

Turkey's Economy

The Case for Industrial Policy

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Introduction

Industrial Policy refers to a comprehensive government program that deploys selective policies in order to transform the sectoral composition of an economy. The aim is to create and support more sophisticated and high-value-added sectors with better prospects for economic growth so that an economy can transition to the higher stages of economic development. Industrial Policy's defining feature is that it seeks to strike a balance between unregulated free markets and heavy central planning. It assigns a proactive role to the government in a market-based economy. Policy tools of this sort usually include specific subsidies and preferential credit for strategic sectors, facilitations of public-private partnerships, state ownership of key assets, coordination of private initiatives, and creation of sector-specific infrastructure and business environment. The so-called 'East Asian Tigers' including Japan, South Korea, Taiwan, and Singapore exemplify the potential of Industrial Policy, becoming developed economies through strong growth performances thanks to a successful deployment of targeted policies.

This paper presents the case that Turkey should also adopt Industrial Policy in order to advance to a higher stage of economic development and become a fully industrialized country. Although the current consensus in economics literature is largely sceptical of government's role in economic development, this pattern has been shifting in recent years toward a more positive outlook on interventionist/activist policies. The disappointing performance of neo-liberal economic policies since the 1980s has been influential in this gradual change. Most recently, even international financial institutions, such as the IMF and the World Bank, have been leaning toward the idea that Industrial Policy may be beneficial for developing countries (Cherif & Hasanov, 2019). This is surprising, given that these institutions have long frowned upon selective

government interventions in the economy and have generally promoted neo-liberal economic principles.

Beginning in the 1980s, Turkey also adopted a somewhat 'hands-off' approach toward the economy and avoided direct government interventions in production, in part due to the influence of international financial institutions. Structural reforms prescribed by these institutions are arguably not enough for Turkey to overcome its shortcomings and pass beyond middle-income levels. The standard growth recipe of the neo-liberal paradigm has mostly been ineffective in Turkey as well as in other emerging market economies, including Brazil, Mexico, South Africa, and Indonesia, in altering the structure of production toward sectors that offer better prospects for sustainable growth. What Turkey needs is strong government initiative with selective policies which target appropriate sophisticated, high-value-added sectors through selective trade policies, preferential financial support, coordination between firms, direct state investments, and improvements in sector-specific infrastructure. It would appear that there has recently been a growing awareness about this in Turkish policy circles, as the government has started to adopt more proactive industrialisation policies.

This paper begins with summarising the discussion about how middle-income countries can successfully transform their economies to developed status and presents opposing views about the role of government in overcoming the middle-income trap. As a part of this discussion, some of notable success stories from East Asia are scrutinized in greater detail with examples. Then, it discusses why Turkey needs Industrial Policy in light of its recent economic history. The paper concludes with a discussion of how Industrial Policy may be implemented to improve Turkey's productive capacity in critical high-value-added sectors.

Lessons from East Asia

Economic development is perceived by some as a linear process of smooth change which carries a country from poverty to prosperity. However, economic development usually takes place in distinct stages rather than in an incremental manner. Each stage of economic development has its own peculiarities in terms of the main sectors of production, level of technology, and demographic characteristics etc. (Gerschenkron, 1962; Rostow, 1959). This implies that countries at different stages of economic development may need to apply different policies in order to accomplish better economic performance, and one policy prescription may not bring about the same result at different stages of economic development.

Most developing countries grow very rapidly in the early phases of economic development. They accomplish this by transforming their economies from agriculture to labour-intensive manufacturing industries. Massive migration of people to cities helps to maintain the competitive edge of labour-intensive sectors, which is a cheap labour force, while manufacturing jobs provide people with better income. This is the story of how most developing countries escape poverty and attain middle-income levels. A good example of this in recent years is China, which moved millions of its citizens from countryside to urban areas and transformed its economy from agriculture to manufacturing. In the process, China has become a middle-income country and removed more than 800 million people from poverty thanks to its booming low-cost manufacturing sector (World Bank, 2019).

However, middle-income countries do not want to serve as the low-cost workshops for developed countries forever, but to upgrade and embark on the next stage of development. In that regard, the process of moving beyond middle-income levels is of special importance. While it may be relatively easier to realize the initial jump (i.e. take-off) to become a middle-income country, it takes a lot more organizational capacity and political leadership to become a developed country with a diversified and sophisticated economy. As the demographic shift to urban areas and transformation to low-value-added manufacturing is concluded in the first stage of economic development, developing countries need to find ways of increasing per capita income levels other than labour-intensive production, because increasing incomes beyond the middle-income

range means getting rid of the comparative advantage of a cheap labour force in the first place, which is critical for labour-intensive production.

This paradoxical situation then makes the transition to high-income levels seemingly unattainable, unless such countries find creative ways to improve productivity and technological sophistication, and hence the value-added in their economic activities. This is the infamous middle-income trap, a situation in which a country struggles to pass beyond the income levels within the middle-income range. Aiyar et al. (2013), for instance, shows that middle-income countries are likely to experience growth slowdowns at incomes of around \$10,000-12,000 USD. Although the share of the world population living in middle-income countries has risen dramatically over the last decades, resulting from the rapid growth in Asian economies (e.g. China and India), the majority of developing countries have been stuck with labour-intensive or resource-driven industries and have failed to achieve high-income levels despite having reached middle-income levels decades ago.

Over the period between 1960 and 2014, only 16 out of 182 developing countries were able to increase their income levels enough to be labelled as high-income countries. Some of these countries have accomplished this through the economic windfalls of the discovery of oil, or by joining the European Union (Cherif & Hasanov, 2019). Other examples include Japan, Taiwan, South Korea, Singapore and a few more. This latter group of countries have been able to transform their economies from low-value-added, labour-intensive industries to sophisticated, capital-intensive ones. Consequently, they have experienced 6-7% annual growth rate in per capita income over four decades, which has been deservedly called the East-Asian growth miracle. It is good sense to learn from their experience, but expert opinions about 'how they did it' remain divergent.

Mainstream literature claims that successful countries performed better because they reformed their economies in favour of a market-based approach, and this helped improve their efficiency levels and hence growth performance. The World Bank's famous 1993 'East Asian Miracle' report, for instance, argued that *"...rapid growth in each economy was primarily due to the application of a set of common, market-friendly economic policies, leading to both higher accumulation and better allocation of resources."* Accord-

ing to this approach, the secret to successful growth, such as the one of East Asian economies in the second half of the 20th century, is to adopt pro-market policies and to discard any disruptive government intervention to the economy (World Bank, 1993). As it was observed also in the case of China more recently, removing obstacles from the effective functioning of the market mechanisms and limiting unnecessary government control over economic activities can lead to improvements in macroeconomic fundamentals and efficiency levels.

Obviously, there is merit in this interpretation. However, it is also plausible to argue that this specific approach has been stretched too far, especially in policy circles of international financial institutions, so much so that any government intervention to the economy started to be perceived as sinful. This paradigm of radically pro-market and non-interventionist policy-making was even deemed worthy of the name 'Washington Consensus', in reference to Washington D.C.-based institutions such as the IMF, World Bank, and WTO. These institutions have strongly favoured this interpretation and have promoted a standard package of neo-liberal economic policies ('Structural adjustment programs'- SAPs) for developing countries around the world since the 1980s. Economically-troubled developing countries were 'motivated' to restrict governments' roles in the economy and implement a radically pro-market policy package, including fiscal cuts, financial deregulation, privatisations and removal of trade barriers, in order to gain access to the IMF or World Bank credits, or not to be punished by WTO sanctions.

The promise of SAPs is improvement in fundamental aspects of an economy, namely fiscal balance, low inflation, stable business environment, and financial depth, followed by efficiency gains, capital inflow, and economic growth. No doubt macroeconomic fundamentals are important indicators of a country's economic sustainability. However, after 40 years of experimentation, there is no substantial body of evidence showing that SAPs and neo-liberal economic policies have promoted economic growth (Rodrik, 2005). Furthermore, financial deregulation and reliance on capital flows for financing growth have proven to be economically destabilizing in the long run (Stiglitz, 2000; Griffith-Jones et al. 2001). It is fair to say that since the 1980s, policy-making in line with the Washington Consensus approach has engendered largely disappointing results in developing countries. Today, even the gatekeepers of the 'Washington Consensus' are re-evaluating their position regarding government's role in economic development.

In contrast to the neo-liberal narrative, there has been an array of studies, which have pointed at governments' crucial role in the East Asian growth miracle. According to the approach taken in these studies, the successful growth in East Asia did not take place because these countries had adopted a non-interventionist, radically pro-market approach. On the contrary, governments took strong initiatives to improve the productive capacity of their economies beyond what unfettered market forces would generate on their own (Amsden, 1989, 1997; Wade, 1990; Woo, 1991 & Chang, 2002). While opening their economies to foreign trade and investment, they supported strategic sectors through a combination of subsidies and protectionist measures so that they could survive and flourish in international competition. Governments planned and coordinated domestic production in capital-intensive and sophisticated sectors; they facilitated technology transfers, provided financial support, and built the sector-specific infrastructure.

The South Korean government, for instance, played a central role in the country's push into technologically sophisticated sectors such as electronics, shipbuilding and the automotive industry. In 1960s, S. Korea had no experience, human capital or know-how about any of these highly capital-intensive and high-tech sectors. Government had assisted private sector to build professionally managed conglomerates (*'chaebol'*) and enabled them to enter global competition (Amsden, 2001). Firms receiving subsidies were expected to export substantially and keep upgrading their technologies. Otherwise they were cut off from support. Government was also instrumental in solving the coordination failure between firms. Under government planning, several firms would simultaneously invest in complementary sectors so that they avoid unnecessary competition while providing the necessary intermediate goods to each other. Also, government strongly protected firms from competition through tariff and non-tariff trade barriers to foreign companies so that they can complete their early development process at the initial phase.

Many of the global companies of S. Korea that we know of today actually came into being under *Heavy and Chemical Industrialisation programme*, which was launched in 1972 and promoted shipbuilding, domestically-designed automobiles, and machinery. Hyundai, which was a construction company in 1960s, first built the largest shipyard in the world and then became the first ship-building company of S. Korea before moving into auto production, all under government support and protection. POSCO, currently world's fourth-largest steelmaker, was set up as a state-owned en-

terprise in 1968 with *"the national mission of industrialization"*. Samsung, which was a textile company in 1960s, first expanded to cover the entire line of production in textiles and then started investing in numerous sectors including heavy industries, petrochemical, shipbuilding, and eventually electronics, thanks to easy financing and protectionist policies provided by the government (Woo, 1991).

Similarly, Japan enforced extensive Industrial Policy so that country could build its capacity in sophisticated industries. Both steel production and shipbuilding, in which Japan is a global giant today, started as state-owned enterprises. It had intensively suppressed imports and foreign direct investments for decades in order to protect domestic producers in specific sectors. Government had to provide direct and indirect subsidies to automobile production for almost four decades before it could become the most competitive national auto industry in the world (Lin and Chang, 2009). Similar examples are also present in the case of Singapore and Taiwan; at one point, state-owned enterprises produced more than 20% of Singapore's and 16% of Taiwan's GDP. Singapore government prioritized sector-specific infrastructure and human capital necessary for strategic sectors. They also heavily regulated foreign direct investments to avoid excessive competition or abusive monopolies. They set strategic objectives for private firms and coordinated networks between them (Wade, 1990; Chang, 2002).

The productive role played by government in economic development is not restricted to East Asian economies. Chang (2002), for instance, provides a comprehensive historical account of how almost all of today's developed countries, including the US, Germany, and Britain, have aggressively deployed proactive interventionist policies in their respective catch-up processes. They have given monopoly privileges, active financial support, and trade protection to strategic sectors. It was only when they became advanced economies and their industries were developed enough that these countries started to enforce and promote laissez-faire. It is interesting, for instance, to note that it was Alexander Hamilton, the first secretary of the treasury of the US, who first argued that governments should protect and support their "infant industries" so that domestic producers might have the opportunity to develop their productive capacity (Chang, 2002).

At the time, Hamilton was referring to the British protectionism which preceded British domination in manufacturing. Under Robert Warpole, who is considered by some

historians as Britain's first prime minister, Britain applied industrial policies that is very similar to the examples that we have seen in East Asia. Government has proactively supported domestic producers of sophisticated products via export subsidies; it increased tariffs for competing foreign products while lowering tariffs for strategic inputs. Hamilton thought the US should do the same to become a developed country. The US had indeed followed interventionist and protectionist policies for a very long time before its private sector became the global leader in innovation and technology (Chang, 2002). Even today, the US is home to world's biggest state-owned enterprise, that is the American Army, which spends on R&D and new technologies more than any private company in the world (Mazzucato, 2013).

In Germany's case, government finance played a key role for the creation of strategic manufacturing sectors that are considered the engine of German economy today. After WW2, the Bank for Reconstruction (KfW), founded in 1947, provided the life blood to Germany's sophisticated tools and machinery industries which made it possible for German industries to make a comeback after WW2's devastation. Furthermore, KfW continues to lead the way in most innovative sectors; between 2007 and 2009, it provided almost the entirety of all the credit that went to the renewable energy sector. As of 2016, the bank's assets represented 14% of German economy and 80% of it is still owned by the state (Cherif & Hasanov, 2019; Chang, Andreoni, & Kuan, 2013).

All in all, economists in this tradition claim that without strong government support and protection, high-value-added sectors with sophisticated technologies are unlikely to emerge and survive in developing countries. This is largely because investments in such sectors are highly risky, costly, and require long periods of time to pay off. Unless their governments take the lead, enforce an industrialisation strategy and coordinate private initiative with public efforts to improve productivity, and most importantly protect and support strategic sectors in international competition in their early stages, less developed countries are destined to disappointing results in terms of economic growth, and they are unlikely to transition their economies to high stages of development. The case for Industrial Policy in Turkey is based on this critical observation. This paper interprets Turkey's economic issues in light of this approach to understanding economic development.

Why Turkey needs Industrial Policy

Over the last two decades, Turkey has experienced an impressive growth record. Specifically, between 2002 and 2018, the Turkish economy has grown with a yearly average of 4.3% in per capita terms (World Bank, 2019). It should be noted that growth rates at this level translated into a 95% increase in per capita income over this 15-year period. There is no doubt that such a level of growth is rightly called an economic boom. However, Turkey has arguably reached the limits of what can be accomplished through its current institutional structure, and it now needs a new vision to pass beyond middle-income levels. As the benefits of structural adjustments have been exhausted and Turkey's demographic transition from agriculture to urban manufacturing industries is mostly completed, Turkey should formulate its own version of Industrial Policy to move toward more sophisticated sectors with higher value-added levels.

It is plausible to argue that Turkey's relative success in growth rates in the 2000s was mainly due to structural reforms enacted in the aftermath of the 2001 crisis. This was Turkey's worst-ever financial crisis, which still affects how the financial system is perceived by policy makers and citizens alike. Lack of fiscal discipline in 1990s hit the economy through accumulated public debt, uncontrollable

inflation, and eventual capital outflow (Akyüz and Boratav, 2003). The 2001 crisis resulted in a major collapse of output and employment, but it also marked the beginning of Turkey's aggressive and comprehensive reform program. The AK Party government, which came to power in 2002, enacted a reform agenda and restructured the Turkish economy 'mostly' in line with the Washington Consensus's recipe for developing countries.

Several new economic regulatory bodies have been formed, while already existing ones have been reformed. The central bank became independent in its use of instruments to combat inflation, and seigniorage was eliminated from the policy toolbox to meet budget requirements. Consequently, Turkey's notoriously high and chronic inflation rate has been taken under control. Similarly, a major reformation took place in the banking system following the crisis so that Turkish banks were much more tightly regulated in line with international norms. Most importantly, in the 2000s, governments have been more committed to budget discipline, which has substantially reduced the public debt to manageable levels. As a result, in terms of public debt-to-GDP ratio, Turkey has become one of the least indebted countries among both the OECD and developing countries (OECD, 2018).

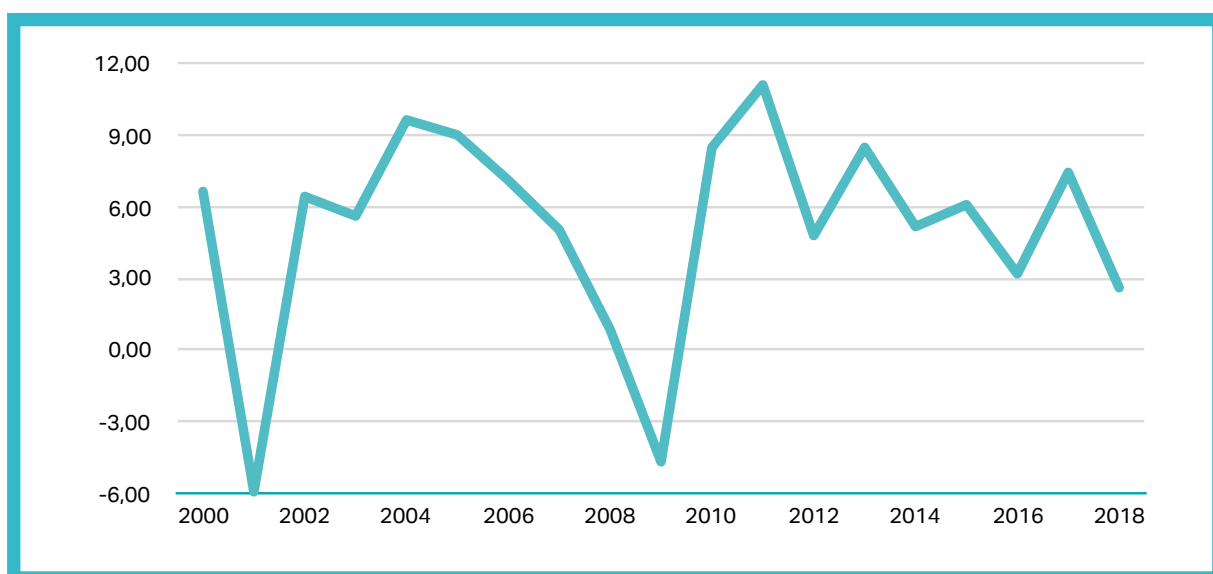


Figure 1: GDP growth (%) (Source: World Bank)

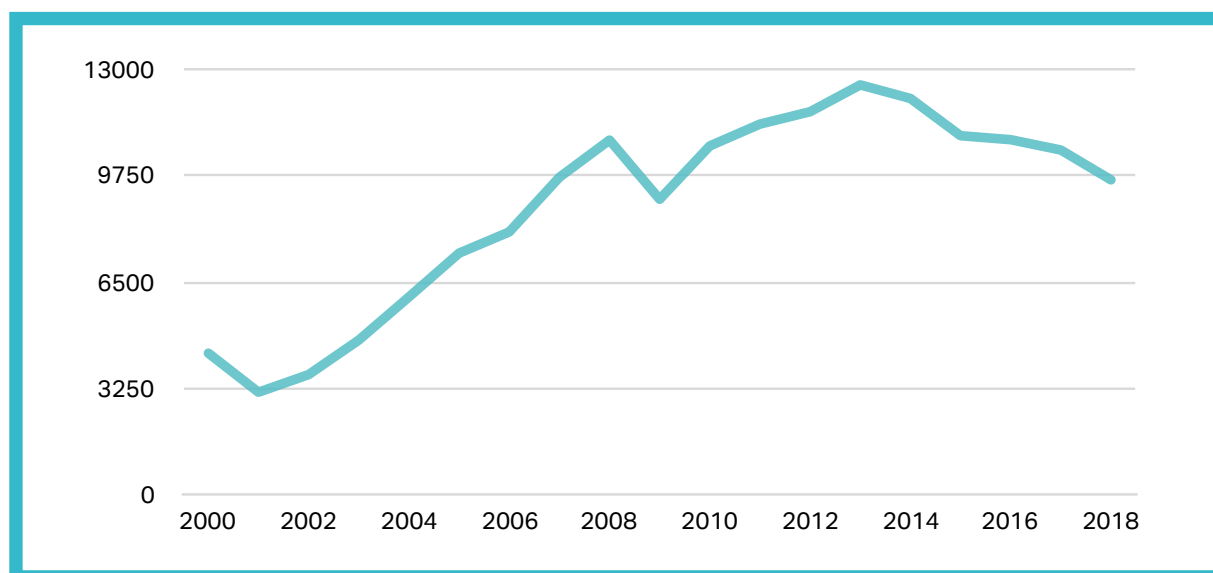


Figure 2: GDP per capita - current USD dollars (Source: World Bank)

The end result of the program was an improvement in almost all fundamental aspects of the Turkish economy. In the subsequent years, the Turkish economy showed one of the best growth performances among emerging economies. Foreign trade has soared, and foreign direct investments have reached unprecedented levels. Turkey has been successful in attracting capital inflow, finding export markets for its products, and accomplishing higher prosperity for all layers of Turkish society. Almost two decades of stable growth have moved large segments of Turkish society out of poverty, while Turkey's GDP per capita has multiplied. Currently, with around \$10 000 USD in per capita income, Turkey ranks among the top high-middle-income countries (World Bank, 2019).

While Turkey's cautious experiment with the 'Washington Consensus' approach has arguably maximised its potential gains, it has also experienced its drawbacks. On the one hand, Turkey has become much more integrated into global trade and financial markets, which has enabled the country to expand its trade volume and fill its capital gap. Price stability and fiscal discipline have also played their role in this. On the other hand, the Turkish economy has suffered from a high current account deficit and has become vulnerable to short-term capital flows. Despite obvious successes in boosting Turkey's export volume in recent decades, Turkey still has a trade imbalance (IMF, 2018a). Current account deficits keep Turkey in constant need of foreign financing and add to the external debt stock.

Liberal trade has so far forced domestic producers to specialise in sectors where Turkey has a comparative advantage. As is characteristic in early stages of economic development, Turkey's comparative advantage lies in low-tech, labour-intensive manufacturing sectors. As a consequence, export volume has grown mostly in such low-value-added sectors. Moreover, a significant share of Turkey's value-added exports is embodied in foreign contents (i.e. imported components) (OECD, 2015). While this has served the country's growth trajectory well until recently, Turkey needs sectors which can earn higher trade revenue to balance its trade. Even though global finance capital helps Turkey finance its deficit, it also destabilises its financial markets. As has been manifested in recent financial turbulence in the Turkish economy, sudden and large amounts of capital movements in and out of developing countries, with no capital account restrictions, constitutes one of the main threats to sustainable growth.

Turkey's structural transformation has brought Turkey to a different stage of economic development where a different policy approach is needed to maintain high growth trajectory. As mentioned above, income levels between \$10 000-12 000 USD signal a warning for a middle-income trap. The fact that Turkey's GDP per capita has been within this range for almost a decade is further proof that Turkey is facing this challenge. As in all developing economies, migration from agricultural regions to urban areas has been one of the main determinants of productivity and growth improvement in the Turkish economy. Turkey has

almost completed its sectoral transformation from agriculture to labour-intensive manufacturing, so in order to increase productivity levels further and move beyond middle-income levels, Turkey needs to transform its sectoral composition toward more sophisticated, capital-intensive economic activities with higher value-added levels. This next step requires more active and direct support by the policy-makers.

Turkey's recent growth path has arguably prepared the ground for the next step toward a high stage of development. Better integration with world trade has improved the experience and trade networks of the private sector, while availability of financial instruments have improved tremendously. Turkey's entrepreneurial class now have higher capital accumulation and better financial means, which can be considered as a starting point for the emergence of more sophisticated sectors. However, these sectors usually require huge fixed costs and involve harsh competition at the global level. Entrepreneurs need to make big investments and compete with established producers from developed countries. That is why domestic producers usually stick with the safer, non-sophisticated sectors, such as construction and textiles. Therefore, an incentive scheme favouring more sophisticated and value-creating sectors should be adopted by the government. Government should pave the way for the private sector in strategic areas

as through well-thought and creative stick-and-carrot policies (Amsden, 1997).

Without moving from labour-intensive and low-value-added production toward more sophisticated and high value-added industrial production, it is not possible for the Turkish economy to sustain its high growth trajectory or further improve its GDP per capita. Industrial Policy is the way forward for Turkey to make its transition to an advanced economy driven by high-tech, high-value-added, sophisticated industries that have the potential for higher export revenues and productivity growth. Turkey's private sector is ready to make this leap, but this requires strong government leadership and support. As in the example of the East Asian miracles, the government should play a more proactive role in directing more capital toward sophisticated sectors that can create higher value-added industries and sustain Turkey's balance of trade.

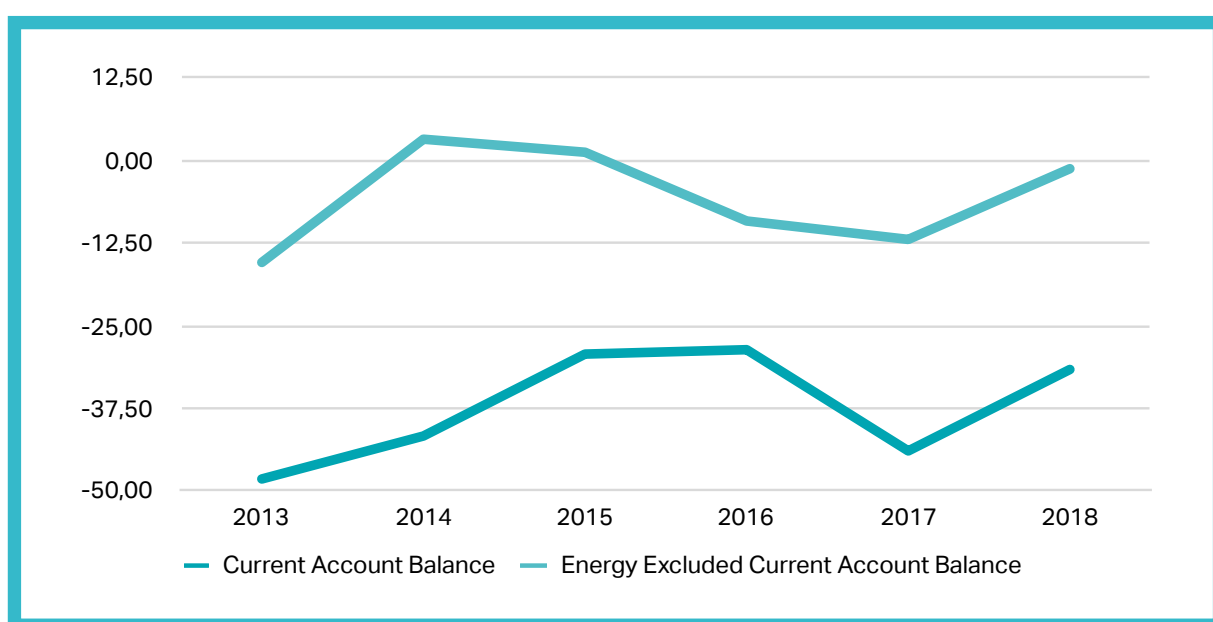


Figure 3: Current Account Balance (billion dollars) (Source: Central Bank of the Republic of Turkey)

How to do it right

Industrial Policy does not have a common structure, and there is a large body of literature about 'how to do it'. Although the aim is always to transform the sectoral structure of an economy toward targeted sectors, different governments around the world have used customised policies in order to accomplish this task. There is wisdom in this diversity of policy combinations as well. As Chinese President Deng Xiaoping once said, *"it does not matter if the cat is black or white, as long as it catches the mice."* So, countries with different characteristics may find different policy choices more useful to accomplish the same task. To find the best policy combination for a specific country, one should carefully analyse the country characteristics and customize policies in a pragmatist rather than ideological manner.

The question is, what set of policies are most appropriate for Turkey. There are a number of policy frames which may be utilised in Turkey to create sectors with better prospects. These are discussed below. All of these policy suggestions involve direct and strong government initiative, however, this does not negate the fact that the private sector is still the main driver of economic growth. Government's role is to serve as a *midwife* to healthy new industries rather than becoming a long-run nursemaid to the private sectors (Chang & Lin, 2009). This point is of critical importance because Industrial Policy is often misinterpreted as permanent rather than transitory.



Mustafa Yalçın - Anadolu Agency

Selective Trade Protectionism

Many economists in the liberal tradition have claimed that unfettered competition under free trade is the most efficient way of allocating resources (i.e. labour and capital), because free trade pushes domestic companies either to become efficient enough to survive global competition or to die out so that resources used by them can be transferred to more efficient sectors. That way, the argument goes, countries specialize in sectors for which they have a comparative advantage compared to other countries, and engage in trade for other goods. As long as international trade provides a stable means of exchanging these products, the outcome will be an improvement in both national and global productivity and living standards. This is the theory of comparative advantages developed by David Ricardo, which has become the main argument for non-interventionist trade policies for over two centuries (Bhagwati, 1985).

However, there is a strong argument for protecting certain sectors from harsh competition as well. If a country does not have a comparative advantage in high-tech sectors, then free trade leads to specialisation in low-tech sectors. For instance, as a consequence of economic liberalisation, less developed countries may be stuck with agriculture or low-value-added manufacturing sectors, such as textiles or mining, because these are the only sectors where they can compete in global trade (Matsuyama, 1992). Because productivity growth in these non-dynamic sectors is very small, these countries would be deprived of the long-run benefits of technological advancements. This implies that economic integration and the specialization that comes with it can act as a poverty trap (Lucas, 1988). These countries end up importing capital-intensive and high-value-added products forever instead of building their own capacity, while developed countries export advanced industrial products because they already have the technological capacity to produce them.

For instance, when East Asian countries were starting their aggressive investments in sophisticated sectors, their comparative advantage actually lied in low-tech and low-value-added sectors. Neither Japan nor S. Korea had any experience or know-how in automobile production or shipbuilding. More importantly, these countries lacked the capital to invest in these highly capital-intensive sectors. Similarly, Taiwan and Singapore were very poor and agriculture-based economies. According to the conven-

tional view, these countries should have been specializing in agriculture and labour-intensive manufacturing rather than sophisticated sectors, simply because they could not compete with the companies of developed countries which had all the necessary ingredients for producing in these sectors. At the time the World Bank was advising S. Korea to drop 'inefficient' and 'reckless' government interventions and specialise in what they were good at, such as rice, silk, and wigs! (Woo, 1991).

Clearly, they had a different plan. These governments have instead imposed very high tariffs on imports and even categorically banned some products from entering their markets in order to avoid foreign competition while providing substantial subsidies to domestic producers in certain targeted sectors. Indeed, if they did not protect their firms from competition at the initial phase, they would be wiped out by the competition. Once they have completed their learning process and acquired the organizational know-how, they were ready for open trade and global competition (Chang, 1993; Woo, 1991).

Therefore, a country may need to protect and support its strategically important sectors, at least for a while, in order to improve its own productive capacity at the initial phase of developing these sectors. Early exposure to foreign competition makes it very difficult for newly emerging local industries to survive and flourish. They are forced to compete with century-old companies from developed countries that are capable of much more sophisticated and cost-efficient industrial production. Using trade barriers for imports or subsidies for export as a means of sheltering domestic manufacturers can be important for providing "infant industries" with the insulation they need to increase their scale, complete their learning process, and develop their competitiveness during the initial stage.

Turkey should also use protectionist measures to support strategic sectors. However, this is more nuanced than it seems and requires a more elaborate trade strategy than just saying 'protect your markets'. Surely, government cannot protect the entire economy via trade barriers as this would serve nothing but to isolate the country from international trade. Turkey should continue to benefit from open trade to its full extent while protecting a few carefully selected strategic sectors through a combination export subsidies and import tariffs, without curtail-

ing access to imported products that are vital for production in other strategic sectors. Moreover, subsidies cannot continue forever as this would require unlimited public resources. Selected sectors should be allowed for a reasonable time period to develop their competitiveness until they can create surplus in international trade without public support. The key question is which sectors should be protected.

The government should target sectors and projects that are most conducive to create substantial productivity improvements for the entire economy. Sectors with most backward and forward linkages (i.e. sectors which provide the necessary inputs to other sectors or use their outputs) as well as those which create knowledge spillovers to other sectors should be preferred, because these sectors have the potential to pull other industries as well (Hirschman, 1958; Rodrik, 2005). For instance, automotive and aerospace industries have backward linkages to steel, advanced plastics, and various kinds of electronics so when automotive industry experiences a boost, thanks to the demand coming from automotive industry, all these sectors expand too. Furthermore, both these sectors have the potential to create knowledge spillovers to other sectors. For instance, the experience, skills, and know-how acquired in these sectors can be used in other sectors such as machinery, chemicals, or other branches of electronics. So, expansion of these sectors translates into a productivity improvement in many other sectors as well.

According to Cherif and Hasanov (2019), best candidates are electronics, machinery, pharma, aerospace, and motor vehicles because these sectors have very high R&D

intensity. According to Liu (2017), metals, petrochemicals, and machinery-producing industries are better candidates for support and protection because as it was demonstrated in the case of S. Korea in 1970s and China in 2000s, sectors with forward-linkages (i.e. those providing the necessary inputs to other sectors) are more important. It should also be noted that while learning from past experiences is a good idea at the notional level, it may not be smart to follow the footsteps of these success stories exactly, especially in terms of sectoral preferences. For instance, focusing on automobile production may have been a good idea in 1970s but not in 2000s as automotive market is already quite exhausted, unless we are talking about electric-engine or self-driving cars. Similarly, certain aspects of electronics or software engineering did not even exist in 1970s but today they may be good areas for investment.

Last but not least, protectionism also has a political dimension. Strict and vast protectionist measures may lead to a backlash from trading partners or WTO. Other countries usually respond to these trade restrictions with equivalent restriction on their imports. Arguably, given the current state of international politics, this may be less of a problem. In the context of trade wars and that developed countries, such as the US, violating the rules of free trade system, protectionist policies by developing countries can be received with more tolerance (Basbay, 2018a). Still, export subsidies may practically be a better choice, rather than import restriction, for they serve the same purpose while they do not affect foreign companies directly and they are not easy to reciprocate in kind.

Preferential Credit Support

The standard view in finance literature suggests that countries should liberalise and deepen their financial markets in order to enhance their economic performance. The logic of this is quite simple: by ending government's influence on financial system, financial liberalisation ends state repression on interest rates. Then, higher interest rates, on the one hand, incentivises savings, thereby increasing the amount of loanable funds which can be utilised for financing investments (McKinnon, 1973). On the other hand, it raises the quality and productivity of investments by ensuring that only the projects with high returns will get funding, while 'less worthy' ones will exit

the market due to high interest rates (Shaw, 1973). Policy advice in this line of thinking is to liberalise the banking sector completely and allow private competitive markets to determine the interest rates without any government interference.

However, this approach can be conducive to suboptimal results in the context of developing countries. Catching up with developed economies requires not only the creation of further resources, but also allocation of these resources into strategic investments with specific characteristics (Gerschenkron, 1962). One of the central prob-

lems of financing such investments is that these sectors involve large-scale economies, which means they start to pay off only in the long run after a lengthy gestation period. When a developing country is investing in sophisticated industries, by nature this requires a long period of time. In order to improve their efficiency and competitiveness, new firms entering these sectors have to make sizeable investments, acquire the necessary skills, and build the organizational capacity. And, even in the long run, risks are so high that these newly emerging businesses might fail in a developing economy with limited capital intensity (Amsden, 2001). That is why standard financing channels, such as stock markets and commercial banking, are unlikely to be willing to provide long-run financing for such ventures (De Aghion, 1999).

For instance, at the time S. Korea or Japan was investing in shipbuilding and steel, commercial banks could not be expected to provide credit for these highly risky, costly, and very long-term industrial projects. This is simply not how private banking system works; commercial banks are looking for safe and unadventurous investments that pay-off in a relatively short period of time. Turkey's booming construction sector in recent decades bears witness to this. Private banks did not hesitate to provide credit for huge housing projects because these are characteristically short-term investments that are comparatively less likely to fail in a country like Turkey with such high urbanization rates and a very young population. Consequently, private financial system dedicated most of its resources on a non-tradable sector such as construction rather than other industries with better prospects for economic growth.

National banks and development agencies can serve as a '*functional substitute*' for the private banking system. The advantage of these institutions is that they are partly immune to the '*short-termism*' and the risk-averseness that prevails in the private banking system (Di John, 2016). State-sponsored development banking can provide subsidised, long-run credit to strategic sectors that are deemed too risky for the private sector. Unlike private banks, these state agencies are expected to internalize social benefits (i.e. externalities) involved in these investments, above and beyond private gains. They can thus socialise the risks involved in such sectors as their social benefits are also very high. Also, strategic industrial projects with lengthy break-even points (i.e. self-liquidating only in the very long run) can be financed by state agencies as they are expected to have a long-run perspective (Amsden, 2001).

National development banks have played a dominant role in the provision of long-run investment financing in the context of late development, as in the case of France and Germany in the 19th Century, or in more recent examples in East Asia. As it was discussed above, Germany's industrial comeback after the WW2 would not have been possible without state finance through German development bank kfW. Similarly, Germany's surge in renewable energy resources ("*Energiewende*") in 2000s started thanks to kfW's credits. Private banks' share has gradually increased in this sector only after the highly risky initial investments have been financed by kfW. In the context of East Asia, according to Amsden (1997), public financing of certain sectors through deployment of off-budget financial resources, which she calls '*fiscalisation of finance*', was a crucial aspect of Industrial Policy. Preferential credits were used for creation of physical infrastructure in Japan while they supported heavy industries, such as Hyundai and Samsung, in S. Korea.

Turkey should also utilise state-sponsored financing schemes to support high-value-added sectors. This may take the form of subsidised credits from state banks, state guarantees for private funding, or coordination of domestic banks, conglomerate groups or foreign firms to co-finance targeted projects. As in the case of trade protections, government should target only the most strategic sectors for support. Limited resources cannot be used to target more than a few sectors, and they should not be wasted on non-productive ones. Also, sectors which generate net foreign exchange earnings through exports should be given priority because they help improve balance of payments. Improvement in non-tradable sectors can also lead to higher economic growth and productivity, but these sectors, such as construction, logistics, and certain aspects of finance, are all inward-looking and do not create any foreign exchange through exports. If economic growth increases imports without any counterbalancing increase in exports, crises in the balance of payments tend to follow.

Recently, Turkish government announced a \$4.9 billion USD finance package named "IVME" (advanced, productive, indigenous industry) that will target industrial sectors which have these three main features. The package will prioritize sophisticated sectors with high export potential, and provide long-term, low-cost credit to manufacturing firms through state banks. Finance Minister Berat Albayrak, in his announcement of the package, made it very clear that the new financing scheme attempt to accelerate structural transformation of the Turkish economy toward high-value-added and export-based man-

ufacturing sectors while reducing the current account deficit (Ergöçün & Şahin, 2019). So, in many ways, it follows the example of East Asian economies.

Needless to say, direct state involvement in the financial system is not without problems. Relation-based governance may lead to cronyism and corruption, so that people with insider privileges, rather than those with good projects, may have better access to finance capital. Also, sometimes governments may end up funding overly ambitious projects instead of more realistic ones, because they are incapable of making the correct risk-benefit analysis, resulting in a possible misallocation of resources and a waste of public funds. One suggestion to overcome such problems is that government should condition its support on accomplishment of certain targets, carefully audit outcomes, and *'let go of losers'* so as not to waste subsidies on sectors without prospects (Amsden, 2001). This can help government stay immune to cronyism and special privileges as this will provide tangible criteria for choosing the right firms to support.

Also, Di John (2016) argues that it is usually better to use the diversified/multiple financing model by getting diverse actors to finance strategic sectors, instead of

reliance on a single long-run financing model (e.g. one dominant state bank). In that respect, Turkey is already applying an exemplary. Last year, it was announced that the Turkish government, in an attempt to increase the market share of domestic high-tech products, will be supporting a consortium of companies for the production of Turkey's first domestically designed automobile. The initial models – designed with electric engines – are expected to be ready by early 2020. This is a promising and very symbolic investment for high-value-added production in Turkey. Furthermore, Zorlu holding, a Turkish company specializing in high-tech production and one of the members of the consortium, has invested in a mega battery company which will produce batteries for 500,000 automobiles by 2023; so backward linkages are already working (Basbay, 2018b).

Boosting National Savings

High-value-added production is usually capital intensive. However, most middle-income countries lack the levels of capital accumulation that is necessary for establishing capital-intensive sectors. Building a country's capacity in more capital-intensive production involves large fixed costs to be spent on industrial machinery and advanced technologies at the initial phase. Furthermore, there are higher running costs, including maintenance of machinery, continuous import of new technologies, and payment for skilled labour. Therefore, even though it is not usually considered as an element of Industrial Policy, boosting national savings for financing investments can be critical, especially for a developing country which plans to make aggressive investments in capital-intensive sectors with a view to become a developed country.

Obviously, foreign capital may be utilized to finance investments exceeding a country's national savings. However, external borrowing can be highly risky. First, cost of borrowing, that is interest rates, can dramatically fluctu-

ate sometimes for reasons that cannot be controlled by the borrower country. A sudden rise in the interest rates increases the burden of external borrowing. Moreover, prolonged periods of high interest rates can even lead to a point where surplus production of borrower countries is completely swept away by payments for interests. This argument may be made for most developing countries because they are usually considered as politically and economically instable and risky, so interest rates are higher than global average.

Second, a loss of confidence in the financial stability can cause foreign funds, especially short-term loans (i.e. hot money), to easily escape a country altogether, which may lead to financial crises. An unexpected devaluation in the exchange rate caused by such capital flight can make servicing the debt very difficult because it increases the real value of principal as well as interest payments denominated in foreign exchange. This was vividly manifested in 1997 Asian financial crisis, in which very high levels of for-

foreign debt-to-GDP ratios (from 100% to 167%) led to financial collapse in most East Asian economies followed by a major recession. This is why developing countries such as Indonesia, India and Brazil have implemented capital account restrictions to control capital flows in and out of their economies. This is an issue regularly warned about by IMF (see, for instance, IMF Global Financial Stability Report (2018b)).

Turkey is not alien to such stories either. Turkey has experienced a number of debt crises in the past due to capital flight followed by exchange rate devaluations. Savings rate has been characteristically low in Turkey compared to other middle income countries. For comparison, gross savings rate as a percentage of GDP is only 25.5% in Turkey whereas it is 30.7% on average in middle-income countries in 2017 (World Bank, 2019) (see figure 4). This means that high growth is mainly financed through external borrowing rather than domestic resources (Hevia, 2010). A favourable environment of low interest rates can make this pattern tolerable. However, as it is manifested in last year's financial turbulence, sometimes this may lead to destabilisation. Therefore, a prudent approach to foreign debt is good policy in general.

Alternative solution to the finance problem is to raise domestic savings (i.e. lower consumption). Higher savings

reduces the burden of external debts. Governments can improve national savings rates either by incentivising private savings via policy instruments such as consumption taxes, or by increasing public savings via budget surpluses. In either case, savings may be utilised to finance investment drive. This is paramount in fast growing economies with high investment rates. Singh (1997), for instance, presents the example of Japan, where between 1953 and 1972, industrial production expanded at a rate of 13%, while savings rates were higher than in any other country in the world. Moreover, Rao (2001) reports that South Korea, Taiwan, Hong Kong, Singapore, and Malaysia have all had saving rates above 25% for most of the 20th century. These statistics may be used as an evidence for the positive relation between saving rates and sustainable economic growth in these rare cases of successful transition to the high-income stage.

During the last year's fluctuation in the financial market, the Turkish government announced substantial budget cuts for 2019, which may be instrumental for increasing public savings. However, household savings constitute an important part of the total savings in Turkey. Accordingly, a number of policy initiatives have been introduced recently in order to improve the household savings ratio. Turkey's Banking Regulation and Supervision Agency (BDDK) has announced limitations on household bor-

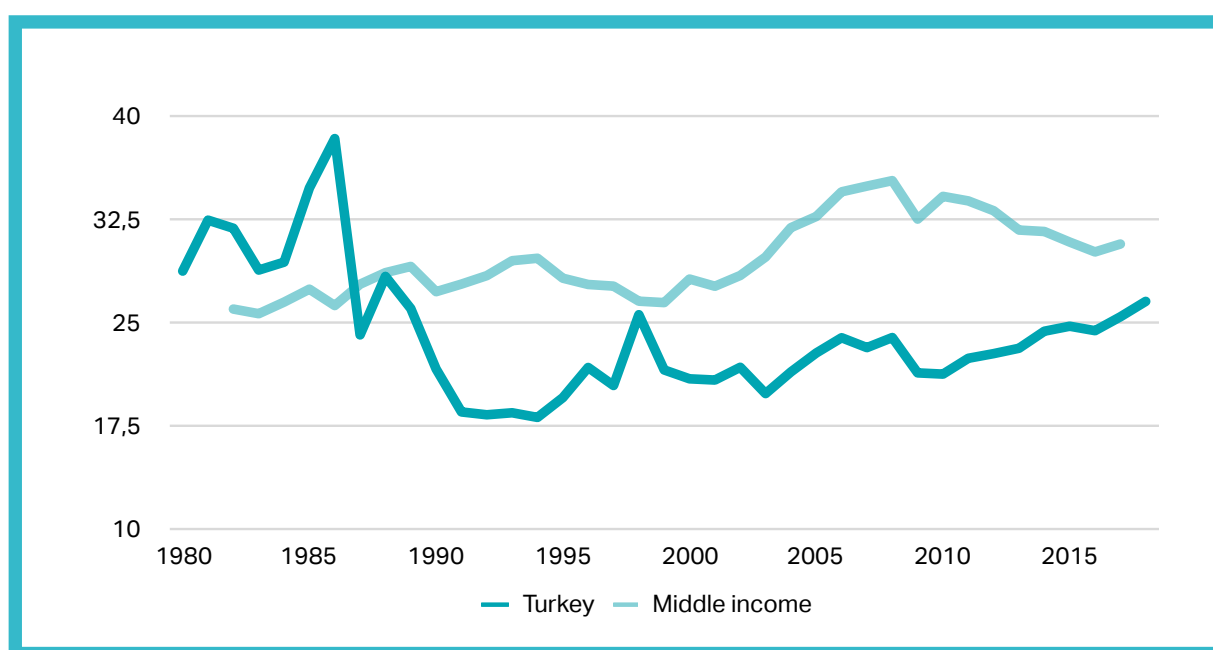


Figure 4: Gross Savings (% of GDP) (source: World Bank)

rowing, including limits on consumer loans as well as credit card instalment schemes, while several regulatory reforms have taken place in the private insurance sector to boost household savings (Ergöçün, 2018). The government has also started subsidising privately funded pension systems in order to increase domestic savings by households. Even if internal resources may not be sufficient to fully substitute for external credit, these steps can help Turkey to balance its financial resources.

Increases in gross savings can provide Turkey with more space to finance its investment and help reduce the risks involved in external borrowing. More domestic deposits would allow banks to extend more credit funded by domestic capital rather than money borrowed abroad. Furthermore, improvements in the savings rate also serve the purpose of channelling more resources to export-oriented sectors by reducing domestic consumption. This is also a critical outcome for Turkey as it can serve the purpose of closing the gap in the country's current account deficit. Therefore, it is plausible to argue that the govern-

ment's boosting of the gross savings rate through certain incentives can be an important element of Industrial Policy in the case of Turkey, and this will contribute to the sectoral transformation. It should be noted that East Asian governments have also used policies to suppress consumption rates in their take-off phase (Chang, 2002).



Binnur Ege Gürün - Anadolu Agency

Leading the Way in R&D

Mariana Mazzucato, in her 2013 book *The Entrepreneurial State*, claims that contrary to common perception, throughout the history of modern capitalism and especially in the case of the US, state has played an active role in innovation and technological upgrading. In her remarkable account of the issue, Mazzucato shows how entrepreneurial states actively led the way in new technologies and the emergence of new sectors by assuming the high risks involved in initial investments. Private sector, which is usually perceived as the driver of innovations, actually takes the lead only after government paved the way. In a series of case studies, including IT, pharmaceuticals, and biotech, Mazzucato argues that many of the large-scale innovations and technological advancements which drove the industrial giants of the American economy, such as Apple and Google, were actually sponsored by the US government mostly as part of the government's intensive investments in military technologies.

Therefore, there is a strong case for government's leadership in technological upgrading of an economy through R&D investments and innovation. Governments can fulfil this role either by directly investing in sectors with high R&D intensity or subsidizing private firms' R&D investments in diverse sectors. Government-sponsored investments or sectors can create substantial knowledge spillovers to the entire economy and drive productivity growth, making such investments socially plausible. For instance, The US government allocates massive public resources into R&D funding especially in health and defence although it is usually perceived as an example of private sector leadership in innovation. The US Government actually accounted for between 47% and 65% of the total R&D spending between 1950 and 1980. (Mowery & Rosenberg (1993) cited in Chang, Andreoni, & Kuan, (2013)).

Interestingly, as in the example of the US, the Turkish government seems to have also focused its attention on the defence industry. Recently, Turkey has not only started to produce a much larger share of its military requirements domestically, but it has also extended military production to exports. Turkey now produces 65% of all of its military arsenal, and it aims to produce 100% by 2020, compared to only 20% in 2003. Government sponsored companies such as ASELSAN, Turkish Aerospace Industries (TAI), ROKETSAN make sizeable investments in new technologies. Turkey's R&D investments in the

defence industry have already started to pay off. Since 2013, Turkish defence and aerospace exports have more than doubled (the highest increase in the world), and production has taken on even greater momentum in the last three years (SIPRI, 2018). Furthermore, newly developed technologies by these investments are also diffusing to other sectors such as telecommunication, civil aviation, and machinery.

Turkey has also started to make some aggressive investments in renewable energy resources. This is a strategic decision for Turkey not only because renewable energy sector is considered as an R&D highway in coming decades but also because almost half of Turkey's current account deficit is due to energy imports (see figure 3). In order to overcome Turkey's energy dependency, the government has taken the initiative in recent years and made sizable investments in sustainable energy resources, such as wind, solar, and geothermal, as well as nuclear energy. In 2017 alone, Turkey increased its solar energy production by 216%, which topped all European economies with an increase of 1.79 GW (Clover and Tsagas, 2018). Turkey's wind power production increased by 13% in 2017 and now generates 8% of Turkey's total energy production, while it was almost non-existent ten years ago (Cagatay, 2018). Furthermore, Turkey's first-ever nuclear power plant is currently being constructed while another two are in the planning phase.

In coming years, Turkish government can expand its leadership in R&D drive to other sectors. One promising candidate in this respect is pharmaceuticals. The Turkish pharmaceutical market has been steadily expanding and by the end of 2018 reached 30.9 billion Turkish Liras (\$6-6.5 billion USD). Imported products constitute 51.8% of the entire market size in revenue while they constitute only 16.5% in units of medicine, which accounts for the fact that imported products are almost entirely originators (i.e. patent-protected) while local production is mostly composed of generic products (IQVIA, 2019). Generic medicines are typically much cheaper than originators. Furthermore, Turkey has \$3.8 billion USD trade deficit in pharmaceuticals as exports meet only 23.4% of Turkey's imports (TurkStat, 2019). Government should consider starting a strong investment initiative in pharmaceuticals industry similar to its initiative in defence. This would contribute to Turkey's R&D drive as well as improving the trade balance.

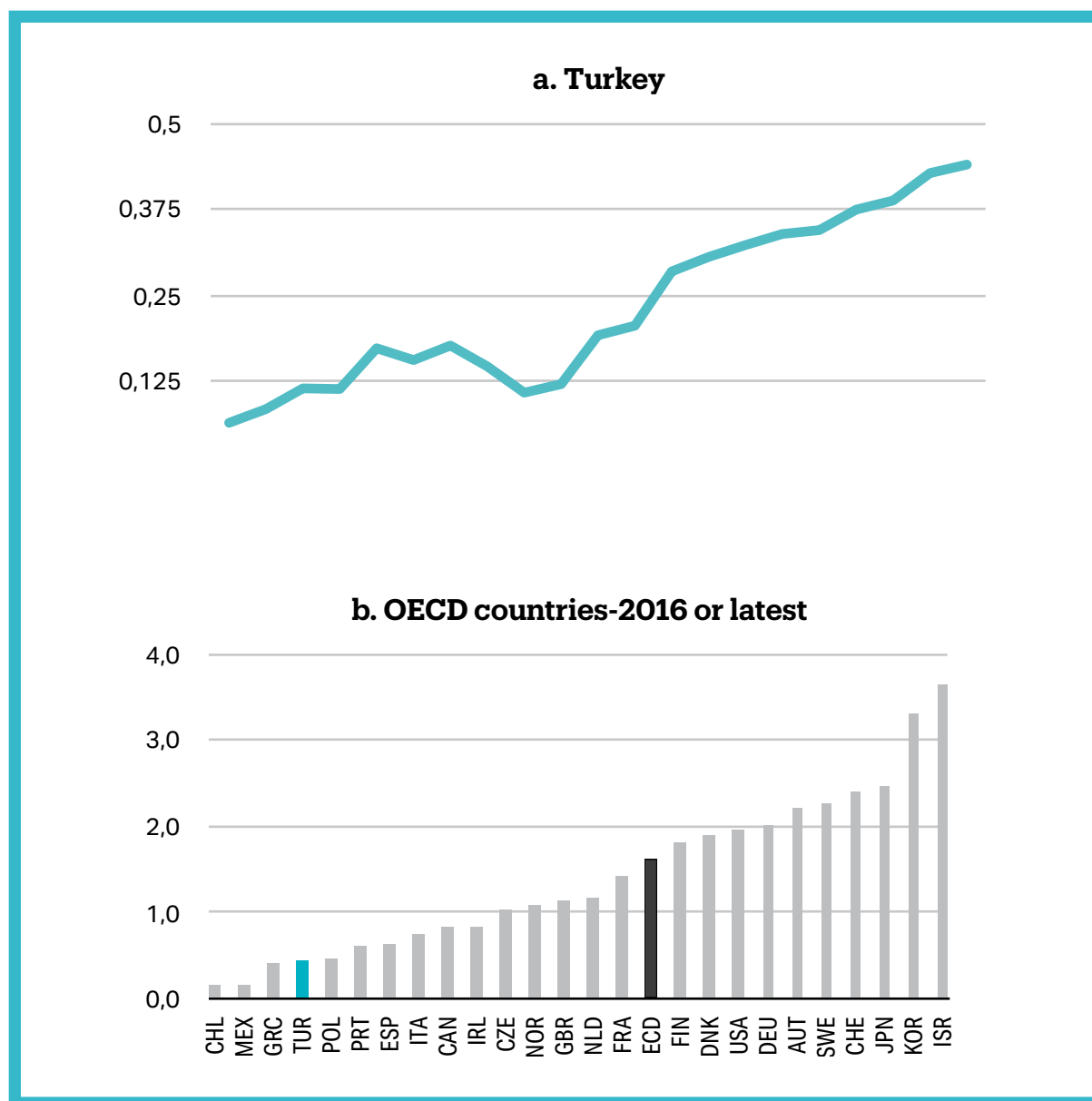


Figure 5: Private Firms' R&D investments (% of GDP) (source: OECD, 2018)

Government's involvement in R&D investment can also take the form of subsidies to private firms. Private firms' R&D spending as a percentage of GDP had multiplied four-fold in Turkey since 2005. However, compared to other OECD countries, Turkey's private businesses still have a very low R&D investment rate (OECD, 2018) (see figure 5). This is not very surprising given that government support (tax subsidies or direct funding) for private R&D investments has also been very low in Turkey com-

paratively (Cilasun et al., 2019). Although there have been some improvements about this in recent years, Turkey still lags behind other OECD countries. Improvements in tax code in favour of R&D tax credits and allowances can increase private businesses' R&D intensity. Similarly, expansion of direct government grants for start-ups in IT and software can give a boost to private R&D investments; these sectors have the potential of creating high value-added with very small investments.

Sector-Specific Infrastructure and Spatial Policies

Developing countries usually have big infrastructure gaps. This has important implications not only for living standards but also for production. Having access to necessary infrastructural facilities and services (e.g. utilities, transportation, communication etc.) is crucial for the private sector. Roads, railways, ports, airports, broadband internet, energy etc. are important services for production and trade as they reduce costs and improve efficiency. Then, government can increase the productivity levels of the existing businesses by providing necessary infrastructure where private sector is not able to access or deliver these services by itself. IMF (2015), for instance, reports that public investments in infrastructure have substantially raised the growth potential in countries such as Poland and Malaysia. Furthermore, World Bank (1991) claims that foreign direct investments are positively influenced by the quality of infrastructure. Singapore and Ireland, for instance, is known to have used tailor-made infrastructure to attract FDI into targeted industries (Chang, 2011).

Provision of infrastructure to targeted sectors can be used as an element of Industrial Policy as well. By choosing to build a specific type of infrastructure, governments can encourage certain economic activities over others. For instance, by choosing to spend limited budget resources on a commercial seaport rather than a passenger airport, government may implicitly favour tradable industries over non-tradable industries or services in a region (Chang, 2011). Government can also boost newly emerging sectors by providing them with the necessary facilities and services they need. For instance, building of modernized shipyards can encourage shipbuilding industry, improving transportation to a specific commercial area can boost the types of businesses realized there, provision of easy access to high-speed internet can be critical for export businesses, IT or software engineering etc. Therefore, strategic orientation of infrastructure spending can effectively be used for sectoral targeting (Page, 2012).

Spatial industrial policies is one common form of infrastructure targeting. A large empirical literature has documented that industrial clusters (i.e. agglomerations of similar businesses) create substantial productivity gains in developing countries (UNIDO, 2009). Geographical concentration of firms specializing in similar sectors creates substantial cost advantages thanks to sharing of some fixed costs, a thick labour market, knowledge spillovers, having easy access to information about customers and competitors etc.. It is usually the case that

even without government planning, manufacturing and high-value-added service industries tend to concentrate in geographical location to benefit from agglomeration. Two famous examples of such are silicon valley in the US and Bangalore in India. Both locations are known for their densely-concentrated cutting-edge software and IT businesses.

However, especially in developing countries, there may be a coordination problem between firms of newly emerging sectors in creating business clusters. This is what economists call a first-mover problem. Unless there is already an adequate number of firms located in a specific area, firms may not be able to coordinate their efforts to cluster. Then, government can take the initiative and incentivize agglomerations using spatial policies, such as building industrial zones, techno-parks providing high-tech companies with cheap rent offices, or concentrating type of infrastructure used by a specific sector to a location. Governments' initiative for the formation of industrial clusters have played a very important role in East Asian success stories. Sonobe and Otsuka (2006), for instance, provides a substantial analysis of how governments' efforts to agglomerate targeted industries in specific locations contributed to knowledge sharing and cost reductions.

One important advantage of industrial zones is a thick labour market with specialized skills. Different industries require employees with different sets of skills, education, and experience. For instance, heavy machinery and pharmaceuticals industries require workers, engineers, and managers of different sorts. Then, concentrating businesses of a specific sector to a geographical location is expected to make it easier for firms and workers to better match and lead to high sustained employment. Another important effect of agglomeration is knowledge spillovers across firms. Firm capabilities and know-how diffuse across firms of a specific sector more easily when they are in close proximity to each other. Firms learn from each other organizational routines and transfer new technologies and techniques, which feed back into productivity gains. This latter effect is especially important for high-tech industries with high R&D intensity.

In Turkey's case, ruling AKP government has always attributed utmost importance to the general infrastructural investments. Turkey's booming construction sector has also played a role in this. Consequently, Turkey has accomplished substantial improvements in transportation and

communication infrastructure in recent decades. Between 2007 and 2018, Turkey moved from ranking 59th to 28th in World Bank's quality of overall infrastructure index among 137 countries (World Economic Forum Global Competitiveness Index, 2018). This is clearly an important success which contributed to private sector productivity dramatically. More recently, however, governments have also focused its attention on selective targeting of infrastructure and spatial policies mentioned above. This can also be interpreted as an element of changing policy paradigm in Turkey in favour of proactive government policies.

One policy area for Turkish government is building industrial zones. Historically, there have been 'organized industrial zones' (OIZ) in Turkey for decades, but these are usually used by small-scale artisans, such as mechanics, carpenters etc. and do not really fit into the category of industrial zones seen in other countries. More recently, government announced building of industrial zones proper (under the name 'specially-designed investment zones') in six major cities. Each industrial zone will specialize in a specific industry and give tax breaks and rent subsidies to related firms. In the announcement of \$3.7 billion USD investment, Industry and Technology Minister Mustafa Varank said these industrial zones will 'serve Turkey's goal to ensure a transformation led by high-value added pro-

duction," and that government will support investments that "will decrease the dependency on imports" (Daily Sabah, 11 May 2019). This is a promising Industrial Policy investment for Turkey which can make contributions to the value-added production and export volume.

Another policy field where Turkey has focused is building technoparks. As a matter of fact, this has been a policy focus of AKP government since it came to power in 2002. Currently, there are 56 operational technoparks (Technology Development Zones) in Turkey while 13 have been approved or under construction. It would appear that, unlike industrial zones, technoparks are aimed at high-value-added services such as software development, R&D, and design as significant tax breaks and subsidies are provided specifically for these economic activities. While firms are exempt from corporate income tax and custom duty for imported products, half of the employee's social security premium is paid by the government. Arguably, government can use even more radical incentives to attract large-scale professional foreign companies. Because Turkey is relatively new in these industries, attracting foreign companies in technoparks can accelerate technology and knowledge diffusion to domestic producers.

Conclusion

In the last two decades, Turkey has experienced a successful growth performance. Structural reforms in the aftermath of the 2001 financial crisis have enabled Turkey to better integrate into global trade and finance, while Turkey's sectoral transformation from agriculture to manufacturing has improved productivity levels. However, as the benefits of price stability and fiscal discipline have been exhausted, and Turkey's transition to manufacturing has been completed, Turkey now needs to embark on a new path of reformation in order to overcome middle-income trap and accomplish higher levels of per capita income. Turkey should transform its economy from labour-intensive, low-value-added sectors to capital-intensive, high-value-added sectors, a task to which the current government seems to have already committed.

Following the example of East Asian growth miracles, Turkey should formulate its own Industrial Policy and

use selective government interventions in the economy. A paradigm shift in policy making in favour of more government activism in the economy is already visible in a number of areas. Export-oriented sectors should be pushed forward in the economic agenda, and growth should depend more on sophisticated, high-value-added, high-tech production. Policies to protect and support a number of carefully-selected strategic sectors have a central role in this endeavour. Such policies may involve trade barriers to foreign competitors, provision of export subsidies and preferential public credits, creation of sector-specific infrastructure, and boosting national savings via fiscal policies etc.. In the process, the Turkish economy can transition to the high stage of economic development based on higher productivity levels.

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