



Pakistan: A Story of Technology, Entrepreneurs and Global Networks

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In November 2007, Asad Jamal, founder of ePlanet Ventures, a technology fund based in Silicon Valley, faced a dilemma. A recent business plan submitted by an entrepreneur based in Lahore, Pakistan had rekindled nagging thoughts that Pakistan should be considered a “strategic play” for his venture fund. Although of Pakistani origin, Asad had spent the majority of his life away from the country, after getting his Bachelor’s degree from the London School of Economics. He had developed a notable venture investment track record at ePlanet Ventures by demonstrating his ability to identify promising opportunities in the advertising, media, communications and wireless, computing software, consumer Internet, and other market spaces. As with any venture capitalist, he was always on the lookout for new horizons. Asad was considering whether he wanted to be one of the first entrants in a nascent, largely untapped market. He once again turned his thoughts to the promising development he had witnessed in Pakistan during his visits over the previous 10 years.

History

Pakistan became an independent nation on August 14, 1947 when British India gained independence from British rule. Two countries were created, newly independent India and Pakistan. Although founded on democratic principles, Pakistan’s political history had been tumultuous and the country had spent more than half its short life under military rule. A succession of military dictators, interspersed with ineffective and corrupt civilian regimes, failed to fully exploit the country’s vast natural reserves and human assets.¹

¹ Burki, Shahid. *Pakistan: 50 Years of Nationhood* (New York: Westview Press, 1999).

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When Prime Minister Nawaz Sharif was deposed by General Musharraf in a 1999 military coup, Pakistan was on the verge of bankruptcy and in danger of becoming a failed state. The mood at that time was a mixture of apprehension and enthusiasm for the new beginning Musharraf had promised. By 2007, President Musharraf had restored some level of authority to parliamentary forces and still held a tenuous grip on power. Whatever his other achievements and failures, his supporters and detractors alike conceded that combined with his support for the war on terror, he reduced corruption and undertook wide-ranging and bold economic reforms with the aim of reinvigorating Pakistan's economy.² Between 2000 and 2007, Pakistan's per capita GNI grew from \$480 to \$800 (comparable to India's \$820) and the country's GDP growth rate went from 4.9% to 6.9%. Revenue as a percentage of GDP was greater than India's (13.5% vs. 12.6%). (See **Exhibit 1** for more detailed economic data.) Despite Pakistan's uncertain political future, Musharraf's policies appeared to invigorate Pakistan's economy and stimulate entrepreneurship within the country.³

Pakistan's Large, Evolving Market

Pakistan was the 6th most populous country in the world with an increasingly empowered middle class whose needs were starting to resemble those of the West, from basic things such as access to satellite TV and the Internet. The U.S. venture capital community was realizing that many technologies that worked successfully in the West could be replicated in markets like Pakistan. For example the success of Baidu in China was based on a few smart entrepreneurs realizing, through local knowledge, that they could customize a search engine to meet the needs of the Chinese market and VCs such as ePlanet Ventures saw the same potential in Pakistan.

There were logical business considerations for investing in Pakistan, such as a large market, cost-base and talent, in addition to reasons based on cultural or family connections. Companies had already been outsourcing to Pakistan, particularly for call centers, but also more recently in the high-tech space. Even larger companies had been recently entering the market. En Pointe Technologies, a NASDAQ-listed provider of advisory services to SAP and information security- focused IT organizations, owned several subsidiaries in Pakistan employing over 700 people, as well as in India and other emerging countries.

The Economy and Regulatory Reform

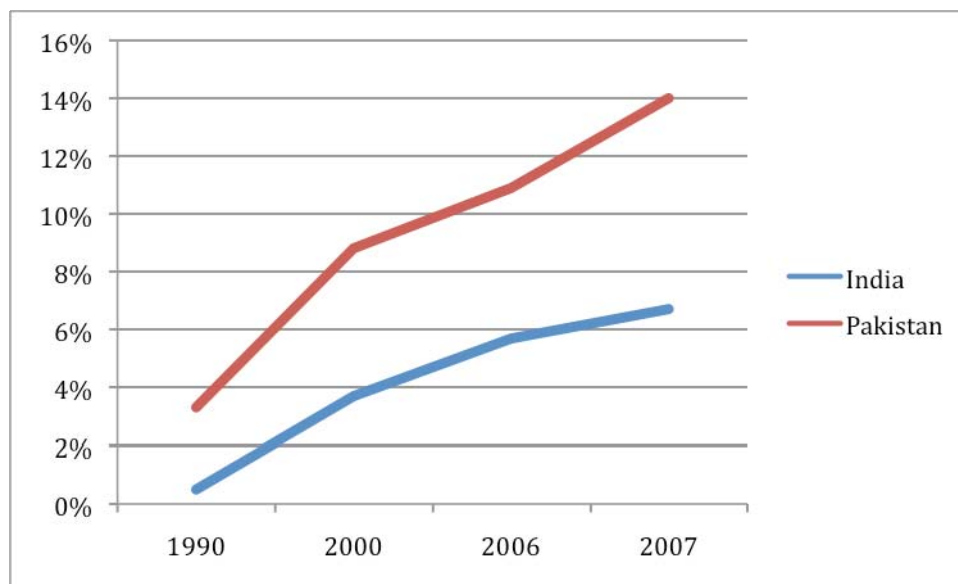
Since 2002, Pakistan had seen strong GDP growth, averaging around 7% per year. Prior to this, GDP growth had been inhibited by a narrow production base, political instability, and poor and inconsistent policies synonymous with corruption. However, substantial remittances from Pakistanis working abroad, wide-ranging reforms (including an aggressive privatization program), aggressive tax policies, restructured public enterprise and banking sectors, the provision of basic services, and investment in the textiles sector, had stimulated growth and resulted in a consumer boom.³

² Louise Tillin, "Musharraf and the Economy," www.bbc.co.uk, April 22, 2002.

³ Ibid.

As a country on the verge of bankruptcy prior to the September 11, 2001 terrorist attacks in the United States, Pakistan's fortunes had experienced a remarkable turnaround. Since 2001, as a result of the influx of billions in U.S. aid in return for supporting the "War on Terror" combined with pro-reform government policies designed to stimulate the economy, Pakistan's business environment and investment climate was flourishing (**Figure 1**).

Figure 1 Pakistan and India Foreign Direct Investment (Stock) as % of GDP



Source: United Nations Conference on Trade and Development.

Pakistan's recent policy trends of liberalization and deregulation appeared to have had an impact, according to the World Bank's "Doing Business 2008" report, a business-specific index calculated from overall rankings of over 150 countries on a scale of 1 (best) to 178 (worst). Pakistan was ranked #1 in South Asia for its "Ease of Doing Business" and #76 globally (India was #120). The country ranked highest in South Asia in categories such as "Starting a Business" (a study of the ease and simplicity of all procedures to start up and operate a commercial or industrial business) and "Protecting Investors" (a study of the strength of minority shareholder protections against directors misuse of corporate assets for personal gain). See **Figure 2**. The introduction of the Private Equity and Venture Capital Funds Act of 2007 also provided an enabling regulatory environment for the capital markets, making it easier for funds outside of Pakistan to invest in the country with full protection as well as providing full tax exemption until 2014.

Figure 2 “Ease of Doing Business” Rankings for South Asian Countries

Country	Ease of Doing Business ¹	Starting a Business ²	Employing Workers ²	Protecting Investors ²	Trading Across Borders ²	Enforcing Contracts ²
Pakistan	76	59	132	19	94	154
Sri Lanka	101	29	111	64	60	133
Bangladesh	107	92	129	83	155	19
India	120	111	85	33	79	177

Source: World Bank ‘Doing Business in’ report 2008

The Fear of Being First

Asad felt that things were looking up for Pakistan, but he still had a number of questions and doubts, which were giving him pause.

Politics

Granted, Pakistan had been politically stable and even prosperous since 2000, albeit under a military dictatorship. Yet General Musharraf’s grip on power was weakening, and Asad feared that political turmoil was around the corner. The question in his mind was whether the gains in the last eight years were permanent and whether enough had been done to make Pakistan’s economy sustainable and able to weather any upheaval. History did not bode well in this regard. No Pakistani prime minister had ever served a full term in office, and although the recent military dictatorship had been benign and, in Asad’s opinion, beneficial, there was no guarantee that the future was secure.

Scaling for Sustainable Growth

Although Pakistan was starting to demonstrate a track record of entrepreneurship, all the individuals Asad had spoken to were primarily concerned with the ability to scale. Building a 30-person company was not the problem. Expanding it to a 300-person company was where the challenge lay. The issue of being able to recruit a second layer of top-notch management was key. The common belief was that trusted management was hard to come by in Pakistan, and therefore the culture was still one of family-owned businesses with limited professional management. It would be impossible to scale new ventures without addressing this issue. The empowerment of a growing middle class and a trend for overseas Pakistanis to return home led Asad to believe that this problem could resolve itself, but how long would it take? Would the cost arbitrage in labor still remain if overseas Pakistanis had to be paid U.S. level salaries? The concept of equity and options were also new in Pakistan, yet were an integral part of the success of U.S. entrepreneurial ventures. Would Pakistani employees adapt to this model and would it be a sufficient motivator? Would Pakistani educational establishments continue to turn out highly-trained graduates? Would enough foreign-trained and foreign-educated executives return home?

Infrastructure

Asad's next thought turned to infrastructure. Pakistan was becoming attractive not only because of its talent pool, but because this talent pool was generally 30-40% cheaper than its neighbors in India and China. The UAE and Saudi Arabia had already pumped billions of dollars of capital into the country. However, in terms of infrastructure, real estate was comparably expensive and, as in China and India, the main issue was the unreliable supply of electricity, water and other utilities, which meant companies had to build redundant systems into their infrastructure, which cost valuable dollars. Based on this, Asad wondered on how real the cost advantage was? Was it enough to overcome these issues?

The Right Type of Business

Asad wondered whether the developing skill-set in Pakistan was relevant for the type of investment ePlanet liked to make. According to his colleague Ayaz ul Haque, Managing Director in the Silicon Valley and New Delhi offices of ePlanet Ventures, "What we look for in a company in a country like Pakistan is whether the business can survive and sustain itself in the local market. Given the political concerns in the country, if a business is based on outsourcing and 90% of its clientele is abroad, there is no knowing when those clients will yank their contracts away. Whereas if a business is domestically-focused, it can continue to thrive despite the political situation because life continues to move along regardless of who is in power."

Access to Markets

Asad reflected on why VCs were so often inclined to invest within a 15-minute drive of their geographic location. In his view this was an element of the shortsightedness that prevailed in the VC industry. The world was now a global village and, particularly in the consumer Internet/web 2.0 space, this distance issue was now almost moot. He felt the same was almost true with regards to markets abroad. By promoting its product through YouTube, Scribe demonstrated that it did not matter that it was located in a leafy suburb of Islamabad; it had wanted 5,000 users for its beta, yet it got close to 100,000. Naseeb Networks located in Lahore had hundreds of thousands of users.

With India, China and Dubai on Pakistan's doorstep, Asad was reassured somewhat. Pakistan traditionally had strong relations with China and the UAE, and his gut told him Pakistani businesses would be well received in those regions, as long as the product offerings were of high-enough quality

However, in order for a business to survive, Asad agreed with Ayaz that it must also flourish in its home market, particularly if it was outside the consumer/web 2.0 space. Here again, he wondered about the growing middle class. This came back around to the question of political stability and the continuation of liberalisation and reforms to further economic development. Was the Pakistani economy strong enough at its current stage to continue the empowerment of the middle class?

Talent and Passion

As Asad thought back to his childhood in Pakistan, he remembered growing up wanting to get his higher education in the United Kingdom or the United States. However in the post-9/11 world where student visas and work authorizations in the United States were difficult to obtain for Pakistani citizens, the former “brain-drain” was fast becoming a “brain-gain” for Pakistan. In fact, in the technology space alone, Pakistani universities were producing upwards of 20,000 English-speaking graduates per year. Importantly, Pakistani educational establishments, particularly the missionary Convent schools instilled neutral English accents, enabling better communication with their Western counterparts.⁴ Peter Lagerquist reported in the *Far Eastern Economic Review* as early as 2002 how companies such as Align Technologies, a Pasadena-based company, pioneered the use of Pakistani call centers and how the sitcom “Friends” was used as a training tool for employees with Master’s degrees and who were fluent in English.

These young technically trained graduates started turning to new horizons – namely setting up companies to target a global customer base in addition to the local market. Faizan Burdar, founder of Scribe – an up-and-coming Pakistani web 2.0 company – expressed different aspirations to Asad: “I realized that the Web would be hot and took a plunge with a shoestring budget and no formal investments. In fact, I didn’t even have a U.S. visa so attracting funding from the U.S. sources, other than U.S.-based Pakistanis, seemed impossible!”

Scribe recently attracted funding from Adobe Systems and LMKR and was currently in beta testing. The software was referred to as “the most anticipated software” at the Museum of Modern Betas, a Web site that tracked emerging Web 2.0 projects.

Scribe’s success was not unique. Fuelled by a new breed of well-educated Pakistani entrepreneurs, there were numerous other home-grown IT start-ups in Pakistan making their mark on the global markets:

- **iTrango**, a game and 3D content studio, provided content for the wildly successful game *Tomb Raider Legend*, and also for high profile companies such as Nike, Lexus, Scion, and other global brands.
- **Trevor**, a software company, recently acquired by Bentley Motors, was one of the world’s top providers of GIS/geospatial software solutions.
- **Post Amazors**, an animation house, provided content for the film, *The Mask*, and also the local character of *Safe Guard for P&G*, which was being used globally (Mexico).
- **EnterpriseDB** developed and supported EnterpriseDB Advanced Server, a leading Oracle-compatible relational database management system (RDBMS).

⁴ “Pakistan’s Largest Call Center To Be Operative Today,” *Pakistan Times*, August 15, 2005.

- **Ultimus** was one of the most widely deployed Business Process Management solutions in the world, enabling over 1800 companies to increase profitability by managing, automating, modelling and optimizing core business processes. Their customers included Microsoft, Lockheed Martin and others.
- **Sofizar** was a global marketplace for show tickets (with a call-center in Greenwich, Connecticut). Sofizar was the winner of the inaugural Business Acceleration Plan (BAP) sponsored by the MIT Enterprise Forum of Pakistan.
- **Sofcom** focused on products for human capital management, process monitoring and quality control with clients including GSK and Barclays. Sofcom was the winner of the second Business Acceleration Plan (BAP) sponsored by the MIT Enterprise Forum of Pakistan.
- **VioZar** was a global marketplace for unused telecom bandwidth whose customers included AT&T, Bell Canada, France Telecom and Orange. VioZar’s CEO operated jointly from Toronto and Karachi.

Data from the Pakistan Software Export Board indicated that the “high-tech” industry had a solid presence in the three major economic centers, Karachi, Lahore and Islamabad, and that a number of overseas companies were setting up operations in the country (**Figure 3**).

Figure 3 Statistics of Pakistan IT Industry 2006

Total number of Information Technology (IT) companies registered with Pakistan Software Export Board (PSEB)	1082
Number of substantial IT companies city-wise breakup	384 Karachi 276 Islamabad 353 Lahore 69 others
Total number of foreign IT and telecommunication companies working in Pakistan	60
Number of Capability Maturity Model Integration (CMMI)-assessed companies	One CMMI Level 5 company, one CMMI Level 5 company, three CMMI Level 3 companies and four CMMI Level 2 companies
Total industry size	US\$ 2.8 billion (WTO-prescribed formula)
IT and IT-enabled services exports	US\$ 1.4 billion (WTO-prescribed formula)
Percent growth in exports over the last one year	61.18%
Number of IT graduates produced per year	Approximately 20,000
Export targets for the current fiscal year 2006-2007	US\$ 108 million
Number of universities offering IT/Computer Science (CS) programs	110
Number of IT professionals engaged in export-oriented activities (software development/call centers etc.)	More than 15,000
Total number of IT professionals employed in Pakistan	110,000
Total IT spending in the fiscal year 2005-2006	US\$ 1.4 billion
Total space utilized in IT & Software Technology Parks	11 IT Parks covering an area of 750,000 sq ft

Source: Pakistan Software Export Board (www.pseb.com.pk)

Networks Bridging the Gap – OPEN

Asad reflected on his last visit to Boston, when he had met up with an old acquaintance, Tom O' Flannigan. Over lunch Asad had sat enthralled as he listened to Tom describe how the Irish immigrated en-masse to the United States starting around the time of the Irish Potato Famine in 1850, up until the 1930s. The descendents of these individuals formed a highly-trained diaspora which played an instrumental role in Ireland's economic boom in the late 1990s. When they went home to start high-tech and other ventures, they took with them access to management, capital and markets. Asad wondered whether U.S.-based Pakistanis were starting to emulate this process?

The Organization for Pakistani Entrepreneurs (OPEN) was a voluntary non-profit organization formed by a group of U.S.-Pakistani entrepreneurs at MIT in 1998 to facilitate and encourage the growth of Pakistani entrepreneurs and professionals. The association's charter provided networking and enhanced business opportunities for entrepreneurs and professionals in the high-tech, energy and life sciences fields. From the first chapter in Massachusetts being incorporated in 2000, OPEN had grown to five chapters across the United States (Boston, New York, Washington D.C., Houston, Silicon Valley) as well as an international chapter in Dubai. According to Imran Sayeed, President of OPEN Global, OPEN enabled Pakistani-American entrepreneurs to get organised and develop an effective network.

That network had started to reach overseas. Monis Rahman (Naseeb Networks) and Zia Chishti (Align Technologies) were U.S.-based and -trained Pakistani entrepreneurs who, amongst others, had taken all or parts of their businesses to Pakistan. In the other direction, Faizan Burdar, founder of Scrybe, had not even set foot in the United States and credited introductions to potential investors from OPEN members with starting the sequence of events that led them to receiving funding from a U.S. company.

Furthermore, OPEN, in collaboration with the MIT Entrepreneurship Center, had been taking an active role in educating Pakistani-based entrepreneurs. Workshops, seminars and a recently concluded Business Acceleration Plan (BAP) competition, organised by the MIT Enterprise Forum of Pakistan, had resulted in increased mentorship provided to local entrepreneurs from their U.S. counterparts. Zafar Khan, CEO of Sofizar, and winner of the 2007 BAP Competition said, "This program has helped me well beyond my extremely high expectations. I could not get this quality of help, even if I had employed a team of the highest-paid management-consultants. The mentors were sincere, and pushed me to improve. I didn't need to raise money...I just needed guidance and I got it."

The recent formation of the Karachi-based Tech Angels Network (TAN), led by 50 local business persons working with MIT faculty members and the President of the MIT Club of Pakistan, seemed to indicate that the start-up investment environment was becoming more attractive.

Success Stories

This increasing entrepreneurial activity had not gone unnoticed by entrepreneurially-minded Pakistanis living in the United States. The Pakistani-American diaspora had started to recognise Pakistan as an attractive destination to locate elements of their U.S.-based ventures. As Faraz Hoodbhoy, co-founder of Silicon Valley-based PixSense, a firm which developed network sided software to improve cameraphone image sharing, said, “I knew I wanted to start a business and I had strong family connections in Pakistan. But I didn’t choose to go to Pakistan because I wanted to do something great for the nation. I chose to do so simply for good business reasons.” And so he moved parts of the business to Pakistan.

Similar moves were made by Umair Khan, an MIT graduate and serial entrepreneur based in Silicon Valley, with his first venture Clickmarks, an Internet content aggregation and distribution company, Zia Chishti of The Resource Group (TRG), and Sana Khan of TrueMRI. In each of these cases, these U.S.-based, Pakistani-born entrepreneurs saw the opportunity to compete effectively by harnessing Pakistan's strengths, namely an entrepreneur-friendly investment environment and talented, cost effective workforce. Nadeem Elahi of TRG stated that he believed customer satisfaction for their portfolio companies had been approximately 50% better than companies with back-office operations in other South Asian countries.

Naseeb Networks was in some ways a model story regardless of its geographical location. Started in 2003 from offices in Lahore by Monis Rahman, an entrepreneur who had recently returned to his home town after a 10-year stint in Silicon Valley, the company bootstrapped its way to positive cash flow in 2004, and successfully completed a series B investment round from ePlanet and DFJ Ventures. This deal was attractive to ePlanet in large part because Naseeb Networks flagship website, Naseeb.com, a Muslim social and matchmaking site, held a huge market lead in a market which essentially incorporated all those of Muslim heritage and an Internet connection. Due to the nature of the business it successfully went global, and its physical location became irrelevant. Naseeb Network’s other sites, such as Rozee.pk, a recruitment site, were also market leaders in Pakistan handling job applications for all major multinationals operating in the country.

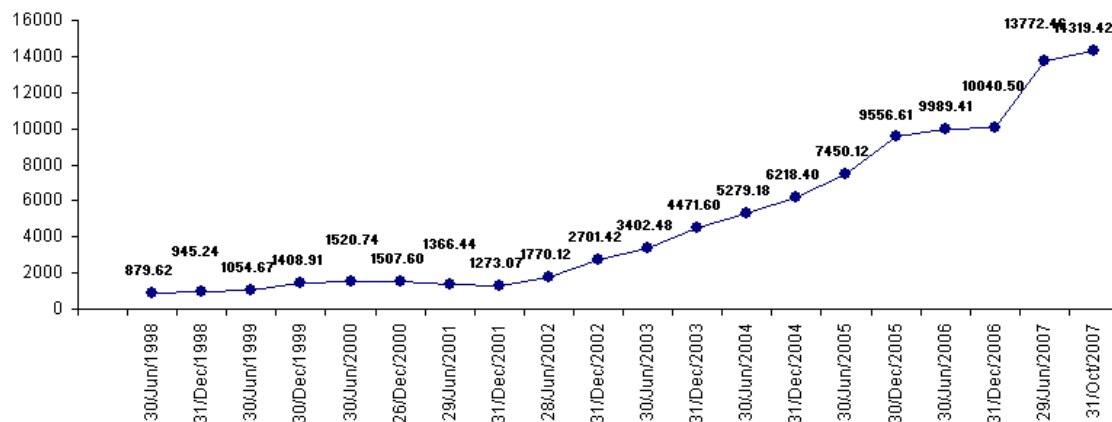
Key to this success however, was the ability of the CEO and founder to be able to straddle two continents effortlessly. By being able to access capital and corporate governance expertise in the United States and technical talent in Pakistan, Monis was able to take advantage of the best resources offered in each.

Exit Opportunities

The million-dollar question was how to exit from investments. The Karachi Stock Exchange (KSE) was the biggest and most liquid exchange in Pakistan and was declared to be the “Best Performing Stock Market in the World” by Business Week in the year 2002. As of June 29, 2007, 658 companies

were listed with a combined market capitalization of approximately \$66 billion and listed capital of \$10.39 billion. The KSE 100 Index closed at 14,473 on December 7, 2007, up 40% for the year (Figure 4).

Figure 4 KSE 100 Index Market Performance



This was certainly encouraging. However, in the quest to build global companies, would companies based in Pakistan have the reach and opportunity to list on the major markets in the world? There were only three Pakistani companies listed on the London Stock Exchange, but none of them were technology companies (two banks and an oil and gas exploration company). No Pakistani companies as yet had listed on NASDAQ or any of the other U.S. exchanges. Asad thought about his experience with his investment in Baidu. Having no roots in the United States, this Chinese search engine became the most successful first-day foreign IPO in U.S. market history. With Dubai, Shanghai and India nearby, there appeared to be no reason why Pakistani companies could not list wherever they chose. Also, with the increase in M&A as a viable alternative exit route to IPOs in Europe and the United States, Asad cynically thought he could start 10 companies all of whom had a primary goal of being acquired by Google.

The key question in his mind was that given the overall situation, did Pakistani companies have the same potential?

Next Steps

Asad sat and considered the issues over a hot bowl of his favourite Boston speciality, clam chowder. His instincts told him that Pakistan was a seething cauldron of opportunity and potentially a next frontier for technology-based entrepreneurship. China had been done. India had been done. What was the next high-growth region, and was he willing to bet on his homeland? Keeping in mind that Pakistan was a mere 60-years old, would his limited partners give him the time to allow Pakistan to mature from the eastern equivalent of the Wild West, to a mature entrepreneurial community?

Adobe and Qualcomm had already invested in Pakistani companies, and ePlanet had the opportunity to make its first investment. Asad realized that most emerging economies had reached their current level of development from similar beginnings and Pakistan was no different. In risk there was reward. Did he want to learn from others' mistakes or make those mistakes himself and learn from them? Should ePlanet be one of the first VC entrants into the Pakistani market?

Exhibit 1 Demographic and Economic Statistics for Pakistan, India and China (2006)

World view	Pakistan	India	China
Population, total (millions)	159	1,109.81	1,311.80
Population growth (annual %)	2.1	1.4	0.6
Surface area (sq. km) (thousands)	796.1	3,287.30	9,598.10
GNI, Atlas method (current US\$) (billions)	126.71	914.74	2,639.48
GNI per capita, Atlas method (current US\$)	800	820	2,010
GNI, PPP (current international \$) (billions)	382.81	2,742.82	6,168.66
GNI per capita, PPP (current international \$)	2,410	2,470	4,700
People			
Life expectancy at birth, total (years)	65	64	72
Fertility rate, total (births per woman)	3.9	2.5	1.8
Adolescent fertility rate (births per 1,000 women ages 15-19)	33	63	7
Mortality rate, under-5 (per 1,000)	97	76	24
Immunization, measles (% of children ages 12-23 months)	80	59	93
Primary completion rate, total (% of relevant age group)	62	86	..
Ratio of girls to boys in primary and secondary education (%)	78	..	100
Environment			
Improved water source (% of population with access)	90	89	88
Improved sanitation facilities, urban (% of urban population with access)	90	52	74
Economy			
GDP (current US\$) (billions)	126.87	916.25	2,657.87
GDP growth (annual %)	6.9	9.7	11.6
Inflation, GDP deflator (annual %)	9.3	5.6	3.3
Agriculture, value added (% of GDP)	19	18	12
Industry, value added (% of GDP)	27	29	48
Services, etc., value added (% of GDP)	53	52	40
Exports of goods and services (% of GDP)	15	22	40
Imports of goods and services (% of GDP)	23	25	32
Gross capital formation (% of GDP)	22	36	44
Revenue, excluding grants (% of GDP)	13.5	12.6	..
Cash surplus/deficit (% of GDP)	-4.2	-2.7	..

States and markets			
Time required to start a business (days)	24	35	35
Market capitalization of listed companies (% of GDP)	35.9	89.4	91.3
Military expenditure (% of GDP)	3.8	2.7	2
Fixed line and mobile phone subscribers (per 100 people)	25	19	63
Internet users (per 100 people)	7.5	10.8	10.4
High-technology exports (% of manufactured exports)	1	..	30
Global links			
Merchandise trade (% of GDP)	37	32	66
Net barter terms of trade (2000 = 100)	76	..	82
External debt, total (DOD, current US\$) (millions)	35,909	153,075	322,845
Short-term debt outstanding (DOD, current US\$) (millions)	1,230	11,971	173,377
Total debt service (% of exports of goods, services and income)	8.6	7.7	2.5
Foreign direct investment, net inflows (BoP, current US\$) (millions)	4,273	17,453	78,095
Workers' remittances and compensation of employees, received (US\$) (millions)	5,121	25,426	23,319
Official development assistance and official aid (current US\$) (millions)	2,14	1,379	1,245

Source: Pakistan Software Export Board.