

Good Growth and Governance in Africa: Rethinking Development Strategies

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https://doi.org/10.1093/acprof:oso/9780199698561.001.0001

Published: 2011 **Online ISBN:** 9780191738142 **Print ISBN:** 9780199698561

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CHAPTER

5 States and Markets: Neoliberal Limitations and the Case for a Developmental State

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https://doi.org/10.1093/acprof:oso/9780199698561.003.0005 Pages 140–174

Published: December 2011

Abstract

The political and economic renaissance of Africa is an issue that continues to preoccupy Africans and non-Africans alike. Various methods of achieving such a renaissance have been proposed. Most of these proposals are variations of the dominant neoliberal paradigm of development. The argument of this chapter is that the neoliberal paradigm is a dead end, and that a fundamental shift in paradigm is required to bring about the African renaissance. African states need to move away from that paradigm and towards becoming developmental in the sense and manner sketched here.

Keywords: states, neoliberal, developmental, African renaissance

Subject: Economic Development and Growth, Public Economics, Economywide Country Studies

Collection: Oxford Scholarship Online

The political and economic renaissance of Africa is an issue that continues to preoccupy Africans and non-Africans alike. Various methods of achieving such a renaissance have been proposed, mostly variations of the dominant neoliberal paradigm of development. My argument elaborated elsewhere[2] is that the neoliberal paradigm is a dead end incapable of bringing about the African renaissance, and that a fundamental shift in paradigm is required to effect a revival. In this paper, the focus is on the theoretical or conceptual limitations of the neoliberal paradigm and the need for African states to move toward becoming developmental.

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The neoliberal political economy

A central premise of the neoliberal paradigm is that the role of government in the economy should be limited largely to the protection of individual and property rights, the enforcement of contracts that have been entered into voluntarily, and safeguarding competition among economic actors. It is believed that the smaller the role of the state, the better. The neoliberal paradigm's ideal state is the nightwatchman state.

The neoliberal paradigm's prescriptions on the role of the state in the economy have two pillars. It stands on two legs, as it were. The first leg is the neoliberal political economy based on the theory of rent-seeking and rational choice theory; the second is the conviction of the efficiency and pervasiveness of competitive markets.

The political economy leg of the neoliberal paradigm has a distinguished parentage in the form of the
p. 141 classical economists starting with Adam Smith, who ↳ recognized that if left to themselves, businessmen would collude to undermine competition. He nevertheless advocated a very limited role for the state. The advocacy of a nightwatchman role for the state by the classical economists did not directly follow from their theoretical analysis. They did not provide a theoretical basis for the role they prescribed to the state. Their view on the role of the state was based on their imperial judgment of how the state functions. They were convinced that government was about creating monopolies to favor their officials and clients and hence about hindering competition and efficient resource allocation.[3]

The empirical judgment of the classical economists of the governments of the day was accurate. Public administration that is largely free of patronage, and that institutionalizes the values of economy, honesty, and neutrality, was a nineteenth-century phenomena. Even in Britain, which was a pioneer in developing such an administration, the process was not completed until the 1870s, well after the flourishing of classical economics.[4] In eighteenth- and early nineteenth-century Europe, patronage was widespread. Outright selling of government offices, including military ranks, was not unheard of in Britain. In France, the sale of government offices was the norm.[5]

Emerging as it did, in an environment of pervasive patronage, clientelism, and state predation, classical economics could not avoid making the empirical judgment that state intervention in the economy is detrimental, and that a smaller role for the state in the economy was better. But this judgment did not of itself constitute a theory of the role of the state in the economy.

It is the neoliberal paradigm that has attempted to provide a theoretical, as opposed to empirical, basis for the nightwatchman state.[6] Two interrelated concepts—the concepts of rent-seeking and the solely self-interested behavior on the part of citizens, politicians, public officials, and states—are central to the theory.

The concept of rent-seeking is one that has been a source of some confusion. Rent in economics is payment above and over the opportunity cost of an asset. Entrepreneurs are always on the lookout for such rent. They can get such rent by discovering new ways and means of producing some good or service more cheaply or with better quality. In doing so, they initially get profits above and beyond the marginal cost. Once discovered, however, others follow in their footsteps and the rent is dissipated through the competitive process, until a new method of doing things better or more cheaply is discovered. Such a process is repeated over and over again promoting more efficient resource allocation and accelerated growth.

Rent that is the result of innovation is called rent creation, as opposed to rent-seeking, in neoliberal political economy. Rent creation is dissipated by the competitive process. It is created by innovation and is not perpetuated indefinitely because it is dissipated by competition. Rent creation can be both positive and
p. 142 negative: An asset can get both more and less than its opportunity cost, and hence ↳ resources can flow out

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of areas of negative rent creation and into areas of positive rent creation, improving efficiency and resource allocation.

Rent-seeking is defined as a process of wealth transference through the aegis of government. It is not about creating new value, but about transfer of already produced value through the state. As rent-seeking is an act of the state to transfer value to preferred clients, it is perpetuated indefinitely by that act of the state and is incapable of being dissipated through competition as in rent creation. From the point of view of the recipient of the transfer, rent-seeking is always positive in that his or her wealth is increased. Hence rent-seeking activity does not result in efficient resource allocation; on the contrary, it is socially wasteful as people are encouraged to spend resources and time in socially wasteful lobbying to benefit from such rent-seeking activity.[7]

It is argued in the neoliberal political economy literature that so long as the state limits its activity to its nightwatchman role, the economic process dominates and there will not be rent-seeking, only rent creation. When the state intervenes beyond such confines the opportunities for rent-seeking are created. Rent-seeking activity is thus a phenomenon that is created by state intervention and is directly related to the scope and range of governmental activity in the economy: To the relative size of the public sector.[8]

The second aspect of neoliberal political economy has to do with the motive of economic actors with the rational choice that they are supposed to make. It is assumed that everyone is motivated solely by maximizing self-interest. Politicians want to maximize and maintain power. Citizens want to maximize wealth. Citizens lobby politicians to maximize self-interest through rent-seeking activity. Politicians maximize and maintain power by providing rent-seeking opportunities to clients in return for votes and political support. Civil servants want to use their position to maximize self-interest through corruption and the establishment of protected businesses on the side in return for providing rent-seeking opportunities for their clients.[9]

In the presence of such pervasive self-interest-maximizing behavior, it is argued that expansion of state activity above and beyond protection of personal and property rights and enforcement of contracts creates opportunities for wasteful rent-seeking activity, results in inefficient resource allocation, and retards economic growth. It is asserted that the further the state goes in intervening in the economy, the higher the scope for rent-seeking activity. Hence, the way to ensure efficient resource allocation and accelerate economic growth is to confine the state to a nightwatchman role as much as possible.

The distinction between growth-enhancing rent creation and socially wasteful and state-created rent-seeking arises largely because rent-seeking is considered to be exogenous to the firm, i.e. resource transfer that is unrelated to what the firm does internally. There is no reason why state-created rent should necessarily be external to the firm. It is possible for state-created rents to be directly related to ↳ activities within the firm and related to its performance. Firms that perform in a certain manner would be given access to the rent, and those that perform differently would have no such access. In an environment of imperfect competition and market failures, endogenizing rent-seeking activity and linking it with growth-enhancing performance of firms would result in accelerated growth.[10]

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Such rent-seeking would be very similar to rent creation. The rent would be dissipated over time, not necessarily because of competition but also because the state would reduce and finally eliminate the rent as its necessity for growth diminishes. It would result in efficient resource allocation as firms respond to the higher profits and invest in areas where the rent has been created by the state with the view to accelerating growth. There would be limited wasteful lobbying as the rent is provided on the basis of performance. Rents would be both positive and negative as the state provides rewards (positive rent) for good performances and penalties (negative rent) for bad performers. Endogenizing rent-seeking and basing it on growth-enhancing performance would essentially remove the distinction between rent creation and rent-seeking

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and thus undermine a key basis of neoliberal political economy. But such endogenization would be challenged by the neoliberal school on two counts. First, they would challenge the assumption that state intervention can result in more efficient resource allocation. They would insist that competitive markets are both pervasive and Pareto-efficient, hence state action cannot result in more efficient resource allocation. They would also argue that state actors make choices based on maximizing their self-interests and hence would not create rent on the basis of performance as opposed to lobbying-based rent. In other words, the arguments of the neoliberal political economy can be reduced to the rational choice theory.

While self-interested behavior as an important source of motivation of economic actors is self-evident, motivation that is solely based on self-interest maximization, which is the cornerstone of the rational choice theory, is difficult to relate to how economies and states behave. Assuming that all actors within the state are motivated solely by self-interest maximization, everyone would act to maximize his or her self-interest and the state will be unable to act as a coherent corporate entity. It would be transformed into an arena of warring individuals with nothing to hold them together. Even if such chaos within the state were to be somehow overcome, it is very difficult to see why the state with its monopoly of coercion would limit itself to being the trustworthy nightwatchman. The solely self-interested individuals who populate the state would use their monopoly of coercion not to protect private property but to loot it to their benefit, not to impartially enforce contracts but to steal the property of others. As the sole motivation would be maximizing self-interest, the state would do whatever it takes to maximize its benefit and not limit itself solely as a nightwatchman. A nightwatchman state that is based on the motivation of maximizing self-interest is almost a theoretical impossibility.[11]

p. 144 The logic of the rational choice theory thus leads to logical absurdity. If the sole motivation for the state and state actors is maximizing self-interest, it is difficult if not impossible to imagine a stable and coherent state. The state actors would all behave like interest-maximizing individuals and there would be nothing to hold them together. Even if there were to be stability within the state, the state actors would use the state to maximize their own interests. They would use their monopoly of coercion not to act like a well-behaved nightwatchman protecting the property of others and impartially enforcing contracts, but to act like a predator to loot and rob so as to increase the wealth of its officials.

A well-behaved nightwatchman state can exist only if state actors are not solely interest-maximizing. Such a state can exist only if the state actors have motives that can keep their self-interest-maximizing behavior in check. If people are not only self-interest maximizing, such behavior can be kept in check whether the state intervenes in the economy extensively or keeps to its nightwatchman role.

In other words, if rational choice theory is correct and all people are solely self-interest maximizing to the extent that states can exist for any length of time and act as coherent entities, they would necessarily be predatory states. To the extent that a nightwatchman state is possible, state actors cannot be solely self-interest maximizers and rational choice theory must be wrong. If rational choice theory is wrong and people are not solely self-interest maximizers, the question of whether the state should be a nightwatchman state or not would become an empirical rather than a theoretical question.

The institutional underpinning of a market economy

While rational choice theory fails to adequately explain the motivations of economic actors including state actors, it does pose the fundamental economic question of what motivates economic actors. Human beings are social animals and hence a sociobiological explanation of their motives would be appropriate. Such a motivation would be one of maximizing survival potential. Such motivation would sometimes, but not always, be wealth maximizing. Wealth maximization by the individual at the expense of everything else would not necessarily be maximizing survival potential.[12]

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Maximizing survival potential, which has been a valid biological explanatory variable for living things other than human beings, applies to human behavior when combined with the social nature of human beings and becomes a sociobiological explanatory variable. The fact that human beings are social animals means that the survival potential of human beings as individuals and groups is maximized within the context of the appropriate social environment. Such an environment would have to be one that reduces the impediments
p. 145 to complex economic interactions of individual economic actors. Only such a social context ↳ would create an environment that would sustain wealth maximization by individuals, just as any wealth maximization by individuals that does not undermine the necessary social context can be sustained.

An economy such as capitalism that is based on complex economic interactions requires motivation that is not solely based on maximization of self-interest. It requires a peculiar combination of self-interested behavior—enough to induce individuals to be on a continuous lookout for profitable opportunities and to seize such opportunities, and non-self-interested behavior where one's word is one's honor, where social rather than economic sanctions suffice to enforce contracts.[13]

A market is not merely about supply and demand, buying and selling. It is a social institution that is based on complex human interaction. Like all human interactions economic interactions in the market are plagued by uncertainties. These uncertainties arise both from the environment and from the computational limitations of the person.

The uncertainties that arise from the environment are related to incomplete information about the goods and services to be exchanged and incomplete information as to behavior of individuals—whether they will shirk and defect or cooperate and fulfill their obligations.

All people have limited computational capabilities. They cannot take in and compute all the information they get from the environment within a reasonable amount of time to come up with a perfect understanding of the environment. Therefore, people have to supplement their computational capabilities with subjective perceptions of reality to make sense of it. The subjective perception of reality, of the environment, that characterizes human understanding is another source of uncertainty in human interaction. These subjective perceptions, including their perceptions of the fairness or injustice of the institutional environment, constitute the ideologies of individuals.[14]

Institutions, rules, norms, ideologies are required to reduce such environmental and computational uncertainties. Such institutions perform three essential functions: They transmit information, enforce property rights and contracts, and manage competition. Enforcement of property rights and contracts, which is central to the effective and efficient performance of a market economy, in turn require that individuals fulfill their obligations under the contracts. There are three reasons why individuals do so.[15] The first reason is an internalized norm, such as a shared belief system, or sense of obligation to peers. People are convinced that it is the right thing to do (their subjective perception of reality or their ideology tells them so) and they voluntarily fulfill their obligations. The second reason is social sanctions. Behavior that is opportunistic and results in defection is considered socially deviant and is sanctioned accordingly. People thus fulfill their obligations to avoid such social sanctions. The third reason is economic sanctions. People who do not fulfill their obligations are economically penalized.[16]

p. 146 Individual norms and social sanctions play a critical role in reducing uncertainty and transaction cost. Imagine everyone having to take everyone else to court in order to enforce a contract. Even if it were possible to completely specify a contract and verify exactly whether it has been fulfilled, it would be very expensive and time-consuming to go to court in order to enforce every contract. Where a credit culture that ensures that loans are generally repaid is lacking, very high uncertainty about loan repayments would inhibit extensive economic interaction.[17] The development of individual and social norms that combine

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self-interested behavior with socially responsible behavior is central to reduce uncertainty and transaction costs and to facilitate complex economic interaction among individuals.

However, in a modern setting, self-enforcement and trust is not enough. In such a setting, the returns to opportunism, cheating, and shirking are too high to be eliminated or reduced by self-enforcement and trust alone. Third-party enforcement mechanisms above and beyond the norms of the individual and social sanctions are required. Such third-party enforcement can only be state enforcement mechanisms, and is most effective when it creates the environment for the other two to be effective.[18]

Recognition of both the centrality and limitations of individual norms and values, and social norms and sanctions in reducing uncertainty and transaction costs, leads us to try to understand the complex interaction between them and state enforcement. In an environment where individual norms and values are solely self-interested, it would be difficult to imagine the development and effectiveness of social norms and sanctions. Likewise in an environment where the required social norms and sanctions are lacking, it will be difficult to entrench and sustain individual norms and values that reduce transaction costs. State enforcement in an environment of pervasive pure self-interest maximization would result in predation and enormously increase uncertainty and transaction costs. The presence of appropriate individual and social norms, values, and sanctions is therefore the bedrock of effective third-party state enforcement. Likewise state enforcement is central to sustaining self- and social enforcement.

It is the presence and interaction of all three enforcement mechanisms that generates the peculiar combination of self-interested and non-self-interested behavior that is essential for the flourishing of complex and extensive economic interaction without which accelerated economic growth cannot be imagined. Indeed, some studies indicate that it is the inability of societies to develop effective institutions for low-cost enforcement of contracts, as well as to develop institutions, norms, and values to reduce uncertainty, and transaction costs, and hence the inability to facilitate extensive and complex economic interactions that constitute one of the most important sources of both historical stagnation of societies and contemporary underdevelopment.[19]

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Understanding that the market is above all a social institution for the facilitation of complex human interaction leads to a better understanding of the motivation of economic actors in a market economy and its institutional basis. The motivation of economic actors in the complex interaction of a market economy is a combination of self-interested and non-self-interested behavior that maximizes survival potential in the appropriate social context. It is such a combination that reduces uncertainty related to incomplete information and transaction costs and also facilitates the development of an economic system that is based on complex economic interaction such as the capitalist system. Indeed, just as it is impossible to imagine a developed capitalist economy without such norms, values, and institutions, the limited development of such norms, values, and institutions can be a critical part of the explanation for the economic stagnation or underdevelopment of countries.

Where rational choice theory leads to logical absurdities, a sociobiological approach to the motivation of economic actors and the study of institutional economics can lead to a clearer understanding of the institutional underpinnings of a market economy and the motivation of its economic actors. It helps us understand the peculiar combination of economic actors' self-interested and non-self-interested behaviors and the norms, values, and rules—which have sometimes been called social capital—that underpin them. Likewise, the development of social capital has been called social development, which constitutes one of the key instruments for overcoming economic stagnation and underdevelopment, a key instrument in reducing transaction cost and accelerating economic growth.

There are two characteristics of social capital that distinguish it from other forms of capital: It is a public good and it has increasing returns to scale. Once the norms, values, and networks comprising social capital

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have been created, the benefit derived by individuals utilizing such capital is not diminished when others use the same social capital. In other words, the consumption of social capital is non-rivalrous and non-excludable. Once social capital has been created and made available to one individual, it will be difficult or impossible to exclude others from benefiting from it as well. Social capital has the basic characteristics of a public good and like all public goods it is undersupplied by the market and by individual economic actors.[20]

Social capital is the result of complex interactions among internalized individual values, social norms, sanctions, and state enforcement. The nature of the interaction among these three elements would suggest that social activity plays a critical role in its creation. As a public good, social capital would be expected to be the by-product of social activity.[21] The state would also be expected to play an important role in its creation and supply as would be the case for other public goods.

Creating the proper blend of norms, values, and rules to reduce uncertainty and transaction costs is a critical
p. 148 factor in accelerated growth and development. ↳ Social development is thus not only an essential element of development but also a critical instrument of accelerated economic growth.

Social development, which plays such a critical role in accelerating economic growth, is a public good that has increasing returns to scale. It is undersupplied by the market and is subject to a vicious and virtuous circle phenomenon. It is created by social activity, by civic engagement in the context of horizontal and dense networks, and inculcated and sustained through modeling, socialization, and sanctions. The state plays a critical role in social capital accumulation through undermining patronage networks and promoting fairness and equity, through the promotion of participation and democracy, and through appropriate sanctions and efforts at socialization.

Conclusions so far

The neoliberal paradigm that suggests a nightwatchman state is conducive to economic growth bases such conclusions on two pillars: The assertion that competitive markets are both pervasive and Pareto-efficient and the neoliberal political economy based on the theory of socially wasteful rent-seeking activities and the rational choice theory of solely self-interest-maximizing individuals.

Government-created rent does not necessarily have to be socially wasteful. It becomes wasteful only if solely self-interest-maximizing individuals use it to create wealth at the expense of society and only if the state is incapable of improving on the market—if there are no market failures.

The theory of solely self-interest-maximizing individuals does not hold water. History, everyday observation, and theoretical analysis based on the two suggests that an economy based on complex economic interaction, such as a market economy, requires a blend of self-interested and non-self-interested behavior. In the absence of such norms, the state, if it can exist as a coherent corporate entity for any period of time, becomes predatory. A properly regulated nightwatchman state populated by solely self-interest-maximizing individuals is thus a practical and theoretical impossibility. Only individuals with a blend of self-interested and non-self-interested behavior can create a nightwatchman state, and such people are equally capable of creating a state that intervenes in the economy.

Creating the proper blend of norms, values, and rules to reduce uncertainty and transaction costs—social development or social capital accumulation—is a critical factor in accelerated growth and development. Social development is thus not only an essential element of development, but also a critical instrument of accelerated economic growth.

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The black box of development

The neoclassical model of growth

The basic neoliberal model of growth is the Solow model. Like all neoliberal thinking, the Solow model is based on the assumption of pervasiveness and efficiency of markets. In addition, the model assumes that knowledge, which it defines very broadly to include all the abilities and skills that are needed to assimilate technology into the local market, is acquired costlessly and instantaneously. The local environment is distinguished from others solely by its set of relative prices.[22]

Change in output is the result of the contribution of labor, capital, and technology (which is also referred to as total factor productivity). Capital has diminishing returns: As more and more capital per worker is used, it reaches a stage where it becomes less and less productive. Labor too has diminishing returns: As more and more labor is used in combination with a given capital, it becomes less and less productive. It is therefore not possible to continuously increase production per worker by simply increasing capital or labor. Such continued growth in per capita income and production can only come from increase in total factor productivity—from changes in technology.[23] The conclusion that technological change is the only source of continued increase in per capita income is one of the most important insights of the Solow model and the neoliberal paradigm in general.

The Solow model has clear implications for developing countries. The difference between developing and developed countries would be essentially that of a differing set of relative prices. This differing set of relative prices would result in the flow of scarce resources from where they are abundant to where they are scarce and eventually there would be convergence. The scarcity of highly skilled personnel in developing countries would therefore result in the flow of skilled labor from developed to developing countries. The same thing would happen to capital.

These predictions based on the Solow model have failed to materialize. There is no necessary trend of convergence between developing and developed countries. On the contrary, they have continued to diverge. The flow of skilled labor is in the opposite direction to that of the predictions of the neoclassical model. Much of the flow of capital has been between developed countries, and net flow of capital to developing countries has not been consistent with the predictions of the model.[24] The predictions made through logical deduction on the basis of the neoclassical model are thus almost the exact opposite of the reality. Clearly such a model must be deeply flawed.

The Solow model treats technological change as something external to the economic process, as an exogenous factor, as a sort of black box of development. It does not try to explain it in the context of the economic process. The treatment of the key to economic growth as something external to the economic
p. 150 process, the ↳ failure to analyze the vital source of economic growth by the economic process itself, has been identified as another flaw of the Solow model and the neoclassical theory of growth.

An attempt to make technological change internal to the economy to explain it in economic terms has resulted in a field of economic theory that has been called the endogenous growth theory. The development of the endogenous growth theory has shed some light on the process of technological change and served to explain the failure of the predictions of the Solow model to materialize.

The endogenous growth theory makes three basic assumptions. First, consistent with the Solow model, it assumes that technological growth is at the heart of economic growth. Second, technological growth takes place as a result of intentional actions of people responding to incentives and hence can be treated like any other economic activity. Third, developing new technologies is like incurring fixed costs and its consumption is non-rivalrous.[25]

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The fact that technology is non-rivalous, that is the use of one economic actor of a technology does not diminish its use by another economic actor, suggests that it has characteristics of a public good. Technology is inherently not excludable. Legal protection through patenting and definition of property rights in technology provides a means of excluding non-owners from using it without the permission of the owner. But such exclusion is not leakage-free, even in countries where the enforcement and protection of property rights is good. More importantly, the patent does not prevent any one from basing his research on it, and using it to discover new technology. There is at best an incomplete appropriability, an incomplete excludability.[26] The non-rivalous and incomplete excludability nature of technology suggests that it has the characteristics of a public good and that there is market failure; the market will undersupply new technology if it is left to its own devices.

The endogenous growth theory recognizes that technology has certain characteristics of a public good and accepts the need for government intervention to address the market failures in skilled manpower training, and in patenting and intellectual property rights (to being about at least partial excludability) protection. But it limits its analysis of market failure in the technology market to the above and disregards other and related market failures and can to that extent be considered as a variant of the neoliberal model.[27] A full analysis of the market failures and institutional factors in technological change can start with the insights of the endogenous growth model but must go well beyond the confines put on such analysis by the neoliberal paradigm.

Market failures in technological change

The public-good nature of technology is a market failure in that technological change is recognized by even
p. 151 the neoliberal school, particularly its endogenous ↳ growth variant. This suggests that the market cannot ensure efficient outcome in the technology market and non-market intervention can bring about more efficient outcomes. Public interventions in patenting and property rights protection, in human resource development, and public research have been advocated by many neoliberal economists.

Another related market failure involves increasing returns to technological capability. Technological change is brought about by two sets of persons: The inventors who come up with new ideas and the innovators who make use of the inventions to produce new products or improve the quality or reduce the cost of old products. The more innovators there are in a society, the more it pays to be an inventor, because there will be innovators that will pay for and make use of the inventions and vice versa.[28] The more inventors and innovators, the higher the return on technological change.

There is another aspect to this phenomenon of increasing returns to scale in technological development. New knowledge makes existing knowledge more productive if there is leakage and incomplete appropriability of technological change (as is indeed the case). Likewise, the rate of return on new knowledge depends upon how much knowledge already exists. If there is much, it will be possible to exploit the opportunities created by the new knowledge to the maximum extent possible. If available knowledge levels are low, the opportunities created by the new knowledge will not be fully exploited, if at all, and hence the returns on that new knowledge will be limited.[29] The availability of more knowledge not only increases the rate of return on new knowledge but increases the possibility of creating it.

If pre-existing knowledge in a society is high, the means of creating new knowledge and the returns on doing so will also be high, creating a virtuous circle. The presence of virtuous and vicious circles suggests that there is a threshold where one is transformed to the other. Below the threshold the vicious circle keeps a country in a low-technological development trap, which the market would be unable to overcome. It requires a coordinated and persistent push involving action by non-market means to cross the threshold.[30]

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Technological development involves externalities. The creation of new knowledge by one actor is not only diffused to others, but also becomes the basis for additional knowledge. Such externalities cannot be adequately captured by the market.[31] Appropriate institutional mechanisms, such as clustering, will have to be created to fully capture the externalities.

Clustering by providing such a platform for smooth and extensive communication enables the economic actors and the country as a whole to capture the externalities.[32] When suppliers and related industries cluster in a given geographic area, suppliers will provide customers with new information on new technologies and methods; the customers will direct the effort of suppliers to addressing their specific
p. 152 technological problems; and the suppliers will disseminate information ↳ among their customers. A two-way and extensive transfer of technology and information of technology, facilitated by geographic and cultural proximity, will take place. The presence of related and identical industries will also facilitate the same type of flow of information and technology.

The clustering of supplier and customer and related industries helps to draw common inputs into the cluster. Skilled personnel with specialized skills in the industry in question congregate in the area. Research and specialized training and support institutions are established as the congregation of establishments makes it both necessary and possible to establish special support institutions and infrastructures serving the industry. By attracting and facilitating the development of specialized infrastructures and support institutions, clustering enables the actors to capture the externalities.

Specialization and extensive division is also facilitated by clustering. As more and more suppliers and related industries cluster in a given area, it becomes possible and worthwhile for businesses to specialize and outsource much of their activity. Such extensive specialization and division of labor facilitates technological change and capturing of externalities.[33]

It is because clustering is one of the most important means of capturing externalities that clusters have emerged in many areas of production and in many developed countries. Silicon Valley with its information technology is only one and perhaps the most famous example. Such clusters ranging from textiles to steel products, from chemical to electrical engineering are very common. Such clustering is facilitated by the availability of specialized infrastructures and institutions, the absence of which makes it difficult to capture externalities. Clustering is not only an institutional mechanism for capturing externalities, but also a practical manifestation of the presence of such externalities and market failure in technological development.

Risk of entry is another source of market failure. Introducing new products or new processes is a very risky exercise: The product or the process may not be received by the market. But once someone tries it and proves that introduction of such new products or processes works, the risk is drastically reduced and there will be many followers, with enormous benefits to the followers and the economy as a whole.[34] In such a circumstance it pays more to be the risk-free follower than the risk-shouldering leader. The market undersupplies such risk-taking leaders and fails to bring about the most efficient outcome in terms of technological change.

Trained labor is central to technological change and development. As already indicated, human resource development has its externalities—the training of a person making other trained persons more productive. But the highly skilled labor required for technological development cannot be created by educational and training institutions alone. The required specialized skills can only be created through the acts of production and marketing, and through an increased effort to gain competitive advantage.[35]

p. 153 Studies have shown that education and training that is not explicitly linked to the rate of innovation and the speed of technological catch-up will have no significant impact on productivity and hence on accelerated economic growth. Thus policies which affect rates of innovation and investment will affect the relative

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demand for skilled people and the aggregate skill distribution within the economy.[36] In addition to the known externalities in the training of the workforce, there is an additional market failure related to coordination failure between production and skill formation. In the absence of the appropriate production facilities and environment, skill formation will not take place adequately. In the absence of the appropriate and adequate skills, production will not take place.

The assumption of neoliberal theory includes the assumption of homogenous goods. Goods of sufficient quantity and identical attributes (so as to make them homogenous) have to be available for the market to operate efficiently. If every good is fundamentally different from every other good, then there cannot be a competitive market. Every good would be a stand-alone good, obviating the potential for a perfectly competitive market. The market for technology and ideas is a market where the assumption of homogenous products does not hold. Every new idea is different from every other idea or else it would not be a new idea. There could not possibly be a perfectly competitive market for new ideas or new technologies.[37]

The heterogeneous nature of new technology and the associated extreme form of information asymmetry is an additional source of market failure in the technology market[38] because the market for new ideas and technologies is marred by extreme forms of information asymmetry. The inventor of an idea will obviously have much more information about it than the prospective buyer. Perhaps more importantly, if the inventor reveals everything about his new idea before selling to the buyer, the buyer could say, "there is nothing new in it, I am not buying" and move on and make use of the idea in some fashion without paying. Institutional mechanisms for reducing this problem have evolved over time, but the underlying extreme form of information asymmetry is always there. A competitive market can result in efficient outcomes where there is perfect information, or at least approaching perfect information. In the case of markets for ideas, the information failure is extreme; there is nothing remotely resembling perfect information.

Clearly the neoliberal paradigm in the form of the Solow model not only fails to provide insight into technological development, treating it as a sort of black box, but all the main predictions about development made on the basis of that theory have been proved wrong. The endogenous growth theory does address some of these limitations. It has, as it were, opened up the black box and explained why the predictions of the Solow model have not come to pass. But much of the thinking in the endogenous growth theory is confined within the neoliberal paradigm of the pervasiveness of markets that operate relatively efficiently.
p. 154 While recognizing some market failures in the technology market, it does not recognize their ↳ pervasiveness. As described previously however, market failures are pervasive in the technology market and dominate it. A paradigm based on competitive markets in technological development cannot explain it in any meaningful way, nor can it explain the most important source of sustained and accelerated economic growth.

The problem with the neoliberal theory is not limited to its inability to explain the issue that is at the heart of economic growth—technological change. The problem is that technological development is fundamentally inconsistent with perfectly competitive markets. The fact that technology is non-rivalrous and has clear characteristics of non-convexities means that price is not equal to marginal cost and has no necessary tendency to be equal to it.[39] Prices have to be higher than marginal cost if there is to be continued technological development. Where prices have to be higher than marginal cost, there cannot be efficient markets.

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National innovation systems

The pervasiveness of market failures in the technology market means that, contrary to the neoliberal theory, countries have not left technological development to the tender mercies of the market. The countries that have successfully achieved development have over time developed various institutions that address the pervasive market failures. Such systems that have evolved in the historical process of development are sometimes called the national innovation systems.

Innovation cannot exist without learning, which is an interactive exercise and cannot but be rooted in the institutional setting in which it takes place. It is not possible to envisage innovation and learning outside the institutional context of the economy. Learning and innovation partly emanate from routine activities in production. This means that there are more learning opportunities; learning is much easier in certain periods, with certain linkages among industries and certain elasticity and technological opportunities. In other words, learning and hence innovation is dependent on the structure of the economy. These institutional and structural determinants suggest that innovation is based on the history of the economy.[40]

Much the same can be said from the point of view of a single firm, the technological capabilities of which reside not only in its machinery and in its individual employees, but also and most importantly in its overall system of transforming inputs into outputs and its organizing capabilities to carry out the transformation. This in turn depends on the institutional relationships with customers, suppliers, public agencies, research institutions, and on the national institutional set-up as a whole.[41]

A national system of innovation can be defined to include all interrelated, institutional, and structural factors in a nation that generates, selects, and diffuses innovation.[42] Such a system requires a system of
p. 155 education and training for supplying the skills and technology, a legal system for defining and enforcing ↳ property rights, and processes, such as standardization, to reduce transaction costs.[43] A central element of any national innovation system is the technological infrastructure, which includes the system of education and training, the public and private research laboratories and facilities, the network of scientific and technological associations, and similar support institutions.[44]

Two distinct national innovation systems related to two different histories and structures of the economies of developed countries have evolved. The system that has been called the mission-oriented system is found in countries such as the US, UK, and France, but the archetypical case would be the national innovation system that has evolved in the US. The second system, which is also called the diffusion system, has evolved in countries such as Germany, Sweden, and Switzerland, but the archetypical case is the national innovation system in Germany.[45] Other countries, particularly the late developing countries such as Japan, Korea, and Taiwan, have adapted one or the other of the two systems, but for reasons that will be made clear, have opted to model their national innovation system mostly on the diffusion system.

The mission-oriented system in the United States evolved in an environment of large unified national market, abundant unskilled labor, no adequate system of training skilled craftsmen, and the related low differentials in pay between unskilled workers and craftsmen and abundant highly skilled labor. An economic structure with highly skilled labor at one end and unskilled labor at the other, with very little in-between and a large market, has led firms to pioneer mass production methods to economize on craftsmen and maximize the use of the abundant unskilled labor to develop organizational innovations intensive in managerial and supervisory staff, both in order to compensate for lack of craftsmen and to maximize the use of the available highly skilled labor.

For such a system to generate continued growth, the continuous generation of new ideas and technologies is required. The lack of craftsmen means that productivity improvements generated continuously on the shop floor cannot be relied upon. Minor but continued improvement of this nature cannot be an important source of continued technological change. A large public and private research infrastructure that makes full use of

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abundant, highly skilled workforce and that continuously creates new technologies is the only option for such a system to continuously grow. Moreover, as and when such technologies emerge, the firms will have to quickly exploit the new opportunities and move away from mature technologies. Exploitation of mature technologies through shop floor excellence is not the forte of the system. Continuously shifting from mature to new technologies in typical technological life cycle fashion is the way out for such a system.

The US has developed such a system of first-rate universities, initially public but with more and more private-sector involvement, engaged not only in the training of highly skilled workers, but also in research. Its school system leaves much to be desired and one cannot even talk of a system of vocational training for
p. 156 craftsmen. ↳ There is very high mobility of labor, particularly of highly skilled labor. Finance is very mobile and specialized mechanisms, such as venture capital firms to finance innovative technologies, have been firmly established. An effective patenting and intellectual property right system has also evolved. A research system that continuously generates new ideas, highly mobile labor, and capital that can quickly shift from mature to new technologies has evolved in the US, enabling it to continuously be on the frontier of new technology and to generate growth.[46]

The US has succeeded in evolving a national innovation system that is consistent with the structure of its economy and the history of its economic development. The success of the US economy can, to a large extent, be attributed to the development of such institutions, technological infrastructure, and an internally consistent system of innovation.

The diffusion system in Germany evolved from completely different circumstances: The industrialization push and its related innovation in higher education, training of engineers and craftsmen, and early specialization in chemical, electrical, and mechanical engineering industries. Chemical and electrical engineering industries needed a high-quality university system to train scientists, provide support for research laboratories, and monitor developments of new technologies in the fields concerned. The mechanical engineering industries needed comprehensive vocational education, product standardization, and cooperative research.[47]

The central feature of the innovation system as it has evolved in Germany is the depth and breadth of investment in human capital. A dual system based on excellent comprehensive secondary education streaming to high-quality university education on the one hand, and a parallel and extensive vocational education on the other hand has been established. This creates top-level scientists who are able to remain in touch with the frontiers of new technology, if not expand its frontiers, and a highly skilled workforce. Systems of standardized examinations and of continuous certification of craftsmen eases information problems and facilitates labor mobility, which in turn facilitates technology diffusion among firms.[48] Employers are assured that the people they employ are indeed highly skilled and able to do their jobs adequately.

A system of industrial standardization where standards for products and parts are set and continuously upgraded has been put in place. Such standardization reduces transaction costs dramatically and facilitates specialization and division of labor. Moreover the continuous upgrading of standards involving all the stakeholders exerts pressure on firms to innovate and upgrade their technology at the same time that it provides them with the information that facilitates such upgrading.

A related system of cooperative research involving universities, industry associations, and firms has also evolved. Such cooperative research increases the cost-effectiveness of research and development and
p. 157 reduces the burden of ↳ technological development on firms, and helps to generalize the experience of related firms and in transmitting such information to the industry as a whole, facilitating the diffusion of technology. The process of identifying research programs in such a system of cooperative research helps focus the attention of all the participants on emerging technological opportunities and threats.[49]

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The key problem of technology policy is less about generating new ideas than in ensuring their effective utilization. Long-term growth of an economy depends on using technological capabilities across a range of economic activities. The two systems of innovations achieve that in their own ways and with varying degrees of effectiveness.

In the mission-oriented system of the US, diffusion is achieved through factor mobility in the context of continuously shifting production. The continuous supply of technology provided by the national innovation system is used with high-mobility capital and labor to shift resources away from mature technologies to emerging ones. The high mobility facilitates the diffusion of the new technologies across the economy and speedy exit of mature technologies. Market factors are combined with the largely non-market system to ensure speedy diffusion.

In the diffusion-oriented system of Germany, diffusion is facilitated mainly by social mechanisms such as standardization of products, cooperative research, and the apprenticeship system of training craftsmen.[50]

The US system is good at continuously expanding the frontiers of technology, but is not effective at exploiting fully technologies that have emerged through minor but continuous improvements at the shop-floor level. The skills of the workers at the shop floor and the organizational system are such that this cannot be a major source of innovation. The success of the system depends on its ability to come up with new technologies rather than on full and continued exploitation of existing ones. This, among other things, means that US firms are more willing to transfer technology than their German counterparts, as they are likely to move out of established technologies.

The diffusion-oriented system of Germany is very good at fully exploiting existing technologies. The high skill levels in the firms mean that a continuous stream of minor improvements can come from the shop floor. The continuous upgrading of standards also suggests continued innovation along the trajectories of already-existing technology. Such a stream of continuous small improvements thus becomes a major source of technological change in such a system. The skill level also means that by scanning the technological frontier, quickly acquiring and improving it, the system can remain on the frontiers of new technology. While it is also able to generate new and novel technology, the pressure to do so is not as overwhelming as it is in the mission-oriented system. The system is thus much better at exploiting and mastering existing technologies, than generating new ones. It is therefore not surprising that many late developing countries have tried to emulate this system.

p. 158 The historical evolution of the two systems of innovation suggests that technological development is dependent on the structure and histories of specific economies, and that those countries that have evolved systems that are consistent both internally and with the structure of the economy and its institutional underpinnings succeed in bringing about continued technological change. It also suggests that radically different systems that are adequate for the purpose can evolve from differing environments. Technological development has more to do with histories, structures of economies, and their institutional environment than with anything resembling the perfectly competitive markets of neoliberal theory.

The evolution of the two systems also suggests that differing localities are not solely defined by differing relative prices that then determine the pace and trajectory of their technological environments. The main differences between Germany and the US at the time that their differing innovation systems emerged were not differing relative prices but differing institutions, differing skills, and skill mixes. It is these factors, rather than the differing relative prices that have determined the pace and trajectory of their technological development.

Easterly makes the same point from a different angle. He argues that comparative advantage has to do more with skills and technological capabilities than with factor endowments. He suggests that countries with low levels of skills will have to focus on low-value-added primary production and processing. Giving high-value

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semi-processed material to unskilled people in firms with low technological capabilities would mean that substandard product would likely be produced. The cost of such results to the firm would be very high. But if the value of the material on which unskilled workers and low-technological capability firms work is low, even if there is high wastage, the cost to the firm will be lower.[51]

From a dynamic point of view, it is the evolution of the imitative and innovative capabilities of a country rather than factor endowments that shape the trend in relative and absolute growth of tradeables of each economy.[52] Thus having cheap and abundant labor does not necessarily make a country competitive in labor-intensive industries. Indeed, studies have shown that China and India, which had (and have) much more abundant and cheap labor than Japan, had their textile industries—a quintessential labor-intensive industry—devastated by Japan between the two World Wars. These studies of relative productivities of labor of Japan on the one hand and China and India on the other hand have shown that labor costs in India and China would have had to be negative for them to compete with Japan in textiles.[53]

Having the same or even better machinery does not mean having the same or better productivity and technology. The technological capability of a firm is not primarily its machinery or its employees; it is primarily its organizing abilities, which in turn are dependent on the institutional set-up of the economy. Studies carried out to compare productivity of firms in Japan, Thailand, and Malaysia have been revealing in this sense. Cement factories in the three countries were studied. ↳ The Malaysian factory had the most up-to-date machinery, whereas the Japanese factory had the oldest machinery of the three. Nevertheless, labor productivity in the Japanese factory was found to be at least three times higher than that of the Malaysian factory.[54]

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Comparative advantage does not automatically follow from factor endowments, and simply buying up the latest machinery does not mean enhancing competitiveness. Ultimately the competitiveness of a country's firms depends on skills and technological capabilities.

The generation of new technology and the pervasive market failures for new technology apply whether a country is developed or developing. But at least initially, developing countries advance by adopting and adapting existing technology rather than generating new technology; hence the market failures we have identified above could be said to be irrelevant to the processes of economic growth in developing countries. But as we shall see, transfer of technology is itself plagued by market failures.

The accumulation of technological capability

Technological capability is best understood by looking at its three separate parts: Production capability, investment capability, and innovation capability. Production capability refers to operating production facilities and includes production management, production engineering, repair and maintenance, and marketing. Investment capability refers to expanding capacity and establishing new ones and includes labor training, pre-investment feasibility studies, project execution, and start-up operations. Innovative capacity refers to developing new technology.[55] For a developing country, accumulation of technological capability involves two processes: Absorption and diffusion. Absorption is an active process of acquiring, utilizing, and improving upon foreign technology by a domestic firm. Diffusion is to further adapt and develop a particular technological and organizational innovation and the extension of technological learning beyond the firm into the economy in general and the national innovation system.[56]

Almost by definition, developing countries are not at the frontier of global technology. For them, accumulation of technological capability means the importation, assimilation, and adoption of foreign technology and building up effective national innovation systems. Seven steps have been identified in the process: (1) determining the need; (2) surveying the alternative technologies and the alternative suppliers; (3) choosing a particular combination of technology and supplier; (4) absorbing the techniques in their first

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application in the importing country; (5) disseminating the techniques throughout the economy; (6) improving upon them; and (7) developing new and superior techniques through research and development in the country.[57]

p. 160 Every step in the process is plagued by pervasive market failures. The last step, that of developing new technology, has already been dealt with and shown to be replete with market failure. The same principles apply whether the technology is developed in an advanced country or a developing one.

Steps 1–3 are the critical initial steps in the process. They determine whether the most appropriate technology for the firm and the country has been identified and selected, whether the least possible cost has been paid, and whether the procurement has been made in a manner that facilitates the assimilation of the technology. The firm carrying out the exercise must have adequate prior knowledge of the technology it needs, sufficient information on alternative technologies and suppliers, and good negotiating skills and strength. If mistakes are made in this process, the wrong technology at the wrong price and wrong conditions for transfer may be bought. In such circumstances the firm may be plagued by difficulties from the very start, collapse in the process of operating the technology, and technology transfer may not take place.

The exercise is risky and expensive. The firm will have to hire experts, scan the technologies available, and select the best alternative for them, which requires hiring people with the necessary knowledge, carrying out a global scan of alternatives, and collecting as much information as possible. It could require foreign visits to have a look at the technology in operating plants. It would require hiring people with the necessary negotiation skills. All of these involve high costs for a firm from a developing country.

The risks and costs involved in the initial process of acquiring new technology are further complicated by the inappropriability of the information gathered in the process. Once a firm has shouldered all the risks and costs and imported the technology and proved that it works, it will not be able to keep it a secret or patent it. Others will quickly follow and import the same technology from the same source, with none of the risk and a negligible part of the cost. If the initiator firm makes a mistake and selects the wrong technology, it bears all the consequences; if it makes the correct decision, it is faced with competition from others who have not paid the same initial costs. Heads it loses, tails the others win. So it would not be a surprise if there is an acute undersupply by the market of firms that are prepared to carry out the initial steps of technology acquisition. This market failure is exacerbated by information failures in the technology market. Information about alternative technologies and suppliers is never perfect and that increases the market failure in the initial process of technology acquisition.

The process of absorbing technology—the fourth step—is mainly one of learning by doing. Sometimes this is understood to be a mechanical process in which the firm erects the machinery and starts producing; the more it produces, the more it assimilates the technology. That is very far from the process of real learning, an interactive process that takes place within institutions. The firm will need in-house capacity to
p. 161 understand the processes involved so as to be able to ↳ make the acquired technology fully operational and to adapt it to local circumstances. If people with the right skills and attitudes are not made available to the firm, there will not be much learning.[58]

In the process of procuring and quickly assimilating the technology, the firm learns not only to master the technology concerned but also learns to learn. The experience gained by the firm involving all the steps of the process will enable it to acquire knowledge for carrying out both the procurement and assimilation of the technology quicker and cheaper in its future investment activities.[59] For this to happen, the firm must be involved in repeated investments and have the institutional capacity and memory to learn how to learn.

The internal requirements of the firm in absorbing new technology are thus quite stringent, but the requirements of the external environment are even more stringent: Trained labor that can easily assimilate

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the technology and the entrepreneurial and managerial skills to organize the process must be available, as well as support institutions. Research and development facilities and other technological support institutions that help the firm to assimilate technology and to address production and other bottlenecks that inevitably occur in the process of assimilation need to be available.[60]

A firm masters the technology if it is continuously trying to improve productivity and quality of products. Where a firm does not need to or does not feel compelled to improve productivity and quality of products, there is no urge to quickly master the technology. The firm must therefore work in an environment that exerts continuous pressure to improve productivity and quality of products if it is to accumulate technological capability. But pressure alone is not enough; if a firm does not have a reasonable chance of making profit by assimilating the technology, it won't even try. Hence the environment must balance the pressure to improve productivity and quality of products with the assurance that such an effort has a reasonable chance of success.[61]

Technological capability accumulation in developing countries is about learning by doing, and learning to learn by doing. A process of production and repeated investments in an environment where firms are pushed to master the technology and are assured that they can do so with profit if they make the effort is required to enable such accumulation. An environment of increasing demand and investment is thus critical for the success of the process.[62]

In the end, entrepreneurs will have to make the decision to devote their energy and their money in productive investments, to go through the difficult and risky process of assimilation of new technology, and make profits. They will do so only if there are no other less risky and less difficult ways of making profits, such as through rent-seeking opportunities. Technological capability accumulation in a developing country can thus take place only where rent-seeking opportunities are eliminated or severely curtailed and where the available capital is directed toward socially productive investments.[63]

The pattern of technological capability accumulation in developing countries has to start at the low end of the market, by producing commodity type products. Such products can be produced with low levels of skill and technological capability and it is only logical that countries use such products as the entry point. But unless countries move to the next step in the technological ladder, they will be trapped in a low-value, low-wage, low-growth trap.[64] They have to move to the next step which is producing complex products with high potential for learning by using technologies that are one step away from the technological frontier and low-wage but high-skill labor. This is an even more perilous step. The environment must guide investment to continuously scale the ladder of technological change. The experience the firms gain in the process of producing commodity type products and the production and investment capabilities they build up during this stage must be used to move up to making adaptations and minor improvements in the technology acquired and to assimilate more complex technology.

The absorption of new technology by a firm in a developing country requires not only in-house capabilities with regards to skilled labor, and entrepreneurial and managerial flair, but also the appropriate external environment that provides adequate skilled labor and effective technological support institutions. It requires an external environment that delicately balances a reasonable chance of making profits with adequate pressure to improve productivity and quality of products, as well as expanding demand and investment opportunities that adequately curtails socially wasteful rent-seeking and directs the investible resources of a country toward socially productive investments.

Assuming that all of the environmental and internal factors needed for a firm to assimilate the technology acquired are fulfilled, the firm still faces another problem. As soon as it has mastered the technology, having had to pay all the costs, take all the risks, and manage all the hustle involved in the process, copycats arrive and begin to compete with it and undermine its profits. As the firm has no proprietary rights to the

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technology, it can do nothing about it but try to keep its skills a secret. But its employees will leak it either though labor mobility or establishing their own firms, and by word of mouth.

The leakage of such information and the diffusion of technology associated with it are perfectly rational from the point of view of the economy. Indeed, it is such diffusion, which enhances the national innovation system of a country, and accelerates its growth. But from the point of view of the firm, it is unable to capture these externalities and the rational behavior would be not to be the initiator of the process or to retard the diffusion of the technology to the maximum extent. Both rational responses are damaging to the country's accumulation of technological capability and to its accelerated development. The market is powerless to resolve this fundamental problem.

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Conclusions

The neoliberal paradigm correctly identifies technological change as the heart of the development process and as the only source of continuous increase in per capita income. The main stream of neoliberal theory treats the heart of the development process as an exogenous factor and does not even attempt to explain it in economic terms. Endogenous growth theory, which in many respects is a variant of neoliberal theory, does begin to open up the black box and see the market failures involved, but fails to provide a comprehensive understanding of the process as it is tied to the most basic neoliberal assumption of the pervasiveness and efficiency of markets.

Developing countries cannot compete simply on the basis of factor endowment or by buying up the latest machinery. They need to assimilate technology developed elsewhere, and they need to continuously move up the technology ladder if they are to achieve continued growth and development. In other words, technological capability accumulation is as central to developing countries as it is to developed countries. The difference is that in developing countries, such accumulation takes place primarily through the assimilation of foreign technology rather than through the development of new technology.

Firms take a lot of risks and incur heavy expenses to identify and assimilate foreign technology but are unable to fully appropriate the benefits of their efforts. Indeed, national development would be hindered if they were to fully appropriate the benefit of their effort as the newly introduced technology would not be diffused. Moreover, the required external environment is such that it would not be possible to create it through the market mechanism alone.

A deeper analysis of technological change shows that it is plagued by information failures and extreme forms of information asymmetry, of increasing returns, of extensive externalities, and coordination failures. It shows that technology has the essential characteristics of a public good. In other words, a deeper analysis of technological change shows that in both developed and developing countries, technological change takes place in an environment of pervasive market failures.

A historical analysis of technological development shows that successful societies have developed national innovation systems that address market failures, and that such systems are based more on the structures and histories of the economies than on relative factor prices. It shows that there are differing national systems of innovation reflecting the differing histories and structures of the economies that can do the job, and that it would be impossible to envisage successful technological development outside of such institutional environment in any country, developed or developing.

When it comes to the heart of accelerated economic growth and technological development, the neoliberal assumption of efficient competitive markets has no basis in fact or theory. Its assumption of a
p. 164 nightwatchman state as an instrument ↳ that facilitates technological development by letting the markets

do the job while it stands guard protecting property rights and enforcing contracts does not hold up. The neoliberal paradigm cannot explain or guide technological growth.

Stiglitz goes even further and plausibly argues that the neoliberal theory is fundamentally inconsistent with technological change. Where there are competitive markets, where prices are equal to marginal costs, there is no room for technological change; where there is room for technological change, there are no competitive markets.

The developmental state

The historical evolution of the concept

It has been shown that developing countries are plagued by deep-rooted and pervasive market failures that create poverty traps and vicious circles that cannot be overcome by the market. We have indicated that only concerted and persistent political action can overcome the poverty traps. We have shown that development requires the accumulation of social capital, which cannot be adequately supplied by the market. We have briefly shown that the nightwatchman state of the neoliberal paradigm is inadequate to overcoming such bottlenecks and accelerating development. We have argued that rent-seeking has less to do with the size of the state than with the nature of the state. But we have not identified the nature of the state that would be active in overcoming the market failures and poverty traps without succumbing to the rent-seeking trap.

In his seminal study of the history of industrialization in Europe, Alexander Gerschenkron came up with a number of fundamental conclusions that can be summarized as follows: (1) The more delayed industrialization, the more explosive the great spurt of industrialization if and when it comes; (2) the higher the degree of backwardness of the country at the outset, the greater the tendency toward monopolization; (3) the more backward the country at the outset, the more likely it is that the process will be carried out under central direction, although the institutional characteristics of such central direction will vary from country to country; and (4) the process of European industrialization is thus not a process of countries repeating the first industrialization but one of graduated deviation from it.[65]

The first point he makes is plausible. A country in a poverty trap will either fail to create the institutional environment necessary to overcome it or it will succeed in creating such an environment, in which case it will be in a position to bring about accelerated development. When a country starts the process of development, it does not have to reinvent the wheel because much of the technology needed for such growth
p. 165 will be available. While the assimilation of already-existing ↳ technology is an arduous task that requires time and money, it cannot necessarily be as slow as creating it in the first place. Hence, if and when late industrialization takes place, it is likely to happen at a more accelerated pace than early industrialization. History appears to bear that out.

Gerschenkron's second point has also largely but not fully been borne out by experience elsewhere. Various explanations have been sought for this phenomenon to the extent that it is accepted as a pattern of late development. One such explanation has to do with the ability to quickly build up technological capabilities and continuously upgrade them. It is suggested that such efforts require or at least are facilitated by the emergence of massive conglomerates such as the Korean Cheabols.[66]

Gerschenkron's third point has also been borne out by evidence, particularly in East Asia. Not only has such development been centrally directed, and directed by the state, but state direction has been much more intrusive and comprehensive than was the case in Europe. A more subtle point is worth noticing: The later the process starts, the greater the need for central direction, which implies that the early industrializers recommend more central direction of the process of the late ones.

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It is only natural that there is interaction between early and late industrializers and that such interaction affects both the pace and direction of late industrialization. The availability of developed technology and learning in order to avoid mistakes and replicate successful experiences are factors that can speed up the pace of late industrialization. At the same time, late industrializers may find it difficult to compete successfully with the early industrializers on a level playing field. This could be one reason for more state intervention in the context of late industrialization.

Tariffs are the quintessential rent-seeking instruments adamantly opposed by neoliberalism. Indeed the whole concept of rent-seeking behavior originates with the analysis and criticism of trade tariffs and barriers. But historically no country except England, the first country to industrialize, has succeeded in industrializing without tariffs and trade barriers. The trade tariffs could be very high as was the case in the industrialization process of Germany and to a certain extent the US, or they could be relatively low as was the case in Japan. Interestingly, the same historical study also shows that not all those with trade tariffs have had sustained and accelerated industrialization, as the experience of Russia in the first decade of the twentieth century attests.[67]

This seems to suggest that the impact of the early industrializers on the late ones involves disadvantages in competing on a level field that requires some corrections through trade tariffs. Perhaps more importantly, it suggests that various levels and forms of policy intervention can result in required outcomes and that the same policies can have different outcomes depending on other circumstances. In the case of tariffs, the same policy has resulted in very different outcomes in Germany and Russia.

p. 166 Other studies have shown that effective implementation, rather than policy, makes the difference. The same policy can create a haven for rent-seeking activity or inhibit such activity, depending on the nature of the state. These studies suggest that only correct policy implemented by an autonomous state with the capacity to discipline private economic agents can create a stable policy environment and have the desired impact.[68] The differing outcomes of the same policy interventions are thus explained by the differing natures of the states implementing the policies, as reflected in their differing capabilities.

It has also been argued that the key issue in development is the economic issue of improving agricultural productivity and directing the surplus generated as a result of industrialization. Behind the economic process lies a fundamentally political one: That of the coming to power of a class that has both the will and ability to bring about the economic process mentioned above.[69] In the end, development is a political process first and a socioeconomic process second.

Studies of such political transformation have shown that they can be brought about by various means—by revolutions from below or revolutions from above (or some combination of the two). In Japan and Germany, successful industrialization has taken place after revolutions from above succeeded in bringing about the required political changes in the form of semi-parliamentary regimes. Similar process in Italy have also been quite successful, while that of Spain has been significantly less so. Revolutions from above are thought to need to fulfill certain requirements if they are to be successful in carrying out accelerated development. They must possess: (1) a very able leadership that recognizes the need for such a revolution and that perseveres in the pursuit of its objectives, dragging along society and most particularly the old elite from which the faction that leads the revolution emerges; (2) a powerful bureaucratic apparatus, including powerful police and army to free itself from pressures both from the elite and the population at large.[70]

The process of revolution from above as articulated by Barrington Moore is a peculiar process of political transformation that comes about not because the population has risen up in revolt, swept aside the old elite, and replaced it with a new one that starts the process of socioeconomic development, but one that emerges as a result of the action of members of the old elite who recognize the need for political transformation and who bring it about through direction and guidance from above.

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A group that brings about such change must be very able and dedicated indeed to go beyond its narrow interests and recognize that society as a whole will be better off through such change. It also must walk a very tight rope because the old elite will inevitably feel betrayed and threatened. The people will inevitably feel that such changes are too little too late and designed to perpetuate the privileges of the elite by other means. Such a group will need more than ability and dedication to maintain its effort. It needs a powerful
p. 167 state apparatus to shield it both from the ↳ left and the right. It needs to be autonomous from society at large and tower over it like a colossus. It can be semi-democratic, semi-parliamentarian at best.

The recognition of the fact that the state has played a crucial role in development and the tentative conclusions on the nature of the state that brings about such change have evolved over time into a well-articulated theory. The spectacular development success in East Asia—most particularly in Japan, Korea, and Taiwan—and the active role of the state in these countries has facilitated the articulation of the theory. The nature of the state that can build such development has been analyzed in depth and such a state has been given a specific name: The developmental state.

The nature of the developmental state

It is argued that the developmental state has two components, ideological and structural, and that it is the nexus between these two components that defines and distinguishes it from other states. At the ideological level, accelerated development is the mission, its source of legitimacy. Moreover, the development project is a hegemonic project in the Gramscian sense—the key actors voluntarily adhere to its objectives and principles. Structurally it has the capacity to implement policy effectively, which is the result of various political, institutional, and technical factors, which in turn are based on the autonomy of the state. This autonomy enables the state to pursue its development project without succumbing to myopic interests.[71]

The definition of the state based on the nexus of characteristics that include the single-minded pursuit of accelerated development, the autonomy of the state, and the "hegemonic character of the development project" appears to have gained wide acceptance. The same points have been made by another study.[72] While the single-minded pursuit of accelerated development by the developmental state appears to be self-evident, the concepts of state autonomy, the widespread support for the development process, and the need for a national consensus on the matter need to be elaborated.

Analysts have plausibly argued that all states in market economies need to and have certain autonomy. They need such autonomy to maintain corporate coherence and serve the systemic interests of a market economy. If they were to simply reflect society with its conflicting interests and demands, the state would lose all semblance of corporate coherence and cease to serve any interests adequately. It is suggested that such a level of autonomy is the normal characteristic of the run-of-the-mill state in a market economy.[73]

If indeed state autonomy is one characteristic that distinguishes the developmental state from others, how different is the autonomy of a developmental state from the autonomy of the run-of-the-mill state in a market economy? The answer to this crucial issue has been provided by Dani Rodrik, who has defined the autonomous state by comparing it to what has been called the subordinate state.

p. 168 The distinction between an autonomous state and subordinate state has to do with implementation of policy decisions. On one end we have a state in which decisions are made autonomously based on its development agenda; the private sector lacks the means to reshape them or avoid compliance as they are implemented. On the other end, we have a state in which decisions and their outcomes are the result of the interplay between private-sector pressure and government motives and are rarely final.[74]

Obviously these examples represent polar opposites and many states are likely to have shades of both, but defining the limits helps to clarify the essence of the autonomy of the developmental state. In this regard,

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two very critical points have been made. First the autonomy of a developmental state is reflected and described by its ability to make and effectively implement policy regardless of the views of the private sector on the issue. The subordinate state cannot do that because it makes and implements decisions through a process of juggling interests among various sections of the private sector. In this sense it is directly accountable to these interests. It may have enough autonomy to enable it to maintain some corporate coherence and to pursue the interests of the system as a whole, but not enough to make and implement decisions independent of the views of the private sector. From this perspective, our run-of-the-mill state in the market economy would be a subordinate state.

The second and related point has to do with identifying that the developmental state ought to be autonomous from the private sector. In the absence of state direction of the economy, it would be the private sector that would provide overall economic guidance to the economy. If the state is not autonomous from the private sector, it cannot provide guidance to the economy. Moreover, day-to-day economic decisions in a market economy are made essentially by the private sector. The developmental state tries to guide the private sector to make its decisions in a manner that accelerates growth by using a set of incentives and disincentives. If the state is not autonomous from the private sector, it will not be able to discipline, encourage, and cajole it to act in a manner designed by the state.

One of the identified characteristics of a developmental state is that it must achieve broad support for its development agenda. Development is an exercise that requires appropriate behavior on the part of millions of individuals. It is based on the development of social capital through civic engagement in mutually beneficial horizontal networks. None of these can be created and sustained by coercion alone. The development agenda must be hegemonic if successful development is to take place and if a developmental state is to be established.

As clear as the need for a developmental state based on national consensus is, it appears to be contradicted by historical experience. Most, if not all, of the well-known developmental states have not been democratic; they have at best been "semi-parliamentarian," to use Barrington Moore's words. The insistence on the part of theorists for the need of broad support for the development agenda, while at the same time
p. 169 recognizing that developmental states have in general been ↳ undemocratic, suggests that a distinction between national consensus on the development agenda and democratic governance is being made.

Some analysts have gone even further and made explicit the distinction and the relationship between democracy and developmental state. They argue that the difference between autonomous and subordinate states is not that one is undemocratic while the other is democratic. Both the autonomous and the subordinate state can be democratic and both can also be undemocratic.[75] An autonomous state, whether it is democratic or not, will have to build some sort of consensus on its development agenda if it is to be a developmental state. Whether it builds such a consensus in the context of a fully democratic order or not does not determine its characteristics as a developmental state.

Government actions can lead to socially wasteful rent-seeking activity. The difference between the neoliberal school and the theorists of the developmental state is not whether government intervention in the economy can result in socially wasteful rent-seeking activity, because both agree that this is indeed the case. The difference is whether the government can be activist and avoid socially wasteful rent-seeking activity or not. The neoliberals say "no" and the theorists of the developmental state say "yes". The developmental state needs to have both the incentive and the means to do so. The subordinate state does not have the incentive because it exists via juggling private-sector interests; it does not have the means because it does not have the ability to reward and punish the private sector depending on whether their behavior is rent-seeking or growth-enhancing.[76] The developmental state, however, has the motivation because its purpose is to accelerate growth and it can do so—and maintain its legitimacy—only by rewarding growth-

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enhancing activities and restricting and penalizing socially wasteful activities. Its autonomy from the private sector gives it the means and the will to discipline the private sector through rewards and penalties.

The various historical examples of the emergence of developmental states have shown that they are the results of political and social processes and created by social and political action. They are not given characteristics of a given set of countries. They are states created by "social and political engineering."[77] As social constructs of historical process, they come in different sizes and shapes, reflecting the context of their creation. But whatever the variations among developmental states might be, we can identify certain basic characteristics that are common to all and which can be summarized as follows: (1) The motive and source of legitimacy of developmental states is the single-minded pursuit of accelerated development. (2) The development project is broadly shared in the country. (3) They are autonomous from the private sector; they make and implement decisions regardless of the views of the private sector; and they have the motive, the incentive, and the means to reward and punish the private sector in order to promote desired behavior and activity. (4) They can be either democratic or undemocratic, and this does not determine whether they are developmental states or not.

Conclusions

It has been argued that inhibiting rent-seeking behavior does not depend on the size of the state or on the degree of its activism in economic matters, but on the nature of the state, which can be an activist state at the same time as inhibiting socially wasteful rent-seeking activity. Similarly it has been argued that developing countries face formidable market failures and institutional inadequacies that create vicious circles and poverty traps, which can adequately be addressed only by an activist state. It has been shown that the historical practice bears this out. However, we had not defined what sort of activist state is required. The analysis of the developmental state in this chapter is intended to fill this gap.

We can conclude that development is a political process first and economic and social process second. It is the creation of a political set-up that is conducive to accelerated development that sets the ball of development rolling. Only when there is a state that has the characteristics of a developmental state can one meaningfully discuss the elimination of rent-seeking behavior. In its absence, rent-seeking will be rampant no matter what the size of the state might be. Only in the context of such a political environment can one debate about development policy in a meaningful manner. In its absence, all government policy and action —however limited and timid it might be—will be riddled with rent-seeking behavior and this is particularly so in developing countries, which will be emerging from a social and political environment in which vertical, patron-client networks are pervasive.

The neoliberal paradigm states that socially wasteful rent-seeking is the result of government activity and of the size of government activism. It does not distinguish between state activism. This leads it to the conclusion that most if not all government intervention in the economy is detrimental to growth and to the suggestion that the nightwatchman state is the best state from the point of view of accelerated growth. Historical practice has shown that state intervention has been critical in the development process. Economic theory has shown that developing countries are riddled with vicious circles and poverty traps that can only be removed by state action. The theory of the developmental state completes the alternative paradigm by showing what type of state can intervene in the economy to accelerate growth while at the same time limiting socially wasteful rent-seeking activities.

Notes

2 Zenawi (2006). Extracts from the draft are posted on IPD website in the section on the Africa Task Force.

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3 Colander (1984).

p. 171 4 World Bank (1997). ↳

5 Moore (1966).

6 Colander (1984).

7 Buchanan (1980).

8 Ibid.

9 Todaro (1996).

10 Mkandawire (2001).

11 Evans (1992).

12 North (1990).

13 Stiglitz (1994).

14 North (1990).

15 World Bank (2002).

16 Ibid.

17 Stiglitz (2002).

18 North (1990).

19 Ibid.

20 Putnam, Leonardi, and Nanetti (1993).

21 Ibid.

22 Enos and Park (1985).

23 Mankiw (2002).

24 Easterly (2002).

25 Romer (1990).

26 Ibid.

27 Todaro (1996).

28 Stiglitz (1989).

29 Easterly (2002).

30 Ibid.

31 Stiglitz (1989).

32 Porter (1985).

33 Ibid.

34 Stiglitz (1989).

35 Porter (1985).

Downloaded from https://academic.oup.com/book/34599/chapter/294329128 by Wellcome Trust Centre for HG user on 07 August 2024

36 Aghion and Howitt (1998).

37 Stiglitz (1994).

38 Ibid.

39 Ibid.

40 Johnson (1992).

41 Dalum, Johnson, and Lundvall (1992).

42 Johnson (1992).

43 Ergas (1987).

44 Ibid.

45 Ibid.

46 Ibid.

47 Ibid.

48 Ibid.

p. 172 49 Ibid. ↳

50 Ibid.

51 Easterly (2002).

52 Dosi and Soete (1998).

53 Amsden (2001).

54 Koike (1990).

55 Westphal, Kim, and Dahlman (1985).

56 Ernest, Ganiatsos, and Mytelka (1998).

57 Enos and Park (1985).

58 Mytelka (1985).

59 Enos and Park (1985).

60 Mytelka (1985).

61 Park (1991).

62 Enos and Park (1985).

63 Ibid.

64 Porter (1985).

65 Kron (1962).

66 Amsden (1992).

67 Morris and Adelman (1989).

68 Rodrik (1995).

Downloaded from https://academic.oup.com/book/34599/chapter/294329128 by Wellcome Trust Centre for HG user on 07 August 2024

69 Moore (1966).

70 Ibid.

71 Mkandawire (2001).

72 Lall and Stewart (1996).

73 Rueschemeyer and Evans (1985).

74 Rodrik (1992).

75 Ibid.

76 Ibid.

77 Mkandawire (2001).

Downloaded from https://academic.oup.com/book/34599/chapter/294329128 by Wellcome Trust Centre for HG user on 07 August 2024

References

Aghion, P. and Howitt, P. (1998). *Endogenous Growth Theory*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Amsden, A. H. (1992). *Asia's Next Giant, South Korea and Late Industrialization*. Oxford: Oxford University Press. 10.1093/0195076036.001.0001
Google Scholar Google Preview WorldCat COPAC Crossref

—— (2001). *The Rise of the "Rest": Challenges to the West from Late-Industrializing Economies*. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Buchanan, J. N. (1980). "Rent seeking and Profit Seeking," in J. M. Buchanan, R. D. Tollison, and G. Tullock (eds.), *Toward a Theory of the Rent-seeking Society*. College Station: Texas A&M University Press.
Google Scholar Google Preview WorldCat COPAC

Colander, D. C. (1984). "Introduction," in D. C. Colander (ed.), *Neoclassical Political Economy: The Analysis of Rent seeking and DUP Activities*. Cambridge: Ballinger.
Google Scholar Google Preview WorldCat COPAC

Dalum, B., Johnson, B., and Lundvall, B.-A. (1992). "Public Policy in the Learning Society," in B.-A. Lundvall (ed.), *National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning*. London: Pinter.
Google Scholar Google Preview WorldCat COPAC

p. 173 Dosi, G. and Soete, L. (1998). *Technical Change and International Trade*. London: Pinter.
Google Scholar Google Preview WorldCat COPAC

Easterly, W. (2002). *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Enos, J. L. and Park, W. H. (1985). *The Adoption and Diffusion of Imported Technology: The Case of Korea*. London: Croom Helm.
Google Scholar Google Preview WorldCat COPAC

Ergas, H. (1987). "The Importance of Technology Policy," in P. Dasgupta and P. Stoneman (eds.), *Economic Policy and Technological Performance*. Cambridge: Cambridge University Press. 10.1017/CBO9780511559938
Google Scholar Google Preview WorldCat COPAC Crossref

Ernest, D., Ganiatsos, T., and Mytelka, L. (1998). "Technological Capabilities in the Context of Export-Led Growth: A Conceptual Framework," in D. Ernest, T. Ganiatsos, and L. Mytelka (eds.), *Technological Capabilities and Export Success in Asia*. London: Routledge.
Google Scholar Google Preview WorldCat COPAC

Evans, P. (1992). "The State as Problem and Solution: Predation, Embedded Autonomy and Structural Change," in S. Haggard and R. R. Kaufman (eds.), *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State*. Princeton, NJ: Princeton University Press.
Google Scholar Google Preview WorldCat COPAC

Johnson, B. (1992). "Institutional Learning," in B. A. Lundvall (ed.), *National Systems of Innovation: Toward a Theory of Innovation and Interactive Learning*. London: Pinter.
Google Scholar Google Preview WorldCat COPAC

Koike, K. (1990). "Theory of Skill Formation Systems," in K. Koike and T. Inoki (eds.), *Skill Formation in Japan and Southeast Asia*. Tokyo: University of Tokyo Press.

Downloaded from https://academic.oup.com/book/34599/chapter/294329128 by Wellcome Trust Centre for HG user on 07 August 2024

Google Scholar Google Preview WorldCat COPAC

Kron, A. G. (1962). *Economic Backwardness in Historical Perspective: A Book of Essays*. Cambridge, MA: Belknap Press of Harvard University Press.
Google Scholar Google Preview WorldCat COPAC

Lall, S. and Stewart, F. (1996). "Trade and Industrial Policy in Africa," in B. Ndulu and N. van de Walle (eds.), *Agenda for Africa's Economic Renewal*. New Brunswick, NJ: Transaction Publications.
Google Scholar Google Preview WorldCat COPAC

Mankiw, N. G. (2002). *Macroeconomics*. New York: Worth Publishers.
Google Scholar Google Preview WorldCat COPAC

Mkandawire, T. (2001). "Thinking About Developmental State in Africa," *Cambridge Journal of Economics*, 25 (3): 289–313. 10.1093/cje/25.3.289
WorldCat Crossref

Moore, B. (1966). *Social Origins of Dictatorship and Democracy: Lord and Peasant in the Making of the Modern World*. Boston: Beacon Press.
Google Scholar Google Preview WorldCat COPAC

Morris, C. T. and Adelman, I. (1989). "Nineteenth Century *Development* Experience and Lessons for Today," *World Development*, 17 (9): 1417–32.

Mytelka, L. K. (1985). "Stimulating Effective Technology Transfer: The Case of Textile in Africa," in N. Rosenberg and C. Frischtak (eds.), *International Technology Transfer: Concepts, Measures and Comparisons*. New York: Praeger.
Google Scholar Google Preview WorldCat COPAC

North, D. C. (1990). *Institutions, Institutional Change and Economic Performance.* Cambridge: Cambridge University Press. 10.1017/CBO9780511808678
Google Scholar Google Preview WorldCat COPAC Crossref

Park, E. (1991). "Foreign Trade, Direct Investment and Industrialization Strategy of Korea," Center for International Development, Korea Development Institute. Available at http://cid.kdi.re.kr/cid_eng/public/report_read05.jsp?1=1&pub_no=3758.
WorldCat

Porter, M. E. (1985). *The Competitive Advantage of Nations*. New York: The Free Press.
Google Scholar Google Preview WorldCat COPAC

Putnam, R., Leonardi, R., and Nanetti, R. Y. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.
Google Scholar Google Preview WorldCat COPAC

Rodrik, D. (1992). "Political Economy and Development Policy," *European Economic Review*, 36 (2–3): 329–36. 10.1016/0014-2921(92)90088-E
WorldCat Crossref

—— (1995). "Trade and Industrial Policy Reform," in J. Behrman and T. N. Srinivasan (eds.), *Handbook of Development Economics*, Vol. 3B. Amsterdam: Elsevier Science Publishers.
Google Scholar Google Preview WorldCat COPAC

Romer, P. M. (1990). "Endogenous Technological Change," *The Journal of Political Economy*, 98 (5): S71–S102. 10.1086/261725
WorldCat Crossref

Rueschemeyer, D. and Evans, P. B. (1985). "The State And Economic Transformation: Toward an Analysis of the Conditions

Downloaded from https://academic.oup.com/book/34599/chapter/294329128 by Wellcome Trust Centre for HG user on 07 August 2024

Underlying Effective Intervention," in P. B. Evans, D. Rueschemeyer, and T. Skocpol (eds.), *Bringing the State Back*. Cambridge: Cambridge University Press. 10.1017/CBO9780511628283
Google Scholar Google Preview WorldCat COPAC Crossref

Stiglitz, J. E. (1989). "Markets, Market Failures and Development," *The American Economic Review*, 79 (2): 197–203.
WorldCat

—— (1994). *Whither Socialism?* Cambridge, MA: MIT Press.

—— (2002). "Participation and Development, Perspectives from the Comprehensive Development Paradigm," *Review of Development Economics*, 6 (2): 163–82. 10.1111/1467-9361.00148
WorldCat Crossref

Todaro, M. P. (1996). *Economic Development*, 6th edn. London: Longman.
Google Scholar Google Preview WorldCat COPAC

Westphal, L. E., Kim, L., and Dahlman, C. S. (1985). "Reflections on the Republic of Korea's Acquisition of Technology," in N. Rosenberg and C. Frischtak (eds.), *International Technology Transfer*. New York: Praeger.
Google Scholar Google Preview WorldCat COPAC

World Bank (1997). *The State in a Changing World*: *World Development Report 1997*. New York: Oxford University Press.

—— (2002). Building Institutions for Markets: World Development Report 2002. New York: Oxford University Press.

Zenawi, M. (2006). "African Development: Dead Ends and New Beginning," Monograph. Available at http://cgt.columbia.edu/files/conferences/Zenawi_Dead_Ends_and_New_ Beginnings.pdf.

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