

DECODING THE EAST ASIAN SUCCESS AND UNLEASHING FDI'S POTENTIAL TO BOOST LOCAL LEARNING: DEVELOPING A POLICY ROADMAP FOR PAKISTAN

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ABSTRACT

This research seeks to distil lessons from East Asia's FDI-driven learning models to propose tailored policy recommendations for Pakistan, focusing on sustainable export-led growth. Foreign Direct Investment (FDI) stands as a critical catalyst for economic growth, especially in export-driven strategies, as demonstrated by the success stories of East Asian Economies. These nations have effectively utilized FDI to drive technological advancements, bolster local industrial capabilities, and foster innovation. In contrast, Pakistan faces significant challenges in attracting impactful FDI due to barriers such as high import tariffs, non-tariff barriers, limited domestic investment, and insufficient human capital. The study categorizes East Asian experiences into cohorts, examining diverse policy approaches ranging from Japan's post-war reconstruction to China's dominance in manufacturing. Insights from Hong Kong and Singapore underscore the effectiveness of liberal market policies and strategic investments in infrastructure and technology parks, highlighting the importance of creating an attractive business environment to stimulate FDI inflows. Intellectual Property Rights (IPR) play a dual role: while robust protection attracts FDI by safeguarding intellectual assets, their impact on spillovers varies. Countries like Japan and South Korea benefit from strong IPR regimes, fostering innovation and technology transfer. Similarly, a favourable investment environment, indicated by high Gross Fixed Capital Formation (GFCF), amplifies FDI spillovers, reflecting robust domestic investment climates essential for absorbing foreign technologies. Additionally, effective legal systems facilitate contract enforcement and protect investor rights, enhancing FDI's transformative potential, as seen in Singapore and Japan.

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INTRODUCTION

1.1 Background and Context

Foreign Direct Investment (FDI) has emerged as a vital driver of economic growth, particularly in the context of export-oriented strategies. The success stories of East Asian economies like South Korea, Japan, and China have demonstrated the transformative potential of FDI in boosting local industries' productivity and innovation. This research project seeks to decode the strategies employed by these economies and devise a policy roadmap for Pakistan to leverage export-oriented FDI for local learning and economic advancement.

Extensive literature establishes the significance of FDI for economic development. Export-led growth, a hallmark of East Asian economies, emphasizes the role of FDI in driving technological advancements, improving local industrial capabilities, and fostering innovation. The experiences of these economies offer valuable insights into the mechanisms through which FDI promotes technology transfer and capacity building in domestic industries.

Pakistan faces several challenges that hinder its trade competitiveness and lack of sustained growth in exports both in terms of quantity and movement up the value chain. Pakistan's FDI has stalled since the past decade and it has been relying heavily on a few bilateral arrangements mostly to keep it afloat. However, there is a great opportunity for FDI to be a catalyst for economic growth, given there are a favourable set of circumstances. FDI backed by the right policies can steer the economy on a sustainable path towards export-led economic growth with an emphasis on knowledge creation and innovation.

1.2 Purpose and Scope of the Study

This study carries out a comparative analysis of the East Asian economies aiming to reveal the existing gaps in Pakistan's policy and highlighting areas that need to be addressed for sustainable export-oriented economic growth. It aims to provide policy recommendations and a roadmap to attract export-oriented FDI in Pakistan that leads to enhancement in local firms' productivity, know-how and capacity to innovate.

Research Questions:

- What role did FDI play in the East-Asian economies success and how can that serve as a model for export-led growth in Pakistan?
- What are the influencing factors, both passive and active, that shape the impact of FDI on enhancing domestic industry competitiveness, including the transfer of technology and know-how?
- How did the economic policies and labour strategies in East Asia contribute to the attraction of FDI and impact its spillovers effects?
- What are the primary factors underlying Pakistan's trade competitiveness challenges?
- How can the insights gained from the experiences of East Asian economies be effectively applied to shape and inform Pakistan's trade, R&D, and FDI policies for sustainable economic growth and increased global competitiveness?

LITERATURE REVIEW

2.1 Economic Growth Models and Role of Technology, Knowledge, and Innovation

Over the years, economists and researchers have tried to explain the concept of economic growth. Until the 1970s the neoclassical models of analysis were used to explain economic growth. These models include accumulation of labour, capital, and other factors of production with diminishing returns to scale. In them the economy converges to a steady state equilibrium where the level of per capita income is determined by savings, investment, depreciation, and population growth, but with no permanent income growth.

At the heart of many studies, investment in technology is considered as the main driving force of growth (Smith, 1776). Indeed, investment in technology has been considered fundamental in growth models (Solow, 1957 cited in Nelson, 2005). These growth theories, however, consider technology to be an exogenous factor (Nelson, 1998, 2005). However, more recent literature has pointed towards a different approach in analysing growth by focusing on the mechanisms through which countries adopt technologies at a firm or industry level. Hence from the 1980s and onwards many papers have focused on endogenizing the factor of technology.

Nelson (1998) is one of the first who guides us towards a 'new agenda for growth theory' by the very same principle. He argues that the 'immediate' causes of growth (like investment in technology) are not sufficient in explaining growth and lack some fundamental elements that are underlying the process of adopting technologies. Nelson (2005) divides the theories of growth with regards to the newly industrialized economies (NIEs) into two broad categories, 'accumulation' and 'assimilation' theories. The Former focuses on investment as the key driver towards economic growth rather than adoption of technology. It stresses that countries will move along their production functions. Whereas the latter (i.e. assimilation theories) focus on entrepreneurship, learning and innovation as key elements that explain growth.

2.2 The Role of FDI in Industrial Transformation and Economic Growth

McDougall (1960) was the first author who systematically discussed external effects (spillovers) among the possible consequences of FDI. Other early studies (Cokden, 1967; Caves, 1971) identified the costs and benefits of FDI. More recent literature however has explicitly identified FDI as a source for transfer of technology.

Some early studies on this (Lundvall & Johnson, 1994; Maskell & Malmberg, 1999) guide us to a new way of understanding the economy, not merely in terms of input-output relations of factors of production, rather the economy as a dynamic mechanism; firms acquire knowledge, learn to innovate and these have far-reaching consequences on the performance of the economy. Lall (1993) explains FDI to be the most dominant form of resource and technology transfer from developed to developing countries. 'It is the most packaged form of technology transfer, combining the provision of capital with technical know-how, equipment management, marketing and other skills' (Lall, 1993, p.95). Knowledge flows occur whenever an idea generated by one institution is learned by another institution (Peri, 2005). Therefore, knowledge flows are often described as learning.

Lall (1993) distinguishes two main categories of technology transfers, 'internalized' and 'externalized' forms. Internalized forms refer to that investment where the control of business

activities resides primarily with the foreign partner (as in the case of FDI). Externalized forms include licensing, international subcontracting, and joint ventures with local control (may be referred as non-FDI forms). In the internalized forms of transfer the transferor has a 'significant and continuing stake in the success of the affiliate, allows it to use its brand names and to have access to its global technology and marketing networks, exercises control over the affiliate's investment technology and sales decisions, and sees the affiliate as in integral part of the global strategy.' (Lall, 1993, pp. 97). Whereas in externalized forms one of or all the aforementioned features are missing. The decision of whether the transfer of technology will be internalized or externalized has a lot to do with the nature of the technology, capability of the buyer and host government policy.

Altenburg & Meyer-Stamer (1999) find that clusters of firms dominated by foreign firms tend to stimulate upgrading of local firms by involving them in the supply-chain of transnationals. An important aspect in this is the nature of expertise transferred and how that can help in the local firms upgrading. Hobday (1995) highlights the importance of local subsidiaries exchanging know-how with MNCs and how that contributed to the East Asian success. (This aspect is especially important in the discussions to follow and points us towards a new direction which countries like Pakistan can focus on).

Specific forms of subcontracting known as 'Original Equipment Manufacturer' (OEM) and 'Original Design Manufacture' (ODM) became an important export channel during the 1980s (Hobday, 1995). Subcontracting in OEM involves suppliers building a product to the specifications of the foreign buyer (MNC) and the buyer selling it under its own brand name. The advantage of this to the supplier is that it can avoid the costs of marketing and distributing the product. Moreover, the latecomer firms in the markets may not be able to compete with the established brands therefore OEM becomes a safer channel. Through the process of subcontracting via OEM, technical know-how (design specifications) is transferred to the supplier and often "involves the foreign partner in selection of capital equipment and training of managers, engineers and technicians as well as advice on production, financing and management".

At times, the informal means of learning that take place in an economy are the most crucial in acquiring technology. Copying or gradual improvements are often the ways through which new ways of doing things are learnt. This is indicative of the nature of knowledge and the mode of transfer of knowledge itself. This does not however mean that formal means of learning such as R&D activities are of no use. Rather, underlying them too perhaps are these less talked about aspects that need to be taken into consideration while devising policy.

Human capital is commonly recognized as a vital contributor to sustained economic growth through the positive externalities stemming from knowledge spillover, as initially proposed by Romer (1986). Economic research has indicated the potential existence of a causal connection between a nation's openness to foreign investment and the accumulation of human capital. This argument rests on the premise that inward FDI positively influences a country's reservoir of skilled labour due to the diffusion of advanced technology and new knowledge.

2.3 Knowledge Spillovers and National Absorptive Capacities

Foreign direct investment (FDI) is one of the main drivers of technological learning and innovation in developing countries. FDI can bring new technologies, knowledge, and skills to the host country,

and create spillovers for domestic firms and industries. However, the magnitude and direction of these spillovers depend on various factors, such as the characteristics of foreign investors, the absorptive capacity of local firms, and the institutional environment of the host country.

One of the main channels through which FDI can affect domestic firms is through horizontal spillovers, which occur when local firms in the same industry or sector learn from or imitate the technologies, processes, or management practices of foreign affiliates. Horizontal spillovers can arise from various sources, such as demonstration effects, labour mobility, competition effects, or linkages with suppliers and customers. However, the empirical evidence on horizontal spillovers is mixed and inconclusive, as it depends on several factors, such as the absorptive capacity of local firms, the technological gap between foreign and domestic firms, the degree of market competition, and the characteristics of foreign affiliates.

Another channel through which FDI can affect domestic firms is through vertical spillovers, which occur when local firms in upstream or downstream industries benefit from the presence of foreign affiliates. Vertical spillovers can result from backward linkages, when foreign affiliates source intermediate inputs from local suppliers, or forward linkages, when foreign affiliates sell their output to local customers. Vertical spillovers can enhance the productivity, quality, and innovation of local firms by providing access to advanced technologies, standards, training, information, and markets. The empirical literature generally finds positive and significant effects of vertical spillovers on host country firms.

To develop capabilities, an economy must increase its 'absorptive capacity' (Cohen & Levinthal, 1990)- one of the earliest uses of the term. Absorptive capacity means the presence of relevant infrastructure, ability to understand and comprehend new forms of technology and being able to adapt to changes. This capacity can only be increased over time by encouraging the domestic firms to employ new methods of production and respond to global technological advancements. There are many factors that affect the nature, speed and extent of knowledge transferred. These include the level of cognitive abilities of the local workforce, the competition that prevails in the market to begin with.

Kinoshita (2000) uses cross-country data from 25 developing countries from 1970 to 1990 to investigate the impact of FDI on technological progress (measured by total factor productivity growth) in developing countries. He found that FDI had a positive effect on technological progress, but that this effect was stronger for backward linkages than for forward linkages. He explained this result by suggesting that backward linkages were more likely to involve technology transfer than forward linkages, which were more likely to involve market access.

Other recent studies have also examined the effects of FDI on different aspects of technological learning and innovation in developing countries. For example, He et al. (2019) used a meta-analysis of 40 empirical studies to identify the determinants of FDI forward spillovers in developing countries. He found that FDI forward spillovers were influenced by factors such as the absorptive capacity of local firms, the technological gap between foreign and domestic firms, the ownership structure of foreign affiliates, the mode of entry of foreign investors, and the institutional quality of the host country.

Similarly, Behera (2014) used panel data from Indian manufacturing industries from 1991 to 2008 to analyse the impact of FDI on productivity and innovation spillovers for domestic firms in India. He found that FDI had a positive effect on productivity spillovers, but a negative effect on innovation spillovers. He argued that FDI could create both competition and cooperation effects for domestic firms, depending on their absorptive capacity and technological gap.

Studies carried out in Pakistan on this have varying results (Ahmad et al., 2014; Iqbal et al., 2014; Khan et al., 2012; Mahmood, 2012; Mustafa & Malik, 2023; Yasmin et al., 2022; Shah et al., 2020). At a firm level, Hussain (2017) was the first to investigate the effects of FDI on productivity of local firms in Pakistan, with results showing that FDI and other control variables, capital intensity, economies of scale, firm's size and firm's age have a positive and significant impact on labour productivity in Pakistan.

2.4 Competing Evidence

Some studies have also questioned this transfer of technology and know-how between foreign firms and their subsidiaries (e.g. Perez, 1997; Cantwell, 1989; Guiliani, 2008). They have stressed on governments focusing on broadening the local knowledge base rather than relying on horizontal and backward linkages for local firms' up-gradation. Aitken and Harrison (1999) use panel data on Venezuelan plants find that foreign investment in plants negatively affects the productivity of local firms. Haddad & Harrison (1993) conclude from a Moroccan manufacturing study that spillovers do not take place in all industrial sectors. Blomstrom (1986) also concludes that foreign presence does not lead technology spillovers.

Zaman et al. (2012) in their research indicate that while FDI has positively impacted Pakistan's economic growth in the long run, trade liberalization and its interactive terms positively affect short-term growth but negatively impact long-term growth. The results suggest that due to the low quality of human capital in Pakistan, the direct effect of FDI on economic growth turns negative.

Ali et al. (2012) look at the impacts of technology spillovers on total factor productivity in Pakistan for the manufacturing sector and find that foreign R&D capital stock and imports of capital goods positively impact, while FDI has a negative effect. Additionally, the current quality of education negatively affects per capita GDP, highlighting the need for quality education and market-driven skills for economic growth.

2.5 Conclusion on Literature

The literature on this issue points at a clear direction of FDI-led knowledge spillovers in host countries and the potential to build the capacity of local firms provided the right set of circumstances and policies are in place. There are benefits to be attained through the promotion and fostering of FDI in high value-added sectors of the economy. In the case of Pakistan, this study places emphasis on the promotion and development of such inward FDI. While there are many benefits of looking at firm-level data, availability and time-restrictions have moved this study towards a macro-economic overview of the East Asian nations with a sectoral breakdown and selective case analysis to extract a roadmap for Pakistan.

Literature on FDI spillovers and their determinants in Pakistan is thin, if not non-existent, when compared to global literature on this. Most of the literature regarding Pakistan is available on

determinants of FDI inflows, and FDI's impact on economic growth. In general, FDI-driven technology spillovers have not been studied extensively for the country, and the determinants or mediating factors of these spillovers seem to be missing in literature.

Most empirical studies on the effects of FDI spillovers are firm-level studies conducted on single countries, with the aim of analysing domestic firms' characteristics to estimate FDI spillovers (see Behera, 2014; Hong et al., 2016; Li et al., 2001; Liang, 2017; Ni & Kato, 2020; Park & Xiao, 2016). There are a small number of studies which investigate the host country characteristics as enablers of FDI spillovers. For instance, Havranek & Irsova (2011) and Meyer & Sinani (2009) apply meta-analyses on estimates from the existing firm-level empirical literature to observe cross-country differences between FDI spillovers. Farole & Winkler (2014) estimate the impacts of host country characteristics and institutional frameworks as factors of FDI spillovers by combining firm-level outcomes with country-level aggregates on a cross-sectional dataset of World Enterprise Surveys.

To our knowledge, there are no studies which solely look at country-level outcomes using host country indicators and panel data. Another motivation of using panel data is to avoid the issue of reverse causation, i.e., foreign investment may be attracted towards a country with some unobservable characteristics which may correlate with country-level productivity measures. By using country fixed effects, we capture the effects of these unobservable characteristics

The literature reviewed still has room for a systematic assessment of policies and national circumstances needed to have optimal absorptive capacity and support the diffusion of technology from advanced economies (especially with regards to the lessons learnt from East Asia). Furthermore, an assessment from the point of view of a struggling developing economy like Pakistan that is seeking to attain similar growth patterns will provide layers of additional details, often ignored or taken for granted in analyses originating from advanced economies.

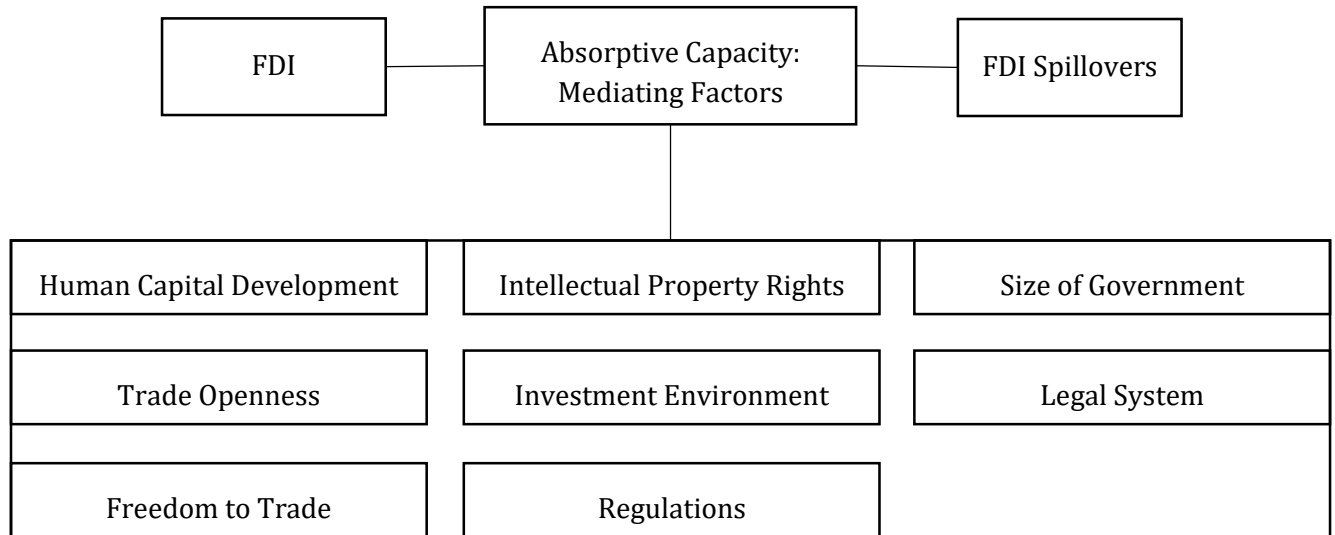
METHODOLOGY

3.1 Overview and Analytical Framework

This approach chosen aims to provide a comprehensive understanding of the multifaceted dynamics associated with FDI-driven innovation and economic growth. The qualitative component offers nuanced insights into mechanisms and strategies, while the quantitative analysis ensures statistical validity and identifies broader trends and their potential applicability to Pakistan's context. The research methods employed in this study allows the researchers to explore a country-level policy analysis, case studies within specific industries, and a macro-economic analysis on factors influencing knowledge spillovers through FDI.

This analytical framework illustrates the interaction between Foreign Direct Investment (FDI) and economic growth through the mediating factor of absorptive capacity. The central element, absorptive capacity, represents the ability of a country to effectively utilize FDI spillovers, which are the beneficial effects of FDI beyond direct investment. Absorptive capacity is influenced by several mediating factors, including human capital development, intellectual property rights, trade openness, investment environment, freedom to trade, regulations, size of government, and the legal system. These factors collectively determine how well a country can absorb and benefit from FDI. The framework suggests that a country's economic growth from FDI is contingent on the strength of these mediating factors, indicating that improvements in these areas can enhance the positive impact of FDI on economic growth.

Figure 1: Analytical framework



3.2 Phases of Research

3.2.1 Comparative Policy Analysis of East Asian Economies

In the **first phase**, historical trajectories, policy frameworks, institutional setups, and industrial development strategies of East Asian economies are studied and compared. A timeline analysis maps the progression of FDI-related policies and industrial growth. A policy comparative study identifies commonalities and differences in policy approaches. The comparative analysis focuses on a diverse

set of East Asian economies, including China, Japan, South Korea, Singapore, Hong Kong, Taiwan, Philippines, and Indonesia. To facilitate the analysis, economies are combined into distinct cohorts¹: Each cohort represents economies with shared characteristics and timelines enabling a focused analysis to identify reasons for economic success. This phase uses Timeline Analysis, Policy Analysis, Case Study Identification, and Success factor identification.

3.2.2 Case Study of Successful FDI-Driven Industries

The **second phase** of research analyses existing case studies of specific industries within East Asian economies that have effectively leveraged foreign direct investment (FDI) to enhance local learning, innovation, and industrial growth. The researchers identify one case study based on preliminary screening carried out in phase 1. The aim is to provide detailed insights into the mechanisms of technology transfer, knowledge diffusion, and local capacity building. Strategies, and outcomes of FDI-driven initiatives are examined offering valuable lessons that can be applied to similar sectors in Pakistan. This phase investigates *Technology Transfer Mechanisms, Collaboration Models, Upgradation of Local Industry, and Policy and Regulatory Support*.

3.2.3 Econometric Model: Role of mediating factors

The **third phase** uses a statistical model which aims to estimate the effects of macro-indicators and institutional characteristics on technology spillovers of host countries through foreign direct investment in a sample of 45 Asian and African countries from 2000 to 2019. Following the methodological approach taken by Farole & Winkler (2014) and Blalock & Gertler (2009), our main econometric model for LP is given as:

Equation 1

$$LP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 (MF \times \ln FDI)_{it} + \beta_3 \ln CI_{it} + \alpha_i + \gamma_t + \varepsilon_{it}$$

Where LP_{it} is the natural logarithm of labour productivity. Labour productivity is defined as the volume of output produced per unit of labour, or specifically, GDP divided by employed people (ILO, 2020). GDP is measured as the Output-side real GDP at current PPPs (in mil. US\$ at 2017 prices) and employed people are measured as the number of persons engaged (in mil.) in a country i at time t . $\ln FDI_{it}$ represents the natural logarithm of inflows of foreign direct investments (FDI) in current US\$ adjusted by population size (in million) (World Bank, 2024). While other firm-level studies use foreign presence in industries/sectors to estimate FDI spillovers in domestic firms [insert empirical studies here], we use FDI inflows in a host country interacted with host country characteristics to estimate FDI spillovers. This helps us to identify the effects of the host country characteristics on TFP, moderated by FDI inflows. $\ln CI_{it}$ is the capital intensity of a country i in time t . This is obtained by dividing capital stock at constant prices with the number of people employed (in millions) of a country i in time t . We include this variable as a control because labour productivity is mainly determined by capital intensity (Farole & Winkler, 2014). α_i are country fixed effects and γ_t are year fixed effects.

Furthermore, we also take total factor productivity level in current purchasing power parities of a country i in year t (TFP_{it}) as a dependent variable to measure productivity of a country, which is

¹ Cohorts are categorized as follows: Cohort 1: Japan, Cohort 2: Hong Kong, Singapore, Cohort 3: Philippines, Malaysia, Indonesia, Thailand, Cohort 4: China, Vietnam.

obtained from Penn World Table (ILO, 2020). It is defined as the share of output not explained by the inputs, where output of a country i at year j is measured through Real GDP and inputs are measured by capital and labor. A Törnqvist production function is estimated using constant returns to scale to measure TFP (see Feenstra et al. 2025 for details). However, since TFP is calculated for the overall country, we cannot distinguish between the productivity of foreign and domestic firms or across different sectors.

MF_{it} are mediating factors, which are described below:

- 1) HC_{it} measures human capital of a country i at time t according to the Human Capital Index created by Penn World Table, which serves as a proxy for absorptive capacity of a country (ILO, 2020).
- 2) TO_{it} represents trade openness which is equal to the sum of imports and exports divided by GDP of a country i at time t (Multiple sources compiled by World Bank (2024) – processed by Our World in Data).
- 3) IPR_{it} is the intellectual property rights protection index proxied by the number of patent applications filed both by residents and non-residents and adjusted by population size (in mil.) in a country i at time t (World Bank, 2024). We choose this proxy because better IPR protection incentivizes firms and individuals to apply for more patents (Zhang, 2019).
- 4) IE_{it} is the investment environment measured by gross fixed capital formation as % of GDP in a country i at time t (World bank, 2024).
- 5) The following mediating factors are sub-indices obtained from Fraser Institute’s Economic Freedom of the World report (2023), with values ranging from 1 to 10:
 - a. SG_{it} is the size of government sub-index, which measures government interference in economic activity in a country i at time t .
 - b. LS_{it} is the legal system and property rights sub-index, which measures protection of private property and rule of law in a country i at time t .
 - c. FT_{it} is the freedom to trade internationally sub-index, which measures trade freedoms in a country i at time t .
 - d. RE_{it} is the regulations sub-index, which measures government regulations on businesses in a country i at time t .

3.3 Data Sources

The qualitative analysis of cohorts uses various literature and secondary sources cited individually. Quantitative analyses are based mainly on the following data sources: The World Bank, World Development Indicators; Asian Development Bank Data Bank; Wards Intelligence Data Center; State Bank of Pakistan, Economic Data; Groningen Growth and Development Centre, 2023, Penn World Table; Fraser Institute’s Economic Freedom; ILO; Penn World Table by Groningen Growth and Development Centre.

FINDINGS FROM EAST ASIA

4.1 Macro-Economic Analysis of East Asian Economies

4.1.1 Economic Growth Trends

Section 4.1 identifies and analyses the different decades of growth among the East Asian economies under consideration. It sheds light on the various decades of growth and provide clarity and context for the subsequent sections.

Starting from the 1960s, the world has borne witness to the emergence of East Asian economies marked by robust economic performance and the steady improvement of living standards, often described as the 'East Asian miracle.' The period spanning from 1965 to 1990 witnessed East Asia surpassing all other global regions in terms of the average growth in gross domestic product (GDP) per capita.

Table 1: Decades of growth (% GDP growth)

		1951-60	1960-69	1970-79	1980-89	1990-99	2000-09	2010-19
1	Japan	8.0%	10.4%	4.5%	4.3%	1.6%	0.4%	1.2%
2	Hong Kong	9.2%	8.9%	9.0%	7.4%	3.6%	4.2%	2.9%
	Singapore	5.4%	8.9%	9.2%	7.8%	7.2%	5.4%	5.0%
	South Korea	5.9%	9.5%	10.5%	8.9%	7.3%	4.9%	3.3%
3	Philippines	6.5%	5.0%	5.7%	2.1%	2.8%	4.5%	6.4%
	Malaysia	3.6%	6.5%	8.2%	5.9%	7.2%	4.8%	5.4%
	Indonesia	4.0%	3.5%	7.2%	5.8%	4.3%	5.1%	5.4%
	Thailand	5.7%	7.8%	7.5%	7.3%	5.2%	4.3%	3.6%
4	China	10.7%	3.3%	7.4%	9.7%	10.0%	10.4%	7.7%
	Vietnam	N/A	N/A	N/A	4.5%	7.4%	6.7%	6.6%

Source: World Bank (2024) & University of the Philippines & Philippine Economic Society (2008).

East Asia's economic landscape has dramatically transformed over recent decades, becoming a pivotal force in the global economy. This shift began in the 1960s with the emergence of newly industrialized economies like Hong Kong, China; the Republic of Korea and Singapore. These nations, inspired by Japan's export-driven industrialization model, transitioned from typical developing countries to dynamic economic powerhouses. This wave of growth was later joined by ASEAN members such as Indonesia, Malaysia, and Thailand, followed by the rise of major players like China,

who embraced market-oriented reforms and opened their economies to global trade and investment. Countries like Viet Nam are now following similar paths. Table 2 shows the economic growth patterns decade wise, with green indicating decades of high average GDP growth. It is noteworthy how growth has transitioned from cohort 1 to cohort 4, with one country handing over the reins to the next emerging one, also known as the flying geese model.

Table 2: sectoral real GDP growth rate 1960-2010 (%)

Economy	(1960-1980)				(1980-2000)				(2000-2010)			
	A	I	S	Agg	A	I	S	Agg	A	I	S	Agg
China	3.62	6.41	0.57	3.23	4.88	10.89	10.95	9.4	4.11	10.86	10.52	10
Hong Kong									-3.71	-2.77	4.38	3
Indonesia	3.59	8.36	5.89	5.88	2.78	6.18	5.42	5.21	3.39	3.99	6.77	5.1
South Korea	2.79	12.03	6.01	6.62	2.4	8.31	6.63	6.87	1.35	5.32	3.59	4.2
Malaysia	4.59	8.05	8.9	7.55	2.01	7.6	6.54	6.37	2.89	2.85	6.35	4.5
Philippines	4.06	6.56	4.76	5.28	1.57	1.44	3.1	2.25	2.81	4.1	5.43	4.7
Singapore	2.01	9.16	7.84	8.25	-4.29	6.87	7.52	7.24	-4.31	5.08	5.78	5.5
Thailand	4.61	9.92	7.4	7.31	2.67	7.89	5.47	5.96	2.07	5.18	3.7	4.3
Vietnam					3.65	8.67	6.74	6.4	3.52	8.7	7.09	7
Pakistan	3.59	8.11	6.26	5.52	4.13	5.77	5.4	5.12	2.63	5.91	5	4.7

*Note: *A: Agriculture; I: Industry; S: Services; Agg: Aggregate
Source: Park & Shin (2012).*

4.1.2 Foreign Direct Investment in East Asia

Historically, the primary sources of Foreign Direct Investment (FDI) in Asia were Japan and advanced nations in Europe and North America, as illustrated above. However, in recent years, emerging Asian economies, notably Hong Kong, China; the People's Republic of China (PRC); the Republic of Korea (ROK); and Singapore, have rapidly emerged as significant contributors to FDI in Asia. Currently, more than 45% of FDI inflows to developing Asia come from within the region, indicating a notable shift in investment patterns in the Sectoral and Industrial Growth of East Asia.

In 2017, East Asia claimed the largest portion of intra-regional FDI, accounting for 56.1%, followed by Southeast Asia at 27.2%. The increasing integration of trade within the region is supported by a consistent rise in intra-regional FDI, particularly from Japan, the PRC, and the ROK to the broader Asian region, with a focus on ASEAN countries.

Many of these investments are directed towards local or regional markets, driven by the expanding middle class and robust purchasing power in the ASEAN market. As a result, there is a growing trend of goods and products from these investing countries being manufactured and marketed within ASEAN, rather than being imported. This shift contributes to the declining share of Japan in the overall ASEAN trade.

Firm-level data suggest that, historically, greenfield investments² were the dominant mode of entry for multinationals investing in Asia, accounting for an annual average of 65% of total investments in 2003– 2017.

Table 3: Net inwards FDI (% of GDP)

		1970-79	1980-89	1990-99	2000-09	2010-19
1	Japan	0.0%	0.0%	0.1%	0.2%	0.3%
2	Hong Kong	2.3%	4.8%	6.2%	21.9%	35.6%
	Singapore	5.8%	9.7%	12.0%	16.7%	22.0%
	South Korea	0.7%	0.4%	0.7%	1.2%	1.0%
3	Philippines	0.5%	0.5%	1.7%	1.4%	1.9%
	Malaysia	3.1%	3.2%	5.8%	3.0%	3.4%
	Indonesia	1.9%	0.4%	1.2%	0.5%	2.1%
	Thailand	0.6%	1.0%	2.6%	3.3%	2.2%
4	China	0.0%	0.5%	4.0%	3.7%	2.4%
	Vietnam		0.0%	6.8%	5.2%	4.7%

Source: World Bank (2024).

4.1.3 Summarizing East Asia's Economic Growth Trends

This sustained growth has positioned East Asia at the forefront of the global economic stage, outshining mature economies and other developing regions. A key result of this growth has been a significant reduction in poverty. Asia's economic expansion has been fuelled by a blend of factor accumulation (notably in labour and capital) and productivity growth. The shift of labour from agriculture to more productive manufacturing sectors, combined with a youthful workforce, heavy investment in education, and labour market flexibility, has significantly boosted the region's productivity and growth.

4.2 Policy Analysis: The East Asian Cohorts

In this section of policy analysis, the paper delves into the economic journeys of the East Asian nations under consideration, examining their unique paths to development and the policy pathways chosen to get there. The study is structured around four distinct cohorts, each representing a group of countries with similar developmental trajectories and policies.

4.2.1 Cohort 1

4.2.1.1 Japan

Post World War, Japan's economy was destroyed but what remained was a desire to build back better. Following the war, Japan faced the stark reality of having lost over a quarter of its industrial capacity, leaving behind a surplus of depreciated capital stock that served no practical purpose. This unique situation provided Japan with the opportunity to swiftly embrace a plethora of new

² In a green-field investment, a parent company creates a new operation in a foreign country from the ground up. This often includes large-scale investments in acquiring/leasing land, building plants, purchasing machinery to the parent company's own specifications.

technologies without the need to wait for existing assets to undergo complete depreciation, thus aiding Japan's eager drive for fresh beginnings and innovation.

This research places Japan in cohort 1 as the leader of the East Asian nations that developed over the last half of the 20th century. It is often easy to label this growth and progress as a 'miracle' or 'exception' at the risk of not understanding the critical paths and processes of development. During the period spanning from the 1970s to the 1980s, Japan embarked on a dedicated path of export-oriented industrialization, strategically luring Foreign Direct Investment (FDI) by cultivating favourable business environments and investing in robust infrastructure. To facilitate FDI, the government established Export-Import Banks and extended incentives to foreign enterprises. However, in subsequent years, Japan transitioned towards a more domestic-focused growth model, diminishing its reliance on FDI. Simultaneously, Japan made substantial investments in Research and Development (R&D) and technological innovation, with key support from government agencies such as the Ministry of Economy, Trade, and Industry (METI). By fostering collaborative research and partnerships with foreign companies, Japan aimed to promote technology transfer and innovative advancements.

4.2.2 Cohort 2

4.2.2.1 Hong Kong

Hong Kong has consistently maintained an open and liberal market, earning its reputation as an FDI hub. It achieved this status by offering low taxes, minimal government intervention, and strategic access to the vast Chinese market. Throughout this period, Hong Kong's FDI policies remained relatively stable. The city-state predominantly directed its focus toward its flourishing financial and service sectors, drawing talent and knowledge workers from around the world. Moreover, it established science and technology parks to nurture innovation and facilitate technology transfer, albeit with a limited presence in domestic manufacturing. Instead, Hong Kong played a pivotal role in finance and logistics, contributing to regional innovation.

The economic landscape of Hong Kong has undergone a significant transformation, evolving into a highly service-oriented structure. Hong Kong, once dominated by domestic merchandise exports, emerged as a re-export-oriented economy. Domestic goods exports, which averaged 48.9 percent in the early 1980s, plummeted to a record low of 12.1 percent during 1996-98. Concurrently, the share of re-exports more than doubled, reaching 71 percent in 1996-98. Service exports experienced substantial growth, increasing from HK\$29.2 billion in 1980 to HK\$264.7 billion in 1998. The significant relocation of the manufacturing industry to China in the 1980s and early 1990s played a pivotal role in this industrial transformation. Hong Kong's manufacturing sector, primarily focused on producing light consumer goods with low technology content, faced challenges due to rising land and labour costs. Consequently, firms restructured and relocated labour-intensive production processes to Mainland China, capitalizing on cheaper resources. This strategic move allowed them to enhance cost efficiency and competitiveness without diversifying into capital- or technology-intensive goods.

4.2.2.2 Singapore

Singapore, adopted a proactive approach to attract FDI by offering incentives, tax breaks, and regulatory support to multinational corporations (MNCs). This endeavour was bolstered by the establishment of industrial parks and substantial investments in infrastructure. Over time, Singapore transformed into a global financial and technology hub, with a robust focus on education and R&D. This concerted effort led to its evolution into a knowledge-based economy. Initiatives like the 'Research, Innovation, and Enterprise 2020 Plan' underscored the nation's commitment to fostering innovation. Singapore strategically positioned itself as a technology and innovation hub, promoting technology transfer through government support and collaborative endeavours with various stakeholders.

Between 1960 and 1992, Singapore's GNP experienced a thirteenfold increase, propelling the nation from the 33rd highest per capita income globally in 1965 to the 17th position by 1992, surpassing countries like Spain, New Zealand, and Ireland (World Bank, 1994). Full employment has been sustained since 1973, and absolute poverty is virtually non-existent. Gini coefficients for individuals hovered around 0.46 in the mid-1980s.

From 1970 to 1979, manufactured exports emerged as the driving force behind Singapore's growth. The proportion of direct manufactured exports to GDP surged from 12.7% in 1966 to nearly half in 1979 and nearly three-fifths in 1992. From the 1970s to the 1990s, Singapore witnessed consistent economic growth, earning recognition alongside Hong Kong, South Korea, and Taiwan as one of the "Four Tigers" driving Asian economic prosperity. During this period, labour-intensive industries were shifted to other ASEAN nations, making way for the emergence of high-technology industries and services. The People's Action Party (PAP) played a pivotal role in fostering a stable, corruption-free government characterized by robust central development planning and social policies. Despite occasional paternalistic and authoritarian practices, along with one-party dominance, the PAP retained a substantial popular mandate. This era saw the development of a distinct Singaporean identity, separate from the Malay and Chinese identities, as the nation increasingly integrated itself into the global economy.

Singapore has become a significant recipient of Foreign Direct Investment (FDI), with average annual inflows reaching nearly US\$25 billion since 2007. While some restrictions on foreign direct investments persist in specific sectors like broadcasting/news media, legal services, and retail banking, Singapore actively promotes investment through a range of tax and non-tax incentives. These incentives aim to stimulate local companies to expand, engage in international production, invest in research and development (R&D), training, and seize procurement opportunities. Additionally, incentives are provided to encourage companies to establish their global or regional headquarters in Singapore, fostering technology and knowledge transfer and enhancing the city-state's appeal as a services hub. State ownership remains substantial in key sectors such as electricity, telecommunications, transport, and ports, facilitated through enterprises in which Temasek holds shares.

4.2.2.3 South Korea

Over the past five decades, the Republic of Korea swiftly transitioned from a low-income to a high-income status. Since in the early 1960s, the economy experienced rapid growth, propelled by

competitive export-oriented manufacturing, substantial investment, increased educational attainment, and a growing working-age population. This growth was supported by deep structural policies, institutional improvements, sound macroeconomic strategies, and a focus on industrialization through export competitiveness.

South Korea's trajectory saw an initial reliance on state-led development with limited FDI. However, it subsequently shifted towards a more open FDI policy, leading to the liberalization of FDI regulations, the provision of investment incentives, and the establishment of export-processing zones. This shift aimed at actively attracting FDI to bolster export-oriented industrialization. Concurrently, South Korea pursued technology transfer with a sense of urgency through state-led initiatives. Government agencies like the Korea Institute of Science and Technology Evaluation and Planning (KISTEP) and the Korea Institute for Advancement of Technology (KIAT) played pivotal roles in supporting innovation and technology startups. South Korea's conglomerates, known as chaebols, also played a significant part in technology transfer and the cultivation of innovation, contributing to the nation's remarkable growth in these domains.

4.2.3 Cohort 3

4.2.3.1 Philippines

Soon after its independence from the US in 1946, the Philippines enacted the policy of import substitution, leading to an increase in import substituting FDI. The US was the biggest investor due to certain privileges provided by the laws, focusing earlier on investments in trade and public utilities but shifting towards manufacturing by the late 1960s. The 1970s saw a decline in FDI due to political and economic instability in the country which led to a focus on liberalization and deregulation to attract FDI. In the mid 1980s, the Philippines government policy was characterised by economic liberalisation with a focus on trade and investment, and with the associated privatisation of government-controlled companies. The 1990s were characterised by sector-wise reforms in the financial and transportation sectors of the economy, followed by enactment of the Foreign Investment Act of 1991. The Act removed most restrictions on the extent of foreign ownership in export enterprises, as well as foreigners could invest up to 100% equity in selected industries. In the mid-1990s, the Philippines started developing special economic zones under the Philippine Economic Zone Authority to promote FDI.

In recent times, the Philippines has become a services-oriented economy, with services generating 61% of GDP. Manufacturing's share has declined due to trade reforms, impacting international competitiveness. While service exports, particularly business processing outsourcing, have thrived, manufacturing struggles to maintain market share.

4.2.3.2 Malaysia

The Malaysian government in the early 1960s mainly focused on import substitution FDI to meet local demand, however, due to its small population, the economies of scale were limited. Malaysia's FDI policy heavily relied on tax holidays, with the industrialization policy primarily centered around the Pioneer Industries (Relief from Income Tax) Ordinance of 1958, later replaced by the Investment Incentives Act in 1968, which emphasized employment creation and economic diversification. Favouring a strategic shift from import substitution to export orientation, specific industries were

targeted for investment, especially in the semiconductor industry. In the mid-1980s, generous incentives were introduced to revive FDI inflows, including the 1986 Promotion of Investment Act. Tax incentives, investment tax allowances, and infrastructure allowances were provided, encouraging FDI in manufacturing, agriculture, and other sectors. Malaysia also promoted sequential investing and encouraged the establishment of Free Zones for export-oriented manufacturing, allowing for minimal customs controls, duty-free imports, and streamlined customs facilities, with 100 percent foreign ownership permitted in these zones.

4.2.3.3 Thailand

Thailand's foreign investment policies evolved over time in line with the country's changing development strategies. Initially, high tariff barriers attracted foreign Multinational Enterprises (MNEs) seeking to establish assembly production for the domestic market. This was followed by a second wave of Foreign Direct Investment (FDI) in the late 1980s, driven by favourable unit labour costs, exchange rates, and export promotion policies, leading to the establishment of export-oriented platforms for foreign investors. These policies created a clear divide between domestic market-oriented and export-oriented production, shaping FDI patterns in the country. Firms with export-oriented projects enjoyed fewer restrictions, tax incentives, and import duty exemptions, while those focusing on the local market faced restrictions, minority ownership requirements, and land leasing limitations. Thailand's policies towards FDI remained relatively stable, eventually leading to the gradual liberalization of restricted sectors, a process that accelerated during economic crises. The Board of Investments (BOI), established in 1954 and tasked with implementing investment policies and offering fiscal incentives, played a key role in implementing investment policies, granting fiscal incentives, and easing restrictions on foreign investment. Over time, policies reflected both import substitution and export promotion strategies, with the imposition of tariff surcharges aimed at protecting promoted firms.

CASE: Despite enduring global economic crises, the Thai automotive industry exhibited robust growth, particularly in the production of pickup trucks and part exports. Mr. Vallop Tiasiri, President of the Thai Automotive Institute (TAI), played a pivotal role by providing strong leadership and fostering collaboration between Foreign Direct Investment (FDI) and local firms, effectively linking them with policymakers.

Bridging Local Auto Part Suppliers and Japanese FDI Auto Makers the Technology Promotion Association (TPA), an independent non-profit organization founded by Thai students who studied engineering in Japan, has been pivotal in promoting Japanese management practices, technology, and language to Thai individuals for nearly four decades. In 2007, it established the Thai-Nichi Institute of Technology. Meanwhile, the Thai Automotive Institute (TAI), initially a government-created entity but now financially autonomous, designs automotive master plans and implements policies. Under the Automotive Human Resource Development Program (AHRDP, 2006), firms like Denso, Honda, Nissan, and Toyota collaborate to teach lean production, mould & die techniques, skill certification, and Toyota Production System (TPS) principles to Thai suppliers, bolstered by support from organizations such as JICA and JETRO.

4.2.3.4 Indonesia

Over the years, Indonesia's policy stance towards inward investment has been closely tied to developments in the oil sector, leading to fluctuations in attitudes towards foreign investors. Initially, in the late 1960s, the country had relatively liberal FDI policies under the Foreign Capital Investment Act of 1967. However, stringent conditions were imposed on inward investment during the 1970s, coinciding with increased oil revenues and domestic resistance. With declining oil revenues in the late 1980s, Indonesia recognized the potential role of FDI in economic development, leading to a new investment promotion drive from 1986 onwards. This drive included relaxing limits on foreign ownership, facilitating investment licensing procedures, and further liberalization in May 1994, allowing full foreign ownership and reducing the number of sectors closed to foreign investors. The policy shifts were part of broader economic reforms, emphasizing trade policies, state-owned sectors, and financial sector liberalization. The periods of import substitution industrialization, which has remained a dominant goal of the government, were followed by a shift towards export orientation. The overall shift towards deregulation and outward-orientation since the mid-1980s emphasized export promotion as a key goal of FDI policy.

Todo & Miyamoto (2006) use firm-level data from Indonesia to examine the impact of FDI on knowledge spillovers and the role of local R&D activities in Indonesia. They found that FDI had a positive effect on knowledge spillovers, but that this effect was stronger for local firms with higher R&D intensity. They suggested that local R&D activities enhanced the absorptive capacity and complementarity of local firms, which enabled them to benefit more from the knowledge provided by foreign affiliates.

4.2.4 Cohort 4

4.2.4.1 China

China has experienced significantly faster growth than the global average, particularly post-1978. Consequently, China's share of the world economy, measured nominally, has surged from under 2 percent in 1978 to 18.4 percent in 2021. In 1952, manufacturing represented the smallest sector, contributing less than 20 percent to the national GDP. However, by 1975, it surpassed agriculture and the service sector to become the largest sector, accounting for 46 percent of the national GDP. China's adoption of import substitution, a prevalent policy for developing countries at the time, distinguished itself through a high saving rate (25–30 percent) and rigorous planning. Despite being one of the world's poorest nations, China effectively channelled savings into targeted sectors, establishing a comprehensive industrial base by 1978 and transitioning from an agrarian to an industrializing society.

Beyond industrial development, China also improved the education and health of its citizens, following a distinct approach from India which focused more on higher education. China's strategy proved successful in the early stages of economic growth, especially when there was a demand for unskilled workers. Post-1998, as China entered the middle-income stage (officially becoming a middle-income country in 2002), it expanded higher education to meet the growing need for skilled workers.

Today, more than 80% of FDI in China is greenfield investments, and most FDI is in the manufacturing industry. By 2001, FDI in manufacturing made 70% of the total FDI projects, 56% of the total amount of FDI, and 60% of the total amount of registered capital in FDI in China.

Kimura (2012) uses firm-level data from Chinese electrical and electronics industry from 1998 to 2007 to analyse the effect of FDI on the growth of local firms in China. He found that FDI had a positive effect on the growth of local firms in terms of sales and employment, but a negative effect on their profitability and productivity. He attributed this result to the competition effect of FDI, which forced local firms to lower their prices and increase their output, but also reduced their profit margins and efficiency.

Feng (2009) uses firm-level data from China to examine the impact of FDI on innovation output and input of domestic firms. He found that FDI had a positive effect on innovation output (measured by patent applications), but a negative effect on innovation input (measured by R&D expenditure). He explained this paradox by suggesting that FDI could induce two types of innovation behaviour among domestic firms: imitation or innovation. He argued that imitation was more likely to occur for backward linkages than for forward linkages, as backward linkages provided more opportunities for learning from foreign affiliates, while forward linkages provided more incentives for innovation to meet the demand of foreign affiliates.

4.2.4.2 Vietnam

Since the implementation of *doi moi* (economic renovation), Vietnam has undergone remarkable industrial growth. “Doi moi” refers to Vietnam's economic renovation policy initiated in 1986. This policy marked a shift from a centrally planned to a socialist-oriented market economy. It aimed to introduce economic reforms, liberalize trade, encourage foreign investment, and improve productivity. The objective was to boost economic growth, enhance industrialization, and modernize various sectors of the Vietnamese economy. The policy has been crucial in transforming Vietnam into one of the fastest-growing economies in the region.

Despite facing severe economic challenges stemming from the collapse of the Soviet Block, the Asian financial crisis, and the more recent global financial crisis, industrial value-added has exhibited an impressive average annual growth rate of 8.3 percent (between 1986 and 2012), marking an 8.6-fold increase over this period. This swift industrial development spurred transformative shifts in the economy. The manufacturing industry's competitiveness witnessed substantial enhancement, accompanied by a diversification in its structure. In the late 1990s, a predominant share of the country's exports comprised rice, oil, and food, collectively constituting over half of the export basket, with no presence of high-tech exports. However, by 2012, the share of these three commodities had diminished to around one-quarter, while manufactured goods commanded nearly 70 percent of the export composition, including a noteworthy 15 percent classified as high-tech products.

4.3 Analysis of East Asian Economies and Pakistan's Economic Growth

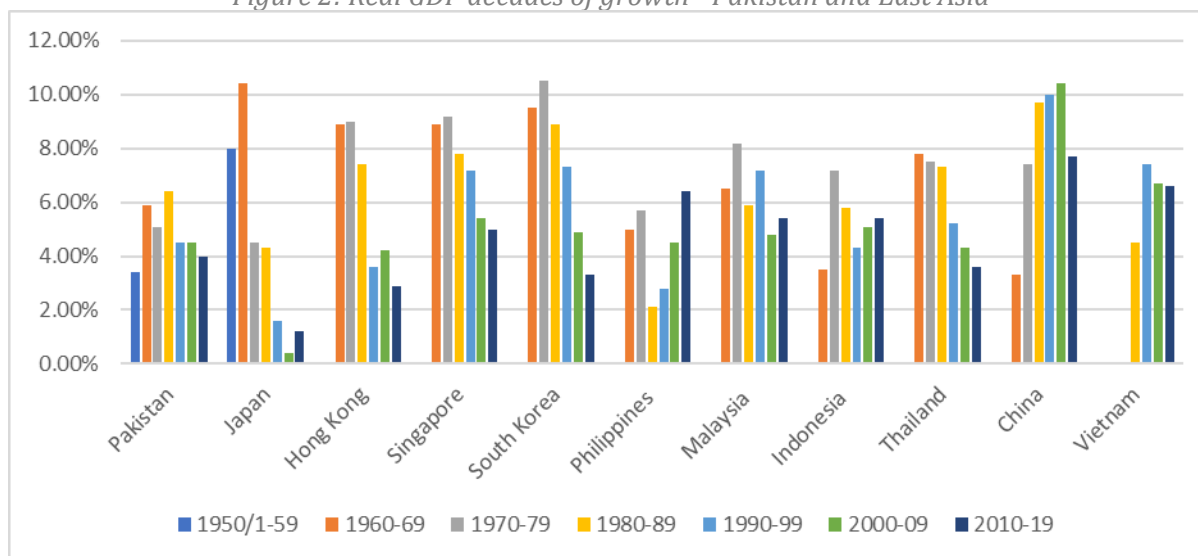
4.3.1 Pakistan's Macro-Economic Comparison with East Asia

During the 1960s, Pakistan's average GDP growth exceeded that of the Philippines, Indonesia, and China, while its manufactured exports were higher than those of Malaysia, Indonesia, Thailand, and the Philippines (Husain, 2023). This promising position indicated a significant opportunity for

Pakistan to establish itself as an emerging Asian giant. In 1996, both Pakistan and Vietnam had similar export volumes (approximately USD 10 billion). However, today, Vietnam's exports have surged to USD 371 billion (GSO, Vietnam, 2023), while Pakistan's exports lag at USD 32 billion (SBP, 2023). Economic stagnation and decline following 1970 have prevented Pakistan from pursuing its potential. Even in the South Asia region, despite starting off much better (in the 1960s), the country now finds itself at the very bottom. India and Bangladesh now seem to be joining the ranks of what could possibly be the *fifth cohort of Asian Tigers*.

Upon a deeper investigation into the growth patterns on Pakistan, compared to the East Asian economies, it becomes clear that our average decade wise growth has not surpassed 6.25% with an all-time average of 4.83%. When examining the three highest consecutive decades of growth, only Philippines and Indonesia fall below Pakistan but both exceed Pakistan in the recent two decades of growth (2000-2019).

Figure 2: Real GDP decades of growth - Pakistan and East Asia



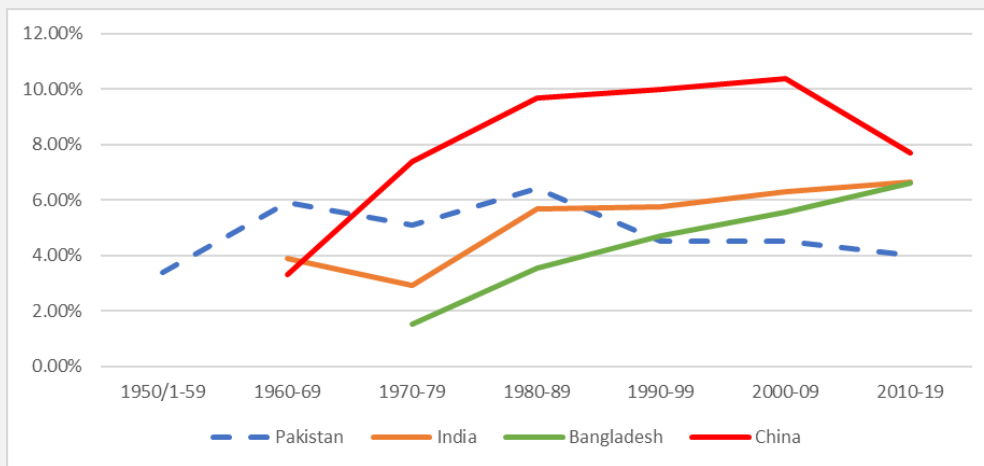
Source: World Bank (2024).

The past 3 decades have been exceptionally poor for Pakistan's economic performance when compared with economies in the region and especially with those in East Asia. The main takeaway here is that Pakistan's economic performance never took off from where it should have 1990 onwards. By 1990, most of the economies in this analysis had either achieved decades of sustained and high growth (above 7%) or went on to achieve high economic growth in the three decades to follow-as is evident Pakistan fell short on both accounts.

Export comparisons further reveal the stark differences in development trajectories of countries in East Asia and Pakistan. Figure _ below shows that the selected countries for this comparison all had exports under USD 50b in 1992 and crossed USD 100b by 2010 apart from Philippines that took another ten years to do so.

Box: Regional growth perspective

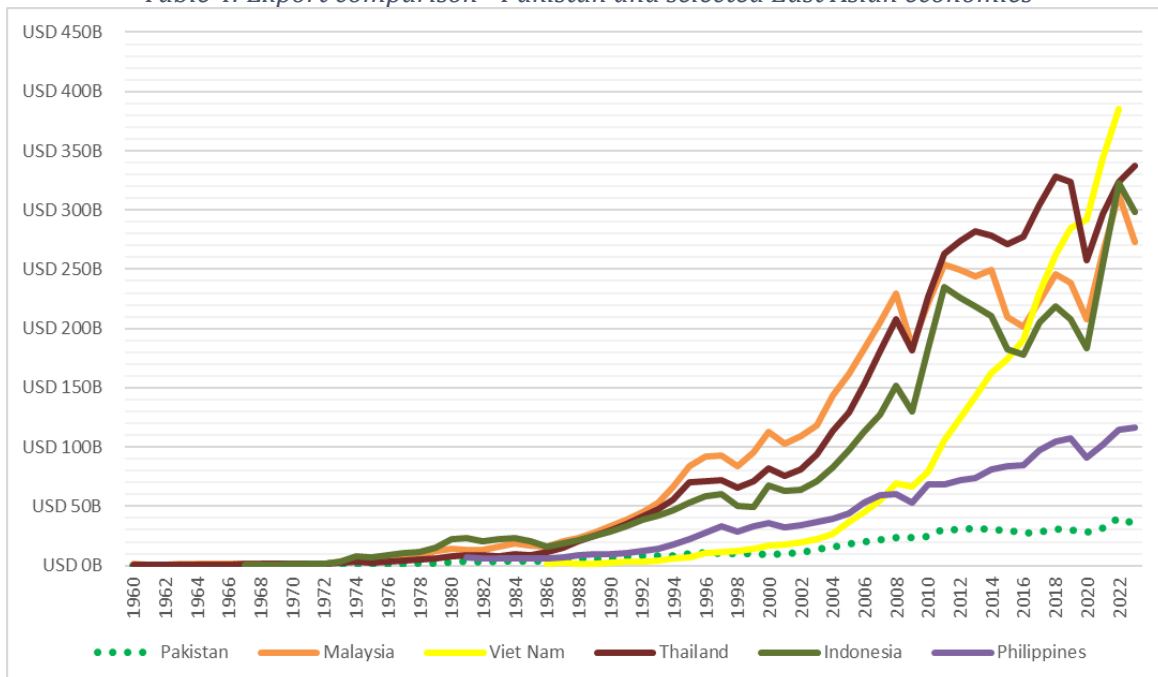
Figure 3: Real GDP growth for South Asia region



Source: World Bank (2024).

The growth patterns reveal show that in the outgoing 3 decades, the difference in the trajectories of growth between Pakistan and its neighbours has increased. With Bangladesh and India nearing the 6% average growth in the decade ending 2019 (before the pandemic) Pakistan struggles to below 4%. The country has not been able to sustain any sort of substantial growth compared to its neighbours. The reasons behind this are discussed in sections of this paper, especially with regards to lack of industrial upgradation and export-oriented growth.

Table 4: Export comparison - Pakistan and selected East Asian economies



Source: World Bank (2024).

4.4 Case study of Successful FDI driven industry

4.4.1 Automobile industrial clusters in China

The section is based on He (2008). An automobile industry cluster is a term for an economic ecosystem within a specific region, characterized by the central role of the automobile sector, with the parts and components industry forming the supply chain upstream and the professional services industry downstream. This cluster is typified by a high level of concentration of businesses that engage in a wide range of cooperative interactions, which may be vertically or horizontally aligned, enhancing the synergy of their interdependent operations. The synergistic effect of these clustered industries results in significant cost efficiencies and a boost to innovative capabilities.

The automotive industrial chain encompasses a wide and deep array of sectors including metallurgy, iron and steel, machinery, electronics, rubber, petrochemicals, plastics, glass, chemicals, textiles, and others, and further connects with commerce, vehicle maintenance services, insurance, transportation, and road infrastructure development, among others. The automobile sector is intricately interlinked with these industries, depending on them heavily and also driving their advancement. By adopting a focused industrial cluster approach, the automobile sector not only bolsters its own growth but also stimulates swift progress across these associated industries. Within such clusters, a highly specialized division of labour emerges, paving the way for mass production and sales, which significantly cuts down on both production and transaction costs. This consolidation of the industrial chain culminates in enhancing the competitive edge of the leading industry.

The trajectory of China's automotive industry has undeniably been influenced by the broader dynamics of China's political economy. To comprehend and value its growth, it is crucial to situate its evolution within the broader context of China's industrialization, a process that has been centrally directed and moulded by distinct industrial policies, which are explored in this section. The historical narrative of the automotive industry is delineated through four pivotal phases of development: the era of central control and planning spanning from 1949 to 1979, the proliferation phase from 1979 to 1994, the concentration phase from 1994 to 2004, and the most recent phase, from 2004.

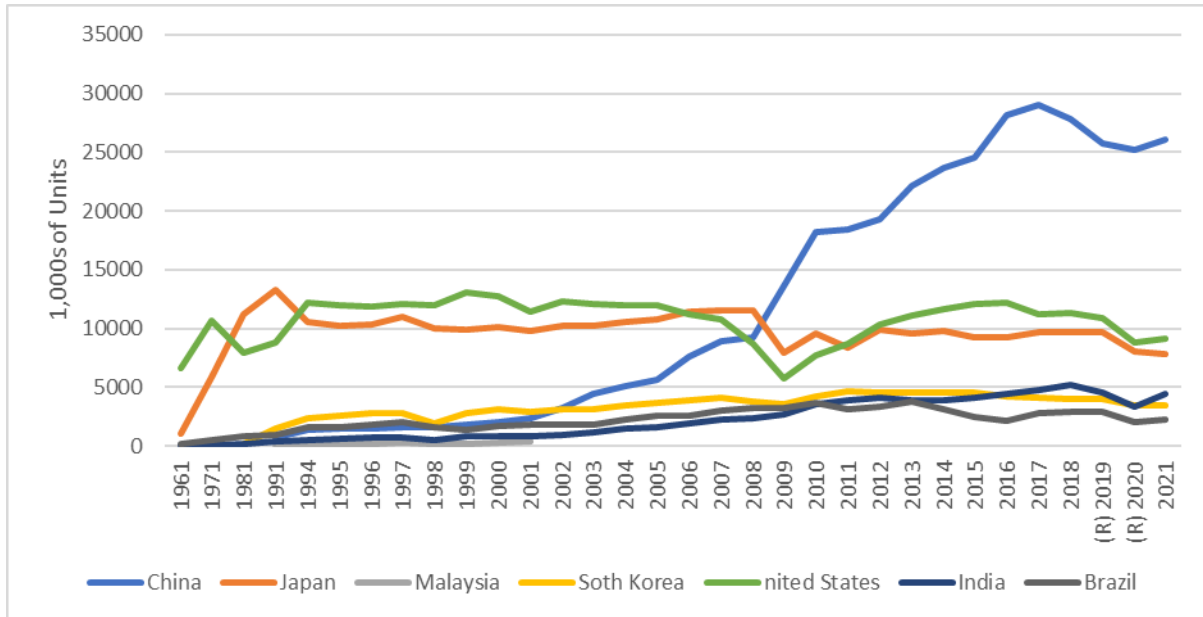
The Beijing-Tianjin corridor, separated by a mere 130 kilometres, stands as a pivotal hub for China's automotive industry. This area is home to a host of key players such as Beijing Hyundai, Beijing Jeep, LHB, Beijing Benz, and Tianjin's own FAW Toyota and FAW Xiali. The region boasts a robust network of suppliers and manufacturers of automotive parts, including Tianjin Denso and Tianjin Stanley among others.

The automotive value chain in China has undergone a significant transformation. Initially, the Chinese auto industry operated within a closed market before 1980. It then transitioned to a stage with selected Joint Ventures (JVs), such as Volkswagen-FAW, which introduced mainstream passenger car production. Over time, China has evolved into one of the largest global markets, hosting major players like Volkswagen, BMW, Mercedes-Benz, Mazda, Nissan, Honda, Ford, General Motors, Hyundai, Toyota, and Suzuki, alongside numerous domestic car manufacturers.

In the earlier stages, entire designs and key components were imported. However, as local production has expanded, the importation of finished vehicles has significantly declined. While designs are still predominantly imported, there has been a notable increase in locally sourced

content, with various contracts being awarded to Chinese suppliers or joint ventures between foreign and Chinese entities. Mirroring the Original Equipment Manufacturers (OEMs), all of the top ten global first-tier suppliers have established operations in China, actively participating in multiple JVs with local suppliers.

Figure 4: Evolution of car production in selected newly industrialized economies and regions, 1961–2021



Source: Wards Intelligence (2023).

The government's vigorous support has propelled the industry forward, particularly since the 1980s, cementing the automotive sector as a cornerstone of Beijing's industrial landscape and a key economic component for Tianjin. Strategic collaborations, such as the alliance between Tianjin Automotive Group and FAW Group, along with Beijing Automobile Holding Company's expansion with entities like Beijing Foton, Beijing Hyundai, and Beijing Benz-Dyke, have solidified the region's reputation as a significant automotive cluster.

This cluster benefits immensely from its strategic location, serving as China's political heartbeat and an economic powerhouse. It enjoys burgeoning market demand and is supported by an advanced infrastructure for production and distribution. A landmark development in this sector was the establishment of the Beijing Jeep joint venture in May 1983, a pioneering and significant joint venture in China's automotive history, and at the time, the largest of its kind.

4.4.2 Case Specific Learnings

- Partnerships with global giants from the United States, Japan, South Korea, and Germany, including industry heavyweights like VW, Honda, GM, Buick, Toyota, Nissan, Hyundai, Kia, Daimler-Benz, and Ford, have bolstered local production.
- This collaboration has spawned a wave of domestic brands that are not only thriving locally but also carving a niche in international markets.
- The development of the automotive industry in Shanghai was shaped by the Chinese government's strategy to enhance the 'Chinese car' segment through the support of local component manufacturers.

- The tariff structure was designed to encourage the use of domestically produced technology components.

Today, the spotlight is on China's burgeoning electric vehicle manufacturers, poised to revolutionize the global automotive landscape.

4.5 Econometric Analysis: East Asia and Extended Group of Countries

Table 5: Summary statistics

	count	mean	sd	min	max
lnLP	530	10.376	0.742	8.417	12.071
TFP	530	0.644	0.216	0.237	1.393
lnFDI	530	0.459	0.792	0.007	6.254
HC	530	2.612	0.449	1.581	4.352
lnTO	530	4.196	0.680	2.781	6.093
lnIPR	530	4.527	1.737	-1.539	8.360
lnIE	530	3.147	0.250	2.231	3.796
SG	530	7.006	1.067	3.586	9.094
LS	530	5.232	1.405	1.858	8.715
FT	530	7.198	1.326	2.317	9.785
RE	530	6.429	1.243	2.949	9.409
lnCI	530	11.648	0.916	9.033	13.298

Our regression results using Pooled OLS and fixed effects estimators are presented in Table 7.2. The interaction coefficient of human capital (HC) is insignificant for labour productivity with year fixed effects, but negative for TFP, which indicates that countries with higher human capital see a declined effect of FDI on productivity.

Table 6: Regression results of host-country characteristics on LP and TFP

	LP			TFP		
	OLS	FE	FE year	OLS	FE	FE year
lnFDI # HC	-0.032 (0.030)	0.127*** (0.040)	0.029 (0.026)	-0.091*** (0.015)	-0.057*** (0.014)	-0.078*** (0.016)
lnFDI # lnTO	0.013 (0.021)	0.122 (0.108)	0.039 (0.115)	0.003 (0.009)	-0.003 (0.028)	-0.023 (0.028)
lnFDI # lnIPR	0.067*** (0.012)	-0.065** (0.029)	-0.044** (0.022)	0.022*** (0.007)	-0.032** (0.014)	-0.029** (0.013)
lnFDI # lnIE	-0.047** (0.024)	0.127*** (0.026)	0.045** (0.019)	-0.029 (0.032)	0.025 (0.021)	0.008 (0.020)
lnFDI # SG	-0.023*** (0.006)	0.004 (0.005)	0.004 (0.004)	-0.004* (0.002)	-0.006* (0.003)	-0.007** (0.003)
lnFDI # LS	0.000 (0.007)	0.052*** (0.012)	0.017 (0.011)	-0.003 (0.003)	0.028** (0.012)	0.026** (0.011)
lnFDI # FT	0.031** (0.013)	-0.023 (0.021)	0.015 (0.019)	0.028*** (0.009)	-0.012 (0.011)	-0.001 (0.010)
lnFDI # RE	0.026** (0.013)	0.044*** (0.008)	0.027*** (0.007)	0.011* (0.006)	0.005 (0.006)	0.001 (0.005)
Year dummies			Yes			Yes

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level. Note: Each cell represents a separate regression and shows the coefficient of the interaction term of log of FDI and a host-country characteristic. All regressions control for natural logarithm of capital intensity. Results are from pooled OLS and fixed effects regressions. The data of total factor productivity is available for 35 countries in our sample whereas data for labour productivity is available for 49 countries. Robust standard errors in parentheses.

DISCUSSION

5.1 Factors Influencing the Ability (Determinants) of FDI to Generate Spillovers

The literature review and policy analysis reveal that the role of mediating factors and absorptive capacities offer a potential to explain the high-growth performance of East Asia. Likewise, they also offer a potential direction for Pakistan in terms policy change. Foreign Direct Investment (FDI) serves as a conduit for knowledge transfer and productivity enhancement in host economies. However, the effectiveness of FDI in generating knowledge and productivity spillovers depends on several key factors (see Annex 3 for Type of knowledge Spillovers from the East Asian Growth Models). This section examines the determinants that influence the capacity of FDI to foster knowledge and productivity spillovers in the specific context of the countries under study (see Annex 2 for Context of East Asia's Economic Success).

5.1.1 Intellectual Property Rights (IPR)

A robust Intellectual Property Rights (IPR) framework is essential for safeguarding intellectual assets and encouraging innovation-driven FDI. Literature supports the notion that robust IPR frameworks are essential for safeguarding intellectual assets and encouraging innovation-driven FDI. For instance, Falvey et al. (2006) highlight that strong IPR protection attracts FDI by reducing the risk of intellectual property theft and encouraging multinational corporations (MNCs) to invest in high-technology sectors. Additionally, empirical studies by Park & Xiao (2016) suggest that effective IPR enforcement leads to greater technology transfer, research collaboration, and knowledge dissemination, particularly in countries with established innovation ecosystems.

In our analysis, the protection of IPR is associated with increase in FDI spillovers in the pooled OLS (see table 4.2), but when controlled for the heterogeneity between countries and years using fixed effects, their coefficients are negative. This indicates that the relationship between IPR and FDI spillovers is complex. Upon a deeper analysis, there is indeed a linear and direct correlation between IPR and labour productivity (see Annex 4), however its interaction with FDI is not straightforward. It is evident that the issue of causality exists in the absence of controls for country and year heterogeneity.

This apparent inconsistency may be due to highly developed economies with pre-existing skilled workforce not being influenced by additional gains from FDI spillovers as compared to less developed countries with relatively less patent applications. Hence, countries with higher IPR protection, proxied by a high number of patent applications per population, have diminishing effects of FDI on increasing productivity.

In general, countries with strong IPR protection, such as Japan and South Korea, ensure that investments in intellectual capital are adequately protected, encouraging multinational corporations (MNCs) to share proprietary knowledge and technologies within agreed bounds. Consequently, in the long-run host countries may benefit from enhanced innovation capacities, skill development, and productivity gains driven by FDI-induced knowledge spillovers.

5.1.2 Investment Environment

Gross Fixed Capital Formation (GFCF) refers to the net investment in physical assets such as machinery, buildings, and infrastructure within an economy. It represents the value of acquisitions

of new or existing fixed assets by the business sector, governments, and households (excluding their disposable items). GFCF is a crucial indicator of economic health and productive capacity, reflecting the level of investment in long-term physical assets that contribute to economic growth. Our results support the argument that countries with higher levels of domestic private investments (InIE), measured by gross fixed capital formation (% of GDP), have stronger FDI spillovers, measured through labour productivity.

The relevance of GFCF to the analysis of FDI spillovers lies in its role as a proxy for the domestic investment climate and the economy's ability to absorb and utilize foreign investments effectively. Higher GFCF indicates a robust domestic investment environment, which is essential for supporting and amplifying the positive effects of FDI. A higher rate of GFCF suggests that an economy is continuously enhancing its productive capacity, infrastructure, and technological base, making it more attractive to foreign investors and better positioned to benefit from knowledge spillovers.

5.1.3 Legal System

The legal system of a country plays a pivotal role in safeguarding intellectual property rights (IPR), enforcing contracts, and resolving disputes, all of which are essential for facilitating knowledge and productivity spillovers from FDI. Strong legal institutions are fundamental in providing a stable environment that attracts foreign investors (La Porta et al., 1997). They ensure that the rights of investors are protected, thereby fostering an environment conducive to long-term investments. As noted by Maskus (2000), strong IPR regimes are critical for attracting FDI in high-technology sectors where proprietary knowledge and innovations are key assets. Effective IPR protection enhances the enforceability of technology transfer agreements, licensing arrangements, and joint venture contracts, thereby encouraging MNCs to engage in activities that lead to significant knowledge spillovers to domestic firms.

Our quantitative results support this view and shows that better legal system (LS) have a positive impact on FDI spillovers, both, on labour productivity and total factor productivity.

Japan and Singapore serve as cases where strong legal frameworks and efficient judicial systems have played a significant role in attracting FDI and facilitating productivity spillovers (Christopoulou et al, 2021; Arif-Ur-Rahman & Inaba 2021). Japan's legal system, known for its rigorous protection of intellectual property and efficient enforcement of contracts, has been instrumental in attracting FDI in high-tech industries. Similarly, Singapore's legal infrastructure, characterized by its transparency, efficiency, and strong IPR protection, has made it a preferred destination for foreign investors. In Singapore, the establishment of the Intellectual Property Office and the Singapore International Arbitration Centre has further strengthened the legal environment for FDI. These institutions provide comprehensive support for the protection of intellectual property and the resolution of commercial disputes, thereby enhancing the confidence of foreign investors.

5.1.4 Size of Government

The size and role of government in the economy significantly influence the ability of FDI to generate knowledge and productivity spillovers. Minimal government interference allows market forces to allocate resources efficiently, promote competition, and encourage FDI inflows that drive technological diffusion and productivity growth. Minimal government interference fosters an

environment where market forces can operate freely, leading to efficient resource allocation and increased competition. A limited role of government in economic activities promotes entrepreneurship and innovation by reducing the regulatory burden on businesses. Excessive regulation and government intervention can stifle entrepreneurial activity and discourage investment.

Results from quantitative analysis carried out in section 4.3 also supports this view where countries with higher levels of government interference in economic activity (SG) have a significant negative albeit small impact on FDI spillovers on total factor productivity. This suggests that excessive government intervention, bureaucratic red tape, and regulatory inefficiencies may impede FDI spillovers by creating barriers to entry, distorting market incentives, and stifling entrepreneurial activity.

Countries with limited government intervention and regulatory burdens, such as Hong Kong and South Korea, tend to create a conducive environment for innovation, entrepreneurship, and investment. Hong Kong's laissez-faire economic policies and minimal regulatory barriers have made it one of the most attractive destinations for foreign investment. The ease of doing business in Hong Kong, coupled with its open-market policies, has facilitated substantial FDI inflows, driving technological diffusion and productivity growth across various sectors.

South Korea, while having a more active government role compared to Hong Kong, has implemented policies that reduce regulatory burdens and promote competition. The country's focus on creating a business-friendly environment through deregulation and support for innovation has attracted significant FDI, particularly in high-tech industries. This has led to extensive knowledge transfer and productivity gains, as foreign firms bring advanced technologies and managerial practices into the domestic market.

5.1.5 Trade

5.1.5.1 Trade Openness

Open trade policies enable the inflow of foreign capital, technology, and expertise, which according to studies are essential for boosting productivity and fostering innovation in host countries (Edwards, 1998; Asongu & Odhiambo, 2020). They support the view that countries with fewer trade restrictions tend to experience higher growth rates and greater economic benefits from FDI, as open markets allow for more efficient resource allocation and enhanced competition.

However, from our analysis no significant impact of FDI on productivity spillovers can be seen on countries which are more open to trade (TO). This indicative of trade openness not being a sufficient condition to which FDI driven spillovers can be attributed to. Additionally, it is also likely that the quantum of trade as a percentage of GDP may be a weak proxy of real trade inclinations, especially if non-capital imports dominate the total trade.

5.1.5.2 Freedom to Trade

In our quantitative results from OLS analysis, countries with higher levels of freedom to trade show significant positive FDI spillovers. This can be attributed to the fact that open economies are more likely to attract foreign investors who bring in advanced technologies, managerial skills, and new business practices. The inflow of FDI in such environments stimulates competition and innovation,

leading to improved productivity and economic growth. However, the positive impact of trade openness on FDI spillovers diminishes in fixed effects regressions. This indicates that the relationship between trade freedom and FDI spillovers is not uniform across all countries and periods. Fixed effects models control for unobserved heterogeneity by accounting for country-specific and time-specific factors, revealing that the benefits of trade openness may be contingent upon other structural and institutional variables unique to each country.

5.1.6 Human Capital Development

Investments in human capital development, including education, training, and skills enhancement, are critical for leveraging FDI to generate knowledge and productivity spillovers in host economies. Countries that prioritize education reform, vocational training, and lifelong learning initiatives, such as Taiwan and Malaysia, are better positioned to absorb and utilize foreign technologies and managerial practices effectively. A skilled and adaptable workforce enhances the absorptive capacity of domestic firms, facilitates technology absorption and adaptation, and drives innovation-led growth.

However, the empirical results from the analysis indicate that the interaction coefficient of human capital (HC) is insignificant for labour productivity with year fixed effects, but negative for Total Factor Productivity (TFP). This suggests that countries with higher human capital may see a diminished effect of FDI on productivity. One possible explanation for this is that highly skilled economies may already be operating at a high level of efficiency and innovation, thus additional FDI does not have as substantial an impact on further productivity gains. This aligns with the findings of Borensztein, De Gregorio, and Lee (1998); Wang and Wong (2011) who argue that the effectiveness of FDI in promoting growth depends on the pre-existing level of human capital (education) in the host country.

5.2 Barriers to FDI Spillovers in Pakistan

Pakistan stands at a pivotal juncture in its economic trajectory (see Annex 1 for Pakistan's Economic Performance), where the promise of Foreign Direct Investment (FDI) holds significant potential for fostering technological advancement and knowledge diffusion across industries. This section explores key challenges, ranging from trade openness and investment promotion to human capital development, each crucial in shaping Pakistan's ability to harness FDI for sustainable economic growth. By analysing these barriers, we aim to uncover the complexities and nuances that define Pakistan's economic landscape and offer insights into strategies for enhancing FDI's transformative impact on the local economy.

5.2.1 Trade Openness

Pakistan's heavy *reliance on import tariffs for tax revenue* has undermined trade integration and export competitiveness. High tariffs, alongside a weak tax administration, have resulted in prolonged protection of domestic industries, which has stifled their development and competitiveness. The National Tariff Policy (NTP), approved in November 2019 (for a period of five years) after extensive consultation by the Ministry of Commerce (MOC), represents a strategic shift in Pakistan's tariff approach. Unlike previous policies, which primarily aimed at revenue generation, the NTP reorients tariffs as a tool for promoting trade and eliminating anti-export bias. It focuses on efficient resource

allocation, removing distortions in the domestic economy, and fostering competitiveness for domestic industries. Sectors like textiles, automotive, and renewable energy receive targeted attention. These principles include cascading tariffs, strategic protection, and import substitution. *However*, similar policy initiatives have been taken in the past in Pakistan. Moreover, importantly, the desire to protect local industry is still present in the shape of ‘strategic protection’ and ‘competitive import substitution’ both with provisions for domestic protection in the current NTP. This does not align well with the objectives laid out in the policy itself as history has shown that such protection seldom seems to exist and instead perpetuates the existing market inefficiencies and lack of competitiveness.

Non-tariff barriers also pose significant challenges to trade in Pakistan, including cumbersome customs procedures, regulatory compliance requirements, and bureaucratic red tape. NTBs contribute to trade inefficiencies, increase transaction costs, and hinder the smooth flow of goods across borders. Cumbrous administrative processes and lack of transparency inhibits trade facilitation measures to slows clearance procedures and leads to delays.

5.2.1.1 Impact of Trade Barriers on FDI Spillovers:

- High tariffs create a less favourable environment for FDI by increasing the cost of imported inputs and intermediate goods necessary for production. This can deter foreign investors who rely on global supply chains, thereby limiting the inflow of FDI.
- High import tariffs protect domestic industries from international competition, which often leads to inefficiencies and a lack of innovation. Without competitive pressure, domestic firms may not seek to improve productivity or adopt new technologies, thus limiting the positive spillovers from foreign firms that do invest.
- Foreign firms often look for markets where they can easily import necessary inputs and export finished products. High tariffs restrict market access, making Pakistan a less attractive destination for FDI. This restricts the potential for FDI to generate backward and forward linkages with local firms, crucial for spillover effects.
- Protectionist policies can lead to misallocation of resources by directing investment towards less efficient sectors. This not only hampers overall economic efficiency but also diminishes the potential for FDI to bring about technological and managerial advancements across the economy.

5.2.2 Promoting Foreign and Domestic Investment

It is pertinent to note that the bulk of the investments in any developing country over a long period of time come from domestic sources. On this front too Pakistan has been stuck in a low- savings low-investment trap. The economy does not generate enough resources for there to be adequate savings that lead to investments. Private sector financing in this regard has also been geared towards government borrowing and not the SME sector for instance. That State Bank of Pakistan has already explained this in detail a number of publications on this topic. Therefore, any investment or the existing investment that does take place in the country becomes important in terms of its impact in the economy. It also become even more crucial to ensure that the investments that do take place are leading to the right kind of value addition to products and are export-worthy.

5.2.2.1 Impact of Low-Saving Low-Investment on FDI Spillovers:

Pakistan's low-savings and low-investment scenario significantly constrains the country's ability to attract and effectively utilize FDI. This situation has several implications for the potential spillovers from foreign investments:

- Low domestic investment in infrastructure such as transportation, energy, and telecommunications deter foreign investors. Even if FDI does enter the country, the lack of adequate infrastructure limits its efficiency and productivity, reducing potential spillovers. High-quality infrastructure is crucial for the smooth operation of businesses and the efficient movement of goods and services.
- Domestic firms lack the financial capacity to engage in joint ventures or partnerships with foreign investors. This limits opportunities for technology transfer, managerial expertise sharing, and collaborative innovation, which are key channels through which FDI spillovers occur.
- Pakistan's low-investment economy lacks the necessary infrastructure, technology, and skilled workforce to absorb and benefit from FDI. Foreign investors thus find it challenging to integrate with local businesses, reducing opportunities for technology transfer and knowledge spillovers.
- Successful FDI spillovers depend on strong linkages between foreign firms and local enterprises. However, with limited domestic investment in sectors such as SMEs, the capacity of local firms to engage with and learn from foreign investors is constrained, hindering the potential for meaningful spillovers.
- Investments have not been directed towards high-value, export-oriented sectors, thus inhibiting the economy's ability to build the competitive industries needed to attract quality FDI. This misallocation of resources perpetuates inefficiencies and reduces the overall impact of FDI on economic growth.

5.2.3 Human Capital Development

While education is often the primary focus in evaluating human capital, other factors like physical health, skill-sets, and societal attributes play a significant role. The World Bank's Human Capital Index (HCI), introduced in 2018, is a pivotal tool in this analysis, ranking 157 countries on various educational and health parameters to project the human capital a child born today would achieve by age 18. This index evaluates five critical indicators: child survival rates up to age 5, expected years of schooling, harmonized test scores to gauge learning quality, adult survival rates up to age 60, and the proportion of children under 5 not suffering from stunted growth.

Pakistan's position in the HCI is concerning, ranking 134th out of 157 countries, trailing behind its regional and peer economies. This ranking aligns with the United Nations' Human Development Index (HDI), where Pakistan stands at 150th out of 189 countries. A worrying aspect of Pakistan's HCI findings is the average expected schooling years for children, at 8.8 years, placing Pakistan at 127th globally. More alarming is the quality-adjusted education level in Pakistan, estimated at around 4.8 years, markedly below regional averages. This discrepancy highlights a significant learning gap in Pakistan, exceeding the global average. The national Education Survey by Alif Ailaan in 2013 underscores public concern over the lack of quality education in Pakistan. Nearly half of the respondents rated the country's education quality as poor, with a majority believing this deficit hinders Pakistan's economic performance relative to its neighbours.

5.2.3.1 Implications on FDI Spillovers:

A critical implication of Pakistan's underdeveloped human capital is the inability to effectively absorb and implement advanced technologies introduced by foreign investors. The benefits of technological advancements brought by foreign firms are contingent upon the local workforce's capacity to understand, utilize, and adapt these technologies.

- Pakistan's workforce lacks in essential skills and education which effectively is unable to contribute to industrial innovation and productivity. This skill deficit limits the ability to adopt and utilize new technologies and processes introduced by foreign firms, thereby reducing the potential for technology transfer and knowledge spillovers.
- Without a foundation of strong educational attainment, the capacity for local industries to engage in innovative activities is severely limited. This has affected the ability to develop new products, improve existing processes, and adapt to changing market demands.
- A lack of skilled researchers and engineers have hampered the country's ability to conduct meaningful R&D activities. This not only affects the development of homegrown technologies but also the ability to effectively collaborate with foreign firms on joint innovation projects.
- Due to the lack of skilled labour, foreign investors have limited their investments to low-skill, low-wage industries, such as basic manufacturing or assembly operations. This has also limited the potential for economic diversification and the development of high-tech, high-value sectors.
- Pakistan may miss out on attracting FDI in cutting-edge industries such as information technology, biotechnology, and advanced manufacturing, where the demand for skilled labour is high. These industries not only offer higher wages but also have significant potential for positive spillovers in terms of knowledge and technology transfer.

Poor health outcomes reduce labour force participation and productivity. Based on the data provided above, Pakistan's workforce is not physically healthy and cannot sustain the rigorous demands of industrial activities, which impacts overall productivity and economic growth.

CONCLUSION

This research reveals key factors influencing the ability of Foreign Direct Investment (FDI) to generate knowledge and productivity spillovers in host economies including strong intellectual property rights (IPR), a robust investment environment, an efficient legal system, strategic government interference, trade openness, and human capital development. For Pakistan, addressing barriers such as trade openness, low domestic investment, and underdeveloped human capital is crucial to harnessing the full potential of FDI for sustainable economic growth. Enhancing trade policies, fostering a conducive investment environment, and prioritizing human capital development can significantly improve Pakistan's ability to benefit from FDI-induced knowledge and productivity spillovers in line with the East Asian successes. Pakistan finds itself deprived of a place in any of the Asian cohorts of emerging economies for the time being. Given this context, it is imperative for Pakistan to develop an economic roadmap that is feasible, apolitical, empirically backed, and sustainable.

POLICY RECOMMENDATIONS

7.1 Policy Discussion – Current Status

In the next decade, the Government of Pakistan has prepared trade and investment policies backed by the policy documents listed below to guide its economy into the future. In general, policy discussions on industry, trade, and development are not new in Pakistan and there have been many policy documents released over the time. A few relevant official documents are listed below of the recent policy developments on the subject to inform the subsequent discussions:

Table 7: List of recent policies and frameworks on industry, trade, and development

Name of Policy	Year(s)	Government Department/Agency
Pakistan Investment Policy	1997 2013 2023	Special Investment Facilitation Council (SIFC) Board of Investment
Auto Industry Development and Export Policy 2021-2026	2021	Engineering Development Board Ministry of Industries and Production
SME Policy 2021	2021	Small and Medium Enterprise Development Authority (SMEDA)
Science, Technology, and Innovation Policy (STI)	2012 2022	Ministry of Science and Technology
Strategic Trade Policy Framework 2020-25	2015 2020	Ministry of Commerce
Textiles and Apparel Policy 2020-25	2020	Ministry of Commerce
E-Commerce Policy of Pakistan	2019	Commerce Division
National Tariff Policy 2019-24	2019	Ministry of Commerce & Textile

- The **Pakistan Investment Policy 2023** (PIP 2023), evolving from the Investment Policies 1997 and 2013, claims to adopt a bold, radical, and implementable multi-pronged policy approach to attract more high-quality investments into the country. The objectives of promoting investment in high quality export-oriented, technology-driven (especially high technology and digital technology) and Sustainable and inclusive economic growth, industry innovation and infrastructure development, addressing the gender gap, are good ambitions to have at the policy level (and not the first of their kind). Many aspects of this policy cover what is required at the policy level (PIP, 2023, page 4-13). The link between investment and technology and skill development is however not present.
- As detailed in Pakistan Vision 2025 and the **Strategic Trade Policy Framework (STPF) 2020-2025**, the country aims to attract high-quality FDI to boost its economy and integrate with global value chains, aspiring to become an upper-middle-income country. According to the trade targets set by the STPF under different scenarios of policy effectiveness, Pakistan exceeded the export targets of FY 2020-21 (USD 24.64b) and FY 2021-22 (USD 29.10b), however failed to even come close to the targets of FY 2022-23 (USD 32.98b) and FY 2023-24 (USD 36.2b) by USD 5.03b and USD 5.17b respectively.
- Data clearly shows that the strategic trade framework did not meet the Ministry of Commerce's expectations and targets. In the outgoing fiscal years of 2023 and 2024, Pakistan's performance fell between scenario 1 (status quo) and scenario 2 (medium). Scenario 3, titled 'optimistic,' indicated that achieving these targets was unlikely from the outset.

- **Pakistan Science, Technology, and Innovation (STI) Policy** 2012 briefly addresses the role of FDI as an enabler of technology transfer and the creation of absorptive capacity. The updated STI policy of 2022 places greater emphasis on developing human resources and enhancing knowledge of emerging technologies.

7.2 Policy Discussion – Areas of Improvement

Husain (2023) provides valuable historical insights and suggestions for a future policy on industrialization. This study supports his view that the state and market need act as complementary forces and not binary ones. While the *East Asian Miracle* may still be a source of debate, our analysis shows that trade liberalization and promoting domestic competitiveness were critical, alongside the government's broader role in correcting market failures.

- **Role of government:** The frequency of major global shocks and climate events, such as pandemics, wars, and natural disasters, especially in Pakistan, has increased, significantly impacting economies around the world. Governments must address anomalies preventing markets from functioning efficiently, acting as facilitators rather than inhibitors. In Pakistan, a new policy paradigm must emerge where investment, industry, technology, innovation, and trade are simultaneously evaluated and pursued. While it may be ambitious to seek a 'theory of everything,' this study proposes greater policy coherence. Improving the export base will result from multiple policies working together to enable a marketable, price-competitive, and globally relevant domestic production.
- **Protectionary Policies:** Numerous commentators on Pakistan's economy have extensively covered the 'infant industry' argument, which has failed due to a lack of benchmarks and mechanisms for effective monitoring and evaluation. Protection measures, including licensing, tariffs, and subsidies, are intertwined with the political setup, where policymakers have conflicts of interest in key traditional sectors (e.g., steel, fertilizers, chemicals, sugar, rice), studied in-depth by Malik & Duncan (2022). Protection of these industries distorts the market, preventing capital from shifting to more profitable, higher value-added industries. Furthermore, the same set of business families are incentivised and *their* profits are protected and prioritised over market efficiency. Therefore, protection should only guard against externalities inhibiting the transition to greater value-added products or technological advancements that brings the economy at par with global competitions. Hence, the definition of 'protection' must change, a concept currently missing in the country's policies.
- **Role of FDI:** Inward FDI acts as a stimulus for both domestic investment and the economy in general in more than one way. FDI is attracted due to a set of favourable circumstances and eventually leads to spillovers in terms of labour productivity and TFP growth, as highlighted in the finding's sections of this study. In Pakistan's case, this spillover is less likely to occur organically due to the underlying structural issues, unless there is a focused policy approach to pursue this. This approach should include the linking of incentives highlighted in the PIP 2023 along with enhancing the capacity of local human resources as elaborated in the STI Policy 2022. Section 8.2 of the PIP 2023 comes close to addressing this, while presenting its framework on a 'Strategic Approach to Achieving Pakistan Investment Aspirations' (Pakistan Investment Policy, 2023, p6). The framework, however, lacks in outlining how local R&D and innovation would be

impacted through inward FDI. It also misses out on illustrating the knowledge spillovers that will lead to increases in skilled workforce and the prerequisites for that taking place.

- **Global Value Chains:** Pakistan's Investment Policy (PIP) 2023 must include OEM, OBM, and ODM subcontracting policies to allow integration into global value chains. Domestic firms involved in local or global value chains gain varying advantages that depend on the type of investments through FDI spillovers. Thus, ensuring the right kind of investment will also allow for the right kind of gains for the domestic industry. This implies moving away from the import substitution policy which is still part of the PIP 2023 and integrating into the global value chain. The focus on Pakistan's manufacturing sector is also missing in the PIP 2023. While there is a great potential for the services industry, particularly in IT, there is a vast potential of manufacturing which will be forgone if the country pursues a premature shift to services sector, signs of which are emerging already.
- **Industrial Clusters:** The development of clusters is also another area that needs more attention in the current set of policies. The dynamics of clusters (investigated in depth by the likes of Schmitz & Nadvi, 1999; Hobday, 1995; Altenburg & Meyer-Stamer, 1999) need to be incorporated in future policies. Clusters do not form on their own, they require a set of circumstances (Schmitz & Nadvi, 1999) either occurring by chance or strategically developed through government intervention. Evidence from Pakistan, documented by Schmitz and Nadvi (1999), shows that SMEs in clusters do not always remain small and some dominate the industry. The importance of clusters for industrial and economic growth is not adequately covered in any policy. These aspects of cluster formation should be included in the national investment policy.

7.3 Key Policy Recommendations

Structural Reforms

1. Elimination of short-termism; continuity of policy and removing the political conflict of interest preventing long-term policies from taking root and materializing
 - a. Parliamentary discussion and consensus on long-term economic planning and relevant legislation for de-politicisation of the economic agenda
 - b. Enhanced role of autonomous bodies such as State Bank to ensure smooth transition of economic policies after the end of one term of government
 - c. National debates to create consensus and awareness on the need for long-term economic planning that prioritises industrial growth over politics.
2. A multi-party-political consensus, endorsed by leading national economists, on economic reform targeted at FDI-supported export-oriented re-industrialization. Custodian and implementer of this reform package should be a non-political autonomous entity (free from the bounds and influence of federal/provincial governments that change every 5 years or sooner).
3. Depoliticize the Special Investment Facilitation Council (SIFC) and move away from ad-hoc arrangements, expand its vision, and increase the economic ambition (targets).

4. Address the conflict of interest stemming from the symbiotic relationship between business families, elections, and legislators through ensuring greater transparency by making the family and business interests of legislators in the upper and lower houses public.

Research and Development

5. Allocate resources for research grants, establishing research centres of excellence, and fostering collaboration between academia, industry, and government to support innovation-driven growth.
6. A comprehensive investors' needs assessment for enhancing FDI in export sectors, outlining the minimum requirements of potential foreign investors to Pakistan.
7. Carry out an assessment with projections of competitors to Pakistan's traditional export sectors (such as Textiles) and cease opportunities for capturing a greater market share based on changing global export trends. Identify and prioritise target markets based on criteria such as market size, growth potential, geographical proximity, cultural affinity, trade agreements, changing trade partners, and changing competitor dynamics.
8. Conduct a capacity and quality gap analysis of Pakistan's manufacturing sector and that of global competition in key export sectors.
9. Conduct comprehensive market research to identify new export opportunities and understand changing consumer preferences in new and existing markets. Identify target markets and geographic regions with untapped potential, and tailor export strategies to capitalize on emerging opportunities and expand the export mix in quantity and variety by sharing these findings with the private sector
10. Leverage data analytics, AI market intelligence tools, and trade promotion agencies to identify high-potential export markets based on factors such as demand trends, tariff structures, regulatory environments, and comparative advantages.
11. Carry out a detailed study on the existing major local and global value chains which Pakistani firms are a part of to inform future policy.

Regulatory

12. Improve legal infrastructure and access to justice to enhance investor confidence and promote economic stability.
13. Simplify, automate, and expedite the process of patent and trademark registration to encourage inventors and businesses in safeguarding their intellectual assets, fostering innovation and investment in new technologies.
14. Carry out a study on the IPR regime and suggest changes in laws that protect intellectual property rights, including patents, copyrights, and trademarks.
15. Develop an efficient dispute resolution mechanism for intellectual property cases to avoid lengthy court procedures for foreign and domestic firms.
16. Raise awareness about the importance of IPR protection to incentivize innovation and creativity.

17. Re-evaluate the effectiveness of Technology Parks and assess the degree of knowledge sharing, and technology transfer among firms and institutions and provide suggestions for their improvement.
18. Reassess and evaluate the performance of the Export-Import Bank of Pakistan (EXIM Bank) in terms of its effectiveness in achieving the objective of enhancing competitiveness of Pakistani exporters.

Trade Measures

19. Implement a rules-based trading system allowing trading partners and investors the confidence to do business under stable and predictable conditions.
20. Strengthen market access for exports by negotiating trade agreements, reducing tariff and non-tariff barriers, and expanding preferential trade arrangements with key trading partners.
21. Streamline trade procedures and prioritize initiatives to simplify customs clearance processes, expedite trade documentation, and harmonize regulatory standards to reduce transaction costs and enhance the ease of doing business.
22. Strengthen international cooperation and collaboration with bilateral and multilateral partners, including development agencies, international financial institutions, and regional organizations, to support Pakistan's export promotion objectives by providing technical assistance, capacity building, and market access support.
23. Actively engage in trade negotiations, participate in regional economic integration initiatives, and leverage international trade forums to enhance market diversification and export competitiveness on a global scale. A vibrant regional economic corridor and interconnectivity enhances the chances for economic growth. Immediate neighbours are the most suitable candidates for trade and innovation gains, partly due to geographical continuity and similar culture and values.
24. Explore opportunities to penetrate new markets in Africa, Latin America, Southeast Asia, and the Middle East, leverage existing trade agreements, diplomatic relations, and diaspora networks to expand market reach and diversify export destinations.

Human Capital Development and Technology Transfer

25. Increase meaningful government expenditure on education, skills development, and vocational training programs to build a skilled workforce, enhance productivity, and meet the demands of a knowledge-based economy.
26. Enhance access to education, healthcare, and social services, promote inclusive economic opportunities, and empower marginalized communities to participate in and benefit from economic development initiatives.
27. Promote research and development activities, fostering collaboration between industry and academia, and facilitating technology acquisition and absorption to drive economic growth and industrial transformation.

28. Invest in the establishment and development of bilateral/multilateral research institutes and innovation centres focused on key industries.
 - a. Develop an autonomous automotive institute focusing on developing human resources, piloting latest technology, developing master plans, and collaborating with leading automobile companies (such as Denso, Honda, Nissan, Toyota) to enable transfer of technology and know-how.
29. Facilitating technology transfer by expanding or promoting the mandates of *existing* planning and development departments such as the Ministries of Planning Development & Special Initiatives, Commerce, and Science and Technology.
30. Facilitate technology transfer and licensing agreements to enable Pakistani firms to access cutting-edge technologies and expertise from foreign partners. This involves promoting collaboration with multinational corporations, research institutions, and technology providers to acquire, adapt, and deploy advanced technologies that enhance productivity and competitiveness.

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ANNEXURES

Annex 1: Pakistan's Economic Performance

In this section we will try to understand Pakistan's economic growth with respect to the various *mediating factors* that emerge from our assessment of East Asia's economic success.

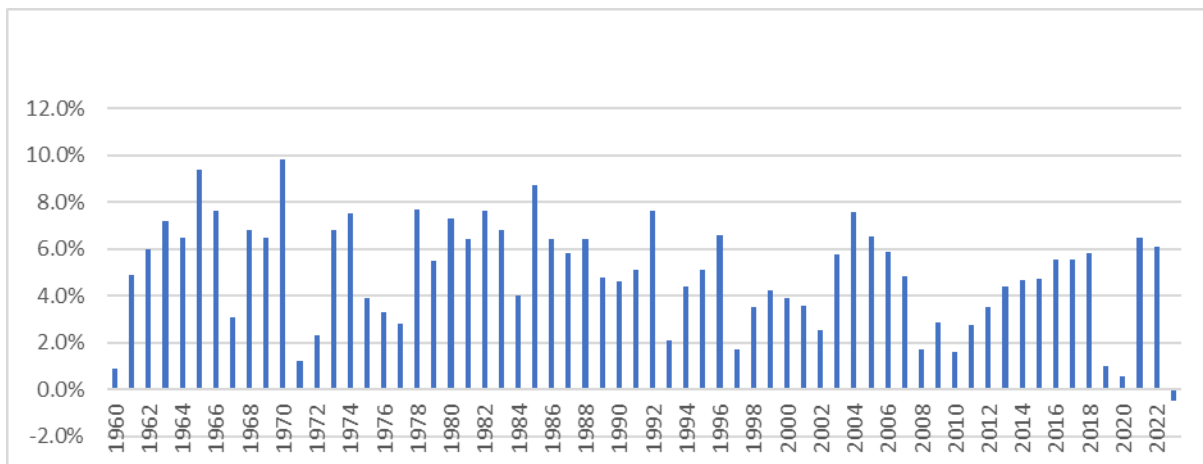
Pakistan has had an average GDP growth rate of over 5% for four decades until 1988-89, leading to a reduction in poverty levels from 40% to 18% by the end of the 1980s. This includes some remarkable achievements such as transforming from a food importer in 1947 to self-sufficiency and even exporting agricultural products like wheat, rice, and sugar. Per capita income surged from less than \$100 in 1947 to approximately \$500 in 2003. The manufacturing sector saw significant growth, producing goods for domestic and global markets, including steel, cement, automobiles, and textiles. Infrastructure development was substantial, with improvements in roads, highways, and electricity generation. Modernization in transportation and communication resulted in higher living standards, evident in increased vehicle ownership, phone connections, and television access.

However, this economic growth must be seen from a regional economic growth perspective, where many of these gains could be considered as bare minimum. Countries in the Asian region, with similar circumstances and even fewer resources were able to grow much more rapidly and sustain that growth for longer periods of time as discussed in section 5.

Therefore, critical factors such as the speed and sustainability of growth, trade and investment policies, and economic development relative to comparable economies are important. For the purpose of this research, this section will focus primarily on economic growth, FDI, exports growth and innovation in Pakistan.

Economic Performance in a nutshell

Figure 5: Real annual GDP growth of Pakistan



Source: GOP (2023).

Table 8: Real GDP growth of Pakistan– Decade wise

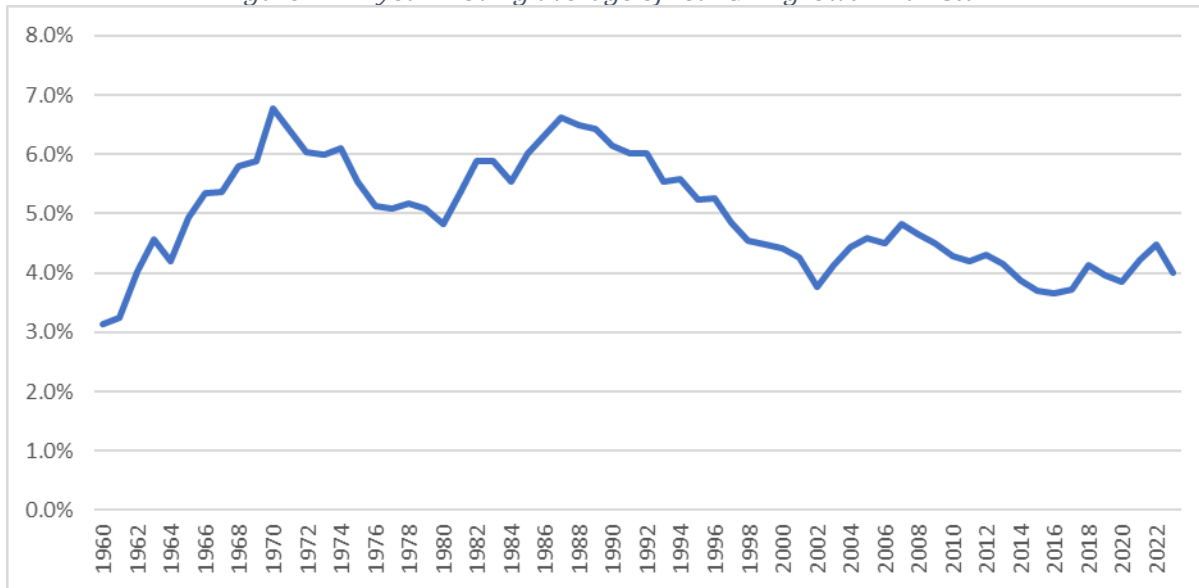
	1951-59	1960-69	1970-79	1980-89	1990-99	2000-09	2010-19	2020-2023*
Pakistan	3.39%	5.89%	5.08%	6.42%	4.49%	4.51%	3.96%	3.16%

Source: GOP (2023).

*It is worth noting that year 2020 was the pandemic year with global slow-down and Pakistan was no different with a GDP of 0.53%, already suffering from an economic slow-down in 2019. The years of 2021 and 2022 showed a 'V' shaped recovery with GDP Growth Rates of 6.1% and 6.5% respectively, and eventually the growth slumped again to -0.5% due to home-grown political and economic crises coupled with global price hikes.

The out-going decade of 2010-2019 was the second worst decade of economic growth since the decade of independence from the British. A 10-year moving average graph shows that the decades ending 1970 and 1987 were the best in terms of economic growth even though they still left much to be desired.

Figure 6: 10-year moving average of real GDP growth: Pakistan



Source: GOP (2023).

Export Performance

Pakistan's exports, which primarily consist of low value-added textile products, have dwindled from about 15% of GDP in 2003 to roughly 11% today. This decline in exports, combined with a stagnant product mix and a reduction in the variety of exported goods, has led to a decrease in Pakistan's share of global exports from the early 1990s to a mere 0.13% in 2020.

Pakistan's export basket is predominantly made up of textiles, clothing, agriculture, and services, lacking in technological sophistication and restricted to the lower end of value chains. These sectors are traditionally reliant on either low-technology or labour-intensive processes and are significant contributors to the country's value addition. They not only dominate the industrial sector but also are the primary consumers of domestic raw materials. This situation contrasts with countries like Sri Lanka and Vietnam, which have diversified and upgraded their export portfolios.

Figure 7: Total exports of Pakistan 2003-2023 (USD)



Source: GOP (2023).

Industrial Evolution

Since the 1950s Pakistan has undergone several economic policy shifts, starting from the import substitution industrialization in 1950-60, nationalization of industry in 1970, privatization in 1980, liberalization in 1990, further privatization and market diversification in 2000, and towards de-industrialization since 2010.

Pakistan's export profile has long been shaped by its industrial configuration and the availability of certain factors, resulting in a predominance of textiles, cotton, leather, food, and raw materials in its export mix. These sectors, characterized by resource-dependence and labour-intensive practices, account for 73% of the nation's total exports. The products from these industries generally fetch lower prices on the international stage, and their market share in global exports is modest.

The composition of Pakistan's export portfolio reveals that medium to high-technology products constitute a meagre 6% of total exports, whereas exports rooted in low-tech textile industries represent a substantial 60%. Pakistani manufacturing sectors lack dynamism and rank among the slowest growing in the global industrial sphere, offering scant opportunities for technological advancement or skill enhancement. The textile industry, despite being a primary manufacturing sector with an extensive production chain conducive to incremental value addition, engages in limited value-added processes.

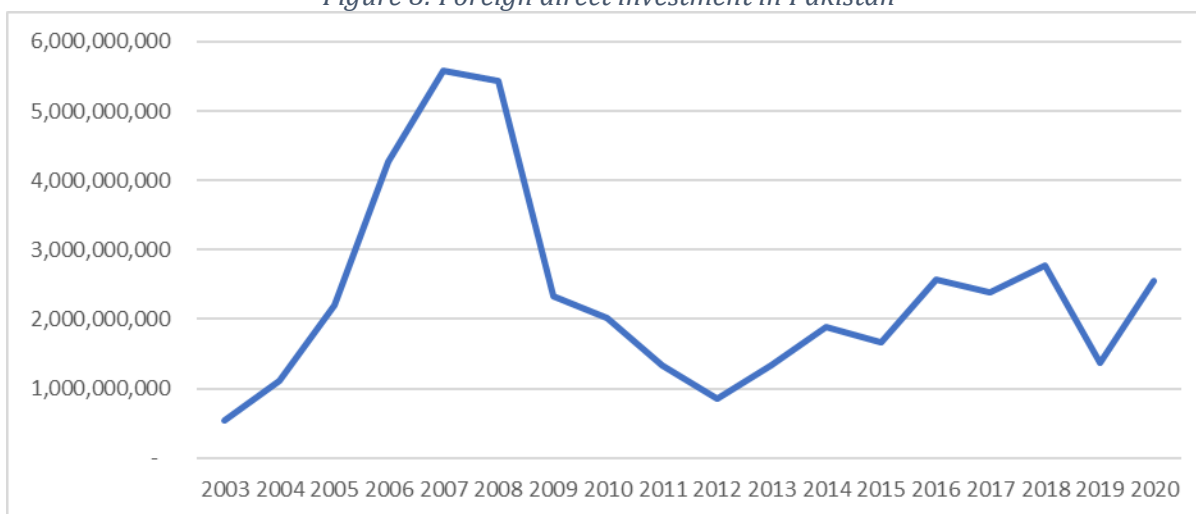
The country's export relationships are marked by limited diversity, with a heavy reliance on a small number of trading partners, notably including the United States and European countries. Recent developments in the global market have significantly heightened competition for Pakistan's textile and apparel exports. This surge in competitive pressure came about after 2005 when the Agreement on Textiles and Clothing (ATC) eliminated quotas on textile and garment exports, thus liberalizing trade in these commodities.

The Current Account remained under pressure with long cycles of significant deficit and brief periods of surpluses. It is true that many political circumstances and external factors such as the COVID-19 have contributed to these cycles and lack of sustained economic growth. However, let us also analyse some critical underlying factors that have been consistently hindering growth.

Foreign Direct Investment

Despite the widely recognized role of foreign direct investment (FDI) and multinational corporations in bolstering export growth, as confirmed by economic research, Pakistan's export-focused manufacturing has failed to draw in significant FDI. This results in an export infrastructure that is neither complex nor advanced technologically, indicative of a competitive disadvantage that is unsustainable for economic progress. Pakistan's reluctance to ascend the value chain has placed it in direct competition with lower-income nations that export low-tech goods at more advantageous wage rates. Meanwhile, nations with economic standings like Pakistan have progressed to higher technology pursuits.

Figure 8: Foreign direct investment in Pakistan



Source: GOP (2023).

Annex 2: Context of East Asia's Economic Success

Factors of Growth

Accumulation of Labor and Capital: The initial phases of growth in East Asian economies were characterized by significant investments in physical and human capital. This was coupled with the mobilization of labour resources to drive industrialization and productivity gains. For instance, Japan's post-war recovery and subsequent industrialization were driven by investments in infrastructure, technology, and human capital. Similarly, the Asian Tigers capitalized on their abundant labour resources and directed substantial investments towards building physical infrastructure, expanding industrial capacity, and enhancing human capital through education and training programs.

Technological Advancement: While labour-intensive manufacturing industries initially drove growth, sustained expansion was underpinned by technological innovation, adoption of advanced production methods, and investment in research and development (R&D). The accumulation of labour and capital enabled early growth and sustained expansion was driven by the relentless pursuit of technological advancement and innovation. These economies recognized the imperative of upgrading production processes, adopting advanced technologies, and investing in research and development (R&D) to enhance productivity, competitiveness, and overall economic resilience.

Government Intervention: Active government involvement in economic planning, industrial policy formulation, and infrastructure development played a pivotal role in shaping the growth trajectories of these economies, fostering an environment conducive to investment, innovation, and industrial upgradation. Central to the success of Japan, the Asian Tigers, and NIEs was the proactive role of governments in shaping economic policies, fostering conducive business environments, and providing targeted support to strategic industries. Through comprehensive industrial policies, investment incentives, and infrastructure development initiatives, governments created the necessary conditions for private sector-led growth, innovation, and industrial diversification (this aspect of growth is important as government intervention that enables private sector growth is different from one that inhibits it).

Knowledge Spillovers from Export Orientation and FDI: Emphasis on export-oriented strategies, market diversification, and integration into global value chains enabled these economies to capitalize on external demand, generate foreign exchange earnings, and fuel economic expansion. The export-oriented strategies pursued by these economies not only enabled them to tap into global markets but also facilitated the dissemination of knowledge and technology across domestic industries. High rates of foreign direct investment (FDI) and strategic placement of comparative advantages in the global value chain further catalysed knowledge spillovers, technology transfer, and skill development, driving productivity gains and fostering industrial growth. The presence of vibrant industrial clusters, knowledge networks, and technology transfer mechanisms facilitated the diffusion of knowledge and best practices within and across industries, driving productivity improvements and innovation-led growth.

Export-oriented policies and high levels of foreign direct investment (FDI) facilitated knowledge spillovers and technology transfer, contributing to industrial upgrading and innovation. Integration into global value chains allowed East Asian economies to leverage their comparative advantages and enhance competitiveness.

Role of Global Value Chains and Local Clustering

Participation in global value chains played a pivotal role in integrating these economies into the global economy, enabling them to leverage their comparative advantages, specialize in high-value-added activities, and capitalize on economies of scale. Moreover, the presence of vibrant industrial clusters and local agglomeration effects facilitated collaborative learning, innovation diffusion, and synergistic interactions among firms, institutions, and stakeholders within regional ecosystems. Participation in global value chains and the clustering of industries in certain regions fostered economies of scale, specialization, and knowledge diffusion. Localized industrial clusters promoted innovation, efficiency, and collaboration among firms, driving economic growth and competitiveness.

The automobile industrial cluster in China as explained in section 6.1 is a prime example of how an economic ecosystem develops partly through the support of the government and partly due to favourable market circumstances. The depth of local regional supply chain integration became one of the pre-requisites for a successful cluster formed in Tianjin, China.

Sustained Decades of Economic Growth

The economies under study grew at high rates over a long-period, thus leading to a sustained trajectory and strength of economic growth. This sustained growth was not merely a result of transient factors, temporary in nature, such as spikes in consumer spending, temporary tax breaks or subsidies, or one-time infrastructure projects, leading to short-lived periods of prosperity. Instead, it was underpinned by several enduring factors that fostered long-term economic expansion.

One of the pillars of sustained economic growth in East Asia has been the implementation of ***structural reforms and the maintenance of policy stability***. Governments in the region enacted policies aimed at fostering macroeconomic stability, improving the business environment, and enhancing regulatory frameworks. By maintaining a conducive policy environment, these economies were able to attract investment, stimulate innovation, and sustain long-term growth trajectories.

East Asian economies recognized the importance of investing in ***human capital and infrastructure*** to support sustained growth. Significant resources were allocated to education, healthcare, and skills development, laying the foundation for a healthy and productive workforce and a competitive economy. Additionally, investments in infrastructure, including transportation networks, energy systems, and telecommunications, facilitated economic integration, trade, and connectivity, contributing to overall economic development. Recognizing that human capital is a critical driver of comparative advantage, East Asian governments invested in initiatives to develop a skilled and adaptable workforce capable of meeting the demands of a rapidly evolving global economy. Policies focused on improving education quality, promoting lifelong learning, and enhancing vocational training to equip workers with the technical, analytical, and soft skills needed to excel in knowledge-intensive industries. By nurturing a highly educated and skilled labour force, these economies were able to leverage human capital as a source of competitive advantage and foster innovation-led growth.

Technological advancement and innovation played a central role in sustaining economic growth in East Asia. Governments in the region prioritized research and development (R&D) initiatives, incentivized innovation, and promoted collaboration between academia, industry, and government agencies. By embracing emerging technologies and fostering a culture of innovation, East Asian economies were able to drive productivity gains, enhance competitiveness, and diversify their economic base. East Asian economies recognized the pivotal role of research and development in sustaining long-term economic growth and enhancing comparative advantages. Governments allocated resources to support R&D activities in strategic industries, fostering innovation, technology transfer, and knowledge creation. By investing in R&D infrastructure, collaborative research initiatives, and incentives for private-sector innovation, these economies were able to stay at the forefront of technological advancements and product differentiation, thereby strengthening their competitive positions in global markets.

Another key factor contributing to sustained growth in East Asia was the ***diversification of the economic structure***. These economies transitioned from being primarily agrarian or export-oriented to developing dynamic and resilient industrial sectors. By enabling the growth of manufacturing and services industries, diversifying export markets, and promoting value-added production, East Asian nations were able to reduce dependency on any single sector or market,

mitigating risks and sustaining growth momentum. East Asian economies demonstrated a remarkable ability to adapt to changing global economic dynamics and external shocks. Whether faced with financial crises, natural disasters, or geopolitical uncertainties, these nations exhibited resilience and agility in responding to challenges. Flexible policy frameworks, robust institutional arrangements, and proactive measures to mitigate risks enabled East Asian economies to navigate periods of volatility and maintain growth momentum over the long term.

East Asian economies adopted **strategic trade and industrial policies** aimed at nurturing key sectors with potential for comparative advantage and export competitiveness. Governments provided targeted support to priority industries through subsidies, tax incentives, and trade facilitation measures to stimulate investment, innovation, and productivity growth. By aligning industrial development strategies with comparative advantage considerations, these economies were able to create synergies between domestic production capabilities and global market demand, thereby enhancing their competitiveness and resilience to external shocks.

Rather than solely relying on low-cost production and labour arbitrage, East Asian economies emphasized the importance of **quality enhancement and value addition** in their export-oriented industries. Governments implemented policies to incentivize investments in product quality, design innovation, and branding strategies to differentiate their products and command premium prices in competitive international markets. By prioritizing value-added manufacturing and service sectors, these economies were able to capture higher margins and sustain growth in the face of intensifying global competition.

The sustained economic growth witnessed in East Asian economies is the result of a combination of factors, including structural reforms, investment in human capital and infrastructure, technological advancement, diversification of the economic structure, and adaptability. By addressing both short-term challenges and long-term structural constraints, East Asian nations have been able to achieve and sustain high levels of economic growth, setting a benchmark for other countries striving for development and prosperity.

Governments' Attention to Increasing Comparative Advantage

East Asian governments recognized the importance of identifying and nurturing sectors where they possessed inherent strengths or the potential to develop a competitive edge. Through **comprehensive strategic planning exercises and policy frameworks**, governments systematically assessed the comparative advantages of their economies and devised targeted interventions to enhance competitiveness in key industries. Economies that recognized the significance of comparative advantages early on were able to proactively formulate strategies to capitalize on their inherent strengths and position themselves competitively in global markets. By identifying and nurturing sectors where they had a relative efficiency advantage, governments laid the foundation for sustained economic growth and development.

Early recognition of comparative advantages allowed governments to engage in strategic planning exercises aimed at identifying and nurturing sectors with inherent strengths or growth potential. By analysing factors such as natural resources, human capital, technological capabilities, and market dynamics, policymakers developed targeted strategies to promote the development of industries where the country had a competitive edge. Armed with insights into their comparative advantages,

governments formulated policies and incentives to support the growth of priority sectors. This involved providing subsidies, tax incentives, access to financing, and regulatory reforms to create an enabling environment for businesses to thrive. Moreover, policies aimed at promoting innovation, entrepreneurship, and skills development can further enhance the competitiveness of domestic industries. Early realization of comparative advantages allows governments to prioritize investments in critical infrastructure, technology, and human capital development. By directing resources towards areas where the country has a comparative advantage, policymakers can utilise public spending as the required investment to stimulate economic growth in the identified strategic sectors.

Governments in East Asia made significant ***investments in infrastructure development***, technological innovation, and industrial upgrading to strengthen their comparative advantages. By modernizing transportation networks, expanding energy and telecommunications infrastructure, and promoting technological innovation through research and development (R&D) initiatives, governments created an enabling environment for businesses to thrive and compete effectively in global markets.

Governments actively ***promoted international trade and investment*** to capitalize on comparative advantages and enhance economic competitiveness. Through trade liberalization measures, bilateral and multilateral trade agreements, and investment promotion policies, governments facilitated greater market access for domestic producers and attracted foreign direct investment (FDI) in strategic sectors, thereby expanding export opportunities and fostering economic growth.

Recognizing that ***human capital*** is a critical determinant of comparative advantage, governments prioritized investments in education, skills development, and workforce training programs. By equipping the labour force with the necessary knowledge, skills, and competencies to excel in modern industries, governments enhanced the productivity and efficiency of domestic businesses, enabling them to compete more effectively in global markets and sustain economic growth over the long term.

By ***embracing innovation and fostering a culture of continuous improvement***, these economies were able to sustain their growth momentum and adapt to changing market dynamics effectively. The global economy is constantly evolving, driven by technological advancements, changes in consumer preferences, and shifts in geopolitical dynamics. As such, economies must continuously adapt to emerging trends and market conditions to remain competitive. This requires a proactive approach to policy reform, regulatory flexibility, and investment in research and development.

Continuous adaptation involved embracing technological innovation and upgrading industrial capabilities to stay ahead of the curve. Governments supported the adoption of new technologies through incentives for research and development, collaboration with the private sector, and investment in digital infrastructure. By fostering a culture of innovation and entrepreneurship, economies unleashed their creative potential and drove productivity gains across sectors.

Human capital plays a pivotal role in maintaining comparative advantages and driving economic growth. Continuous investment in education, training, and skills development ensures that the workforce remains adaptable and resilient in the face of evolving job requirements.

Developing an Export Base

In East Asia, governments have played a pivotal role in fostering export-led growth through proactive and purposeful state intervention. They have implemented a range of policies and initiatives to support export-oriented industries. These include offering financial incentives such as tax breaks and subsidies, establishing export processing zones, and providing infrastructure support such as building ports, roads, and telecommunications networks. By creating a conducive environment for exporters, governments have incentivized businesses to focus on producing goods and services for foreign markets.

Engaging in ***strategic trade agreements*** has been a key strategy for East Asian economies to expand their export markets and enhance their competitiveness. These agreements have taken various forms, including bilateral free trade agreements (FTAs), regional trade blocs, and participation in multilateral trade negotiations such as the World Trade Organization (WTO). By reducing trade barriers and facilitating market access, these agreements enabled exporters to tap into new markets and diversify their export destinations, thus reducing dependence on any single market and increase production leading to greater economies of scale. Export-oriented economies often face challenges related to market access barriers, including tariffs, quotas, and non-tariff barriers such as technical regulations and standards. East Asian countries have actively engaged in trade negotiations and diplomacy to address these barriers and promote a more open and conducive global trading environment. By advocating for trade liberalization and participating in regional and multilateral trade agreements, these countries have sought to expand market access and create new opportunities for their exporters.

Diversifying export products and markets is essential for mitigating risks and seizing new opportunities. East Asian economies have pursued strategies to diversify their export portfolios by expanding into new product categories and geographic regions. This diversification helps reduce vulnerability to external shocks and fluctuations in global demand. For example, countries like South Korea and Taiwan have successfully transitioned from being predominantly exporters of labour-intensive goods to becoming leaders in high-tech industries such as electronics and semiconductors.

Many East Asian countries have established dedicated ***export promotion agencies*** to provide support and assistance to exporters. These agencies offer a range of services, including market research, trade facilitation, export financing, and promotional activities. By helping exporters navigate regulatory requirements, identify export opportunities, and access export-related services, these agencies play a crucial role in facilitating trade and boosting export competitiveness.

Investing in ***infrastructure*** is essential for enhancing export competitiveness by reducing transportation costs, improving logistics efficiency, and enhancing connectivity to global markets. East Asian governments have made significant investments in infrastructure development, including building ports, airports, roads, and telecommunications networks. These investments have helped improve the efficiency of supply chains, reduce transit times, and lower transaction costs for exporters, making it easier for them to compete in international markets.

Coordinating policies across different government agencies and departments is essential for creating an enabling environment for export growth. East Asian governments have adopted coordinated approaches to trade policy, industrial policy, and investment promotion to maximize the

impact of their export promotion efforts. By aligning policies related to trade, investment, finance, and infrastructure development, governments can create a supportive ecosystem that encourages businesses to invest in export-oriented activities and seize opportunities in global markets.

Annex 3: Type of Knowledge Spillovers from the East Asian Growth Models

The flow of knowledge in the economy is a complex concept and this study does not attempt to go into the finer details of what takes place, either from organizational behaviour or human cognitive dimensions. However, it is sufficient to know, for the purpose of this study, that the exchange of knowledge or know-how happens continuously. For firms or individuals to benefit, there needs to be a certain degree of value attached to the provision and acquisition of this knowledge for a successful barter to take place. Furthermore, not all can be explained through contemporary economics alone, as culture, work ethics, and tradition also play a role.

Implicit Knowledge Transfer

Organizational Dynamics: Within firms and industries, knowledge is often transferred implicitly through day-to-day interactions, collaboration, and shared experiences among employees. This form of knowledge spillover is evident in the innovative practices and operational efficiencies observed in sectors such as electronics, automotive manufacturing, and semiconductor production.

Human Capital Development: Investments in education, training, and skill development contribute to the accumulation of human capital, fostering a conducive environment for knowledge spillovers. As individuals acquire new skills and expertise, they bring valuable knowledge to their workplaces, driving productivity gains and innovation diffusion across industries.

Explicit Knowledge Transfer

Technology Transfer: Collaborations with foreign firms, joint ventures, and licensing agreements have facilitated the transfer of explicit knowledge, particularly in high-tech industries such as electronics, robotics, and information technology. The adoption of advanced technologies and best practices has fuelled technological upgrading and industrial transformation in sectors like automotive manufacturing and precision engineering.

Research and Development (R&D) Investments: Government support for R&D activities and innovation ecosystems has promoted explicit knowledge spillovers by fostering knowledge creation and diffusion. Investments in research institutions, technology parks, and innovation clusters have facilitated collaboration between academia and industry, leading to breakthrough innovations in sectors such as biotechnology, nanotechnology, and renewable energy.

Cultural and Social Factors

Work Ethics and Tradition: Cultural attributes such as diligence, discipline, and teamwork have facilitated knowledge spillovers by fostering a culture of innovation and continuous improvement. The strong work ethic and emphasis on excellence in countries like Japan, South Korea, and Taiwan have contributed to knowledge sharing and collective learning within organizations and communities.

Knowledge Networks: Social networks and informal channels have played a pivotal role in facilitating knowledge spillovers by connecting individuals, firms, and institutions within innovation

ecosystems. Professional associations, industry clusters, and academic networks have served as platforms for exchanging ideas, expertise, and market intelligence, driving innovation and entrepreneurship.

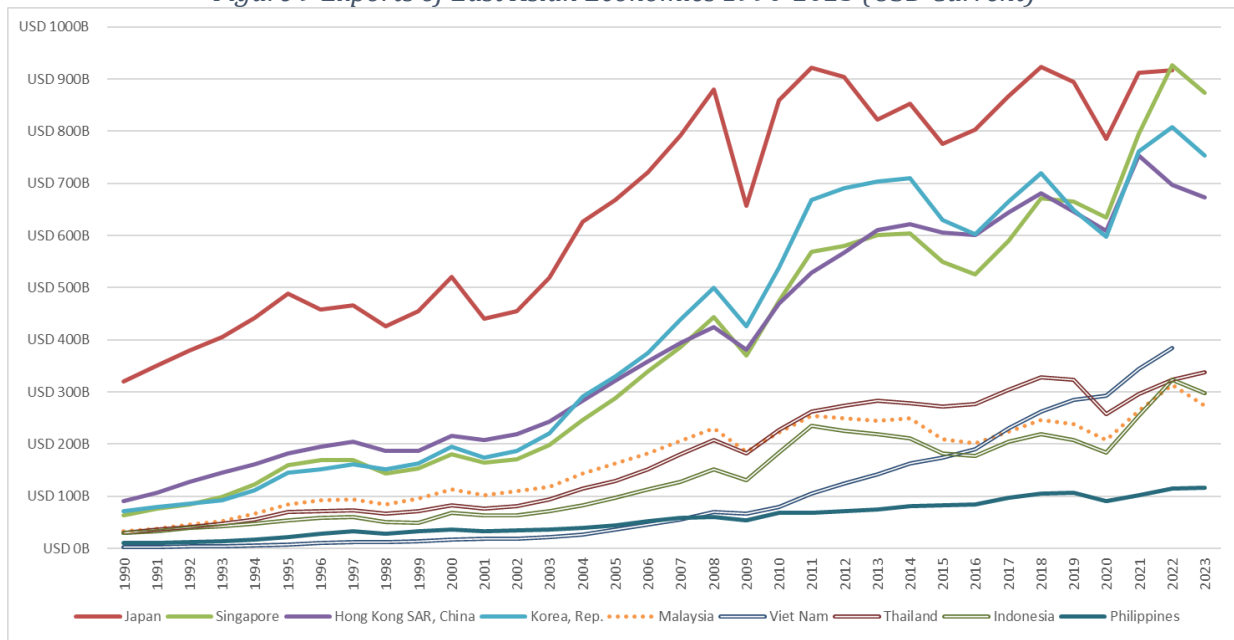
Policy Interventions

Knowledge-Based Policies: Governments have implemented knowledge-based policies to promote innovation, entrepreneurship, and knowledge-intensive industries. Initiatives such as research grants, technology parks, and intellectual property protection have incentivized knowledge creation and diffusion, fostering a conducive environment for innovation-driven growth.

International Collaboration: Engaging in international collaboration and knowledge exchange initiatives has enhanced knowledge spillovers by facilitating cross-border learning and technology transfer. Participation in global innovation networks, joint research projects, and knowledge-sharing platforms has strengthened the absorptive capacity of domestic firms and institutions, driving innovation and competitiveness in the global market.

The types of knowledge spillovers observed in the growth models of Japan, the Asian Tigers, and Newly Industrialized Economies in East Asia encompass both implicit and explicit forms of knowledge transfer, driven by organizational dynamics, human capital development, technology transfer, cultural factors, and policy interventions. By understanding and harnessing these knowledge spillovers, these economies have been able to foster innovation, productivity growth, and sustainable development.

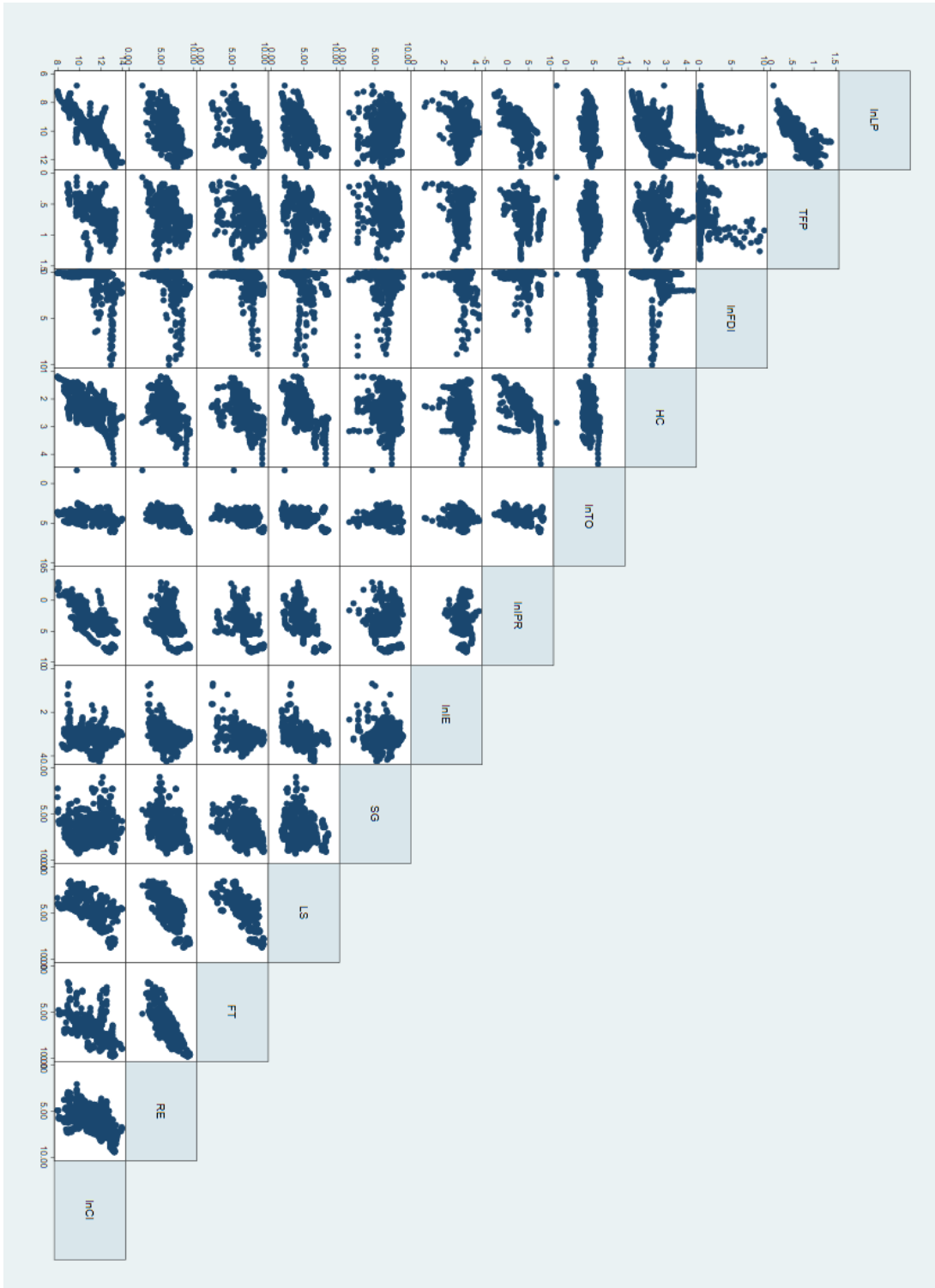
*Figure 9 Exports of East Asian Economies 1990-2023 (USD Current)**



**Excluding China.*

Source: World Bank (2024).

Annex 4: Scatterplot Matrix



Source: Author computation using regression data sources.