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Transforming Egypt:

Innovation and Diversification as Drivers of Growth

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In a nutshell

- *To achieve sustainable development, Egypt needs to achieve structural transformation by actively pursuing a strategy that fosters innovation and diversification.*
- *This new development model should encompass improving the quality of education, upgrading the skills of workers through training, fighting corruption, increasing the role of the State in the creation of public goods, and enhancing participation in policy formulation.*

Egypt has benefited from a brief period of considerable economic growth before the 2011 revolution. Still, such growth has not substantially reduced poverty or underemployment nor raised the quality of employment in the country. The reason is that it was due to favorable external conditions rather than an increase in productivity: The prices of Egypt's main export products went up, income from tourism, Suez Canal revenues and remittances multiplied, and abundant international capital provided Egypt with cheap and easy access to credit and foreign direct investment.

Reliance on such factors is dangerous because they are difficult to influence and fluctuate from one day to another. Nevertheless, Egypt's current government heavily relies on further exploring the country's conventional sources of income (natural gas, mining, tourism, Suez Channel user fees, remittances...) rather than on diversifying its economy and exports.

Egypt still relies on a rather limited number of export products, and only 2 % of exports have high technology content. This is mainly due to the fact that the level of innovation is low. According to the World Economic Forum's Global Competitiveness Report (GCR), Egypt ranks 126th out of

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144 countries world-wide with regard to the capacity to absorb new technologies and ranks 132nd with regard to the capacity to innovate. As a result, its total factor productivity (TFP) is just about half the TFP of countries such as Brazil or Malaysia.

The question is how to drive innovation and diversification. Four channels can be thought of, but in the case of Egypt, the potential of these four channels is limited:

- New technology with foreign direct investment (FDI): FDI has always been low by international comparison and fell to almost zero after the 2011 revolution. In addition, even earlier, FDI in Egypt has almost exclusively targeted the energy sector, real estate and some services (finance, tourism and telecommunications), rather than agriculture or manufacturing.
- Integration into Global Value Chains: very few Egyptian companies are integrated into cross-border value chains. The bulk of exporters sell their products directly abroad. Very generally, Egyptian entrepreneurs are reluctant to co-operate with others, fearing that other might not fulfill their contracts. This attitude is comprehensible because of how difficult it is to enforce a claim through judicial procedures.
- Innovation by large domestic firms: established medium and large enterprises have little incentive to in-novate. They benefit substantially from generous energy, water and export subsidies. In addition, in the past many have also been well protected against competition through good connections to government officials. As a result, they see no need to become truly competitive.
- Innovation by small firms: the large majority of micro and small enterprises are unable to innovate and diversify into new sectors. First, some markets are still heavily regulated to protect established producers. Second, most entrepreneurs lack the necessary education, creativity and readiness to take risks, and lack access to finance, market information and skilled workers. Third, they seriously suffer from deficits in the rule of law when it comes to State-business interactions, such as licensing, taxation or company inspections, meaning that they can never know what the result of such interactions will be, because government officials have plenty of room to interpret their guidelines.

Elements of a structural transformation strategy

Considering the aforementioned points, Egypt clearly needs a new, comprehensive industrial policy strategy in order to promote innovation and economic diversification. The Nazif Cabinet, Egypt's last government under Mubarak, had already attempted an ambitious industrial modernization program. It covered the whole range of private sector development instruments: worker training, policy advice for enterprise upgrading and quality management, technology transfer, micro credit, etc. The program, however, had its limitations and did not yield desired results. Growth was not trickling down. Poverty (at $2/day) was still very high, afflicting around 40% of the population. Moreover, the focus of the program was too narrow; micro and small entrepreneurs need much more fundamental reforms to develop – in particular in regards to the education system, competition policies, public administration, the judiciary and the representation of the private sector. In addition, the government has to play a much more active role in the creation of public goods, such as research and development (R&D) and the provision of market-information. It also needs to play a role in the guidance of investors in order to overcome coordination failure. More importantly, the pervasive ties between the State and the private sector impeded efficient industrial policies and contributed to poor diversification outcomes. Politically-connected firms have preferential access to incentives (government land, industrial zones, and bank loans), thrive in non-competitive sectors under state protection, benefit disproportionately from subsidies and create some barriers to entry for other new firms. They thus grow much faster, are larger and more profitable. On the other hand, the informal micro and small enterprises lack such State support.

Education and Training

The overhaul of the education system is the most important component of a strategy to promote eco-

nomic diversification in Egypt – at least on the long term. A study conducted in 2012 by the German Development Institute (DIE) and the Egyptian Center for Economic Studies revealed that the lack of innovation in small and medium enterprises in Egypt is largely due to deficits in the quality of education of their owners – in particular their analytical skills, imagination and ability to work in teams.

Therefore, all levels of the education system should undergo a shift. Instead of focusing on the memorization of facts, the education system needs to emphasize the ability to analyze and discuss facts, promote critical thinking and creativity, and provide training on real group work. Of course, such a reorientation must start with a reform of teachers themselves, who must learn to not only digest facts, but also analyze them and put them into context. In essence, they must shift from ex-cathedra thinking to discussing new issues with students, organizing group work in classes and encouraging students to make presentations from early on.

In addition, the government should help the next generation of entrepreneurs to easily acquire the specific skills they need. This could start in school, with basic economic and business know-how being made part of the curriculum in all secondary schools. To help those wishing to start a business, business schools that focus on applied managerial know-how should be opened. At Egyptian universities, economics and business administration should adopt a more practical approach. And the government should establish more SME incubators at universities, technical schools and research institutions.

Finally, the government should facilitate student exchange programs so that young people can become ex-posed to ideas from abroad, bring new technologies to Egypt, develop international social networks, under-stand how people in other countries think, learn what their preferences are and thereby find out what products might have a chance to be exported.
Another task for the Egyptian government is to reform the country's training system. In the long run, Egypt must develop a comprehensive vocational training program, covering a broad range of professions, which most blue-collar workers could attend before starting to work. First steps in this direction have already been taken, including the Mubarak-Kohl-Initiative, which has, however, reached only a small group of trainees. It would thus take quite long to train a significant portion of labor market entrants. In addition, only few employers have participated in the initiative because they were supposed to cover part of the training costs, but could never guarantee trainees would stay with them after their finishing the training. In a way, the training of workers can be seen as a public good, because while trained workers cannot be kept in the company where they have been trained, all employers may benefit from it. Therefore, the government must step in and sup-port the gradual expansion of the formal vocational training system. At the same time, however, because such an endeavor may take much time, the government should also continue to fund short-term training courses, which are cheaper and can therefore more quickly increase the number of workers who have had at least some training. In recent years, the IMC has been pursuing this strategy – encouraging providers of private-sector training, awarding certificates of quality and subsidizing worker training at eligible SMEs. While the subsidies may have been a bit too generous, the strategy has basically been sensible, and very beneficial to many large and small enterprises in Egypt.

In parallel, the government might run campaigns to raise awareness among entrepreneurs of the importance of giving benefits to workers, other than salary and some training. Evidence suggests that the provision of extra benefits (such as transportation to work, free meals at the working place, day-care for children, private health insurance etc.), worker participation in decision-making and a good working atmosphere are very important to make sure that workers, once they are trained, stay in the firm.

Fighting Corruption

Equally important for Egyptian entrepreneurs is the restoration of the rule of law in the public sector. First, the government should provide incentives for government officials to comply with the rules. For ex-

ample, it could give a monthly award to the most accountable employees or raise their salaries. Second, it should improve monitoring of public administration, establish an efficient employee impeachment procedure and make relevant laws and decrees accessible to everyone, so that all citizens can compare the adherence of public officials to the guidelines. Whistle blowing could be encouraged to help identify individuals in the public administration who are corrupt or break the rules. Third, the government could introduce elements of e-government in many state-business interactions (e.g. e-taxation, e-procurement and e-tendering), which tends to reduce the room for discretion in the decision-making of public officials. At the same time, the impact of favoritism has to be reduced in order to reestablish fair competition for all in markets. In this context, the Egyptian Competition Authority should be strengthened and given a powerful sanctioning mechanism. Moreover, an anti-trust law should be issued and an independent anti-trust commission should be set up.

Revising the role of the state in the provision of public goods

(a) Innovation and technology transfer

Any new economic modernization strategy should put more emphasis on improving the availability of technology to Egyptian enterprises and their absorptive capacities. Egypt already has a number of research and consultancy institutes that are meant to provide innovative ideas and technologies to private firms, but most of them need to be overhauled. In this regard, the country's food technology centre could serve as a role model. Representatives of the private sector should have a major say on how to improve the demand orientation of the Egyptian Technology Transfer and Innovation Centers (ETTICs), which should also raise their re-searchers' salaries to provide an incentive for academics to conduct application-oriented research, instead of collecting credits at university.

At the same time, interaction between enterprises and universities should also be intensified. Professors could be encouraged to work part-time in industry-initiated research projects and professional development activities. Conversely, staff from R&D departments in companies could be encouraged to work temporarily in universities to develop new ideas.

(b) Coordination of investments towards new sectors

The most difficult task for the Egyptian government will be to attract investments into new economic sectors. It may fail even if the level of investment, innovation and modernization improves substantially. Investors may prefer to remain in their home sectors for two reasons. First, they lack information on the potential of economic sectors other than their own. The rate of return in their home sector may thus be extremely meager, but this may still be more attractive than the insecurity of an investment in another sector, which may be higher but also negative. Anyhow, Egyptian entrepreneurs tend to be very risk averse. Second, even if they are ready to diversify into new sectors, they sometimes cannot because they depend on complementary investments, which are also not done because every investor waits for the other to make the first step. For example, it does not make sense for automobile producers to embark in the production of gas-driven vehicles un-less a certain number of filling stations start offering natural gas.

The government should thus guide entrepreneurs to where they should invest and provide some security that their investments will pay off to some degree. A first option is to help foreign investors create local value chains in the new sectors. The foreign investors might be interested in the endeavor, but may not be ready to assume the entire risk associated with the construction of entirely new value chains. Here, the government may step in (as it has already done at least once in the automobile deeding sector) and finance the education of local supplier firms. A second option for the government is to encourage local firms to invest. It can, for example, arbitrate between private investors that depend on each other, assume parts of the investment risks or provide for the missing investment itself. Finally, a third option is to construct the entire value chain. This most radical strategy means that the government designs an ideal value chain and attributes each link of the chain

to a specific group of companies. In the marble and granite sector, the government of Egypt has already been fairly successful with such an approach.

(c) Market research

Another public good that the government can provide in order to support the private sector is market re-search. Small enterprises, in particular, can often not compete because they lack important information on domestic and export markets. The government might therefore consider establishing a specialized market re-search unit within some existing institution with the capacity to generate and analyze data (CAPMAS or IDSC). This unit's task would be to accumulate and publish all kinds of useful information on the Egyptian market and on export opportunities.

Participatory policy formulation

While the State should be free in its decisions from the influence of particular interest groups, it should take the opinion of the private sector, as a whole, into consideration. For this purpose, the private sector needs to establish a free and "legitimate" constituency" that can speak on behalf of all companies and get into con-structive dialogue with the government on future industrial development and economic modernization strate-gies. The existing chambers of industry and commerce would be most suitable for this task. Their boards should make sure, however, to take the concerns of all member companies into consideration, rather than act only in the interest of its largest and most powerful members or even the government itself as it did for a long time in the past. On its part, the government should embark on a multi-stakeholder consultation process that involves not only the reformed free and democratic chambers of industry and commerce, but also the trade unions and non-governmental organizations that can speak on behalf of workers and consumers. Together, these actors should search for the most binding constraints on economic transformation and identify appropriate means to overcome them. In addition, these actors should meet regularly to monitor the proper implementation of new industrial policies and their effects.

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