

Guangdong (GD) Province: Economic situation, Research & Development (R&D), and general remarks

Economic situation

GD province with a total area of 179 757 sq. km and a total population of 104 million residents in January 2011 is the most populated province in the People's Republic of China. With its climate and the proximity to the ocean it has favorable geographical conditions for economic growth.

Despite of nationwide slide, GD province achieved GDP of 4.55 trillion yuan (700 billion USD) in 2010, which surpassed the provincial government's expectations by more than 1 trillion yuan and placed the province as the best performing province in China for 22 consecutive years.

The province contributes approximately 11.4 % of China's national economic output, therefore GD province is a significant financial contributor to the development of central and western China as well as a catalyst for general reforms of technological modernization of Chinese economy.

From 1979 to 2010 it has maintained the highest average annual growth rate among Chinese regions, 12.2% in 2010. However, for the 12th Five-Year Plan (2011-2015), GD provincial government lowered its expectation of annual GDP growth rate to 8%, one of the lowest among Chinese regions, in order to ensure that lower target will enable restructuring of provincial economy, change the growth model and enable faster growth in the future.

The development of the GD province is driven by manufacturing, originally financed by foreign capital, and export. Recently government spending and consumption have also added to the development of the province.

Most of GD's manufacturing represents traditional labor intensive industries. The province biggest industries are automobile, auto components, petrochemical, electronics, and information technology. Even though the labor costs are rising, leading to an increase in operating cost by 10%-30% annually, this business model is still profitable.

Today, however, the province faces increasing competition from other regions in China and other Asian economies such as Vietnam or Malaysia.

GD's export of 453.2 billion USD in 2010 accounted for one third of China's total export, the provinces import of 331.5 billion USD in 2010 accounted for one fourth of China's total import. GD province hosts the largest China Import and Export Commodities Fair as well as China International Small and Medium Enterprises Fair in Guangzhou, and China Hi-Tech Fair in Shenzhen. GD's main export commodities included electric and electronic products, computer and communication technology, machinery and equipments. Its main export markets are Hong Kong, US, EU and Japan.

Since the opening policy and reforms, GD province has received large portions of foreign investments into China. Actual FDI in GD for 2010 was 20.3 billion USD and accounted for one fifth of China's total utilized FDI. Foreign-invested enterprises are playing an important role in GD's economy with a share of 62.9 % of total export. 56 % of the FDI in the province is engaged in manufacturing industries, including computer accessories, biological products, mechanical and electrical products, refined chemicals, hardware and traditional industries such as toys and garments. In recent years, FDI in the province has also been channeled into infrastructure, real estate, capital and technological intensive projects. Major investors in GD province are Hong Kong, Taiwan, Japan, Singapore and US.

The province has a strong private sector with 4.354 million registered private-owned companies that accounted for 43% of the provincial GDP output in 2010. Many indigenous enterprises have also developed strong brands and have become market leaders in China.

EU and GD province economic cooperation:

The European Union is one of the largest trading partner of GD province, and remains a lucrative business opportunity for EU businesses. According to statistics, in 2010, GD's import and export with the EU was valued at \$ 92.94 billion USD - an increase over previous year of 25.9%. Exports to the EU accounted for 66.73 billion USD and imports from the EU accounted for 26.21 billion USD. The investments remain concentrated mostly in Pearl River Delta (PRD), main investors being Germany, France and Great Britain.

So far, there are two offices of European Union Chamber of Commerce in Guangdong province (Guangzhou and Shenzhen cities), and in the future, further engaging with China will be an important element in the growth of the European economy. European countries often have strengths as locations for R&D and scientific discovery, but their main challenge is how to exploit innovative ideas and develop new products. That opens opportunities in China, as Chinese firms, in contrast, are known for adapting the ideas of others and building on these ideas at home. Thus the challenge for companies from Europe is to identify and develop relationships with compatible business partners in China.

But although many Chinese firms have collaborated or are seeking collaboration on innovation projects with foreign companies, most of them are passive, expecting foreign companies to approach them, as many Chinese firm don't know how to go about finding an international partner.

Presently there is a discrepancy between European and Chinese firms' perceptions of bilateral collaboration on innovation projects. One possible explanation of this discrepancy is that the term R&D has different connotations in Chinese firms, as it can refer to various types of investment, and in some cases they might define the meaning of R&D in another way than most European countries do. Various economic fields see a rise in expenditure for R&D, due to the refining and improvement of already existing technology. Technologies, that often originated in Europe or were invented by European companies.

Research & Development

GD's spectacular success as China's pioneering province of the Reform & Opening era (i. e. 1st special economic zone, Shenzhen, which was established here 30 years ago) is losing drive and other Chinese regions and provinces are catching up.

For example, it used to consistently file more patents than any other province in China, two or three big players accounting for nearly half of them. In the last year, the proportion of filings approved was markedly lower for GD than Beijing and it was eclipsed by Jiangsu, though last year's figures show that it retains the largest cumulative filings and grants to date.

Therefore, new impulses are needed to counter competitive pressures from Chinese regions from the interior and neighbouring countries entering lower-end manufacturing, and coastal Chinese regions (eg Lower Yangtse region).

GD province is already responding at several levels:

First, GD province is recognising the problem. A comparative study of FDI in-flows into GD province & East China (Shanghai/Jiangsu/Zhejiang) in 2010 shows GD falling behind in FDI. The accumulated FDI contract value of GD from 2006 to 2010 reached 129.31 billion US Dollars. That is only half of the outcome of Jiangsu province. In these five years GD attracted only 90.6 billion US Dollars actual FDI - 26.6 billion less than Jiangsu.

That said, it has to be considered that FDI is not directly related to R&D, as foreign investment in a new production facility does not necessarily impact R&D expenditure. However, the fact that GD province accumulates less FDI than its direct competitors (i. e. Jiangsu) might reflect the fact that they become increasingly more successful in attracting FDI and simultaneously better equipped for technology-driven development.

Second, in May 2008 Party Secretary Wang Yang initialized the Double-Transfer“ (of industry and labour) policy. This initiative relocates low-end industries to parts of the province outside the Pearl River Delta (PRD). The Chinese call this process “Empty the cage and change the bird” (腾笼换鸟).

By the end of 2010, the GD government had newly established 34 industrial parks in the cities outside the Pearl River Delta for low-end industries. Almost 2500 industry projects with a total investment of 544.7 billion RMB are already set up there. Half of them are re-located from the PRD.

There are high tech clusters both existing and emerging and now GD has the biggest number of National High-Tech Zones, with overall 9. President Hu's inspection of such zones during his recent tour of GD suggests central support remains strong for this policy initiative.

Although this process can be regarded as successful, not all of the land freed up will become R&D centres. A lot of it is office, retail and residential development. Therefore it doesn't provide any direct conclusion what kind of industries are replacing the low-end industries in the PRD and if they might have a higher R&D intensity.

And third, the province focusses on technological upgrading. Its emphasis is more on innovative industries and on strengthening R&D bases in GD.

In GD, investments by enterprises in R&D are higher than in other Chinese provinces. Overall, 88.5% of the R&D expenditure came from the industry. The government and the publicly funded research institutes and universities only contributed marginally. R&D activities in GD province are mainly market driven and carried out in industry, especially large- and medium- sized enterprises (LMEs). Correspondingly, research policy in GD province is very much focused on encouraging technology upgrading and enhancing industrial R&D capabilities.

Official figures of the statistics bureau of GD province show this remarkable development. Regarding the R&D expenditure figures as part of GDP, in 2010 GD has spent 1.8% of its GDP on R&D, which means 80 billion RMB in total (for reference: the OECD average was 2.33% in the same year). The goal was 2% by the end of 11th five year plan. And the average spending in China on R&D was 1.7%.

This figure, however, is falling far short against the self-defined political and economic targets.

The involvement of the Chinese army and their expenditure for R&D remains unknown. It is known that the army, being involved in various economic sectors, already operates in this specific field and finances military projects of own concern. However, no such information is published officially and there are no public figures available covering their expenditure.

Prominent - and in fact quite impressive - examples of successful R&D-intensive companies are Shenzhen telecommunications company Huawei (10% of annual profits go to R&D; 46% of staff are engaged in R&D) and ZTE; both also rank highly in applications for international patents (PCT patents).

Of the R&D expenditure, only 2% was spent for the basic research, and 4.5% for the applied research. Both figures are negligible and grossly out of balance in comparison with experimental development (93.5%).

Expenditure for R&D varies widely across GD province - from 0.42% of provincial GDP in mountainous northern regions of the province, to 3.41% in Shenzhen (GZ: 1.87%, Zhongshan 1.82%).

GD lacks top-class research institutions such as renowned universities and research centres of national standing, a sufficient talent pool, and locally generated technologies. Therefore it is falling behind in attracting the best national and international mobile talent, compared with Shanghai and Beijing. Whereas they have two top class universities each, GD has only one really top class university (Sun Yat Sen in Guangzhou, with a second campus in Zhuhai).

However, there are few notable exceptions, like BGI in Shenzhen, or the Guangzhou Institutes of Biomedicine and Health, and the province of GD is looking for solutions and its response is already shown in different areas:

Attempts are made to attract high-tech talents (eg providing incentives for Chinese either educated or professionally successful overseas) For example, a strategic project between GD province and Singapore - called Sino-Singapore Knowledge City - is envisaged to become a vibrant and ecologically friendly city with conditions conducive to attracting talent, skilled manpower and knowledge-based industries.

Innovative establishments of higher education is a major concern for the province. The best example so far is the „South University of Science and Technology“ 南方科技大学/SUST in Shenzhen. SUST is meant to become a new type of university, i. e. run by academics and not by bureaucrats, free to employ top-flight international faculty, and - most important and controversial - to accept students autonomously and not through the government-organised state-wide annual university entrance exams (*gaokao*).

The project of SUST is ambitious and up to date a - struggling - work in progress. Major obstacles still remain unresolved despite the initial support of the Peking Ministry of Education: rules for financing, recruitment of faculty and enrolment of students outside *gaokao* are yet to be reliably established.

So far, 45 students have been enrolled. But their academic future remains uncertain. SUST's teething troubles indicate a wider difficulty: some reform steps GD is pursuing, such as promoting research-oriented higher education, need more than money and political will. They require reshaping the general environment in order - in the case of higher education - to make enhanced institutional autonomy of universities - and, within these, of faculty - politically palatable. This, however, far exceeds the bounds of what a provincial government is allowed to do on its own authority.

Besides the provincial governments response, it's also important to mention the national '1000 talents' program' that provides incentives for overseas Chinese or other nationals to work in high-level positions in China. Many of these talents are working in GD province.

Summary

As China's export power house, GD (more than 25% of all Chinese exports originate here) is feeling the heat of competition and bearing the burden of a pioneer being overtaken by later entrants into the reform-and-opening process.

It also shoulders the burden of integrating the country's largest proportion of migrant workers from other parts of China (one reason why „social management“ looms large on the province's agenda).

And, finally, the re-orientation towards higher-level manufacture and supporting technological know-how. This development offers interesting prospects to EU industry, and we should jointly examine it in detail at a later stage.

Challenges and opportunities for EU companies in Guangdong province

Challenges:

1. As the costs of labor and raw materials in PRD increase rapidly, the province faces increasing competition from other regions in China and other Asian economies such as Vietnam or Malaysia. Therefore it is less attractive for investment in labor intensive manufacturing.
2. Business environment in GD province remains difficult for EU investors. They face challenges such as lack of well trained workers, unfair business practice and abuse of e-commerce. Moreover, the entrance into Chinese market and search for liable Chinese business partners in comparison with European business practices is more time consuming.
3. Regulatory uncertainty, need of compliance with the continually changing regulations is perceived as complicated by European enterprises. And those based in the PRD face administrative challenges in cases of relocation between different municipalities in the province. It increases operating cost for the small and medium enterprises (SMEs).
4. While GD province attracts more and more high-tech companies and R&D centers, European enterprises are still reluctant to transfer technology to China due to fears that it will be misappropriated.
5. Chinese investors in EU face challenges of antipathy of European consumers towards Chinese capital and products because of perception of bad quality and concerns of protection of labor places and domestic companies.

Opportunities:

1. GD is not only the most populated province in China, but also one of the wealthiest, with a rapidly growing domestic market, making it an attractive destination for European enterprises wishing to expand their products onto the Chinese market.
2. In GD province, pilot programs of liberal regulations inspired by the Hong Kong legal system are being carried out. The rule of law, transparency and efforts of effective law enforcement are strongly present in local polices which indicates that GD province continues its role as experimental hub for regulations not yet introduced in other parts of China.
3. The local authorities promote rapid improvement of logistics as well as export proceeding infrastructure. The province has access to the ocean as well as an excellent infrastructure connecting it with other regions of China. GD province can be regarded by European enterprises as a base to expand business activity to other Chinese provinces or even Asian countries in the region.

4. GD plans to modernize and expand its industry into green energy and more efficient production methods are giving European companies opportunities to test and market their high technological solutions and management models.
5. GD enterprises have the capacity to lead Chinese investment into EU. Chinese enterprises are planning to win contracts and government procurements all over Europe by offering lower costs of construction of infrastructure as well as investing in reconstruction of traditional industries, regarded as unprofitable by European enterprises.