

Investing out of the economic slowdown

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Abstract

An investment-led growth strategy can avert a prolonged economic slowdown. Pakistan's macroeconomic imbalances are being redressed under the IMF program, and the government is undertaking structural reforms. Faster economic growth would ease the adjustments but there is little room for fiscal or monetary stimulus. The private sector is also a potential driver of economic growth, and the government has intensified efforts to attract foreign investment and is reducing impediments to doing business. However, a more affirmative strategy is needed to induce investment in productive sectors, especially given the diminished role of private industry in past decades. Hysteresis in private investment calls for a bold compact between government and industry to sustain economic activity on a trajectory of dynamic growth.

1. Introduction

Pakistan's economic growth has been mediocre for the past many years and it has declined since the country embarked on the most recent IMF-backed stabilisation program. This state of affairs is of concern for a variety of reasons: reducing poverty, generating employment, stimulating productivity growth for competitiveness, and raising general living standards.

The government has little choice but to faithfully carry out the stabilization measures agreed with the IMF in 2019. Not doing so will have wide-ranging consequences not only for access to foreign financing but domestic economic stability. Whether or not the country has an IMF program it still has to balance its books – cut its fiscal deficit, reduce inflation, and bring down the trade deficit to a sustainable level.

What can be done to stimulate growth while adhering to the IMF program? The key to resolving this dilemma, in our view, is private investment and the role private investors can play to get the economy moving. But does not the economic downturn also inhibit private investment? And does not the stabilization regime also constrain resources to finance private investment? Experience suggests otherwise, that private sector can generate resources if viable investment opportunities are perceived. For this to happen, a fresh look is needed to establish a trusting, mutually supportive relationship between the government and the private sector.

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In this brief paper we present the case for a compact between government and industry to induce private investment in the productive sectors of the economy. We first address the relationship between government and private industry, which was positive during the growth spurt of the 1960s but severed in the 1970s and still remains largely dysfunctional. There is need for a fundamental reset.

We then argue the need for the government and private sector to collaborate proactively to discover latent investment opportunities. We outline elements of a government-industry compact that incentivizes productive investment and ties government support to private sector performance. The stabilization program notwithstanding, it is possible to invest out of the slowdown.

2. The relationship between government and private industry

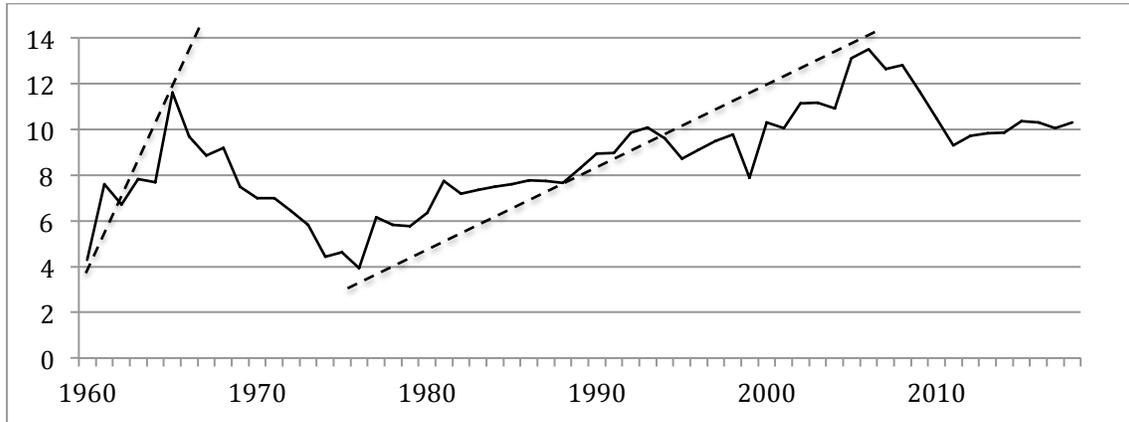
Development is a matter of catch up. The initial phase can be rapid, driven by factor inputs, domestic and foreign. If all goes well, factor-driven growth should transition to a dynamic growth process driven increasingly by productive capacity. Typically, dynamic growth exhibits structural change, from agriculture to industry to complex production. Openness to world markets can facilitate but long-term success depends on ability to learn new skills, and to absorb, adapt and master technology (Haque, 1997).

Pakistan's catch up began well but there was no transition to dynamic growth. There was rapid economic growth in the initial 25 years after Independence. The share of manufacturing in GDP doubled, rising from 8 percent in 1950 to 16 percent in 1971 (Afridi, 1985). However, it remained at that level 25 years later, and it has since fallen to 12 percent in 2018. There is fear of premature deindustrialization (Hamid and Khan, 2015), and worry of being trapped in a 'stop-go' cycle of economic growth (Amjad, 2014).

The various explanations for this unhappy performance include war, change of government, policy shifts and global shocks. These were all felt in combination in 1965-1977 (Faruqi, 2015), creating a 'perfect storm' that was capped with the nationalization of industry in January 1972. Private investment collapsed, from 12 percent of GDP in 1965 to 4 percent in 1976. Its contribution to GDP growth turned negative, from 34 percent in 1960-1965 to -13 percent in 1970-1975 (Burney, 1986). Although the nationalization period was brief (1972-1977), the impact has been long lasting—with hysteresis inhibiting the role of private investment as a driver of dynamic economic growth.

Hysteresis refers to permanent effects of crises on economic activity (Blanchard et al., 2015). Hysteresis might occur with loss of confidence that makes firms reluctant to invest at lower profit rates. The aftereffect on investor activity would manifest in persistent low capital formation relative to pre-crisis levels. The persistence remains even after the recovery of economic growth and other determinants of investment. As evident in Figure 1, the trend in private investment is flatter after the end of nationalization, relative to the pre-crisis trend. It took 40 years for private investment to regain its 1965 share of GDP of 12 percent, and even then it only peaked at 13 percent in 2005.

Figure 1: Hysteresis in private investment
(Gross fixed capital formation, private, % of GDP)



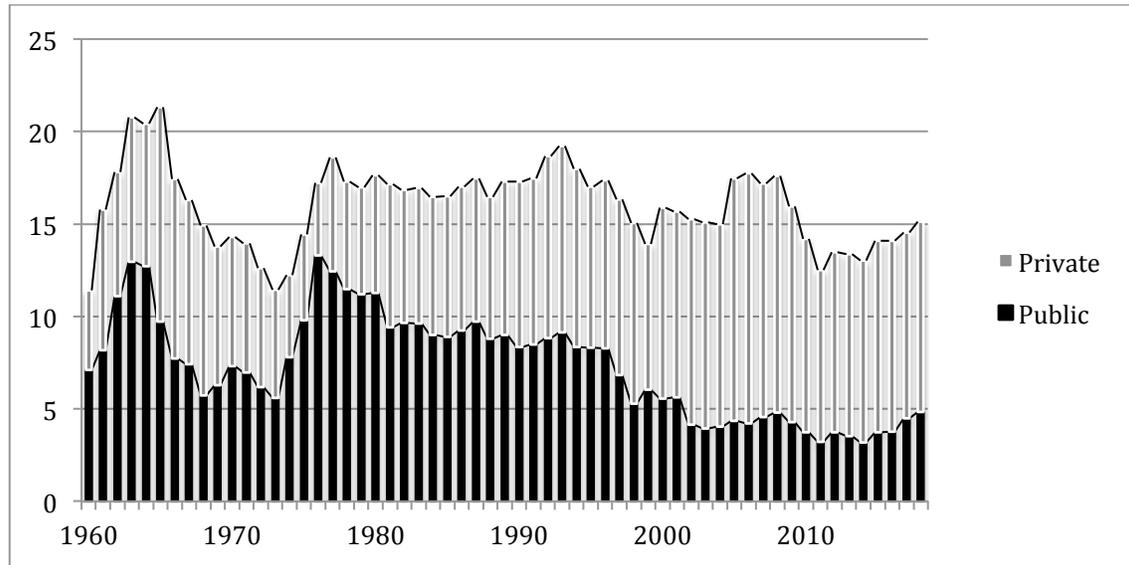
Source: World Bank.

The hysteresis was intensified by the impact of nationalization on the public sector. The complementarity between public and private investment dissipated after 1973 (see Figure 2). The portfolio of the public sector expanded with the transfer of assets under nationalization and, for a while, public investment sustained aggregate investment, even as private investment contracted. However, public investment has declined over the years, crowded out by current demands on government expenditure (Uppal and Khalid, 2019). The slow recovery of private investment and the decline in public investment has kept aggregate investment below 20 percent of GDP for over 5 decades, falling well short of the 30 percent threshold for dynamic economic growth (Hamdani, 2014).

Additionally, the productive sectors have stagnated. Nationalization particularly targeted medium- and high-technology manufacturing, including: iron and steel; basic metals; heavy engineering; electrical equipment; motor vehicles; tractors; chemicals; petrochemicals and gas and oil refinery. With the withdrawal of the private sector and the decline in public investment, these industries have underdeveloped in the industrial structure (Weiss and Lall, 2004). There has been little industrial widening and deepening (Rasiah and Nazeer, 2016). As a result, Pakistan's manufacturing value added is largely low-tech (75 percent); and medium and high-technology products comprise only 10 percent of exports (UNIDO, 2019b).

Meanwhile, economies that started their catch up later than Pakistan have moved ahead (Haque, 2016). Bangladesh improved industrial competitiveness by 36 percent in 1990-2017, and Viet Nam by 65 percent, both overtaking Pakistan where productive capacity is as it was 30 years ago (UNIDO, 2019a).

Figure 2: Investment stagnation
(Gross fixed capital formation, % of GDP)



Source: World Bank.

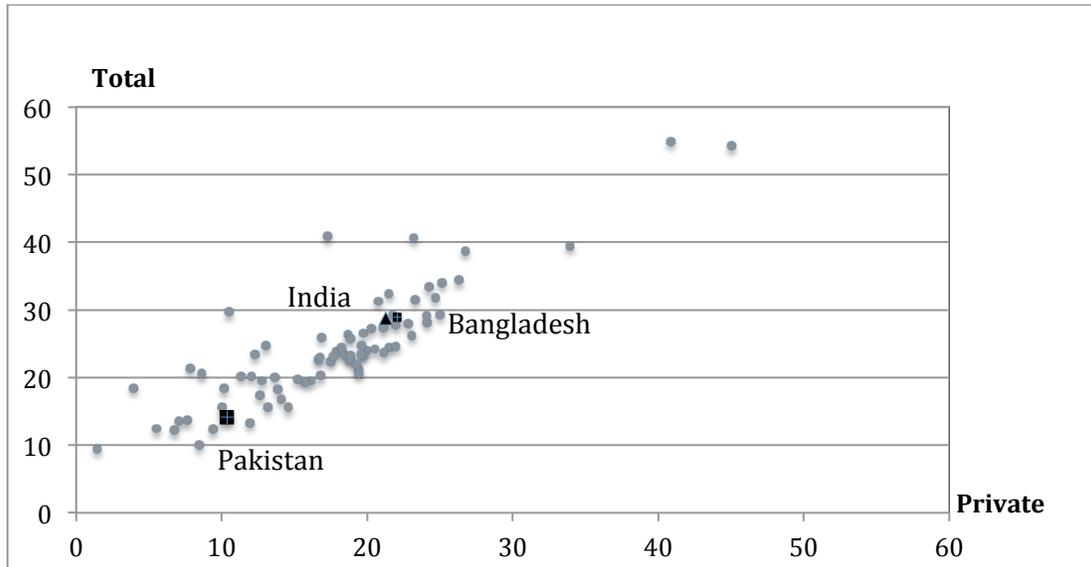
3. A compact to induce investment in productive sectors

In Pakistan, as in most countries, investment involves public and private sectors with private investors playing the leading role. High investment requires high private investment. Thus, policies to raise the overall investment rate should focus on private investors. And, the policies should be proactive, striving to at least double private investment—from 10 percent to 20 percent of GDP—to levels already attained in comparator countries, like India and Bangladesh (see Figure 3).

The requisite policies will need to circumvent the usual determinants of private investment—aggregate demand, cost of capital—as these are inhibiting under the stabilization program. Interest rates are high and demand is low due to the economic slowdown. However, what matters are the real rate of return on investment and the availability of financial credit. A policy package that permits high returns in productive sectors can induce private investment that, in turn, would stimulate the economy and accelerate investment generally, thereby breaking the downward spiral of economic slowdown.

There is latent demand in the economy. Consumer expenditure may at present be dampened, but retail trade is vibrant. Shopping malls remain busy, with buyers as well as goods very much in evidence. A nudge to private investors could conceivably ignite the growth engine.

Figure 3: High investment requires high private investment
 (Gross fixed capital formation, % of GDP, 78 countries, 2015)



Source: World Bank.

There is also idle liquidity in the economy. The resources to finance private investment should be sourced by private investors from within the private sector. In the Keynesian view, based on actual experience: it is not savings that determine investment but rather the other way around. If private investors spot investment opportunities and are reasonably bullish about future prospects (what Keynes called “animal spirits”), investment would occur and generate needed resources. This occurred in India and Bangladesh, both notorious for low domestic savings. As the investment rate rose in these countries during the 2000s, domestic savings rate also rose to about 30 percent in India and 18 percent in Bangladesh (Haque and Amjad, 2012). The rise was propelled by an increased propensity of the rich to invest (see Table 1). Something similar needs to happen in Pakistan.

Table 1: Propensity of the rich to invest
 (Accumulation/Concentration Ratio, %)

	1970-79	1980-94	1995-00	2001-16
Bangladesh	11	16	34	50
India	25	28	34	55
Pakistan	14	18	22	27

Note: The accumulation/concentration ratio is the share of private investment in GDP expressed as a percentage of the share of the richest quintile in total income or consumption.

Source: Hamdani, 2014, Table 2, updated for 2001-16 with World Bank data.

The usual role of government is to create an enabling environment for the private sector. That is not enough. If the private sector is to be the engine of growth, the government and private sector need to collaborate proactively towards that end—in a compact. It requires that pro-growth policies and programs are designed and formulated by the government that are understood and accepted by the private sector. A model of this collaboration can be found in South Korea of the 1960s, where both General Park’s government and leading Korean industrialists entered into a compact of commitments and obligations.

Obviously, this model cannot be copied in Pakistan but there is need for an appropriate consultative body that brings together senior government officials and leading industrialists and business as equals. The body should have clout and stature, headed by the prime minister. How such a body may be set up and structured are administrative details but careful consideration should be given to “carrots and sticks” or rewards and penalties for compliance or non-compliance to agreed policies and programs.

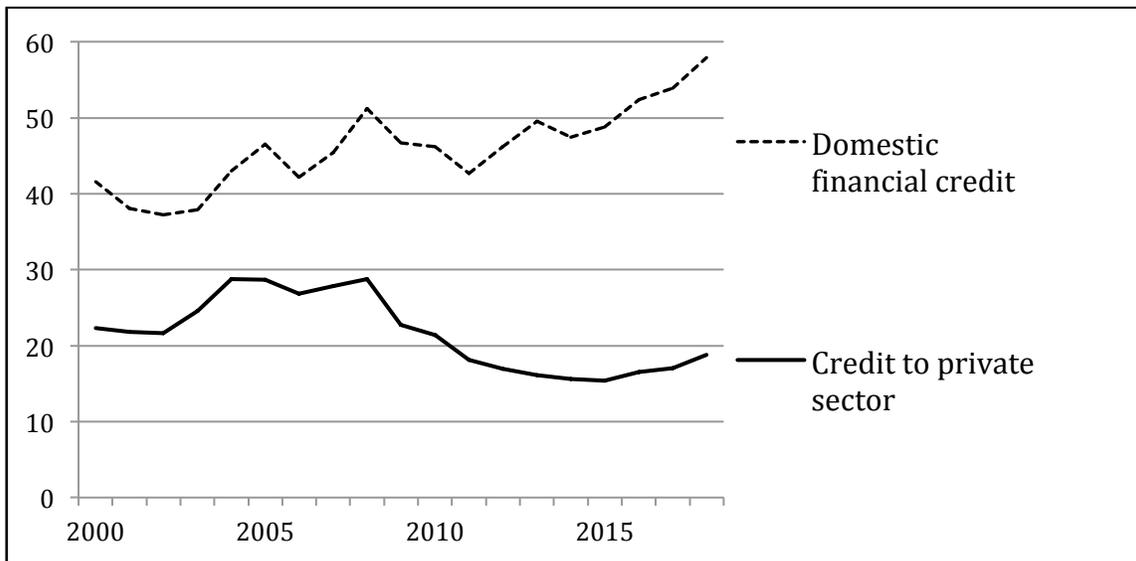
The compact should be operational—not another paper strategy, plan or framework. It needs to build upon, and foster, a trusting and mutually supportive relationship of public and private sectors. Although difficult to substantiate, tensions between government and industry are a principal cause for extremely low levels of private investment, especially in manufacturing and other commodity-producing sectors. Government officials are frustrated by widespread tax dodging, under- or over-invoicing, and little regard for established regulations that are meant to govern the private sector. The private sector’s complaints against the government are also myriad: corruption, over-regulation, too much exposure to foreign competition (notably, from China), poor infrastructure (notably, unpredictable power and water supply), unreliable availability of crucial inputs, especially imported inputs, and arbitrary subsidies. Such complaints are common for developing countries. These are also easily acknowledged and channelled into concrete measures and commitments of key stakeholders—as seen in the pragmatic consultative processes in East Asia (Hamdani, 2014).

The broad aim of the compact is to incentivize productive investment, tying government support to private sector performance. The agenda should be open-ended with an initial focus on immediate, pressing issues.

The ease of doing business is an obvious issue. The government is taking steps to improve regulations, simplify procedures and streamline approvals to set up and run an enterprise. Recent improvements relate to construction permits, electricity delivery, tax payments, property registration, customs clearance, port inspections, and corporate governance. Importantly, the progress was achieved through a new federal secretariat and prime minister’s steering committee, and coordinated actions with provincial governments. Pakistan has moved up but still places in the lower half of the international ranking of 190 countries (World Bank, 2020). There are other regulatory, policy and institutional constraints that need review (SBP, 2019, chapter 7). Industry has also prepared a to-do list for 29 action areas (PBC, 2019). There appears a solid basis to craft a government-industry compact of concrete measures and commitments to improve the investment environment.

The availability of credit is important for new investment. Unfortunately, government borrowing has tended to crowd out the private sector (see Figure 4). The share of the private sector in domestic financial credit declined 51 percent in 2004-2018. The current stabilization program has not curtailed public borrowing but it has dampened business sentiment. Loans for fixed investment fell by more than half in the course of fiscal year 2018-2019 (SBP, 2019, chapter 3). However, there was active private sector borrowing under the Export Finance Scheme (EFS), which provides loans at an attractive rate of 3 percent. An extension of EFS or a parallel scheme should be considered for investment in productive sectors that support the competitiveness of export industries. Such schemes act on the supply side to augment productive capacity, thereby complementing the demand management objectives of stabilization.

Figure 4: Crowding out of the private sector
(Financial credit, % of GDP)

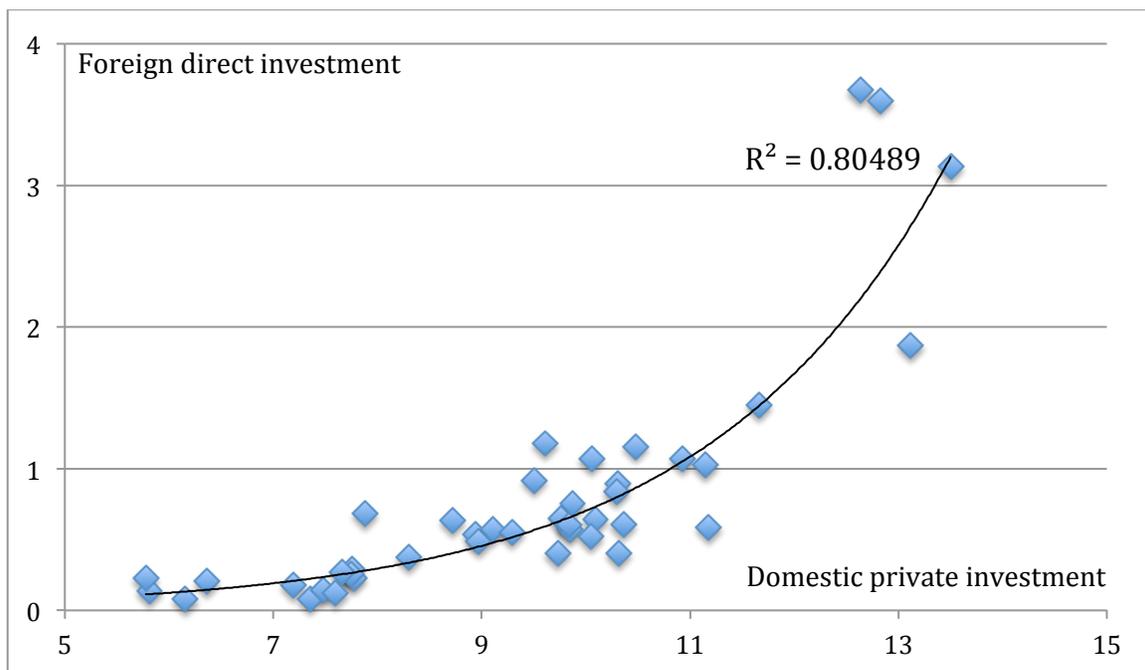


Source: World Bank.

Indeed, there is need for a fresh approach to the financing of long-term credit for private investment. Pakistan’s experience with development finance institutions (DFIs) had been positive but also disappointing (Faruqi, 2015). At the same time, other institutions and instruments are lacking, and the market for the intermediation of long-term finance is weak, indeed, missing (Ahmed and Hamid, 2011). A new development finance institution would fill the gap. However, it would need a rigorous “carrots and sticks” business model. The private sector should put up counterpart equity, and loans should be disbursed for long-term investment in productive sectors. There would be rewards of high returns for shareholders and bona fide borrowers, but also strict penalties for vulture capitalists that borrow and write-off. The compact should underscore zero tolerance for predatory behaviour.

An energized private sector will attract foreign direct investment. Pakistan’s large domestic market is attractive to foreign investors (Hamdani, 2013). There is also reason to believe that foreign direct investment (FDI) has positive externalities for aggregate investment (see Annex). The government is actively promoting the inflow of FDI but with modest effect. One reason is that foreign business takes its cues from the domestic private sector (see Figure 5). The promotional effort could be reinforced with greater attention to encouraging linkages between foreign and domestic investment. That way, even foreign inflows of private portfolio investment would be of longer duration.

Figure 5: Foreign investors follow domestic investors
(Investment, % of GDP)



Source: World Bank.

Chinese investment is a potential conduit for investing out of the slowdown. Unlike traditional market-seeking FDI, Chinese investment has been strategic and relatively impervious to economic conditions. The bulk of recent FDI inflows have been from China. The positive impact is evident in improved transport infrastructure and fewer power shortages. There are also negative impacts that need attention. However, on balance, the China-Pakistan Economic Corridor (CPEC) is a major stimulus that needs scaling up (Hamdani, 2019).

In particular, the number of planned special economic zones needs to be quadrupled if these are to ignite industrial expansion and diversification. The zones can be self-financed and generate revenue, or outsourced to the private sector, thereby reducing capital cost for the government; in fact, most zones worldwide are private (UNCTAD, 2019, p. 192). While Pakistan is planning 9 zones, Ethiopia has already built 15 zones

and plans to build another 15 by 2025 (Tang, 2019). Viet Nam has more than 300 zones that support 7,500 industrial projects. Pakistan is missing out on the potential of Chinese investment. There is need for a bolder vision.

Finally, the role of the public sector needs reaffirmation in any compact between government and industry. Government should pledge that laws are well administered, markets function competitively and policies implemented. Industry should renounce protection and subsidies. The distinction between public goods and private goods is not sharp but it is clear that all goods and services should be produced efficiently. Accordingly, state enterprises need to be autonomous and self-sufficient, or privatized. The circular debt in the power sector needs to be wound down, to the benefit of producers, utilities and consumers. These are longstanding issues that require fresh resolve and pragmatic resolution.

Government and industry should fashion a proactive industrial policy (Haque, 2015). The productive sectors need revival and government should induce the private sector to make the necessary investments. In turn, the private sector should commit to reinvest profits. Technology in manufacturing industries is 30 years old (World Bank, 2019, p. 16). Reinvestment in technological upgrading, worker training, and product innovation would increase competitiveness. Government should help industry penetrate world markets (Haque, 2014). Specific actions need to be selected jointly by government and industry from the wide menu of measures that have worked elsewhere (Haque, 2007). Given the importance of science and engineering skills for competing in the global economy, one strategic direction is “to augment the public sector S&T apparatus with the private sector funding and oversight” (Mahmood and Siddiqui, 2000, p. 18); the private sector has also proposed “to establish a business-led Network to Promote S&T, or Net-POST” (Haque, 1998).

The IMF program accepts the need for greater development spending. More is needed but for what is equally important. While the emphasis is on creating fiscal space through tax generation—and more can be done, such as reviving the tax on land (Ahmed and Mangla, 2019, pp. 44-48)—the government should also show leadership in rationalizing public expenditures, giving greater priority to health and education. Attention to income safety nets—such as the BISP cash transfers—is commendable but it is important to underline that Pakistan’s underperformance on human development is on non-income factors (see Table 2). There are other channels to supplement household incomes—in particular, remittances—but only the public sector can invest in the essential social infrastructure for dynamic economic growth.

4. Conclusion

The government took office in hopes of launching a *Naya Pakistan* but has been mired in crisis management of problems leftover from the previous administration. Policymakers were hesitant to enter into an agreement with the IMF and they may be tempted to leave it early. However, there are countries that had to take the Fund’s bitter pill and managed to reverse their economic fortunes. India in 1991 is one example, and there are others.

Table 2: Pakistan underperformed Bangladesh on non-income factors

	Pakistan	Bangladesh
Human Development Index (2018)	0.56	0.61
Health (Life expectancy at birth)	67.1	72.3
Education (Expected years of schooling)	8.5	11.2
Literacy (Mean school years)	5.2	6.1
Income (Per capita, 2011, PPP, \$)	5,190	4,057

Source: UNDP.

There are steps that government can take to avoid a prolonged adjustment. In particular, the policy emphasis of the stabilization programme on demand management should be complemented with affirmative actions on the supply side to augment productive capacity. A policy package that permits high returns in productive sectors can induce private investment that, in turn, would stimulate the economy and accelerate investment generally, thereby breaking the downward spiral of economic slowdown. The policy package does not depend on fiscal or monetary stimulus but, crucially, it requires the private sector to awaken from decades of hysteresis to play an engine of growth.

How the government and private sector interact is critical to economic recovery. We suggest the need for a consultative body that brings together senior government officials and leading industrialists to fashion a compact of policies and programs. We suggest possible elements of the compact to facilitate and expedite business activity, financial credit, foreign investment and public investment. We underline the importance of “carrots and sticks” or rewards and penalties that bind government support to private sector performance. In this way, Pakistan can overcome short-term difficulties and also embark on a trajectory of sustained growth.

References

Afridi, U. (1985). Dynamics of Change in Pakistan’s Large-Scale Manufacturing Sector. *The Pakistan Development Review*, Vol. XXIV, Nos. 3 & 4 (Autumn-Winter 1985): pp. 463-476.

Ahmed, H. & Hamid, N. (2011). Financing Constraints: Determinants and Implications for Firm Growth in Pakistan. *The Lahore Journal of Economics*, 16:SE (September 2011): pp. 317-346.

- Ahmed, A. & Mangla, I. (2019). Pakistan: Fiscal Crisis Management 2019-24—The Revenue Perspective. In A. Chaudhry & T. Chaudhry (Eds.) and N. Gera & A. Khanum (Co-Eds.), *Economic Challenges Facing Pakistan in the Regional and Global Environment 2017-2019*, Chapter 3. Lahore, Pakistan: Lahore School of Economics.
- Amjad, R. (2014). Pakistan's Growth Spurts and Reversals: A Historical Perspective. *The Lahore Journal of Economics*, 19:SE (September 2014): pp. 91-104.
- Blanchard, O, Cerutti, E. & Summers, L. (2015). Inflation and Activity – Two Explorations and their Monetary Policy Implications. NBER Working Paper 21726. Cambridge, MA: National Bureau of Economic Research.
- Burney, N. (1986). Sources of Pakistan's Economic Growth. *The Pakistan Development Review*, Vol. XXV, No. 4 (Winter 1986): pp. 573-587.
- Faruqi, S. (2015). The Role of DFIs in Industrial Growth and Transformation: Why the East Asian Countries Succeeded and Pakistan Did Not. *The Lahore Journal of Economics*, 20:SE (September 2015): pp. 13-30.
- Hamdani, K. (2013). Benefiting from Foreign Direct Investment. In R. Amjad and S. Burki (Eds.), *Pakistan: Moving the Economy Forward*, Chapter 5. Lahore, Pakistan: Lahore School of Economics.
- Hamdani, K. (2014). Foreign Direct Investment and Technological Capabilities: The Relevance of the East Asian Experience for Pakistan. *The Lahore Journal of Economics*, 19:SE (September 2014): pp. 267-281.
- Hamdani, K. (2019). Maximizing the Impact of Chinese Investment in Pakistan. In A. Chaudhry & T. Chaudhry (Eds.) and N. Gera & A. Khanum (Co-Eds.), *Economic Challenges Facing Pakistan in the Regional and Global Environment 2017-2019*, Chapter 8. Lahore, Pakistan: Lahore School of Economics.
- Hamid, N. & Khan, M. (2015). Pakistan: A Case of Premature Deindustrialization? *The Lahore Journal of Economics*, 20:SE (September 2015): pp. 107-141.
- Haque, I. (1997). The Catch-up Process in a Global Economy: An Analytical Approach. *The Lahore Journal of Economics*, 2:1 (Jan-June 1997): pp. 19-29.
- Haque, I. (1998). Science and Economic Development Conference (The Conference Report). *The Lahore Journal of Economics*, 3:2 (July-Dec 1998): pp. 97-111.
- Haque, I. (2007). Rethinking Industrial Policy. UNCTAD Discussion Papers, No. 183. Geneva: United Nations Conference on Trade and Development.

Haque, I. & Amjad, S. (2012). Toward a Heterodox Approach: Reconciling Stabilization and Economic Growth in Pakistan. *The Lahore Journal of Economics*, 17: SE (September 2012): pp. 1–32.

Haque, I. (2014). Toward a Competitive Pakistan: The Role of Industrial Policy. *The Lahore Journal of Economics*, 19:SE (September 2014): pp. 61-90.

Haque, I. (2015). Theory at Odds with Best Practice: The Travails of Industrial Policy. *The Lahore Journal of Economics*, 20:SE (September 2015): pp. 87-106.

Haque, I. (2016). The Productivity Growth–Technology–Entrepreneurship Nexus: Implications for Pakistan. *The Lahore Journal of Economics*, 21:SE (September 2016): pp. 15–31.

Mahmood, Z. & Siddiqui, R. (2000). State of Technology and Productivity in Pakistan’s Manufacturing Industries: Some Strategic Directions to Build Technological Competence. *The Pakistan Development Review*, 39:1 (Spring 2000): pp. 1–21.

PBC (2019). *Progress Review of “Make-in-Pakistan”*. Karachi, Pakistan: Pakistan Business Council.

Rasiah, R. & Nazeer, N. (2016). Comparing Industrialization in Pakistan and the East Asian Economies. *The Lahore Journal of Economics*, 21:SE (September 2016): pp. 167-192.

SBP (2019). *The State of Pakistan’s Economy Annual Report 2018-2019*. Karachi, Pakistan: State Bank of Pakistan.

Tang, K. (2019). Lessons from East Asia: Comparing Ethiopia and Vietnam's Early-Stage Special Economic Zone Development. Working Paper No. 2019/26. The China Africa Research Initiative. Washington, DC: The Johns Hopkins University School of Advanced International Studies.

UNCTAD (1999). *World Investment Report 1999*. Geneva: United Nations Conference on Trade and Development.

UNCTAD (2019). *World Investment Report 2019*. Geneva: United Nations Conference on Trade and Development.

UNIDO (2019a). *Competitive Industrial Performance Report 2018*. Vienna: United Nations Industrial Development Organization. Database accessible at UNIDO portal: <https://stat.unido.org/database/CIP%202019>.

UNIDO (2019b). *Industrial Development Report 2020*. Vienna: United Nations Industrial Development Organization.

Uppal, J. & Khalid, M. (2019). Pakistan's Recurring Fiscal Crisis—Institutional Strategies for Fiscal Consolidation. In A. Chaudhry & T. T. Chaudhry (Eds.) and N. Gera & A. Khanum (Co-Eds.), *Economic Challenges Facing Pakistan in the Regional and Global Environment 2017-2019*, Chapter 4. Lahore, Pakistan: Lahore School of Economics.

Weiss, J. & Lall, S. (2004). Industrial competitiveness: The challenge for Pakistan. Islamabad, Pakistan: Asian Development Bank.

World Bank (2019). Pakistan@100 Structural Transformation. Policy Note March 2019. Washington, DC: International Bank for Reconstruction and Development.

World Bank (2020). *Doing Business 2020*. Washington, DC: International Bank for Reconstruction and Development.

Annex: Positive externalities of foreign direct investment in Pakistan

The externalities of foreign direct investment can be estimated with a simple regression, as follows. First, consider total investment (I) as the sum of domestic investment (GDI) and foreign direct investment (FDI). This assumes that a dollar of FDI equals a dollar of domestic investment. Second, treat FDI as exogenous (determined by external factors) and GDI as endogenous. While there are several determinants of GDI, for simplicity, assume that domestic investment is a function of economic growth (G)—the familiar accelerator model. Thus,

$$I = GDI + FDI \quad (1)$$

$$GDI = \alpha + \beta G \quad (2)$$

And, through replacement,

$$I = \alpha + \beta G + FDI \quad (3)$$

However, if there are externalities, then a unit of FDI is not identical to a unit of GDI. Thus,

$$I = \alpha + \beta G + \delta FDI \quad (4)$$

where $\delta > 1$ for positive externalities and $\delta < 1$ for negative externalities.

We ran a simple least squares regression on equation (4), for the time period 1971-2017, using World Bank data, with I and FDI tabulated as shares of GDP, and economic growth, G, cleaned using a Hodrik-Prescott filter to normalize cyclical fluctuation. The results are:

$$I = 11.6 + 1.08 G + 1.96 FDI$$

Variables	Coefficients	Standard error	t-value	Pr > t
GDP growth	1.08	0.224	4.840	< 0.0001
FDI	1.96	0.280	6.979	< 0.0001
Constant	11.6	1.161	9.996	< 0.0001
$R^2=0.56$	F = 28.31	DW = 0.52	DF = 44	Data = 47

The regression results suggest that one dollar of FDI generates positive externalities amounting to nearly two dollars of total investment. The F-statistic and t-values are significant. The DW-statistic suggests positive autocorrelation, which is not surprising as FDI is market seeking. The fit could be improved but it suffices to show that foreign direct investment has a positive crowding-in effect on domestic investment.

A crowding-in effect for Pakistan has also been observed for an earlier time period, 1970-1996, using a similar approach. For details on that estimation and results for a cross-section sample, see: UNCTAD, 1999, Chapter VI.