *laissez-faire* argument in this case:
 - (i) Capital market failures, due to uncertainty, would put the followers in financial disadvantage, and would not necessarily ensure diversity;
 - (ii) Patent racing may dissipate the whole rent from innovation or lead to accumulation of sleeping patents (Rasmussen 1995:341-8). Both would put entrants off the industry.
 - (iii) In the presence of informational imperfections (uncertainty and non-excludability of knowledge), firms would engage in innovation efforts only if they are sure of being able to internalise all costs and benefits. This would put new entrants in disadvantage.
- ⇒ What can industrial policy do to ensure diversity of sources of knowledge and innovation?
 - (i) Subsidisation of potential entrants that are deemed to be at least equally capable as the incumbent, except financially (ex., venture capital);
 - (ii) Subsidisation of related R&D activities of firms that operate in similar lines and encourage cooperative R&D;
 - (iii) Promotion of basic research in Universities and public institutions, with subsequent publication of results.
- ⇒ Unavoidable duplication may be a small price to pay in order to pursue and ensure diversity of the sources of knowledge, and may be minimised by cooperative research promoted under industrial policy.
- Other reasons for industrial policy: ethics, protection of the local environment, global issues (globalisation of knowledge, globalisation of finance, globalisation of production and trade, global environment, etc.).

3.3. Conclusions concerning industrial policy as device for economic change (pp. 78-9)

- Unlike in the case of biological mutation, economic agents can influence economic mutation and their chances of survival by changing their genes (behavioural characteristics) and the selection mechanism (the environment where they operate). This is possible because of the human ability to learn (from codified knowledge and from experience of others and own), to store and pass on this knowledge, and to use it for developing, implementing and improving their own strategies;
- In a world of interdependence and linkages, the existence of better alternatives does not necessarily mean the advent of changes. Thus, industrial policy is concerned with two major issues: how to coordinate decision-making in order to take advantages of interdependence, rather than seeing it as a distortion; and how to socialise risk. In a world of independent agents, decisions are taken in an atomised fashion, and the risk involved in changes is necessarily borne by the individuals who take it. Hence, those who may benefit from socialisation of risk may get involved in excessive risk-taking (moral hazard). However, contrary to orthodox belief, the capitalist system, which is a world of continuous interdependent change, has developed on the basis of socialisation of risk;
- The dynamics of industrial policy focus on three major topics: coordination of changes to ensure interdependent changes; encouraging experimentation as the crucial engine of innovation; and preserving diversity as a necessary condition to deal with the cloudy world of innovation.

4. Possible Problems with Industrial Policy (pp. 78-89)

4.1. Problems with information (pp. 79-82):

- There are two problems with information
 - ⇒ *Insufficient information*: the State does not possess enough information to decide correctly on the future industrial structure;

⇒ *Asymmetric information*: the State is in an informational disadvantage vis-à-vis the firms that are subject to industrial policy, and such firms may use their informational advantage to extract more rents than they deserve on social grounds (moral hazard).

- The problem of *insufficient information*:
 - ⇒ Insufficient information is not restricted to the State. Firms also face the problem of insufficient information, and may even be in disadvantage, vis-à-vis the State, when it comes to information affecting the global operation of the economy or industry, or information required to manage uncertainty and interdependencies. Moreover, the information available to firms is often originated in external sources (consultants, research institutes, government institutions, official statistics, etc.), and both the State and firms can have access to that information;
 - ⇒ Planning ahead and strategy formulation are ways to minimising informational problems. Hence, insufficient information is not a good argument against ex-ante planning and strategy formulation. On the contrary, it is because of insufficient information, and associated uncertainty, that both the State and firms plan ahead their activities, goals, needs, and output, in order to minimise the losses due to unforeseen situations. Both the State and firms have to overcome *parametric uncertainty* (market demand, macroeconomic conditions, and the state of technological change), and they choose their production technology, liquidity position, inventory levels, etc., accordingly. They also have to overcome *strategic uncertainty* (due to interdependencies, such as prices, opportunistic behaviour from competitors, complementary investment, network linkages, etc.) and they organise contracts accordingly;
 - ⇒ Informational requirements for intelligent State intervention are not always so great as to disallow State intervention altogether. Information required is often readily available; the State may have informational advantages due to better informational networks; and many of firms' decisions are based on nothing more than "best" or "informed" guesses;
 - ⇒ Catching-up is less difficult. In the context of latecomers, the problem of identifying the desirable industrial structure is far less serious than for pioneers, because what latecomers have to do is to catch-up. In this process, they may learn how to become pioneers themselves.
- The problem of *information asymmetries*:
 - ⇒ Informational asymmetries affect not only the relationships between the State and firms, but all relationships in the economic system (between different levels within the State, within firms, between firms, between firms and banks, and so on). If asymmetric information is so severe as to disallow State intervention altogether, neither financing somebody else's project, nor the exercise of managerial planning are worth doing;
 - ⇒ There are ways of reducing information asymmetries, avoiding managerial excesses and minimising the principal-agent problem;
 - ⇒ Industrial policy, which is particularistic in nature, may suffer less from informational asymmetries than other forms of State intervention, because the contracts involved are more customer-based;
 - ⇒ Local information (or information possessed by firms) is not always better and more adequate than global information for the purpose of industrial policy, because of the sub-goal identification problem. For example, if the case involves externalities that are not borne out by the firm, the State can make a better decision because of the global nature of its information.

4.2. Rent-seeking and the entrepreneurship (pp. 82-4)

- Rent-seeking is a transaction-cost-generating activity. Contrary to orthodox belief, industrial policy, and other forms of State intervention, have a role to play to prevent that the stock of entrepreneurial talent be diverted to unproductive activities (which happens when rents accrue to those which are better at destroying assets and/or transferring assets rather than creating new productive assets);

- The general role of the State to prevent rent-seeking:
 - ⇒ Ensuring macroeconomic stability, which reduces rent-seeking activities specifically designed to deal with it (ex., financial hedging);
 - ⇒ Reducing strategic uncertainty, true investment coordination and national product standards, so as to reduce unproductive entrepreneurship associated with uncertainty;
- Industrial policy: rents should be durable enough to be appropriated, but not permanent or the accumulated dead-weight loss due to its existence will cancel initial productivity gains:
 - ⇒ Patent system with limited timing;
 - ⇒ Setting of performance standards in association with the rent;
 - ⇒ Ability to withdraw the rent and penalise when necessary (if standards are not complied with, when the timing has run out, etc.);
 - ⇒ Policy measures that preserve diversity may help to make the rent not permanent: venture capital, subsidisation of related R&D, etc.;
 - ⇒ Controlling that market power stays within the limits required for economies of scale.

4.3. Political problems: legitimacy and democratic control (pp. 85-7)

Table 3: Legitimacy, political control and industrial policy: problems and answers.

	Legitimacy	Democratic Control
Problems with Industrial Policy	Erodes the legitimacy of the State; hence, industrial policy should be avoided: <ul style="list-style-type: none"> ◆ Particularism erodes the image of the State as guardian of the social interest; ◆ Gives the bureaucrats the power to allocate property rights; ◆ Rents may accrue to inefficient producers; ◆ Corruption; 	There is a trade-off between efficiency and democratic control; hence industrial policy is not democratic: <ul style="list-style-type: none"> ◆ Empowers bureaucrats; ◆ Depends on bureaucratic discretion; ◆ Bureaus are not subject to democratic scrutiny;
Answer to the problems raised	<ul style="list-style-type: none"> ◆ Legitimacy is related to the socio-economic system as a whole (ex., income inequality), rather than with only of its aspects (ex., the State favouring some firms); ◆ All policies are open to a legitimacy problem (ex., monetary policies pushed forward by bankers tend to be tight, whereas industrialist like a more expansionary policy). Whose lobby prevails and why? Why isn't monetary policy also open to corruption? 	<ul style="list-style-type: none"> ◆ There is a trade-off between efficiency and the Anglo-Saxon model of parliamentary democracy, but efficiency has to be ensured, and there is no criterion to tell what is the optimal mix of "efficiency" and "democracy"; ◆ All policies suffer from the problem of democratic control, including the policies advocated by libertarians and liberals such as the independence of the central bank; ◆ Industrial policy is more clear and the winners and losers easier to identify; hence, industrial policy is more open to scrutiny than other policies.

4.4. The problem of supporting institutions (pp. 87-9)

- Problem: industrial policy requires a specific set of institutional arrangements, which are difficult to build and cultural-specific. Therefore, the best decision is to avoid industrial policy altogether.
- Answers to this problem:
 - ⇒ Institutions are not factor endowments; they are created for specific purposes and challenges may lead to institutional innovation;

- ⇒ Institutional building is not an out-of-reach problem:
 - (i) Countries can learn from past experience;
 - (ii) Countries can learn from experiences of other countries.
- ⇒ Learning from other countries does not mean copying them, but finding the equivalent more in line with each country's own reality. For example, what is important to learn from Japan is not necessarily how to implement a "job-for-life" system, but the need to find ways for encouraging firms to invest in long-term training of their workers, and workers to engage in innovation;
- ⇒ Institutional innovation does not necessarily take a long time;
- ⇒ Institutional innovation is unavoidable in any process of genuine development;
- ⇒ All policies, including firms own strategies and planning, require supporting institutions and institutional innovation;
- ⇒ If institutional innovation occurs because of industrial policy, and the new institutional setting is more conducive to development than the previous one, then what is the problem with industrial policy?

5. Conclusions (pp. 89-90)

Once one considers seriously the issues of coordination (static and dynamic), technical change and institutional innovation, industrial policy can firmly be anchored in economic theory.

In a context of interdependence and asset specificity, industrial policy works better than the market as the coordination mechanism.

As for technical change, industrial policy does not eliminate the profit motive and, through the socialisation of risk it can promote changes above and beyond what the market would promote alone.

Industrial policy has costs and benefits – in some cases benefits overwhelm costs, in others the opposite happens. The question is not whether industrial policy works or not (because it does), but how it can be made to work.