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An Overview of Development Zones in China: Trends, Problems and Prospects

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Topic

- Introduction: Terms and Definitions
- Objectives of SEZ Design
- Progress of Industrial Development Zones
- The Case of Kunshan City (County-level)
- The Case of Shenzhen
- Contributions of SEZ to National Economy
- Major Factors for Success and Lessons Learned

1. Introduction

- In the past 38 years, China has achieved an unprecedented development “miracle” in human history. Since the institution of its Reform and Open Door policy in 1978, China’s gross domestic product (GDP) has been growing at an average annual rate of more than 9 percent.
- Its GDP reached at more than US\$10.77 trillion in 2016, and expected to be US\$ 12.80 trillion in 2017, in rank of the world’s second largest economy.

- While China's rapid rise has been a hot topic for development debate among policy makers, business people, and scholars all over the world, the numerous special economic zones (SEZs) and industrial development zones (IDZs) are undoubtedly two important engines for driving the country's growth.
- The early stage and development of SEZ: what lesson can be learned?

Terms and Definitions

- Special Economic Zones is a generic term that covers recent variants of the traditional commercial zones.
- The basic concept of a special economic zones includes several specific characteristics:

- (a) it is a geographically delimited area, usually physically secured;
- (b) it has a single management or administration;
- (c) it offers benefits based on physical location within the zone; and (d) it has a special customs area (duty-free benefits) and streamlined procedures.

2. Objectives of SEZ Design

- The four SEZs were quite similar in that they comprised large areas within which the objective was to facilitate broadly based, comprehensive economic development, and they all enjoyed special financial, investment, and trade privileges.
- They were deliberately located far from the center of political power in Beijing to minimize both potential risks and political interference.

- They were encouraged to pursue pragmatic and open economic policies that would serve as a test for innovative policies that, if proven successful, would be implemented more wide across the country.
- From four SEZs to nation-wide development of more SEZs and other kind of “SEZs”, all of those zones completely changed China’s industrial geography.

Progress of SEZ's Policy

- After 1992, the State Council created more and more economic and technological development zones (ETDZs).
- In doing so, they sought (a) to extend the ETDZs from the coastline to inland region, and (b) to focus less on fundamental industries and more on technology-intensive industries.
- By the end of 2010, there were 69 state-level ETDZs.

- ETDZs are typically located in the suburban regions of a major city.
- Within ETDZs, an administrative committee, commonly selected by the local government, oversees the economic and social management of the zone on behalf of the local administration.
- Rapid development of various SEZs!

Stages of SEZs

	Name	No.
1	Special Economic Zones in 1980	4
	Hainan Province in 1988	1
	Shanghai Pudong New Area in 1990	1
	Tianjin Bohai New Area in 2006	1
2	Economic and Technological Development Zones in 1984	14
3	High-Tech Industrial Development Zones (HIDZS) in 1988	57
4	Free Trade Zones in 1990	15
5	Export-Processing Zones in 2000	61
6	Industrial Parks	

- In 1988, the first HIDZ was established in Zhongguancun, Beijing.
- Although these HIDZs have played important roles in promoting China's high-tech industries overall, their performance differ; Some function similarly to ETDZs, and the line between these two types of zones has blurred in these cases.

- The success of SEZs requires a very capable government and a well-functioning market system, at least inside the zone and park.
- To design SEZs, the government has a perfect understanding of the regional and local comparative advantages and market situation.

3. Progress of Industrial Development Zones

- In China, generally speaking, SEZs operate in more technology – and capital-intensive sectors and enjoy greater government support, more foreign direct investment (FDI) and strong links to the global market.
- Industrial development zones, with the exception of some zones, usually operate in the low-tech and labor-intensive sectors with less government support. Many of them are consist of numerous small and medium enterprises, although some of them are gradually upgrading and moving up the value chain.

Hi-Tech Activities in IDZs

	2000	2008	2010	2014	2015
No. of Zones	53	54	56	114	
No. of Hi-tech Firms	20796	52632	51764	74275	82712
Employment, million persons	2.35	7.17	8.59	15.27	17.19
Gross Output Value, RMB trillion	0.79	5.27	7.58		
Total Income, RMB trillion	0.92	6.60	9.72	22.68	25.37
Manufacturing Output RMB trillion	7.51	44.14	60.96	97.82	
As % of national	10.52	16.24	14.09	23.19	
Exports, US\$ billion	18.58	201.52	247.63	435.14	473.27

Industrial Clusters in SEZs

- An industrial clusters is generally defined as a geographic concentration of interconnected firms in a particular field with links to related institutions.
- SEZs and clusters: “Top-Down” versus “Bottom-Up”. While SEZs are normally constructed through a “top-down” approach by central government policies, most clusters are formed in an organic way through a “bottom-up” process.
- The success of state-level SEZs spurred the speedy development of new ones by different levels of governments.

4. The Case of Kunshan

- Export-processing zones (EPZs) were created to develop export-oriented industries and enhance foreign exchange earnings.
- The first EPZ was inaugurated in Kunshan city in 2000. So far, 61 EPZs have been set up in China.
- Kunshan, situated to the west of Shanghai and to the east of Suzhou, has a unique geographical location.

Overall Performance

Indicators	Year of 2014
Registered Population, million persons	0.76
Resident Population, million persons	1.65
Regional GDP, US\$ billion	48.80
Industrial Value added, % of GDP	53.1%
GDP per capita, US\$	30,000
Employment	
Agriculture, % of employment	1.56%
Industry, % of employment	65.10%
Exports, US\$ billion	53.58
Imports, US\$ billion	31.21

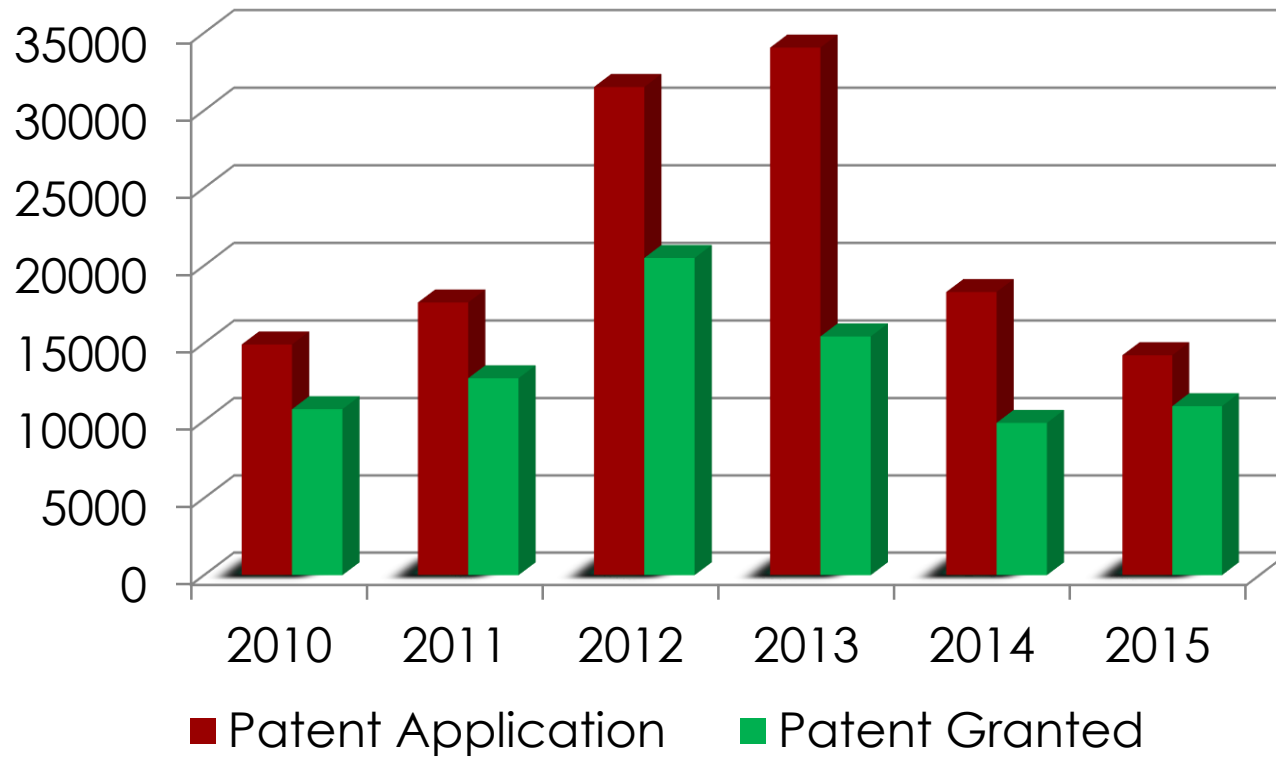
Fixed Assets Investment in 2014

Manufacturing	Investment, RMB billion	Share, %
Chemicals	1.79	6.76
Rubber and Plastics	1.60	6.04
Metal Products	1.07	4.04
General machinery	2.34	8.83
Special Purpose of Machinery	2.39	9.02
Automobile	1.55	5.85
Electric Equipment	2.38	8.98
Computer and Electronics	8.19	30.91
Sub-total	21.31	80.42
Total Manufacturing	26.50	100.00

Technological Innovation

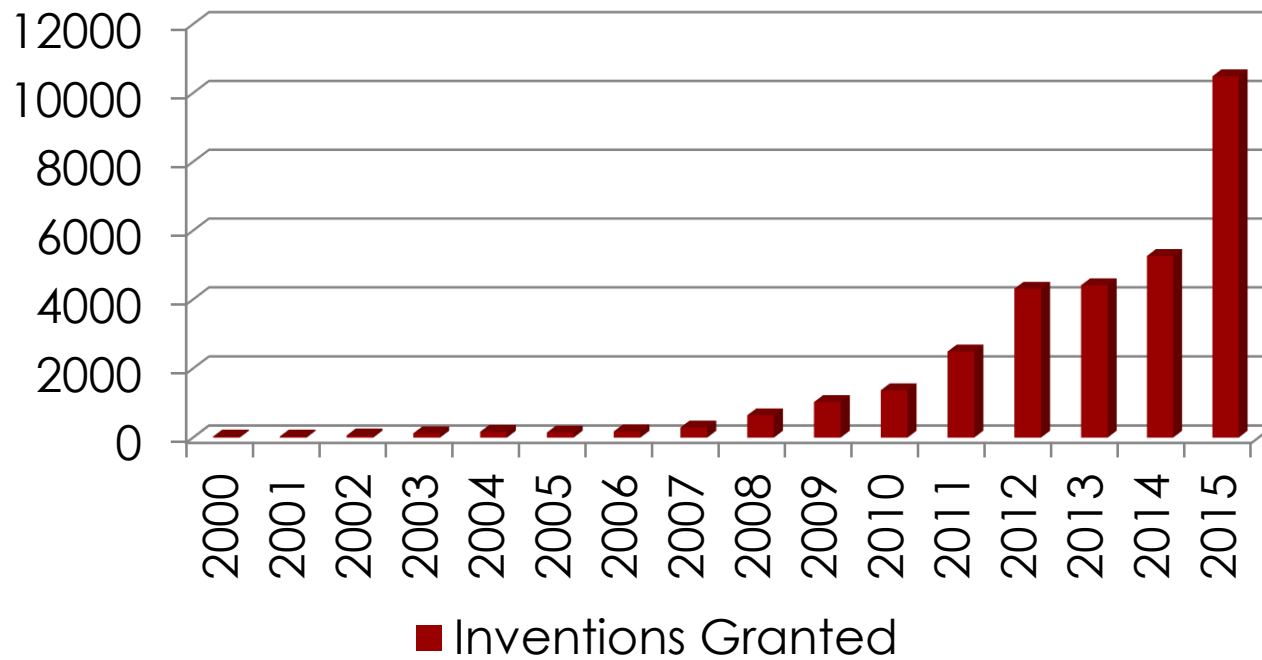
	Patent Application	Patent Granted
1995	22	30
2000	787	972
2010	14923	10750
2011	17626	12742
2012	31515	20495
2013	34053	15439
2014	18302	9867
2015	14229	10947
Inventions	4931	1908/10488
Utility models	8285	7292
Designs	1013	1747

Kunshan's Patents



Suzhou's Inventions Granted

Inventions Granted



- With 20 years of development experience, KETD has expanded from 3.75 square kilometers to 115 square kilometers and has become the leading force in Kunshan's economic development and scientific and technological progress.
- The strategic development for Kunshan has been directed towards a city of technological innovation.

5. The Case of Shenzhen

- On August 6, 1980, the Standing Committee of the National People's Congress authorized an area of 327.5 square kilometers to be designated as an experimental economic zone.
- Shenzhen's SEZ has been serving as China's "Window of the World" and "an experimentation field" ever since the nation's opening up.

A. Shenzhen's Development

	1980	2000	2015	An. Growth
Population, million	0.31	7.01	11.38	10.5
Non-registered	/	5.76	7.83	26.8
GDP, RMB billion	0.27	218.75	1750.29	23.0
Industry Value-ad	0.04	96.28	674.30	30.7
per capita, RMB	606	32800	157985	11.2
Per capita, US\$	122	4809	25400	/
Employed, million	0.15	4.75	9.06	/
Manufacturing	/	/	3.84	/
Gross Value of Industry, RMB billion	0.11	307.15	2660.81	32.9

Discussion

- The city's industrialization began in 1980, when the SEZ was announced and implemented began. From 1980 to 2015, the average annual growth rate of industry value-added was 30.7%.
- Shenzhen has become one of China's most productive cities, with the highest per capita income of RMB 157,985 in 2015, equivalent to US\$ 25400.

Migrant's Contribution

- Because most SEZs were built in new areas or suburbs of cities and were open to all qualified workers, they were attracted a large number of immigrants from across the country and, recently, from overseas, who hope for better jobs and new opportunities.
- Such a strongly motivated migrant committing tends to generate an innovative and entrepreneurial culture. For example, in Shenzhen, migrants accounted for 83% of the total population.
- Such a young and innovative culture makes Shenzhen one of the most dynamic SEZs in China.

Shenzhen's Contribution

- In terms of economic size, Shenzhen is the third largest city in China, after Shanghai (RMB 2.51 trillion) and Beijing (RMB 2.30 trillion), accounting for 2.55% of national GDP.
- Its contribution to the nation, however, reaches beyond what can be measured by a mere GDP figure. In such areas as hi-tech industries and hi-tech innovations.

B. Development of Hi-Tech Industries

- After establishment of its SEZ, Shenzhen began its expansion mainly through processing, trade, and assembly activities.
- From 1995, Shenzhen's municipal government promoted technological innovations and the development of hi-tech industries, to encourage the upgrading of the city's production capacity and transfer of new technologies to associated industries.
- The dominance of IT industry in Shenzhen.

Hi-Tech Industries in Shenzhen

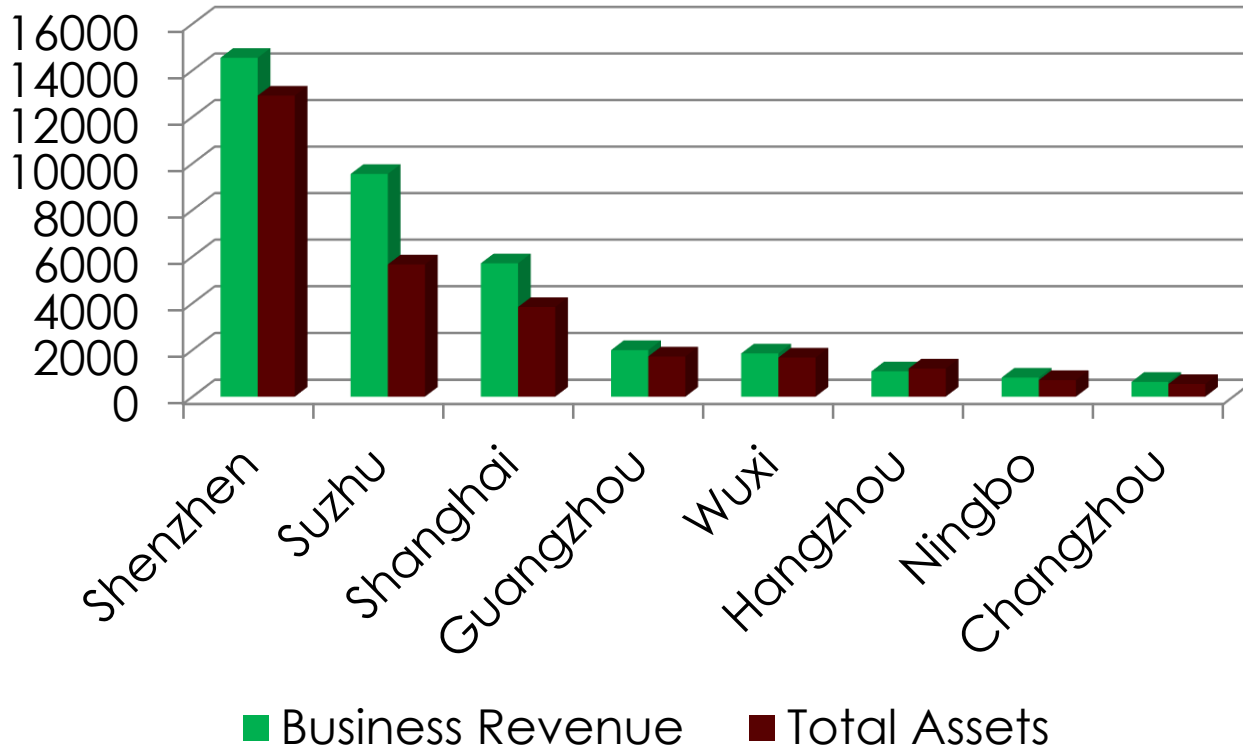
2015年	ICT	Electric	Medicines
Business Revenue	14540.41	1997.97	200.30
% of Manufacturing	61.13%	8.40%	0.84%
Total Assets	12913.89	2240.94	529.50
% of M.	54.35%	9.43%	2.23%
Total profits	1070.66	100.65	46.67
% of M.	67.13%	6.31%	2.93%
Labor Productivity, RMB	260086	98081	453148
Industry=100	131	50	229

Unit; RMB 100 million.

Cities' IT Industry in National Shares

	Business Income	Total Assets	Total Profits
RMB 100 million	91606.58	34268.33	4563.74
Shenzhen's ratio	15.87	37.69	23.46
Suzhou's ratio	10.42	16.52	8.18
Shanghai's	6.23	11.19	2.66
Wuxi's	2.02	4.89	1.86
Hangzhou's	1.27	2.01	3.82
Ningbo's	0.84	2.08	0.92

IT Industry Revenue in City's Comparison



Manufacturing Structure

	Shenzhen	Guangzhou	Suzhou	Shanghai
Chemicals	248.87	1791.85	1777.12	2652.47
Medicines	200.30	245.20	273.03	659.39
Basic metals	369.79	635.58	3185.17	1821.88
Machinery	1335.48	801.84	2929.57	3671.23
Automobile	545.37	3786.41	1296.73	6574.19
Other transport	151.16	603.36	283.95	783.17
Subtotal, % of M.	11.15%	49.69%	32.42%	47.60%
Electric	1997.97	911.00	2534.71	2215.65
IT	14540.41	1992.47	9547.89	5706.66
% of M.	61.13%	13.00%	32.68%	17.52%
Manufacturing	23784.35	15332.44	29217.47	32572.16

Discussion

- After 20 years of effort, the hi-tech industries of Shenzhen have developed rapidly, and the city has become one of the most important bases for hi-tech industry development in China.
- Shenzhen's IT industry ranks first in both its value added and its contribution to GDP. Its value added output accounted for around 22% of its GDP.

C. Hi-Tech Innovations

- Do clusters foster innovation?
- There is a growing recognition that cluster initiatives could be an effective means for producing an environment conducive to innovation.
- With the major hi-tech industries changing from importing technologies to independent innovation.

R&D Activities in Shenzhen

	R&D /GDP	R&D US\$ billion	R&D Per capita	R&D Persons	Persons/ Million
2009	3.41	4.09	411	74599	7497
2010	3.48	4.92	475	79481	7663
2011	3.61	6.4.4	616	93180	8902
2012	3.77	7.74	734	101760	9648
2013	4.03	9.4.4	888	94181	8861
2014	4.00	10.4.2	967	89256	8281
2015	4.18	11.76	1033	77869	6843
2016	4.28				

R&D in Industrial Firm Levels

	2009	2015
Expenditure on R&D, RMB billion	25.90	67.27
In US\$ billion	3.79	10.80
To Sales Revenue, %	1.77	2.69
R&D Personnel, person	128208	174953
Experimental Development	110944	135868
Expenditure on New Products	29.37	87.23
in US\$ billion	4.30	14.01

Innovation Carrier

	2010	2015
Total	419	1283
1. National Level	41	80
National Key Laboratory	8	14
Engineering laboratory	non	16
National Incubator	10	12
2. Provincial level	20	129
Provincial Key Laboratory	7	22
Engineering Research Center	13	96
3. Municipal Level	358	1074
Municipal Incubator	8	58

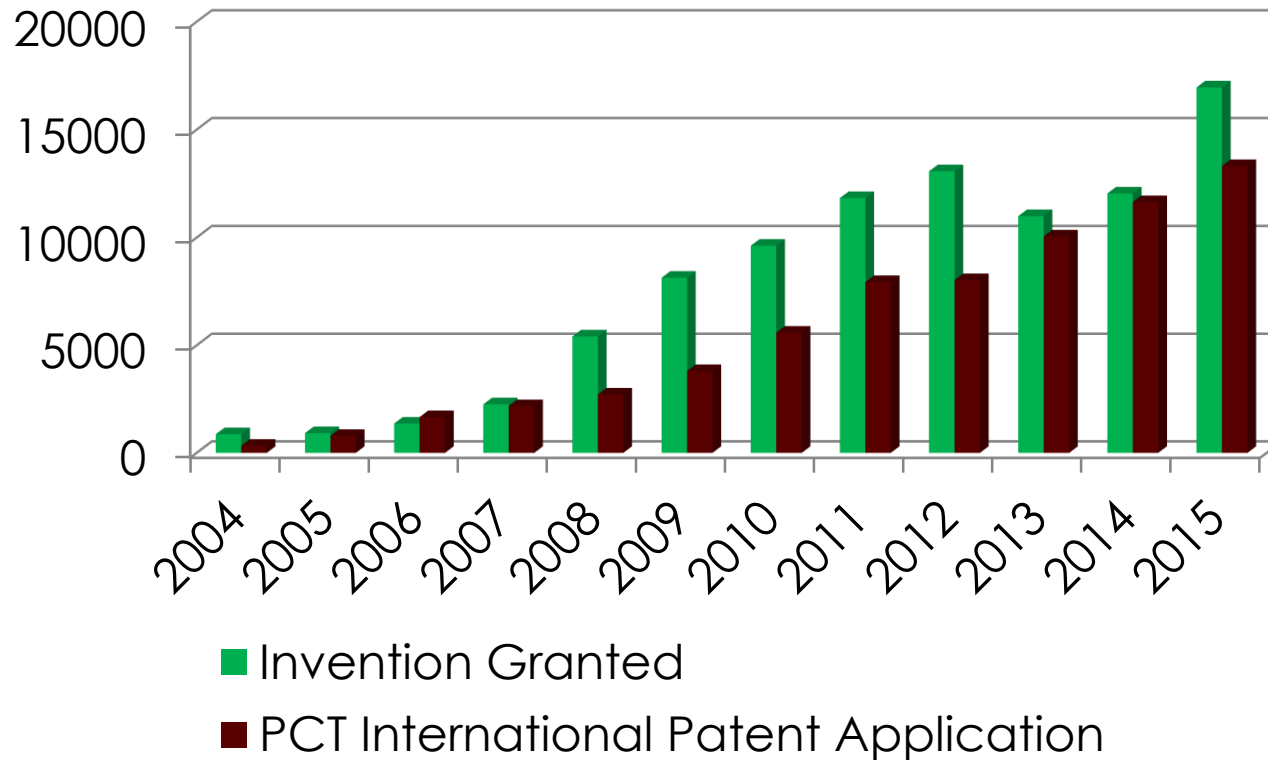
Incubators

- To support the development of incubators, a maximum of RMB 3 million in 2000 and RMB 20 million (USD 3.2) in 2015 will go toward subsidizing technological enterprise incubators certified by the technological authority of the municipal government.
- The intention is to support the construction of public facilities for the technological enterprise incubators, such as public service platforms, network communications, facilities, and instrument for professional laboratories.

Patent Granted, piece

	Patents Certified	Invention Patent	PCT International Patent Applications
2000	2401	1	
2004	7737	864	331
2010	34951	9615	5584
2011	39363	11826	7933
2012	48662	13068	8024
2013	49756	10987	10049
2014	53687	12040	11639
2015	72120	16957	13308

Invention Patent Granted



Discussion

- The number of patents certified in Shenzhen is also growing rapidly.
- Clearly, Shenzhen has become the major innovation city both in China and all over the world.
- A comparison of Shenzhen and Silicon Valley.

4. Shenzhen vs. Silicon Valley

	Shenzhen	Silicon Valley
Population, million	11.38	3.05
Area, sq. kilometers	1997	4802
Employed, million	9.06	1.59
GDP, US\$ billion	281.00	255.69
GDP of province	24.04%	10.4%
GDP per capita, US\$	25400	125600
Patent	16957	/
Patent of Province	50.65%	47.2%

6. Contributions of SEZ to National Economy

- Economically, SEZs have contributed significantly to national GDP, employment, exports, and attraction of foreign investment and new technologies, as well as adoption of modern management practices, among others.
- The various types of the high-tech development zones are in fact the engines of China's high-tech industries and contribute greatly to its technology upgrading.

A Comprehensive Approach

- What next steps for China's SEZs?
- While China is gradually losing its low-cost labor advantages to other countries such as Bangladesh and Vietnam, it needs to upgrade the current SEZs and clusters through technology innovation, adaptation, and diffusion as well as through skill training.

7. Major Factors for Success and Lessons Learned

- Strong commitment to reform and pragmatism from top leadership.
- Preferential policies and institutional autonomy. To encourage firms to invest in various zones, the SEZs had in place various preferential policies, including inexpensive land, tax breaks, rapid customs clearance, the ability to repatriate profits and capital investments, duty-free imports of raw materials and intermediate goods destined for incorporation into exported products, export tax exemption, and a limited license to sell into the domestic market, among others.

- Strong support and proactive participation of governments in all levels.
- FDI and industrialization, the corporate tax rate was especially generous;
- Technology learning, innovation and upgrading in the domestic economy.

■ **Thanks!**