Opportunities and Pitfalls for Middle-Income Countries: Technological Progress, Globalization and Institutions

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Two important developments are affecting all world economies today: rapid advances in technologies and globalization. Both of these developments provide great opportunities for middle-income countries, like Turkey, but also present some pitfalls. Those with skilled work forces, those that encourage foreign direct investment and above all those that provide a good institutional environment for new businesses to flourish can take advantage of these developments and quickly advance from being a middle income country to being a high income country. Those that fail in this endeavor may see themselves sliding down in the ranks.

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New Technologies

Technological change has always been a driving force for economic growth and progress. New technologies enable the production of goods that were previously unavailable to consumers and make the production of existing goods cheaper and more efficient. By their very nature, these technologies replace old methods of production, and demand new skills and competencies.

The famous advances in the technology of weaving and spinning during the British Industrial Revolution, for example, not only made previously expensive procedures much cheaper, but also replaced skilled artisans and opened the way for the factory system. An interesting, and, perhaps in historical perspective unusual, feature of these advances was that they enabled the substitution of unskilled labor for that of relatively skilled artisans. Most new technologies, however, do the opposite; they replace labor-intensive production methods with more skill-intensive methods. They are, therefore, what economists refer to as "skill-biased technologies"--- they are complementary to the skills of the work force, and consequently do not achieve their full productivity unless operated by highly skilled and educated workers.

The new technologies of the past two decades have been highly skill-biased. These advances in information technology and their transformation of the structure of production are now well known. It is equally well understood that these technologies need both highly educated managers to oversee the production, and also well-educated workers to operate them. The personal computer, most commonly used by workers with at least a college degree, is only the tip of this iceberg. Other improvements in information technology are equally complementary to skills and education. For example, they enable robots and computer-assisted machines, operated by a few highly-educated employees, to replace semi-skilled and unskilled workers; they facilitate the invention and production of new goods that require a more skilled work force; they simplify the process of inventory control by placing it in the hands of skilled managers at the top of the organization.

These new technologies have spread rapidly in many developed economies, and are generally viewed as the driving force of the long economic boom of the 1990s in the United States. They also significantly increase the demand for skills and education. In the United States, for example, despite the phenomenal increase in the number of college graduates in the work force, returns to education and especially returns to a college degree have soared, because these new technologies increase the demand for skills in general and the demand for a college degree in particular.

The technological changes that have affected the U.S. economy have also been spreading rapidly to middle-income countries. The evidence suggests that this transfer of technology increases the demand for skills in these recipient countries, and when combined with a sufficiently skilled work force, can greatly contribute to productivity and output growth. However, without a skilled work force, these technologies will not be adopted, and even if they are, they will fail to achieve high productivity.

Globalization and Outsourcing

The other major economic development of the past several decades is the increased globalization of the production process. As a result of improvements in both transportation and communications technology and the reduction in protectionist policies, there is much more international trade today than there was 30 years ago. Moreover, there is a new kind of international trade: outsourcing, that is, companies in the United States or Europe performing part of the chain of production in another country, where production costs are typically lower.

Like technological change, globalization is an important engine of progress in the economy, but just as with technological change, it involves new ways of doing business, and leads to the replacement of old methods and old firms by new ones.

Outsourcing, and international trade more generally, can at first take advantage of low labor costs in a middle-income country. Nevertheless, today a country can only become part of the high-tech chain of production if it has a sufficiently qualified labor force and highly educated managers and engineers. Therefore, just as with technological developments, globalization also necessitates a well-educated workforce.

Another reason that globalization makes education more important than ever is the rapid integration of a number of lower-income countries, most notably India and China, into the world economy. Before this stage of globalization, middle-income countries could benefit from international trade by specializing in low-skill, labor-intensive manufacturing products such as textiles. But labor costs are so much lower in India, China, Pakistan, Bangladesh, and other low-income countries that middle-income economies cannot compete in these sectors, and risk being squeezed out entirely unless they can transition to the production of more skill-intensive and advanced manufacturing goods. They can move up the ladder of products only if their work force possesses the skills necessary for the production of these manufacturing goods.

Foreign Direct Investment

As important as the education and skill level of the workforce is for a middle-income country to acquire new technologies and to be integrated into the world economy. Direct foreign investment plays an equally important role in the achievement of these objectives. New technology, especially at the early stages of its development and implementation, often requires tacit knowledge about its operation and use. Much of it might be proprietary or patented. Therefore, often the best way of transferring new technology to a middle-income country is via joint ventures or some type of direct foreign investment.

Outsourcing also typically takes the form of joint ventures between a company in the United States or Western Europe and a subsidiary in a middle-income country, and must therefore rely on some form of direct foreign investment.

Therefore, to take advantage of the opportunities offered by new technologies and globalization, a middle-income country has to attract direct foreign investment.

Institutions and the Business Environment

Throughout history, only societies that have created political and economic institutions constraining the power of the state and of the rich elite have been able to stimulate investment and economic growth. Those that have failed to do so have stagnated. To encourage investment (both domestic and foreign) and perhaps even more important to enable new businesses to enter and flourish, “strong” (good) political and economic institutions are necessary. These institutions comprise both a business environment protecting the property rights of investors and producers and a level playing field for new entrants. Creating strong political and economic institutions and a good business environment is therefore essential for a society to achieve economic success.

When institutions offer no guarantees to businessmen that they will be able to reap the benefits of their investments, investment will not be forthcoming. In addition, economic institutions have to enable firms to borrow the funds necessary for their investments and enter into contractual relationships with suppliers and customers. Economic institutions providing secure property rights and some degree of contract enforcement are, therefore, necessary for investment and economic growth. Such economic institutions, in turn, are only possible if political institutions constrain the powers of politicians and elites. Otherwise, there is nothing to prevent politicians and elites from using their powers to violate other parties’ rights.

Equally important, the institutions and the business environment of a country ought to present a relatively level playing field and enable new entry. Though there are some exceptions, new technologies are often developed and adopted by new firms, not those already established. This is natural: existing firms are already benefiting from their expertise in the technologies. So it will be newcomers who are more motivated to seek new avenues and replace the old methods and firms. But, the entry of these newcomers and new technologies will create "losers" in the process of economic change (i.e., the beneficiaries of previous technologies replaced by new ones and politicians and firms whose power is eroded by economic change). There is nothing unusual about this; the famous economist Joseph Schumpeter identified this type of "creative destruction" as the essence of capitalist economic growth. However, it creates a political problem: in a political environment where existing firms are powerful, they will attempt to slow down or even stop the process of creative destruction. Strong institutions will create a level playing field, ensuring that the process of creative destruction does not come to a halt, while bad institutions will fail to do so.

In practice, there are both direct and indirect barriers to the creation of new businesses in many middle-income countries. Among the direct barriers, most important are the costs of opening a new business, and the potential insecurity of the property rights of new business owners (especially relevant when the security of existing businesses largely comes from their close relations with, or their control of, politicians and bureaucrats).

The most important indirect barrier, on the other hand, is lack of finance for new businesses. Low financial development and the control of banks by existing businesses make it impossible for new businesses to raise the capital necessary to venture into new areas. The latter barrier may be especially important in Turkey, where the banking sector has for a long time spent its energy and resources investing in government bonds rather than providing funds to new businesses.

This discussion also suggests that healthy political and economic institutions, and secure property rights for investors and producers, are not an automatic outcome, but something that might encounter serious opposition. Both politicians and the elite who benefit from their privileged position will oppose institutions that create secure property rights for other groups and enable the entry of new businesses and firms.

Recent developments in technology and globalization have, if anything, increased the importance of institutions and the business environment for two reasons. First, institutional guarantees and a good business environment become more important when investors and businesses are footloose-- i.e., when they can easily shift to another country. This implies that direct foreign investment and foreign technology will only be attracted to places where their rights are secure, and a middle-income country can only benefit from globalization if it possesses the right types of institutions.

The second reason why institutions might be more important today than before is the greater extent of "creative destruction" associated with the implementation of new technologies and the process of globalization. We expect elites vested in old technologies and benefiting from protected internal markets to lobby against the introduction of new technologies and against globalization, and their success in this endeavor will depend on the political institutions of the country.

Overall, political and economic institutions providing secure property rights to businesses and enabling the entry of new firms are essential for economic growth, and they are perhaps even more important today because the ability of a middle-income country to adopt new technologies and to benefit from globalization depends on these institutions.

What To Do?

Many middle-income countries, including Turkey, can take advantage of new technologies and globalization. But some major changes are often necessary for them to fully benefit from these opportunities. Without these changes, they risk sliding down in the ranks from middle-income to lower-income countries. This article suggests that the necessary changes include:

- Greater investment in education. Investment in education, especially secondary education that will provide basic skills to production workers and specialized education for engineers and managers, is essential for a middle-income country to take advantage of new technologies and the process of globalization. Unfortunately, in many middle-income countries, especially in Turkey, too little

is invested in education, and the education provided to the vast majority of the population is not of sufficiently high quality.

- Encouraging foreign direct investment. In many countries, for example in Turkey until recently, foreign direct investment is still seen as a threat. It is not. It is part of the tools available to a middle-income country to import new technology and benefit from the advances in the world economy.
- Institutional reform. Institutions, placing checks both on politicians and on economically powerful business elites, are essential for long-term economic growth, especially, for a country to take advantage of new opportunities. Often, however, institutions create instability, discouraging both direct foreign investment and domestic business creation, or they protect insiders and the business elites by creating a tilted playing field. An important element of institutional reform is to reduce inefficient barriers to the entry of new business and to create an environment where new businesses can raise funds for investment. These reforms in economic institutions are, in turn, possible only after successful political reform is underway, so that the power of political and economic elites is restrained.

This article draws on my previous work in a number of areas, including:

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