CREB Policy Paper No. 01-10

A Strategy for Reversing Pakistan's Dismal Export Performance

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Preface

The Center for Research in Economics and Business (CREB) was established in 2007 to conduct policy-oriented research with a rigorous academic perspective on key development issues facing Pakistan. In addition, CREB (i) facilitates and coordinates research by faculty at the Lahore School of Economics, (ii) hosts visiting international scholars undertaking research on Pakistan, and (iii) administers the postgraduate program leading to the MPhil and PhD degrees at the Lahore School.

An important goal of CREB is to promote public debate on policy issues through conferences, seminars, and publications. In this connection, CREB organizes the Lahore School's Annual Conference on the Management of the Pakistan Economy, the proceedings of which are published in a special issue of the *Lahore Journal of Economics*.

The CREB Working Paper Series was started in 2008 to bring to a wider audience the research being carried out at the Center. Now, a new series entitled the CREB Policy Paper Series has been initiated with a view to separating empirical and policy research work. In future, only rigorous, analytical, and empirical research will be published as part of the Working Paper Series, while broader policy-oriented research will be published as part of the Policy Paper Series. It is hoped that these papers will promote discussion on the subject and contribute to a better understanding of economic and business processes and development issues in Pakistan. Any comments and feedback on these papers is welcome.

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Abbreviations

BOP	balance of payments
CFC	common facility center
DRC	domestic resource cost
EERm	effective exchange rate for imports
EERx	effective exchange rate for exports
EPR	effective protection rate
FY	fiscal year
GDP	gross domestic product
R&D	research and development
RER	real exchange rate
TPF	Trade Policy Framework
UAE	United Arab Emirates
WTO	World Trade Organization

Abstract

This paper examines Pakistan's export performance during the last three decades and finds that it has been very poor in comparison with the performance of other countries in Asia. Although Pakistan is exporting to a diversified market base, the high level of product concentration and low sophistication level of the country's exports are crucial factors underlying this poor performance. This paper identifies agriculture and medium-technology exports as potential drivers of export growth and highlights specific policies and investments needed to enhance the competitiveness of exports from these sectors. In addition, the paper examines the policy environment for export competitiveness and proposes measures for providing a policy framework, particularly a supportive exchange rate policy, to boost the performance of the sector. Finally, it puts forward broad recommendations for promoting the export sector of Pakistan.

JEL classifications: F10, F14, F43.

Keywords: trade, country and industry studies of trade, economic growth of open economies.

1 Introduction

At the dawn of a new decade, Pakistan faces difficult economic conditions. Externally, a global recession and the resultant fall in demand have had a significant adverse impact on the country's exports. Internally, severe energy shortages and a difficult security situation have taken their toll on the economy in general and exports in particular. Pakistan has been caught in a cycle of stop-go growth since the 1990s. In the fiscal year FY2009, the economy grew at a rate of 2%, as compared to 4.1% in the preceding year and contrary to an impressive average annual rate of 7% from FY2003 to FY2006. In line with historical experience, the country has once again lost the growth momentum generated during the earlier part of this decade.

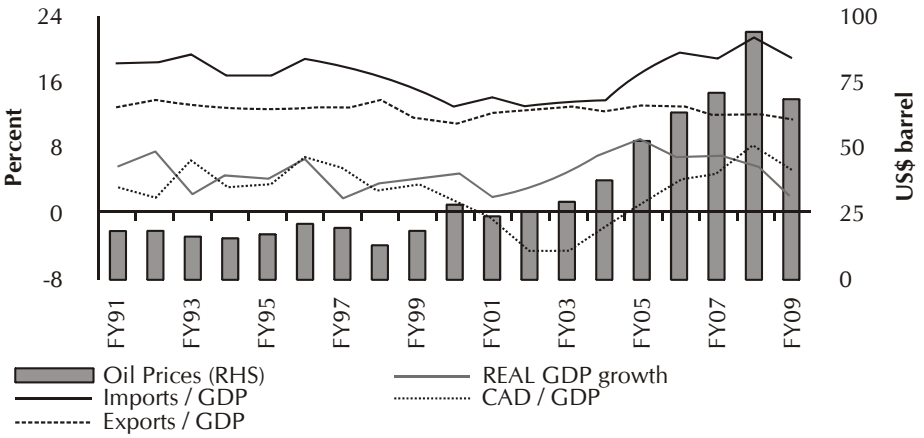
During FY2008, a surge in oil prices and expansion in domestic demand fueled by a rise in government spending led to a sharp increase in the import bill and the rapid deterioration of Pakistan's external balance (Figure 1) with the current account deficit reaching an all time high of US$13.9 billion. While FY2009 has seen a reduction in the current account deficit to US$8.9 billion, weak demand for the country's exports in the aftermath of the global financial crisis is likely to continue putting pressure on Pakistan's external balance. A key contributor to macroeconomic instability (inflation peaked at 25% in FY2009[1]) was the rising fiscal deficit which reached 7.6% of gross domestic product (GDP) in FY2008- the highest in 10 years. While the government was successful in bringing the budgetary deficit down to 5.2% in FY2009, the country's low level of resource mobilization[2] implies that fiscal policy options can only be used selectively to revive the economy.

For Pakistan to move to a higher sustainable growth trajectory there is need to relax the country's balance of payments (BOP) constraint and develop new drivers of growth. The East Asian experience demonstrates that the export sector has the potential to

[1] *State Bank of Pakistan Inflation Monitor*, October 2009.
[2] In FY2009, Pakistan's tax-to-GDP ratio stood at 9% of GDP (*Pakistan Economic Survey* 2008/09). This number is very low compared to a developing country average of 18%.

serve as an economy's engine of growth. Thus, a medium-term strategy that creates an environment conducive to promoting Pakistan's export sector could serve as a way forward to relaxing the BOP constraint, ending the syndrome of stop-go growth, and directing the economy toward a high growth trajectory. To that end, improving the competitiveness of this sector is essential.

Figure 1: Pakistan's External Balance



CAD = current account deficit, FY = fiscal year, GDP = gross domestic product.
Source: State Bank Annual Report 2008-09.

However, the competitiveness challenge is daunting, given the weak positioning of Pakistan's industry in terms of low technology intensity and low productivity. Few firms are involved, directly or indirectly, in international trade. Firms that are trading internationally are producing products that are not aligned with global trends. For example, textile and medium/high technology exports account for 5.8 and 57.6% of world trade, respectively, while as a share of Pakistan's exports, these products account for 70.5 and 9.5%, respectively.

Not only do global competitiveness indicators rank Pakistan in the bottom quartile of the world, the situation seems to be deteriorating. The World Economic Forum's global competitiveness ranking of Pakistan fell from 92 out of 131 countries in 2007/08 to 101 out of 134 countries in 2008/09. Pakistan's business competitiveness ranking also fell from 67 to 79 in the same period.

These declines will have to be reversed if Pakistan is to have any success in accelerating export growth. In addition, there are many broader, economy-wide longer-term issues that will have to be addressed. Among these, three of the most important are as follows.

(i) *Creating a more conducive environment for the development of the private sector and changing business attitudes*. Private sector planning generally adopts a medium to long-term horizon. However, policy unpredictability and the government's short-term approach to policymaking has significantly increased the risk of investment, reduced the planning horizon of entrepreneurs, and led to the nonoptimal allocation of resources. To encourage the private sector to become export-oriented, the government needs to build a supportive policy framework, two main pillars of which should be consistency and continuity. Also, the government needs to adopt a pro-business approach and devise an incentive structure to ensure active private sector involvement in all sectors of the economy and the growth of "nonrent-seeking" firms and business behavior.

(ii) *Effectively addressing the challenges posed by the shortage of energy and the security situation*. It will take some time to eliminate the deficit in power generation capacity and supply of natural gas. Therefore, in the immediate future, export-oriented industries must be given priority in power and gas allocation in order to pursue export-led growth. The country's difficult security situation imposes an additional cost on Pakistani businesses. According to the enabling trade index for 2009, Pakistan is ranked 118 out of 121 countries in the business cost of terrorism. There is need to find some ways of compensating export industries for these costs to ensure that they stay internationally competitive.

(iii) *Adopting a strategy to deal with the looming water crisis*. The per capita availability of water in Pakistan is shrinking at an alarming rate, which could undermine the prospects for expanding the country's agro-based exports. With a per capita water availability of 1,136.5 cubic meters in 2003/04, the country was only marginally above the threshold of scarcity (which is 1,000 cubic meters per capita). More recent data suggest that the per capita water availability will continue to decline (Couton, 2009). Without doubt, in the long

term, the sustainability of the agriculture sector will depend crucially on the judicious management of available water resources.[3]

Against this backdrop, this paper proposes a medium-term strategy for boosting the country's export competitiveness and growth. While there is tremendous potential for the export of services, particularly health, education, and information technology services, this is outside the scope of this paper. Section 2 develops baseline projections for Pakistan's exports over the next five years. Section 3 examines the degree of product and market concentration in order to identify priority areas for policy support to raise export performance above the baseline scenario. Measures to enhance Pakistan's higher-technology exports are the focus of Section 4. Section 5 discusses the issues and recommendations for the agro-based export sector. Section 6 provides a review of macroeconomic policies along with the changes necessary for export oriented growth. Finally, Section 7 looks at broader, cross-cutting issues and measures crucial for export competitiveness. A summary matrix of recommendations is provided at the end.

[3] This point is taken up again in Section 5, where the importance of the country's agro-export base as a driver of overall export growth has been emphasized.

2 Baseline Export Projection for 2014

This section provides a projection of export performance for 2014 based on the historical performance of Pakistan's export sector. The objective is to establish the trends that have been displayed and identify the factors that determine these trends; this information is then used to generate a baseline forecast of future exports.

2.1 Historical Trends

In the past two decades, export earnings have shown substantial growth, increasing from US$6.3 billion to US$18.3 billion (State Bank of Pakistan, 2010). However, it is a mistake to look at this growth in isolation. In order to assess the performance of Pakistan's export sector, it is necessary to see how the sector has performed relative to world exports. On that basis, Pakistan's export sector seems to have performed poorly as its share of world exports has declined since the early 1990s.

In this section, we use the performance of certain East Asian countries (Thailand and Malaysia) and neighboring countries (India and Bangladesh) as a point of comparison in order to evaluate Pakistan's performance. Malaysia, Thailand, and India have experienced tremendous export-led growth, therefore providing a useful benchmark to emulate. These countries' share of world exports increased on average by 185% between 1990 and 2008, while Pakistan's share declined by 17% over this period, indicating the dismal performance of Pakistan's export sector (Table 1).

Table 1: Exports as a Percentage Share of World Exports

Country	1974	1980	1990	2000	2008
Pakistan	0.14	0.15	0.18	0.15	0.15
India	0.56	0.43	0.57	0.70	1.32
Bangladesh	0.04[a]	0.04	0.05	0.09	0.10[b]
Malaysia	0.55	0.74	0.94	1.61	1.43
Thailand	0.32	0.37	0.74	1.13	1.25

[a]1977, [b]2007.
Data extracted from: United Nations Statistics Division - UN Comtrade

Even Bangladesh has shown a consistent increase in world share since its separation from Pakistan; four decades ago, Bangladesh's world share was one fourth that of Pakistan, today it is three fourths. Although Pakistan has achieved positive export growth rates in this decade, they have merely kept pace with growth in world trade while the comparator countries' exports have grown at more than twice the rate. The goal for the next five years should be to outperform the world export growth rate and achieve a rising share in world trade.

2.2 Projections

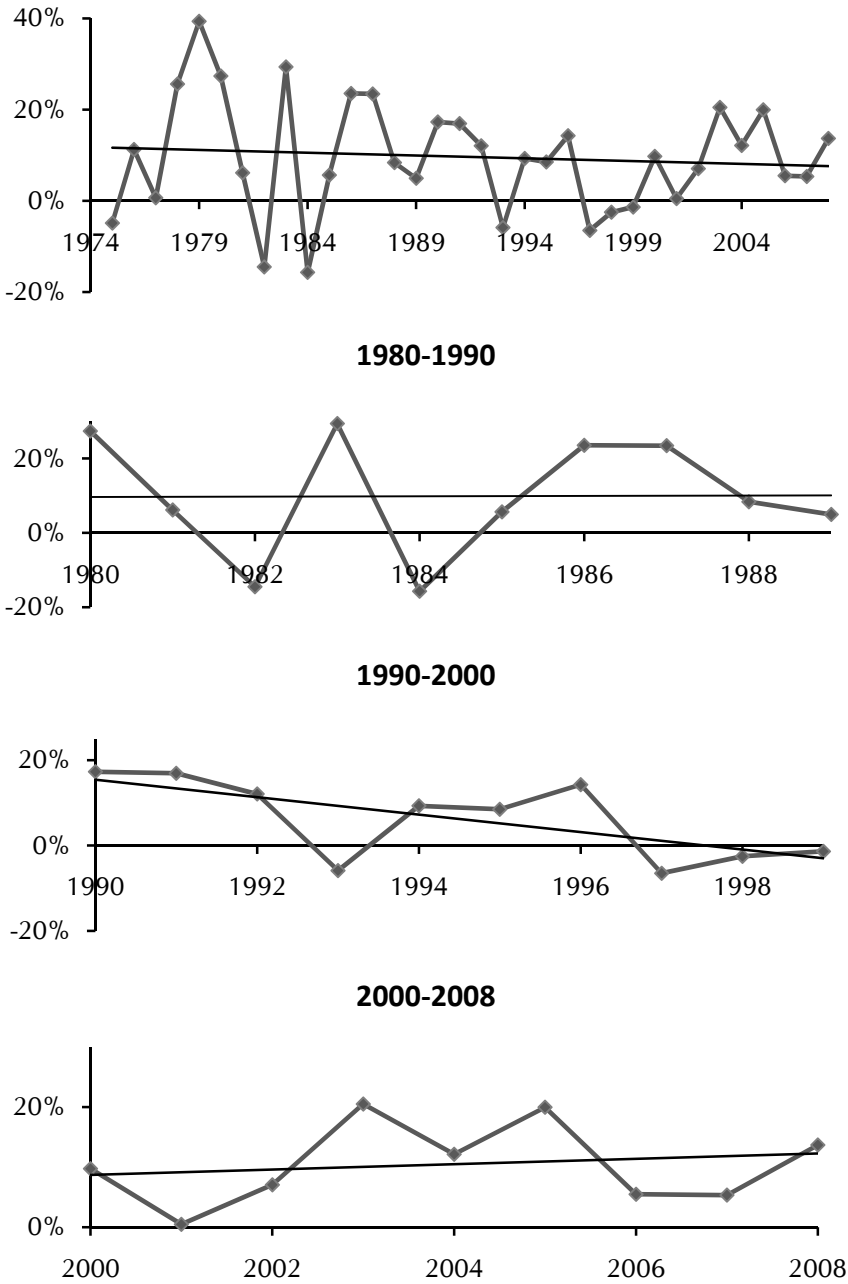
To forecast exports earnings, as a first step. we study Pakistan's export growth rate historically. It is evident from Figure 2 that the export growth rate has shown considerable variation over the years. No pattern in trade earnings can be established from one year to the next and the decade-wise trend line shows how inconsistently Pakistan's exports have grown.

Unlike imports, which are closely related to domestic business activity, exports are more dependent on developments outside the domestic economy. A statistically significant link exists between world exports and world GDP[4] and it is therefore worthwhile to study the impact on Pakistan's exports of changes in world GDP. For the overall period (1980-2008) as well as for each decade the elasticity is greater than 1. In order to arrive at a baseline projection for Pakistan's export performance over the next five years, the estimate for elasticity for the period 2000-2008 (1.33) is used in conjunction with projections of world GDP (Appendix A). The estimate for exports for 2014 lies in the range of US$24.0-27.4 billion, which is less than the US$28 billion target implied by the Strategic Trade Policy Framework for 2009-12.[5]

[4] A recent World Bank study by Freund (2009) finds a statistically significant elasticity of world trade to world GDP equal to 1.77 over 1960 to 2008.

[5] This policy framework targets US$22 billion worth of exports by 2012, which implies exports of US$28 billion in 2014.

Figure 2: Pakistan's Export Growth (1974-2008)



Data extracted from: United Nations Statistics Division - UN Comtrade

3 Export Competitiveness: Product and Market Diversification

Pakistan's exports have grown at an average annual rate of about 9% between 1980 and 2008 with considerable fluctuations in performance during this period. Pakistan performed well during the 1980s with an average per annum growth rate of about 10%. However, performance fell sharply in the 1990s with the growth rate falling to about 6%. As noted earlier, there has been an improvement since then with the average annual rate reaching a historical peak of 10.5%, but this is still less than that of other South Asian countries. For the period 2000 to 2008, India's exports grew at an annual average of 20.3% and Bangladesh's at 13.8%.

It is generally believed that the lack of product and market diversification are reasons for Pakistan's poor export performance. In this section, we analyze Pakistan's product and market concentration levels for the period 1974-2008. The section will also identify products that are growing rapidly in world trade and review Pakistan's performance in these products with the aim of identifying opportunities for improving its export performance in the medium term.

3.1 Products

The product concentration level is measured using the following index:[6]

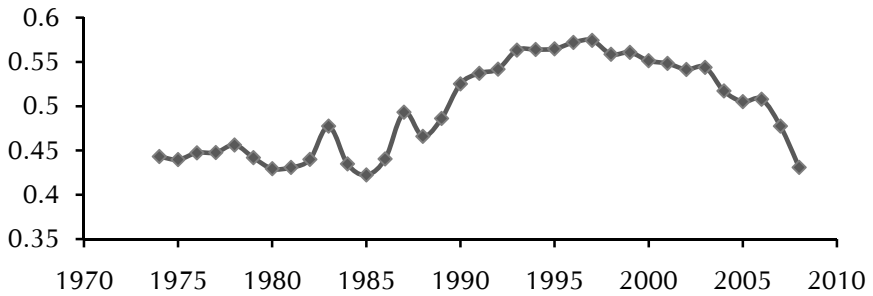
$$G_t = \left(\sum_k W_{it}^2 \right)^{1/2}$$

where *k* is the number of products that account for more than 90% of Pakistan's exports and *Wi* is the share of commodity *i* in total export earnings.

[6] Gini-Hirschman coefficient discussed in Akbar and Naqvi (2001).

The index can take a value between 0 and 1; the closer it is to 1, the greater the degree of concentration. Product concentration increased significantly in the 1990s (Figure 4), but the index has followed a declining trend since 2003 and now stands at an all time low of 0.43. In other words, Pakistan has been quite successful in broadening its product export base recently. However, the index remains substantially higher than that of Malaysia (0.3), Thailand (0.28), and India (0.25). Thus, Pakistan suffers from a fairly concentrated product mix, which is also evident from the fact that 15 products account for 90% of our exports. This highlights the need to focus on product diversification. A future strategy to enhancing export competitiveness should aim to bring this index down by increasing the number of products in the export base and decreasing dependence on two sectors, textiles and rice, which still account for close to 70% of total Pakistani exports.

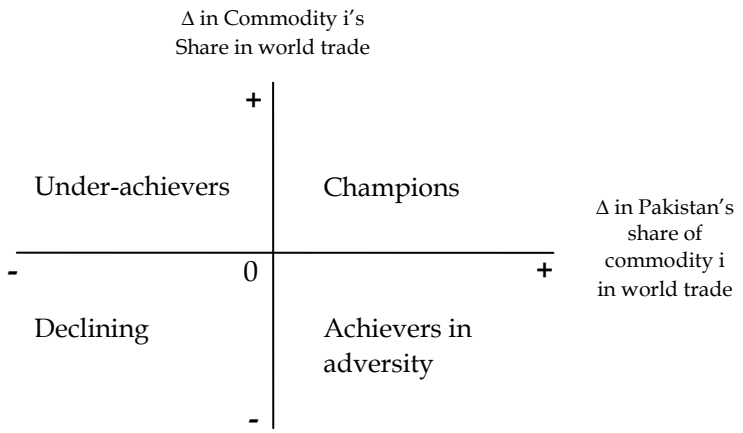
Figure 3: Product Diversification Index (1974-2008)



Data extracted from: United Nations Statistics Division - UN Comtrade

A four-way framework developed by Lall and Weiss (2004) was used to classify products that accounted for 90% of Pakistan's total exports for the period 2003 to 2008. Change in the share of a particular commodity in world trade was plotted on the vertical axis, and change in the share in world trade of Pakistan's exports of that commodity was plotted on the horizontal axis. All products were classified as champions, under-achievers, declining or achievers in adversity depending on the quadrant they were in. (Figure 4).

Figure 4: Framework for Analysis



According to Table 3, major exports such as rice and petroleum products, traditional exports such as surgical instruments, and emerging exports such as jewelry and furniture are classified as "champions." Similarly, products identified as under-achievers can be grouped into three main categories: (i) in the textile and clothing sector: textile made-ups, fabrics, garments, knitwear, and textile accessories; (ii) in the traditional sector: fish, leather, sports goods, and carpets; and (iii) in the emerging sector: fruits.

Pakistan appears to enjoy a fairly healthy export structure: about two thirds of the country's commodity exports fall under expanding trade categories (Table 2). The key to promoting export-led growth is significant diversification of the country's product base. The strategy should be to focus on this 68%, i.e., "champions" and "under-achievers" plus other emerging sectors (e.g., meat exports), which currently constitute a very small percentage of overall exports but have exhibited tremendous growth potential in the last few years.

Table 2: Percentage Shares of Pakistan's Exports by Category

Year	Champions	Under-Achievers	Achievers in Adversity	Declining Sectors
Average (2003-08)	19.02	49.19	4.33	20.04

Data extracted from: United Nations Statistics Division - UN Comtrade

Table 3: Classification of Pakistan's Commodity Exports

Commodity Export Sector	Export Shares for 2008 (%)
Champions	
Rice	12.0
Petroleum and products	5.70
Surgical instruments	1.30
Jewelry	1.20
Molasses	1.00
Polyesters	0.90
Raw cotton	0.80
Animal or vegetable fats/oils	0.80
Ores and base metals	0.80
Furniture (and parts thereof)	0.30
Achievers in Adversity	
Cement and construction material	2.90
Women's garments	1.90
Chemicals and products	1.90
Telecom equipment and parts	0.40
Knitted or crocheted fabrics	0.30
Under-Achievers	
Textile made-ups	15.40
Woven cotton fabrics	11.00
Men's garments	4.40
Men's knitwear	4.30
Textile clothing accessories	2.00
Leather and leather products (except footwear)	1.90
Sports goods	1.60
Carpets and rugs	0.90
Fish and fish preparations	0.70
Fruits	0.70
Declining Sectors	
Cotton yarn	6.00
Synthetic textile garments	3.20
Textile garments	2.40
Woven synthetic fabrics	1.40
Women's knitwear	1.30
Footwear	0.70
Miscellaneous manufactured articles	0.30
Cutlery	0.30

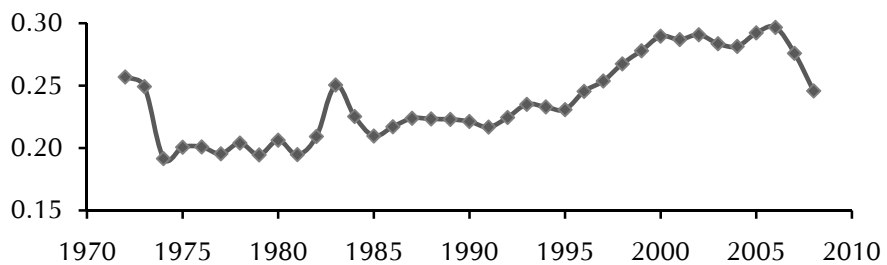
Data extracted from: United Nations Statistics Division - UN Comtrade

3.2 Markets

Historically Pakistan's market base has been fairly diversified and, until the mid-1990s, the market concentration index (using the same method as for the product concentration index and data for markets accounting for 90% Pakistan's exports) remained below 0.25 (Figure 5). It is encouraging to compare this with the market concentration in other countries which stands at 0.23 for Thailand, 0.27 for Malaysia, and 0.20 for India. Based on these numbers, Pakistan seems to be doing quite well in terms of the market diversification of exports; this is also shown by the fact that, in 2008, 90% of the country's exports were going to 45 countries. Given the broad market base, instead of wasting resources trying to break into new markets, efforts should focus on improving access to existing large markets.

There is also a need for greater focus on dynamic world markets. Of these, markets such as China and India, in which Pakistan is not doing badly, should be key targets for market development initiatives. Furthermore, efforts should also be aimed at dynamic world markets in which Pakistan is currently an under-achiever (such as Russia, the United Arab Emirates [UAE], and Saudi Arabia) so that the country can realize the full potential offered by high growth markets in world trade. For this purpose, it may be useful to target market development efforts at regional hubs such as UAE, which serves as a natural hub for the Middle East. Such hubs should also be identified for the European Union, Africa, and East Asia, and these should be the focus of market development initiatives (Section 7.5) to enhance Pakistan's presence in these regions.

Figure 5: Market Diversification Index (1972–2008)



Data extracted from: United Nations Statistics Division - UN Comtrade

4 Higher-Technology Exports

4.1 Background

According to the new dynamics of world trade, a country's ability to master and use new technologies matters more than factor endowments when determining comparative advantage. In essence, to improve export competitiveness a country must upgrade technologies in all activities, build new capabilities, and find new markets and niches (Lall and Weiss, 2004). Looking at the structure of world exports, the total share of medium and high-technology product exports in 2008 was 57.6%, i.e. they make up the majority of world trade. The share of primary, resource-based and low-technology products in world exports was 11%, 15%, and 16%, respectively in 2008 (Table 4).

Pakistan's exports are dominated by low-technology manufactures, which accounted for two thirds of total exports in 2006-2008. Their share has fallen from three fourths of total exports in 1998-2000, when textiles, garments and footwear constituted more than 90% of the exports of low technology manufacturers. One reason for this decline in the share of low technology exports during the period may have been the slow growth rate of world trade in this group. During the period 1998 to 2008, the growth rate of trade in textiles, garments, and footwear was only 7% per annum, compared to a growth rate in world trade of 10.1% per annum. The continued slow growth in world trade in this category in the future will remain a drag on Pakistan's overall export growth for some time to come.

The combined share of medium and high technology exports in Pakistan has remained more or less unchanged over this period. The performance of medium technology exports was disappointing with their growth rate being below both the world growth rate for this category and Pakistan's growth rate of total exports. However, high technology exports have grown at an impressive 17.5% per annum, although this growth is from a very small base. Within medium and high technology exports, automotive and electronic and

electrical products exports have grown faster than the world growth rate (Table 5). However, again, the original shares of these exports are too small to have a significant impact on their respective categories.

Table 4: Pakistan and World Exports According to Technological Level

Per cent

Sector	World Exports[a]		Pakistan Exports		
	2008	1998-2008	1998-2000	2006-2008	1998-2008
	Share	Growth	Average Share		Growth
Total	100	10.1	100	100	9.6
Primary	11.4	11.2	12.3	12.7	10.1
Resource-based	14.8	10.5	3.5	10.9	23.9
Agro-based	7.1	8.6	2.8	2.7	10.0
Others	7.6	12.6	0.7	8.2	40.9
Low-technology	16.2	9.2	74.7	66.7	8.2
Textiles, garments, and footwear	5.8	7.0	70.5	62.8	8.1
Others	10.5	10.7	4.2	3.9	8.9
Medium-technology	35.5	10.1	8.6	8.1	8.7
Automotive	9.1	9.1	0.1	0.4	24.0
Process Industries	9.0	11.4	6.3	4.5	5.4
Engineering	17.4	10.1	2.2	3.2	14.1
High-technology	22.1	9.3	0.8	1.4	17.5
Electronic and electrical products	15.2	8.6	0.1	0.6	30.8
Others	6.9	11.1	0.7	0.8	12.2

[a] Does not include oil exports.
Note: The classification of commodities according to their technology levels is according to Lall (2000).
Data extracted from: United Nations Statistics Division - UN Comtrade

Normally, one would expect a progression up the technology ladder, i.e., from low to medium and from medium to high technology exports. Unfortunately, this does not seem to be happening in Pakistan (Box 1), and there is urgent need to address

this problem. The strategy for the next five years should be to focus on medium technology exports. There are some "champions" in this category, such as synthetic fabrics, surgical instruments, and machine tools (Table 5), which should be given priority; and other potentially high-growth products like pharmaceutical goods and light engineering industry products (automotive, electronics, etc.) should be marked for special attention in the medium term.

Box 1: Structure of Pakistan's Exports

Hausman, et al. (2005) have developed a quantitative index that provides a measure of the technological sophistication of a country's export structure. They take a weighted average of the per capita GDPs of the countries exporting a product (which they call PRODY) as representing the income/productivity level of the good. Using these, they construct the income/productivity level that corresponds to the country's export basket (i.e., by calculating the export-weighted average of the PRODY for that country, which they call EXPY). They have found this to be a strong and robust predictor of subsequent economic growth.

Felipe (2007) has calculated the EXPY for Pakistan and it is seen that the index in 1986 (4,664) is the same as in 2004 (4,628). He has also calculated the PRODY for Pakistan's top 10 exports in both these years and found that it declined significantly from a value of 5,014 in 1986 to 3,458 in 2004. In other words, there appears to have been no upgrading in Pakistan's export structure in the last two decades, and as he notes, "the country is 'stuck' in exports that are being exported by ever poorer countries."

Table 5: Pakistan's Top Exports in Each Technological Category

Commodity	Share of Total Exports in 2008 (%)
Primary	**16.6**
Rice	12.0
Others	4.6
Resource-based	**13.2**
Refined petroleum products	5.7
Cement and building and monumental stone	2.9
Others	4.6
Low-technology	**60.5**
Textile made-up articles	15.4
Woven cotton fabrics	11.0
Textile yarn	6.2
Knitted undergarments	4.6
Men's outerwear of textile fabrics	4.3
Clothing accessories of leather	3.7
Knitted outerwear and clothing accessories	3.2
Others	12.3
Medium-technology	**8.2**
Woven synthetic fabrics	1.4
Surgical instruments	1.3
Ethanol	1.1
Polyesters	0.9
Machine tools for working wood and carving materials	0.6
Others	2.9
High-technology	**1.3**
Medicaments and pharmaceutical goods	0.6
Telecommunication equipment and parts	0.4
Others	0.3

Data extracted from: United Nations Statistics Division - UN Comtrade

4.2 Small and Medium Enterprise-Led Growth

The phenomenal growth achieved by East Asian countries occurred largely because of their export-oriented growth strategy which was driven by the rapid growth of their medium- and high-technology sectors. In particular, Taiwan's small and medium enterprise (SME)-based approach is one that Pakistan has the potential to emulate (Box 2).

SMEs have traditionally played an important role in Pakistan's medium and high technology exports and it is this sector that has the greatest potential for providing the base for a strategy to promote medium and high technology exports in the future. However, SMEs face a number of barriers in their development: their small size means that they have few resources and limited access to credit; they lack economies of scale and incur high relative costs in accessing and utilizing information technology and managerial and marketing services. The strategy should aim to relax these constraints.

Pakistan's industry has repeatedly demonstrated its ability to adapt and reverse-engineer imported machinery and equipment. Examples include recent experience with the equipment for processing kinnows for export.[7] Other examples include the development of the agricultural machinery sector in the 1960s, where motors and pumps for tube-wells, harvesters, and threshers, etc. are now all locally produced with the designs based on imported machinery. Earlier, there was the development of the electrical fans industry in Gujrat starting in the 1950s. Now there is a flourishing consumer durables industry manufacturing washing machines, electric and gas cookers, and sewing machines, etc. based on reverse engineering.

[7] A processing plant (with equipment for sorting, washing, waxing, grading, and packaging) was imported in the early 1990s. Subsequently, through the process of reverse engineering, such plants were begun to be made locally. Today, there are over 200 kinnow processing plants in Pakistan and all except one have been made locally.

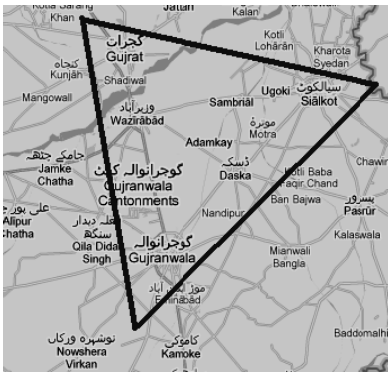
Box 2: Taiwan's SME-Based Export Growth Strategy

SMEs have played a vital role in Taiwan's rapid export-oriented growth. To begin with, most Taiwanese firms pursued the reverse value chain strategy in labor-intensive manufacturing activities. This strategy is a generic approach in which a new firm starts by mastering simple assembly operations to develop process capabilities, typically on a subcontract basis, followed by later extension into product design capabilities, and finally new product creation/branding activities. Because of their limited resources, SMEs were unable to invest much in research and development (R&D) efforts. Hence, the state played an important role in diffusing process technologies among SMEs at an early stage, and helped disseminate design know-how to enable them to enter the phase of new product creation/branding activities at a later stage.

In short, the Taiwanese model can be described as a SME public research institute innovation network model (Wong, 1995). The model can be best characterized as one involving the promotion of indigenous SMEs coupled with the large-scale development of public research institutes to facilitate technology assimilation/transfer and cooperative R&D promotion in support of indigenous SMEs.

It is important to take this domestic/reverse engineering production capability to a level at which more of these goods can be exported. The lessons learnt from the Taiwanese experience point to what the government needs to do in order to upgrade the SME sector to achieve this goal. Given that public resources are limited, it is important that the government's policies and investments are targeted toward industrial clusters across the country. There are many industrial and export clusters in Pakistan, such as the textile cluster around Faisalabad, the engineering, pharmaceutical, and textile clusters around Karachi, and the light engineering/sports goods cluster in the Sialkot, Gujrat, and Gujranwala triangle (Box 3). In 2008, Sialkot's exports of sports goods, surgical instruments, gloves, etc., were between US$800 million and US$1 billion, i.e., about one third of Pakistan's exports excluding agriculture, resource-based, and textile and garments exports. By targeting infrastructure, skill training, development of common facilities, and technology investments according to these clusters' needs, the government could unleash a dynamic process of technology-based export growth.

Box 3: Engineering Hub in Northern Punjab



The triangle formed by Sialkot, Gujranwala, and Gujrat, with a population of 8.3 million and an area of over 12,000 square kilometers, is one of the most developed hubs of industrial activity in Pakistan. This triangle contains a significant portion of Pakistan's light engineering industry. In addition to Sialkot, the hub of the surgical instruments industry, the triangle is home to the Gujrat- Gujranwala domestic appliances Industry with the electric fans industry cluster around Gujrat and other appliances industry cluster around Gujranwala. Moreover, Wazirabad is home to the cutlery industry and an agricultural machinery cluster is based in Daska.

Surgical Instruments (Sialkot): The export of surgical instruments is a US$70 billion world market of which Pakistan's share in 2008 was US$270 million, i.e., less than 0.5%. The industry employs approximately 150,000 people. The largest markets for Pakistan are the USA (24%), Germany (15%), and the UK (10%).

Electric Fans (Gujrat): Pakistan captures a mere US$27.5 million from the worldwide fans export market of US$4.5 billion, i.e. about 0.6%. There are about 500 fan manufacturing units operating around Gujrat and, with the exception of a few large firms, nearly all units fall into the category of cottage industry. The largest markets for Pakistan are the UAE (23%), Yemen (18%), and Saudi Arabia (17%).

Domestic Appliances (Gujranwala): Domestic electric equipment exports other than electric fans have a US$85 billion market of which Pakistan's export share (US$9.4 million in 2008) is less than 0.02%. Much of this industry is linked with the electric fans cluster around Gujrat, especially at the level of small and medium firms. Domestic appliances exported include refrigerators, freezers, washing machines, sewing machines, gas stoves, etc.

The scope and diversity of engineering activities in this triangle is large and the technological sophistication of many operations is quite high. There is considerable division of production processes resulting in a high level of intra-firm trade and economies of scale. In brief, the industrial base exists and the provision of missing ingredients could result in a quantum leap. Also, the world market for these products is huge (over US$160 billion), and a small increase in Pakistan's share would translate into a very large increase in export volumes.

4.3 Recommendations

There is need to systematically develop export industry clusters with a view to pushing medium- and high-technology exports. To achieve this, the country must enhance local capabilities by developing specialized worker skills, promoting local R&D, and providing common facilities and good quality infrastructure to these clusters. These are discussed in more detail below.

Development of Specialized Skills: The ready availability of skilled workers for firms facilitates the adoption and use of new technologies, thereby enhancing the firm's prospects of entering higher-technology value chains. At the managerial level, capable managers and engineers are needed to adapt and use sophisticated technology, manage complex production processes, and develop and market products demanded internationally. Hence, significant commitment is required in terms of public investment in relevant technical and general education. A proposal to establish an engineering university, a technology park, and a technical training institute complex in Sialkot in collaboration with Sweden is just the kind of project needed to provide a quantum jump in SME-based medium- and high-technology exports. Unfortunately, this project is currently suspended; this study recommends it be revived and implemented in public-private partnership mode on a priority basis. Similar initiatives need to be developed for other industrial export clusters in the country.

Promotion of Local R&D: The importance of developing local capabilities of R&D for the promotion of exports of high technology products cannot be overstated. This is not only essential if the country is to fulfill the requirement of continuously upgrading products, but also if it is to reap the benefits of technological spillovers that result from participating in high technology value chains. To accomplish the task of developing such capabilities, the government needs to encourage and support partnerships between firms and research institutions, and establish stronger property rights. Government support can take a range of forms, including the standard tax incentives for R&D expenditure, cost sharing for various technical consultancy services, and provision of finance for technology support,

particularly in the form of venture capital for relatively high-risk or innovative initiatives, and investment in projects such as the engineering university and technology park referred to above.

Secure Energy Needs: The availability of a reliable supply of gas and electricity at internationally competitive costs is a significant competitive factor in the production of high technology exports. Currently, the country faces a severe shortage of electricity and gas. One approach could be to ensure uninterrupted power and gas supply to medium and high technology industry clusters. The power and gas consumption share of these clusters in the total is very small and therefore this policy will not have a significant negative impact on other consumers, while the positive impact on exports and growth of targeted clusters could be huge.[8]

Provision of Common Cluster Facilities: Some critical competitiveness constraints need to be addressed at the industry level as most firms in the medium and high technology sector are relatively small. This includes the development of common facilities for firms producing technology-intensive products. The government could outsource the process of establishing and managing these centers to a third party that specializes in providing such common facilities. With initial support from the government, such projects could become models for private sector involvement in such facilities and give a significant boost to the production of technology-intensive products in the country.

[8] "The export oriented industries of Sialkot are suffering badly because of power shortage. For example, the soccer ball industry which lost its share of the world market to machine sewn balls has recently been able to re-gain orders. It is reported that the industry in Sialkot is facing load shedding of up to 12 hours a day and exporters have petitioned the government that unless they are able to meet these orders, there is no hope for the industry in the future. The representatives of various trade bodies had a meeting in Sialkot where they expressed dissatisfaction with the supply of power. They had requested for a mere 130 MW (which is less than 2% of existing power supply) but the load shedding continues [*sic*]." *Dawn*, 7 April 2010.

5 Agro-Based Exports

This section examines the potential of agriculture-based exports as drivers of export growth.

5.1 Introduction

The agricultural sector can also help to accelerate Pakistan's export growth in the medium term. The 1970s and 1980s saw a shift in emphasis from the agricultural sector to the manufacturing sector in the developing world. It was believed that agriculture could not be a driver of growth as increases in production would exceed expansion in demand, leading to a secular decline in the price of agricultural commodities. Today, the export potential of the agricultural sector is beginning to be realized, particularly because of the recent upsurge in agricultural prices. Initially, the rise of agro-based commodity prices was the result of the oil price hike, which created demand for bio-fuels like ethanol. However, the ongoing structural changes point to a continued upward trend in the price of agricultural commodities. For example, as income levels rise in developing countries, food preferences shift toward the consumption of more expensive items like meat, which result in increased demand for grains for animal feed. Because of limited land resources, the additional demand generated by bio-fuel and animal feed would sustain an upward pressure on most agricultural prices.

These changing trends are especially pertinent to Pakistan which is primarily an agriculture-based economy, with the agriculture sector providing employment to 45% of the total workforce. Also, the labor-intensive nature of this sector makes it ideally suited for harnessing the potential demographic dividend. Pursuing an agro-based export strategy might generate the much needed employment opportunities in the future, and the investment required for moving into higher-value products in this sector is far less than that for manufactures.

Furthermore, Pakistan has a natural comparative advantage in agriculture, with agro-zones ranging from tropical to temperate,

abundant land resources, knowledgeable farming communities, and one of the largest integrated irrigation networks in the world. In total, the irrigation system of Pakistan serves close to 36 million acres of contiguous cultivated land.[9]

The following analysis will look at the sector's current performance and identify key areas of focus for the development of the agro-export sector. For this purpose, agro-exports have been divided into (i) nonperishables, (ii) perishables, and (iii) agro-manufactures.

5.2 Nonperishables

Rice

Rice exports have shown tremendous growth, and rice has emerged as Pakistan's second-largest export commodity, accounting for 12% of total exports in 2008. Rice exports comprise primarily basmati ($1.1 billion) and other varieties such as Irri ($0.9 billion).

Wheat

In wheat, Pakistan is at the cusp between net exporter and net importer, depending on the state of harvest that year. Therefore, wheat does not have the potential to become a driver of agriculture sector-led export growth.

In terms of infrastructure, the rice and wheat sectors face serious deficiencies in post-harvesting facilities like storage and milling. Currently, most of the crop is stored in the open and milled using primitive techniques, which result in significant wastages. In the medium term, the government should focus on providing a policy

[9] This, however, is coming under the increasing stress of a rising population and an aging infrastructure. Overall, per capita water availability declined from 2,002.6 cubic meters in 1950/51 to 1,136.5 cubic meters in 2003/04, leaving the country only marginally above the threshold of scarcity (i.e., 1,000 cubic meters per capita). Therefore, in the long term, sustaining agricultural-driven export growth will depend crucially on the judicious use and management of available water resources.

framework that encourages private sector investment in modern storage, milling, quality/standards testing, etc.

Cotton

Raw cotton was a major export earner for Pakistan until the 1990s. However, stagnating cotton production and an expanding textile industry has resulted in Pakistan becoming a net importer of cotton. Countries like India have tackled the problem of stagnating cotton production by introducing BT (genetically modified) cotton seeds, which increase yields and have built-in pest resistance. There is need to introduce BT cotton in Pakistan,[10] as this could give rise to a substantial export surplus in cotton, as well as enhance the competitiveness of the domestic textile industry.[11]

5.3 Perishables

Pakistan's export performance in agricultural commodities other than rice has not been very impressive, contributing a mere 2.5% of total exports. Perishable exports include fish (1.2%), vegetables and fruits (1%), and meat (0.3%). The following analysis identifies the possible causes of poor performance and earmarks areas that Pakistan needs to concentrate on in order to enhance perishable agro-exports.

Fruits and Vegetables

The 1% share of fruits and vegetables in Pakistan's total exports has remained unchanged over the years and this sector falls in the "under-achievers" category. The lackluster performance of the horticulture industry in Pakistan is due to the use of poor production practices (e.g., flood irrigation of fruit tress), poor pest management, inadequate harvesting and post-harvest procedures, and the lack of necessary infrastructure, especially for post-harvest treatment and cold chain (Competitiveness Support Fund, 2007). The world exports

[10] While BT cotton is sown on a substantial area in Pakistan, seeds are smuggled from across the border and are not custom-made for Pakistani conditions.
[11] For a more detailed discussion on this, see Hamid (2008).

of this sector are large and increasing, an opportunity that Pakistan has been unable to tap.

The main fruits exported by Pakistan are kinnows and mangoes, with shares of 35% and 20%, respectively of fruit exports in 2008. Within the vegetable category, half the exports are potatoes while onions contribute about 20%. The Progress Report on the Agribusiness Development Project (2007) calculates the domestic resource cost (DRC)[12] for a number of agricultural commodities in Pakistan and finds that all these commodities have DRCs that are substantially less than 1 (Table 6). This indicates that Pakistan has a significant comparative advantage in the production of these commodities. It also implies that, despite having a massive edge in the production of these fruits and vegetables, Pakistan has failed to expand their export.

Table 6: DRC of Selected Crops

Fruit	Kinnows	Mangoes	Onions	Potatoes	Dates
DRC	0.34	0.22	0.37	0.43	0.13

DRC = domestic resource cost.
Source: Progress Report on the Agribusiness Development Project.

Pakistan's primary export markets are the UAE and neighboring countries, i.e., India, Iran, and Afghanistan. The inability to tap the potential offered by developed country markets is due to the country's inability to meet the phytosanitary standards[13] required for these markets. Little has changed in production technology, harvesting practices, post-harvest care, and packaging within the horticulture industry over the last decade. Exports to developed country markets have to meet stringent health and quality standards for which testing and certification facilities in Pakistan are inadequate. As a result the industry has been unable to establish itself in major export markets.

[12] The DRC is the ratio of factor costs in social prices to value-added in border prices, measure of efficiency, and international competitiveness.
[13] The World Trade Organization's sanitary and phytosanitary agreement lists the minimum standards pertraining to food safety and animal and plant health.

Fish and Fish Preparations

Fish and fish preparations today constitute less than 1% of Pakistan's total exports, a share that has been showing a declining trend over the years. Exports have suffered due to poor marine fish harvesting technology as well as post-harvest handling and processing methods. Existing practices do not comply with international standards. Further freshwater treatment facilities are scarcely available. This sector requires an improvement in institutional and infrastructural facilities and training of labor with the aim to meet international quality standards.

Meat and Meat Preparations

In 1998, Pakistan did not export any meat and meat preparations. Since then, the sector has shown significant growth, attaining a 0.3% share in total exports in 2008. This is an emerging commodity with considerable export potential and requires actions on the supply side. As is the case in all other food exports, meeting health and quality standards is immensely important for the growth of this sector.

5.4 Agro-Manufactures

Processed Food

The value of processed food exports stood at US$47.8 billion worldwide in 2008 with Pakistan's share being a mere $25.6 million. Its contribution to Pakistan's exports is negligible (less than 0.1%) coming primarily from the export of fruit juices. The sector provides considerable value addition opportunities for Pakistan; however, at present the country has a very small fruit and vegetable processing industry that is concentrated around major cities. Much of their production is consumed locally. The sector is constrained by the nonavailability of packaging materials, sugar, and other inputs at internationally competitive prices.

Leather and Leather Manufacturers

Leather and leather manufactures are traditional exports of Pakistan, although the sector's share in total exports has been declining lately. It is one of the few sectors in the economy that exports most of its production. In the leather tanning industry, there are issues relating to the use of a high proportion of damaged local hides and skins due to disease and improper preservation. Furthermore, it suffers from poor compliance with environmental standards. The predominant made-up industry in the leather sector is footwear, which is highly underdeveloped. It suffers from a lack of trained human resources, and availability of good-quality shoe components. The emphasis should be on providing the financial and technical support required by the sector to upgrade its technology and quality as well as compliance with environmental standards, in order to improve its share in the global market.

5.5 Recommendations

There are two sets of constraints that need to be addressed if Pakistan is to achieve growth in agro-based exports. The first is its inability to meet quality standards. There is need for more proactive public sector involvement to ensure that international standards are understood and facilities available to meet them. This includes building infrastructure and local facilities for testing quality standards. The second constraint is the development of marketing infrastructure. The key to getting full value from fresh produce is to preserve the quality and enhance shelf life from the moment it is harvested to when it arrives at the supermarket. This requires post-harvest treatment and a cool-chain from farm to international carrier (ship or aircraft). The establishment of treatment facilities and cool-chain requires considerable investment. The government has an important role to play in realizing this investment. This includes establishing a supportive policy framework which requires the government to:

- Reduce intervention in the marketing and trade of agricultural commodities. Government intervention to stabilize prices and avert market failures must be practiced prudently and kept to a minimum.

- Strengthen agricultural marketing through public-private partnerships in the development of agricultural markets and revisions in provincial laws and regulatory frameworks for agriculture marketing.

- Promote links with international supermarket chains (like Metro) to expand market access.

- Provide incentives for the private sector engaged in agricultural marketing in the form of duty-free imports, R&D grants, and access to credit at competitive rates.

- Set up quality assurance/certification infrastructure to make sure that commodities meet international standards (EurepGAP and HACCP[14]). For this, the government should encourage international laboratories like Bureau Veritas to set up their offices in the country and provide quality assurance and certification services to exporters.

- Revitalize the seed industry with a focus on hybrid and genetically modified organism technology such as BT cotton, BT maize, and hybrid rice, and pass breeders' rights and other supporting laws.

- Promote demand-driven agricultural research through a competitive grants system.

[14] This is solely a food safety program that consists of seven principles (activities) that specifically address three basic objectives: (i) hazard assessment, (ii) risk management, and (iii) documentation control.

6 A Supportive Policy Framework

There is evidence that supportive economic policies have played a key role in rapid, export-oriented growth in Asia. In this regard, an outward-oriented trade policy, competitive exchange rate policy, and policies for ensuring macroeconomic stability have been the most important. This section examines Pakistan's experience with policies in these areas and discusses reforms and adjustments needed to promote export competitiveness and growth.

6.1 Trade Policy

Trade policy reforms in Pakistan since the 1980s have sought to reverse the strongly protectionist, inward-oriented import substitution policies of earlier decades. In particular, the Government of Pakistan embarked on a substantial trade liberalization program in the 1990s to enhance domestic competition, expand trade with an increasing emphasis on export diversification and outward-orientation, and gradually align domestic relative prices of traded goods with international prices. Improvements in the trade policy regime were realized through tariff cuts and rationalization, as well as through the removal of import quotas, import surcharges, and regulatory duties. The monopoly of state enterprises on the import and export of certain products was also eliminated.

While there was substantial trade liberalization in Pakistan during this period (the un-weighted, i.e., simple average statutory tariff fell from 47.1% in 1997/98 to 14.4% in 2005/06) (World Bank, 2006), it is important to emphasize that there has been an increase in tariff dispersion.[15] Tariff dispersion increased from about 45% of the simple average tariff in 1997/98 to over 76% in 2005/06 (World Bank, 2006). The main reason for this increase was that lower tariffs were cut by a greater proportion than higher tariffs. Items like cars and motorbikes were still subject to tariff rates two to three times higher than the normal maximum customs duty rate. In implementing the

[15] As measured by the coefficient of variation, which expresses tariff dispersion as a percentage of the average tariff (i.e., standard deviation as a percentage of the mean).

reforms, the government was following the principle of tariff escalation by stages of production which aggravated the problem of tariff dispersion. Consequently, final consumer goods continued to be protected at relatively higher nominal protection rates and effective protection rates (EPRs) were probably even more skewed in favor of the domestic production of final consumer goods.

As a result, the trade regime continues to have a significant anti-export bias. The ratio of (average) effective exchange rate for imports (EERm)[16] to that of exports (EERx) is one measure of this bias: the higher the ratio above 1, the higher the bias against exports.[17] According to this measure, Pakistan's average anti-export bias has continued to hover around 18-19% from 2003 to 2005 (Table 7).

Table 7: Estimates of Anti-Exports Bias

Period	FY2004	FY2005
Average Nominal Protection Rate (%)	18.9	18.5
Average Nominal Export Subsidy Rate (%)	0.09	0.08
Nominal Exchange Rate (PRs/US$)	57.50	59.29
EERm	68.37	70.26
EERx	57.55	59.34
Anti-Export Bias (EERm/EERx)	1.19	1.18

EERm = effective exchange rate for imports, EERx = effective exchange rate for exports, FY = fiscal year.
Source: Growth and Export Competitiveness, World Bank (2006).

It can be concluded that, with the average bias around 20%, the structure of incentives created by the trade policy still favors the production of import substitutes. It also constitutes a significant barrier to the emergence of new areas of exports and to the expansion

[16] In the current context, for imports, EERm refers to the nominal exchange rate adjusted for (protective) import levies and any scarcity premium that exchange controls may generate. As such, the EERm indicates the domestic currency cost of one unit of foreign currency (US$l, in this case) worth of imports. For exports, EERx represents the exchange rate after adjustment for the existing export promotion schemes, such as subsidized export credits and freight subsidy. Thus, EERx represents a domestic currency equivalent of proceeds from exports worth one unit of foreign currency.

[17] If the ratio EERm:EERx is unity, this would imply that the trade regime is, on average, neutral toward imports substituting production and export production.

of exports that are not being compensated effectively for the duties/taxes paid on imported and domestically acquired inputs.

The Trade Policy Framework (TPF) for 2009-12 is the government's most recent initiative to overcome past weaknesses as well as to provide a way forward for the future (Government of Pakistan, 2009). The main thrust of the proposed framework includes:

The TPF reiterates the need to develop coherent, comprehensive initiatives to realize the objectives of product and market diversification. The proposed thrusts of the TPF are appropriate and need to be implemented. The recommendations are fairly straightforward, i.e., the trade regime's anti-export bias must be reduced with the objective of promoting export diversification and boosting export competitiveness. To that end, steps such as continually reducing the general maximum customs duty rate, eliminating existing tariff exemptions and concessions on highly protected sectors, and changing the nature of tariffs from specific to ad valorem on certain products (such as edible oils) are necessary. There is nothing new in these recommendations as they have been the stated basis of trade policy since the 1990s. The problem lies in their implementation.

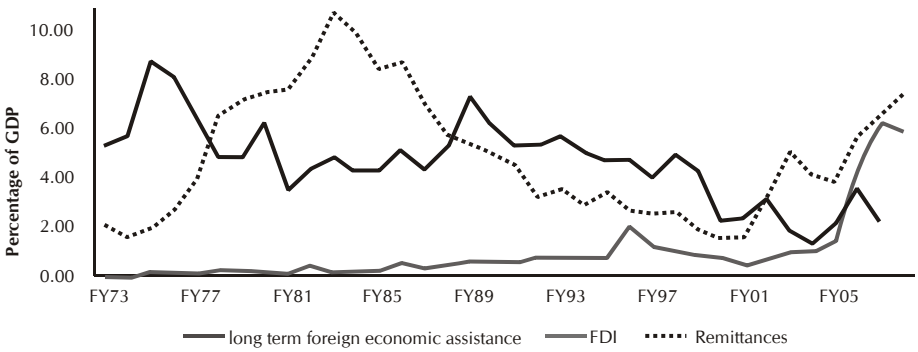
6.2 Exchange Rate Policy[18]

Historically, Pakistan's exchange rate policy has tended to penalize exports. For long periods, the country maintained an overvalued exchange rate, which encouraged imports rather than exports (see Appendix B for details on the extent of real exchange rate (RER) overvaluation for 1972-2009). In addition to affecting a country's macroeconomic stability, an overvalued exchange rate impacts the size of a country's tradable sector. The impact of overvaluation has been studied in the context of "Dutch Disease," which predicts that a large influx of capital flows is likely to cause an RER appreciation (spending effect) as well as bias production against the tradable sector (resource movement effect). Both effects adversely impact the competitiveness of a country's tradable sector.

[18] This section draws on Ahmad (2009)

Persistent overvaluation of the currency in Pakistan can also be attributed to large external inflows. In particular, in Pakistan, large inflows of remittances and foreign assistance have been responsible for overvaluing the exchange rate. Remittances have ranged from an average of 7.1% of GDP in the 1980s to 4.5% in the 1990s and around 6.5% from 2000 to 2008 (Figure 6). Likewise, a generous amount of foreign assistance has poured in owing to fortuitous events such as the Cold War in the 1960s, the Afghan war in the 1980s, and the war against terror since 2001.

Figure 6: External Inflows 1973-2008



FDI = foreign direct investment, FY = fiscal year, GDP = gross domestic product.
Source: Ahmad (2009).

Since overvaluation damages competitiveness by artificially altering the price ratio between tradable and nontradable commodities, a medium-term strategy to enhance export performance must include an exchange rate policy that targets competitiveness of the country's tradable sector. The East Asian experience provides important lessons for formulating a competitive exchange rate policy. These countries have consistently maintained a positive balance on goods and services (except Thailand, which had a small deficit) and have received only a small amount of net current transfers over the past three decades (Table 8). An appreciating effect on the exchange rate of trade surpluses was prevented by channeling the surpluses toward building foreign exchange reserves. The case of Pakistan presents a contrasting picture with a large negative balance on the goods and services account, coupled with an approximately equivalent amount of net current transfers (i.e., largely remittances) and substantial official development assistance.

Table 8: Trade Balance, Transfers, and Reserves: Pakistan and East Asia

				Average for 1975-2005	
Country	**Balance on Goods and Services**	**Net Current Transfers**	**Net Foreign Direct Investment**	**Official Development Assistance**	**Increase in Reserves**
Singapore	7.3	-1.1	6.7	0.1	7.9
Malaysia	7.5	-0.8	3.6	0.4	3.6
Indonesia[a]	2.9	0.6	0.4	1.1	0.5
China[b]	1.6	0.4	2.4	0.3	3.1
South Korea	0.5	0.5	0.04	0.1	1.8
Thailand	-1.3	0.5	1.8	0.7	1.5
Pakistan	-8.2	7.8	0.6	2.6	0.5

[a] Data available from 1981.
[b] Data available from 1982.
Note: All data is shown as a percentage of gross domestic product.
Source: World Development Indicators 2008.

If Pakistan is serious about implementing an export-oriented growth policy, it must focus on two things. It should follow an exchange rate policy with the specific goal of aiming for a zero balance on the goods and services account. This will require not only correcting the existing overvaluation in the exchange rate (on average, RER overvaluation was approximately 21% in FY2007-2009, see Appendix B) but also avoiding the anti-export bias resulting from the appreciating effects of remittances. Given that the elasticity of the exchange rate with respect to remittances is 2.4%, and remittances were approximately 5% of GDP in FY2009, a correction of approximately 12% is required on this account. Therefore, from an exports point of view, the RER correction required is approximately 33%.Thus, to achieve a competitive exchange rate in the medium term, Pakistan should aim for an average depreciation of the RER by 6% per annum over the next five years.

6.3 Macroeconomic Stability

Macroeconomic instability makes the domestic economic environment less predictable, increases risk and uncertainty, and thereby distorts resource allocation decisions, investment, and growth.

It is widely argued that macroeconomic instability adversely affects the rates of productivity growth and investment mainly by creating uncertainty about current and future macroeconomic environments.

Macroeconomic instability is defined as a rise in one or more policy-affected indicators, such as the inflation-rate, overall deficit-to-GDP ratio, and external debt-to-GDP ratio (Fischer, 1993). Over the past two decades, Pakistan has suffered from all these symptoms of macroeconomic instability. According to the Global Competitiveness Report (2009-10), Pakistan ranks 114th in terms of macroeconomic stability compared to India (96), Bangladesh (84), Malaysia (42), Korea (11), and China (8).

The most important reason for macroeconomic instability is the country's low national savings rate, which is the root cause of its large fiscal deficits resulting from Pakistan's low tax-to-GDP ratio, which at around 10% is among the lowest in Asia (Table 9). Another factor is the current account deficit. Pakistan's national savings rate is significantly lower than other developing countries in Asia. One reason for the low national savings is the low rate of government savings (ranging between 2 to 4% of GDP between FY2004 and FY2007)[19] which in turn is on account of the country's low tax-to-GDP ratio. Therefore, a strategy to ensure macroeconomic stability and sustainable levels of competitiveness in the future must entail an increase in the tax-to-GDP ratio.

Table 9: Pakistan's Tax, Investment, and Savings Rate (2007)

Indicator	Pakistan	India	China	Indonesia	Malaysia	Thailand
Investment	23.0	38.2	32.4	24.9	23.1	29.9
Tax	10.2	18.0	18.3	12.4	14.8	16.9[a]
Domestic savings	16.0	35.1	50.0	28.9	37.1	33.4
National savings	17.8	37.2	54.5	26.1	36.2	32.0

[a] For 2006.
Note: All figures are given as a percentage of gross domestic product.
Source: Report by the Panel of Economists, 2009. *Growth Strategies and Development Priorities*.

[19] *Financial Stability Review* (2006), State Bank of Pakistan.

7 Enhancing Export Competitiveness: Issues and Recommendations

This section looks at the broader issues crucial for export competitiveness, and relates this to the level of skill development and infrastructure faced by all export-oriented sectors of the country, as well as the poor business environment and lack of government support for businesses and market development. In the following analysis, we first look at the issues and problems encountered by the export sector at large and then provide recommendations for the medium term.

7.1 Skill Development

In terms of skill development, Pakistan's performance has been low relative to other developing countries. During the period 1990-2006, overall labor productivity in Pakistan grew by a modest 1.29 % (Table 10). This is quite low compared with labor productivity growth in other developing countries like India, Bangladesh, Malaysia, Indonesia, and Thailand. During the 1990s, total factor productivity growth in the manufacturing sector was only 1.64% due to low and falling levels of investment (Chaudhry, 2009).

Strong growth in productivity is essential for sustaining the competitiveness of those industries in which the country has comparative advantage and for attaining comparative advantage where productivity levels are low relative to competitor countries. Given that Pakistan's labor force is young and expected to grow at 3% per annum in the foreseeable future, an effective policy toward skill development would also enable the country to reap the potential of the demographic dividend.

Table 10: Annual Average Labor Productivity Growth (1990-2006)

	Bangladesh	India	Indonesia	Korea	Malaysia	Pakistan	Singapore	Sri Lanka	Thailand	China
Overall	2.92	3.38	2.99	3.93	2.69	1.29	3.34	2.84	3.61	9.07
Manufacturing	4.05	-1.1	3.09	8.76	5.11	2.08	5.29	1.74	2.6	1.97

Source: Asian Productivity Organization (2009).

Recommendations

This study proposes that Pakistan implement a strategy for skill development which aims to significantly reduce the country's skill deficit in the next five years (Box 4). The implementation should be through public-private partnerships. In working out a modality for such initiatives, the government should consider supply-side interventions such as technical training grants to institutions (managed by either the public or private sector) that meet eligibility criteria for such support. Of particular importance in such an intervention would be a transparent and competitive bidding process for access to funding. Demand-side interventions could take the form of training vouchers for those seeking technical training in disciplines of their choice.

A large increase in skill training capacity is crucial indeed but it is equally important that the government ensures the quality of skills being acquired. To this end, we recommend that a system of international certification be adopted. Only a credible certification system will have acceptance and ensure the quality and relevance of training.

7.2 Reducing the Cost of Doing Business

In Pakistan, the high cost of doing business is largely the consequence of two factors: (i) an unfavorable business environment, and (ii) inadequate physical infrastructure. The former entails policy-specific issues, as well as cumbersome requirements for complying with a wide range of government rules and regulations.

Box 4: Skill Development Program: A Medium-Term Vision

If Pakistan is successful in developing and implementing an effective skill development program, the country will be able to harness the demographic dividend. The aim of such a program should be to provide within the next five years a pool of trained and skilled workforce. Some specific recommendations for achieving this are as follows:

- Create an adequate pool of skilled personnel in line with the requirements of export sector industries with particular emphasis on the sectors identified in Section 2.
- Assess skill deficits by sector and develop programs to meet these gaps through a concerted effort.
- Ensure that skill training is implemented such that supply-side responses are in line with the demand-side impulses emanating from the market.
- Facilitate proactive private sector involvement through public sector incentives for managing and running skill development initiatives.
- Emphasize the skill development of new entrants in the labor force.

Business Environment

Specific factors related to an unfavorable environment which increase the cost of doing business in Pakistan are as follows.

Government Short-Sightedness, Economic Uncertainty, and Policy Unpredictability: Private sector investment projects usually require a long-term focus. Unfortunately, the government's short-sightedness in policymaking and the subsequent unpredictability of future outcomes has made the country's investment climate highly uncertain. This discourages innovation and entrepreneurial risk-taking by the private sector and leads to the nonoptimal allocation of resources.

Inefficient Tax Structure for Businesses: The inefficient provincial and local tax structures also raise the cost of production. The same tax base is subjected to multiple taxes by different tiers of the government. For example, general sales tax is levied by the federal government, professional tax by the provincial government, and a professional fee by local governments on a wide array of businesses.

Labor Levies: Private businesses are required to contribute toward various workers' benefit schemes according to different legislations enacted both federally and provincially. Some examples of such payments include compulsory salary bonuses, group insurance, workers welfare funds, social security, and provident funds, etc. According to some estimates, such contributions add an additional 25% to the wage bill. These payments act as taxes, some on profits and others on the payroll. This increases the cost of doing business by a substantial amount, while the benefits actually received by the workers are relatively small. Furthermore, such levies deter formal employment and de-motivate small employers from expanding their scale of production.

Weak Contract Enforcement: The legal and judicial system provides weak contract enforcement with lengthy delays and high litigation costs. A trust deficit prevails in many industries. Consequently businesses, especially SMEs, prefer to deal with only a handful of trusted buyers and suppliers which in turn leads to inefficiencies such as market segmentation, raising the cost of organizing large-scale production, and discouraging business development. In Pakistan, in case of default, it takes on average 3 years and costs 24% of the total claim to be granted redress, which is better than other South Asian countries (India takes 4 years) but much worse than East Asian countries like Thailand where it just takes over a year to resolve claims at only 12.3% of the total cost of the claim[20].

Recommendations

Rationalize Administrative Regulations: To this end, the degree of regulation should be reduced, the multiple tax structure corrected, and the accountability of public functionaries strengthened. This will not only reduce the cost of doing business but will also help in curbing (i) opportunities for rent seeking by political and bureaucratic functionaries, and (ii) the potential for arbitrary exercise of discretionary powers.

Improve the Legal System: Businesses need a timely, efficient, and effective system of administration of justice, which requires

[20] Pakistan Growth and Export Competitiveness, World Bank (2006) .

judges who are better qualified, suitably educated, skilled in commercial matters (corporate, banking, and tax laws), and appropriately trained to implement clearly drafted procedures and rules on the imposition of costs for wasting the courts' time and for effective case management. Businesses should take recourse to the courts only as a last resort; this requires feasible options such as alternative dispute resolution. Presently, however, the law pertaining to arbitration is basically defective as decisions by arbitrators are not binding and can be reversed by the courts.

Eliminate Delays in Tax-Related Refunds and Customs Duty Drawbacks: These undermine the competitiveness of Pakistan's export sector. A transparent, rule-based tax refund system should be implemented and interest payments at market rates made mandatory on delayed refunds. This would bring pressure to bear on the Revenue Department and its functionaries to reduce delays. Such a system would ensure that compliant exporters have access to a fast-track system whereby noncompliant exporters face the risk of stringent assessments, which would eventually create incentives for compliance.

Infrastructure

Poor physical infrastructure has been a major factor hampering the competitiveness of Pakistan's export sector. Inadequate repair and maintenance has resulted in the deterioration of physical infrastructure, and inefficiencies in the public sector utilities have contributed to high costs, thus eroding the competitiveness of domestic manufacturers.

Power Supply: Despite efforts to encourage efficient utilization of energy resources, the technical, financial, and operational efficiency of the power sector has continued to deteriorate, resulting in costly yet unreliable power supply. According to the World Bank (2005), most respondents in a survey identified the problems of power supply as a major obstacle to business expansion. It is estimated that a typical business in Pakistan loses on average 5.6% of annual output due to power outages as compared with less than 2% for the average plant in China. Given the high frequency of outages over the last two

years, these losses have increased considerably. According to a more recent estimate, the cost of outages owing to the acute shortage of power was approximately 9% of value added in the industrial sector, representing a 7% loss in industrial output.[21]

Transport: The poor quality of Pakistan's transport network continues to be a major problem faced by the industry sector. Lack of repair and maintenance of existing roads have resulted in the rapid deterioration of the road network. It is also estimated that 70% of the national road network is in "fair to poor" condition, whereas 90% of the provincial network in Punjab is rated "fair to poor." Poor road conditions not only lead to delays but also result in the excessive wear and tear of transport vehicles, contributing to high transport costs. The railway network is also riddled with inefficiencies. The unsatisfactory state of the transport network has imposed enormous costs on the economy. The World Bank (2006) estimates that transport sector inefficiencies cost the economy 4 to 5% of GDP annually (see also Section 7.3 below).

Prioritization of Investments: Investments in economic infrastructure and better management and maintenance of existing assets are critical. However, given the severe resource constraints, the export sector should be given priority in the allocation of existing capacity (power and gas) and with regard to infrastructure investment decisions. For example, infrastructure investments should, in the first instance, be targeted at industrial estates and export industry concentrations/clusters such as Sialkot.

7.3 Trade Facilitation

The Global Enabling Trade Index (2009) measures the factors, policies, and services facilitating the free flow of goods over borders and to destinations. The index comprises four broad areas: (i) market access, (ii) border administration, (iii) transport and communications infrastructure, and (iv) the business environment. Pakistan has been ranked at 100 among the 121 countries studied for the report,

[21] State of the Economy: Emerging from the Crisis, Second Annual Report, 2009, Institute of Public Policy, Beaconhouse National University, Lahore.

highlighting the government's dismal performance in trying to create a conducive environment for exports. The following sections identify the problems faced in areas (ii) and (iii) and then suggest targeted steps for improving the situation in the medium term.

Border Administration

Compared to more efficient countries, such as India, Malaysia, and Thailand, Pakistan requires on average up to 70% more days to export anything (Table 11). The inefficiency of export procedures in terms of time taken and documents required is an indicator of the government's attitude toward exports in general. There is need to adopt modern, simplified, and transparent export procedures. Cumbersome procedures for exporting goods have developed over the years primarily in order to check under-invoicing during the time when there was a substantial difference between the official and black market exchange rates. Today, in the open market, there is a negligible premium on the official exchange rate and there is no need for the existing complicated and time-consuming procedures. Unlike other measures, this proposed deregulation of export procedures puts no strain on the government's limited resources, nor will it result in any loss of government revenue.

Table 11: Efficiency of Export Procedures

Country	Documents to Export (Number)	Time to Export (Days)
Pakistan	9	24
India	8	17
China	7	21
Malaysia	7	18
Thailand	4	14

Source: The Global Enabling Trade Report 2009, World Economic Forum.

Logistics

The logistics performance index ranks Pakistan at 68 out of 150 countries, which is relatively better than many other countries.

However, the country is ranked at 90 in terms of domestic logistic costs and 88 in terms of timeliness, highlighting two areas of weakness.

Challenges facing the local logistics industry include developing efficient less-than-truck-load and less-than-container-load supply chains to serve SMEs, and offering an integrated supply-chain management service with real-time cargo monitoring and Internet-based transactions. This, however, requires changes in customs procedures.

In Pakistan, rail freight is more expensive and less efficient than road, and therefore caters to less than 10% of cargo movement in the country. Creating an efficient rail-freight service requires outsourcing to a private operator through competitive bidding, with the concessionaire carrying the responsibility for managing goods terminals so that shippers can count on an efficient door-to-door service which is presently unavailable.

Air freight is particularly important for nontraditional exports such as fish, horticulture, and floriculture. Incentives to facilitate and stimulate private sector investment in cold storages and handling facilities at airports and seaports will facilitate the export of these agro-products.

7.4 Business Support Initiatives

The proposed export strategy relies heavily on SMEs to move up the technology ladder in exports. This in turn requires encouraging the growth of export industrial clusters and facilitating the establishment of business support centres and common facilities for medium and small exporters.

Export Industry Clusters: According to The State of Pakistan's Competitiveness Report 2009, there has been significant cluster development across many sectors of the economy. The most prominent is the surgical instruments cluster in Sialkot. Other examples include marble and granite, gems and jewellery, leather, horticulture, dairy, furniture and textiles clusters. Cluster development has improved access to technology and has facilitated

business activity. There is a need to make support for such clusters the cornerstone of the export promotion strategy.

Common Facility Centers (CFCs): The government, in consultation with the exporters associations concerned, should identify technological bottlenecks/constraints in specific export sectors and establish CFCs to provide these services. Rice exporters, for instance, do not have access to a DNA testing facility. Similarly, basic facilities pertaining to heat treatment, precision, and material testing are not available in-house to SMEs. There are already a number of existing CFCs, such as the Gujranwala Tools, Dyes, and Moulds Center, but there is need to establish more of these on a priority basis. The location of these centers should be matched with industry-specific area clusters to facilitate access.

Seed Money: Under the World Trade Organization regime, R&D support is the only permissible subsidy. Given the fiscal constraints, government intervention should target industries that have the highest export growth potential (identified in Section 3) instead of providing R&D support to all exporters. The government could explore different alternatives such as allocating more R&D funds to specific industries and/or help them by providing funds for marketing initiatives (discussed below).

7.5 Market Development Initiatives

Image Building and Export Facilitation through Off-Shore Expo-Centers: Since 2001, Pakistan's international image has suffered as a result of terrorism and the ongoing war in Afghanistan. In addition, because of travel advisories by various countries and terrorist incidents in major cities, international buyers are reluctant to visit the country. These factors have adversely impacted Pakistan's exports. To address these problems and facilitate Pakistan exporters, we recommend setting up off-shore regional expo-centers in the Middle East, Europe, North America, and East Asia. These should be located in natural regional hubs such as the UAE in the Middle East, Hong Kong in the Southeast Asia, and in the UK or Germany in Europe. These expo-centers should be designed to provide a "cost-effective" way for Pakistani exporters and industry associations to open off-

shore sales/liaison offices, display their products and organize industry-specific exhibitions as needed. The expo-centers would also house the government's trade offices and operate as a point of contact for importers in the region for information on Pakistani products, as well as for buyers' complaints and other issues. These expo-centers should be set up as a public-private partnership, and their physical establishment and management outsourced through a transparent, competitive process.

Pakistani Diaspora: So far, there has been no organized effort to benefit from overseas Pakistani communities in market development. Overseas Pakistani communities can be an important asset for export promotion, both as a market as well as in the marketing of Pakistani products. In many countries, entrepreneurs of Pakistani origin own/manage small shops as well as large national retail chains. These entrepreneurs need to be identified and targeted to help in export promotion efforts in their country of residence. We recommend that the government initiate the preparation of such market development strategies for countries with large Pakistani communities.

Table 12: Summary Matrix of Recommendations

Issues	Policies	Investments
1. Product and Market Diversification		
There is a high degree of product concentration, but market concentration is no more than other countries.	For products, focus promotion efforts on "dynamic" products, i.e., champions and underachievers. For markets, focus efforts on improving access to (i) large developed markets, e.g., US and EU, and (ii) large dynamic markets, e.g., India and China.	Details of investments required to expand exports in products and markets identified here are given in items 2 to 8 below.
2. Agro-Based Exports		
The potential of agro-based exports has not been realized because of the inability to comply with the sanitary and phytosanitary requirements, weak marketing infrastructure, and excessive and inconsistent government intervention in marketing of agricultural products.	Reduce government intervention in agriculture markets. Reform agricultural marketing laws and regulations.	In partnership with the private sector, strengthen marketing infrastructure; Set up quality testing and certification facilities; Revitalize seed industry with focus on hybrid and genetically modified seeds; And promote links with international supermarket chains such as Metro.
3. Higher-Technology Exports		
Low (less than 10%) share of medium and high technology exports in total exports and stagnation in medium technology exports because of a specialized skills	Support partnerships between firms and research institutions; Improve safeguards for intellectual property rights to promote investment in R&D;	Emulate Taiwan's SME-led export growth strategy. This requires investments to promote: SMEs, particularly in the engineering sector;

deficit, lack of infrastructure for production of high technology exports, low level of R&D and weak protection of intellectual property rights.	And give priority to medium and higher technology industry clusters in power and gas allocations.	R&D in support of SMEs through cost sharing/credit; And Common facilities for higher-technology export clusters.
4. Skills Development		
The nature and level of skills required is rapidly changing; Pakistan's performance has been low relative to other countries; And there is a need to reduce the skills deficit in the next five years.	Adopt a skill development strategy that emphasizes new entrants in the labor force; Creates pool of skilled personnel in line with the requirements of export industries; Ensures that supply-side initiatives for skill development are responsive to market demand; And ensures the quality of skills imparted by adopting internationally recognized certification systems.	Skill development should be through public-private partnerships, particularly a skill development fund that supports: Supply-side interventions: grants to public and private technical training institutions; Demand-side interventions: vouchers for individuals; Quality assurance: grants and subsidies for independent skill testing and certification institutions.
5. Cost of Doing Business		
Unfavorable business environment as a result of Government's short-sightedness, economic uncertainty, and unpredictable policies; Complicated tax structure; Numerous labor levies; Weak contract enforcement; And poor physical infrastructure.	Improve policy predictability; Simplify and rationalize business regulations; Improve judicial system dealing with commercial issues and increase availability of alternate dispute resolution services; Introduce a system for expeditious tax refunds and customs duty drawback; And prioritize	Expand the number of commercial courts and judges dealing with commercial cases; Establish alternative dispute resolution facilities with necessary staff in all large cities; Undertake infrastructure investments targeted at industrial estates and export industry clusters.

	allocation of power and gas to export industry clusters.	
6. Trade Facilitation		
Cumbersome export procedures: one of the worst performers in the world. Inadequate transport network, resulting in one of the highest domestic costs in the world.	Adopt simplified and transparent export clearance procedures. Encourage private sector involvement in movement of cargo by rail. Develop rules for transit trade (by land) in close coordination with neighbors.	Establish a logistics improvement fund to support the development of efficient less-than-truck-load and less-than-container-load supply chains for SMEs and the development of integrated supply chain management services. Facilitate investment in cool chain and handling facilities for agro-exports at air and sea ports.
7. Business Support Initiatives		
Lack of business support services for small and medium exporters.	Promote the development of export industry clusters to facilitate business activity and access to technology.	Invest in business support centers to provide finance, marketing, human resource development, and information services; And common facility centers targeting industry-specific clusters.
8. Market Development Initiatives		
Inadequate market access, poor image, and weak linkages with international market networks.	Use overseas Pakistani communities as an asset for marketing country's exports.	Invest in offshore expo-centers at regional hubs for market development, export facilitation, and image building.

9. Supportive Policy Framework		
Trade regime continues to have significant anti-export bias. Persistent overvaluation of the exchange rate has undermined export competitiveness. Repeated episodes of macroeconomic instability have adversely impacted export competitiveness.	*Trade policy:* Reduce tariff dispersion by lowering the maximum customs duty rate and eliminating exemptions and concessions on protected sectors. *Exchange rate policy:* Goal should be a zero balance on goods and services account. This will require an annual average real depreciation of 6% for the next five years *Macroeconomic stability:* Increase the tax-to-GDP ratio to control fiscal deficits and finance investment in the needed infrastructure.	

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Appendix A: Forecasting Exports

The following two-step procedure has been used to forecast Pakistan's export performance over the next five years.

A significant relationship between world trade and world GDP[22] exists, and the first step entails establishing the relationship between Pakistan's exports and world GDP.

Elasticity of Pakistan's Exports to World GDP (Results)

Specifying the Model

$$dYw = \ln\left({Yw_t}/{Yw_{t-1}}\right)$$

where Yw = world GDP and t = 1980-2008

The following model is estimated to obtain the elasticity Pakistan's exports to world GDP:

$$\ln dXp_t = \delta + \gamma \ln dYw_t + \mu_t$$

where δ is constant and γ is elasticity. (2)

Results

Regression of Pakistan's Exports on World GDP (1980 to 2008)

	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
1980-2008						
dYw |	1.39	0.33	4.16	0.00	0.70	2.07
1980s						
dYw |	1.24	0.38	3.29	0.01	0.37	2.10
1990s						
dYw |	1.32	0.26	5.16	0.00	0.73	1.91
2000s						
dYw |	1.33	0.35	3.78	0.01	0.50	2.16

[22] A recent World Bank study by Freund (2009) finds a statistically significant elasticity of world trade to world GDP equal to 1.77 over 1960 to 2008.

Forecasting Pakistan's Exports

Results from step two indicate a strong link between Pakistan's exports and world GDP. Therefore, as a final step, we use the elasticity[23] of Pakistan's exports to world GDP and projections of world GDP provided by Table A.1 to obtain baseline projections for Pakistan's export volume over the next five years, using both 2008 and 2009 as base years (Table A.2).

Table A.1: Projections of World GDP (US$ million)

	2009	2010	2011	2012	2013	2014
World GDP growth rate	-1.059	3.012	4.194	4.441	4.56	4.543

Source: *World Economic Outlook*, October 2009.

Table A.2: Projections of Pakistan Exports (US$ million)

Year	Base Year 2008	Base Year 2009
2008	21,214.00[a]	21,214.00[a]
2009	20,915.21	18,350.00[a]
2010	21,778.10	19,107.06
2011	22,992.88	20,172.85
2012	24,350.97	21,364.37
2013	25,827.80	22,660.08
2014	27,388.37	24,029.24

[a] Actual

Source: Actual from BOP, State Bank of Pakistan, 2010.

[23] Elasticity figure of 1.33 for the period 2000-08.

Appendix B: Estimating Exchange Rate Overvaluation

This appendix draws on Ahmed (2009).

Defining the Real Exchange Rate

For a small open economy with two sectors, a tradable and a nontradable sector, the real exchange rate (ER) is defined as the relative price of tradable goods with respect to nontradable goods:

$$ER = PT/PN \quad (1)$$

where *PT* and *PN* are domestic price indices for tradables and nontradables, respectively. A major drawback of this definition is that it is difficult to calculate in practice. For the purposes of this study, the following operational version of this definition is employed:

$$ER_{it} = {}^{E_{it}WPIUS}/_{CPI_{it}} \quad (2)$$

where E_{it} is nominal exchange rate, the US wholesale price index (WPIUS) is taken as a proxy for the price of tradables while the domestic consumer price index (CPI_{it}) is used as a proxy for the price of nontradables (Domac and Shabsigh, 1999).

Given this definition, an increase in this ratio implies a real depreciation and hence an improvement in the country's international competitiveness, while a decrease implies a real appreciation or loss in international competitiveness.

Specifying an Empirical Model

In what follows, we specify an empirical model for estimating the equilibrium real exchange rate (Equation 3) and discuss the relationship between the real exchange rate and explanatory variables as predicted by theory *a priori*.

$$\ln RER_t = \alpha + \beta_1 \ln TOT_t + \beta_2 LIB_t + \beta_3 \ln GC_t + \beta_4 AST_t + \beta_5 REMIT_t + \beta_6 FDI_t \tau D + \mu_t \quad (3)$$

Where: TOT = terms of trade, LIB = liberalization index (X+M)/GDP, X = exports, M = imports, GC = government spending, AST = foreign long term assistance as a percentage of GDP, REMIT = remittances as a percentage of GDP, FDI = green field investment only, as a percentage of GDP, RER = real exchange rate, D = 1 for 1997, D = 2 for 2000, and D = 0 otherwise[24], α = constant, β = long-run parameter

Terms of Trade: This is defined as the ratio of the domestic price of exports to the domestic price of imports. The final impact of an improvement in terms of trade is likely to depend on the relative magnitude of income and substitution affects. If the income effect dominates the substitution affect, an improvement in terms of trade is likely to cause the real exchange rate to appreciate.

Trade Policy Stance: An increase in openness due to a reduction in trade restrictions such as tariffs, taxes, subsidies, and quotas is likely to depreciate the real exchange rate. Due to the unavailability of data on trade restrictions, "openness" (defined as the ratio of imports plus exports over GDP) is used as a proxy for Pakistan's trade policy stance.

Government Consumption: An increase in the government consumption of nontradable goods is likely to increase their demand and hence their price, leading to a real exchange rate appreciation. Due to the unavailability of data on government consumption of nontradable goods, total government consumption is used as a proxy for this measure (Edwards, 1989).

Capital Inflows: According to the Dutch Disease theory, an increase in capital inflows is likely to appreciate the real exchange rate (Figure B.1). Alternatively, an increase in capital controls is likely to depreciate the real exchange rate.

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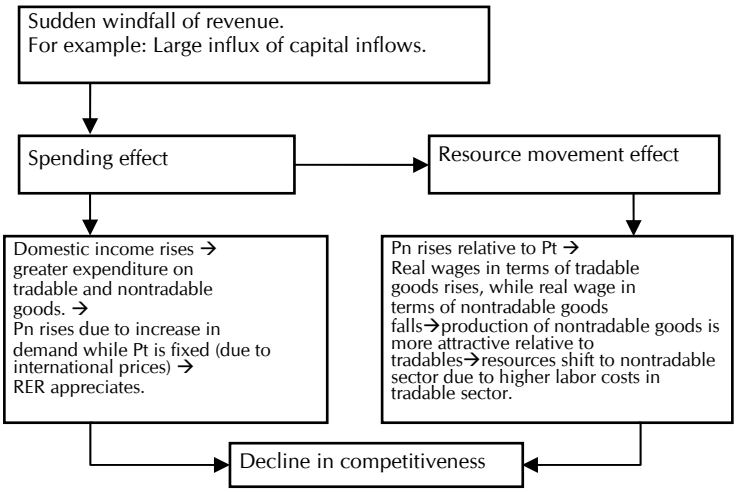
[24] In the aftermath of Pakistan's nuclear tests in May 1997, followed by the imposition of economic sanctions, the nominal exchange rate depreciated sharply from PRs43/USD to PRs50/USD in 1998. In 2000, a shift in the exchange rate regime from a managed float to a free float led to a sharp depreciation of the nominal exchange rate from PRs51/USD to PRs58/USD.

Figure B.1: Dutch Disease and Capital Inflows



Defining Misalignment

As a final step, we compute exchange rate misalignment to calculate the extent of deviation (or otherwise) in the real exchange between 1972 and 2009 using the following index:

$$Missalignment\ index = {}^{RER_t - ERER_t}/_{ERER_t}$$

An index value of 0 implies that the actual real exchange rate is fairly valued. A positive (negative) index value implies that the actual real exchange rate is undervalued (overvalued) relative to the equilibrium rate.

Estimation Results

Results predict that all variables are significant at 5% (Table B.1). Of the capital flows, remittances and long-term lending are weakly exogenous (implying that reverse feedback effects from the real exchange rate to these variables can be ruled out). The negative sign on all categories of capital flows are in line with the Dutch Disease theory.

Table B.1: Long-Run Parameter Estimates for Pakistan.

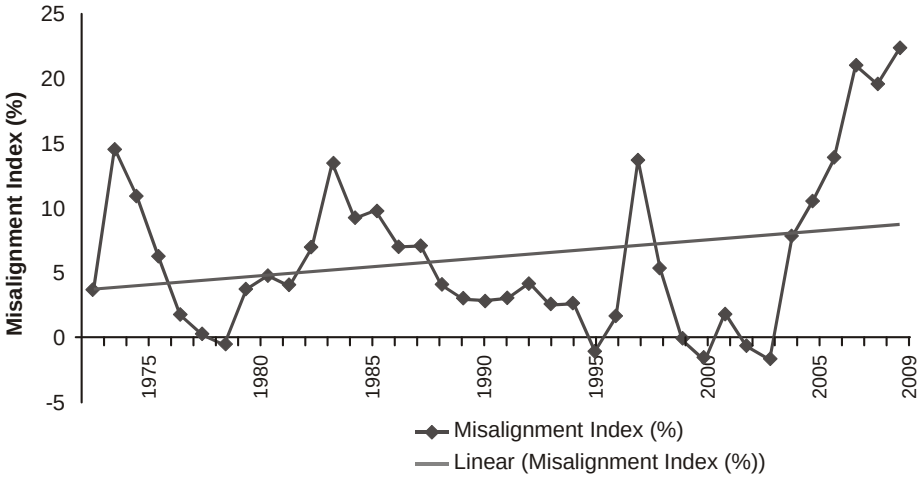
Variable	Coefficient	Z	P>|z|
Constant	-0.052		
LnGC	-0.400	29.5	0.000
LnTOT	-0.060	2.6	0.008
LIB	-0.900	2.6	0.009
ASST (% of GDP)	-3.500	2.7	0.000
REMIT (% of GDP)	-2.400	3.0	0.006
FDI (% of GDP)	-15.100	3.5	0.003

Note: The model employs four lags, a constant, and no trend.

More specifically, our results predict that a one-unit increase in receipts of long-term lending (as a percentage of GDP) will appreciate the real exchange rate by 3.5%, ceteris paribus. A one-unit increase in remittances (as a percentage of GDP) will appreciate the real exchange rate by approximately 2.5%, ceteris paribus. While the negative coefficient of FDI is in line with theory, the direction of the relationship between the real exchange rate and FDI flows could not be established. Overall, we can conclude that the Dutch Disease hypothesis holds and that capital flows and remittances have resulted in a decline in international competitiveness.

Moreover, the real exchange rate has remained overvalued for the most part over the sample period ranging from 1972 to 2009. Estimation results suggest that, on average, the real exchange rate was overvalued by approximately 4.1% during the 1970s, 7.0% during the 1980s, 3.0% during the 1990s, and 9.0% in the current decade. Clearly, there has been an increasing trend in real exchange rate overvaluation; real exchange rate overvaluation between FY2007 and FY2009 was 21% (Figure B.2).

Figure B.2: Degree of Real Exchange Rate Misalignment, 1972-2009



Note: A negative (positive) index value implies overvaluation (undervaluation) but for the purposes of Figure 2, the index has been inverted to explicitly depict a rising trend in exchange rate overvaluation over the past few years.
Source: Ahmed (2009).

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