

PART II
Chapter 3

The Shanghai “Highland of Talent” Strategy

by
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Having invested heavily throughout the 1990s in physical infrastructure, the Shanghai Municipal Government (SMG) began a parallel investment in 2003 to strengthen human capital in the metropolis and move Shanghai towards becoming a global city. The SMG announced an integrated strategy of competitiveness building human capital development via four key themes: attracting Chinese overseas graduates, vocational training of on-the-job workers, training for local workers without jobs, and training of migrant workers. This strategy has had considerable success, largely through taking a balanced approach (attracting talent, upskilling the labour force and integrating the hard to reach) while also setting clear targets and achievable goals for local stakeholders.

Introduction

Shanghai is the core metropolis in a large, rapidly urbanising and industrialising corridor stretching from Ningbo through Hangzhou, in Zhejiang, to Shanghai, and then northwest through Suzhou, Wuxi, and Changzhou to Nanjing, in Jiangsu Province. Recently completed bridges mean that the megalopolis now includes a corridor of smaller cities along the north shore of the Yangtze River. The megalopolis, which is 250 km long but less than 50 km wide, constitutes China's largest megalopolis, with a population of 76 million. The megalopolis covers 1% of China's land area but, in 2004, held 6% of China's total population, contributed 18.7% of China's total GDP, 32% of China's import and export trade, and attracted 48% of the total foreign direct investment in China.¹

Shanghai is clearly the principal hub of the Yangtze Delta Megalopolis. It accounts for 22% of its population and produces 23% of its GDP. Despite Shanghai's prominence, the Yangtze Delta Megalopolis is a complex network of metropolises, large cities, intermediate cities, small cities and towns, many of which have experienced economic growth rates higher than Shanghai's over the past decade. There has been considerable direct foreign investment into these smaller cities in the manufacturing, tourism, retail, transport and infrastructure sectors.

The city is located on the eastern fringe of the Yangtze River Delta, along the centre of China's coastline, covering a land area of 6 340 km² comprising 18 districts and 1 county (Figure 3.1). By 2005, the city had a total population of 18 million (13.6 million registered residents, and 4.4 million migrants).² Just over half of its population is concentrated in the core city, the urban area of 660 km² within the outer ring road.

There are considerable social, economic and demographic differences among Shanghai's nineteen districts and one county, particularly between the nine suburban districts and county, and the nine urban districts. Although there is no official difference between urban and suburban districts in Shanghai from an administrative perspective, Shanghai's urban districts usually refer to the nine traditional districts within (or having most of their areas within) the outer ring road: Huangpu, Luwan, Jin'an, Xuhui, Changning, Hongkou, Putuo, Zhabei, and Yangpu. Suburban districts refer to the eight districts of Baoshan, Minhang, Jiading, Jinshan, Songjiang, Fengxian, Qingpu, and Nanhui (the last six districts were upgraded from counties after 2000). Pudong New Area was designated in 1990 as a special development zone of

Figure 3.1. **Map of Shanghai**

Note: "D" refers to Districts.

Source: Chreod.

Table 3.1. **China's top five cities of talent, 2000**

	Number of people with education attainment of junior college and above per every 1 million of local population	Ranking
Beijing	1 684	1
Shanghai	1 094	2
Guangzhou	931	3
Tianjin	901	4
Chongqing	280	5

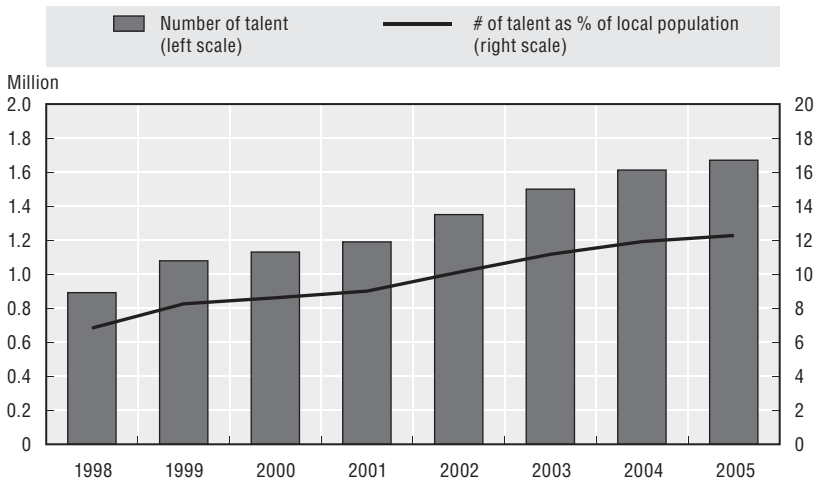
Source: China National Census 2000, and Sun Luyi, "Talent Strategy and International Metropolis", page 23.

350 km² along the east side of Huangpu River; it was upgraded to a district in 2000 and its territory expanded to 523 km².

As China's most populous city and the country's preeminent economic centre, Shanghai has the second largest talent pool among all China's cities,

only outranked by Beijing which is the country’s capital city (Table 3.1). Over the last decade, Shanghai Municipal Government (SMG) has allocated higher priority to developing the city’s talent pool, and has successfully expanded the pool from 0.89 million in 1998 to 1.67 million by 2005 (see Figure 3.2 and Box 3.1: Shanghai’s definition of talent). Being China’s largest industrial base and service centre, Shanghai also retains a substantially sized labour force of skilled workers (1.5 million in 2003), making Shanghai one of the largest labour markets of skilled workers in China.

Figure 3.2. **Shanghai’s talent pool, 1998-2005**



Source: i) Shanghai Statistic, *Yearbook 2006*, ii) Shanghai Municipal Personnel Bureau: *Annual Report of Shanghai’s Human Resources, 2005*, iii) Sun Luyi, “Talent Strategy and International Metropolis”, page 23.

Economy growth and transition

Gross domestic product (GDP) in Shanghai in 2005 was CNY 915 billion, accounting for 5.0% of China’s total GDP. Shanghai’s per capita GDP (including migrants) was CNY 50 856 in 2005, around 3.6 times the national average.³ This corresponds to a purchasing power parity figure which places Shanghai at the higher end of middle income countries according to this key indicator of living standards and productivity. Since 1990, Shanghai has experienced growth in real GDP of over 11% per year (Figures 3.4 and 3.5), placing Shanghai among the most rapidly expanding regions in China and within the global economy. Increases in living standards, as measured by per capita GDP, were also substantial at over 9% per year.

The cumulative effects of a large number of interrelated factors explain the strong growth and comparatively high living standards in Shanghai. The

metropolis has a high rate of urbanisation (at least 90%) and high densities of population and production.

Shanghai has comparatively large (and expanding) tertiary sectors. It is now the major financial and commercial centre in mainland China. The transformation of Shanghai's economic structure over the past decade or so has been dramatic. The tertiary sector accounted for only 26% of Shanghai's GDP in 1985, when the secondary sector was dominant with a 69.8% share of GDP. Two decades later, in 2005, the secondary and tertiary shares of Shanghai's GDP are roughly equivalent (49% secondary, 50% tertiary), and the long-term trend for the tertiary sector share is clearly upward.

Services now dominate the metropolitan core, whereas the secondary sector remains the most important source of production and jobs in the rest of the region. This reflects the relocation and direction of secondary activity from the urban core to the Pudong New Area, the suburbs and counties over a very short 10-year period. Accordingly, an important factor in Shanghai's growth performance is the emergence of a strong quaternary sector that provides high wages, generates high productivity, uses more advanced technology, and supports significant trade with other regions of China and overseas: this includes banking, insurance, real estate, scientific research and advanced technical services.

The dramatic economic growth of Shanghai over the last 15 years has been grounded on a national development strategy, introduced by the Government of China in 1990, of having Shanghai drive the country's economic growth through the development of the Pudong New Area. Decades of underinvestment had constrained the growth of the east side of the Huangpu River, which bisects Shanghai. Recognising the potential for controlled policy experimentation in an area contiguous with the country's largest metropolis, the government designated Pudong as a “New Area” for testing a range of financial and economic reforms; a similar model of policy experimentation had been followed a decade earlier in Shenzhen, adjacent to Hongkong.

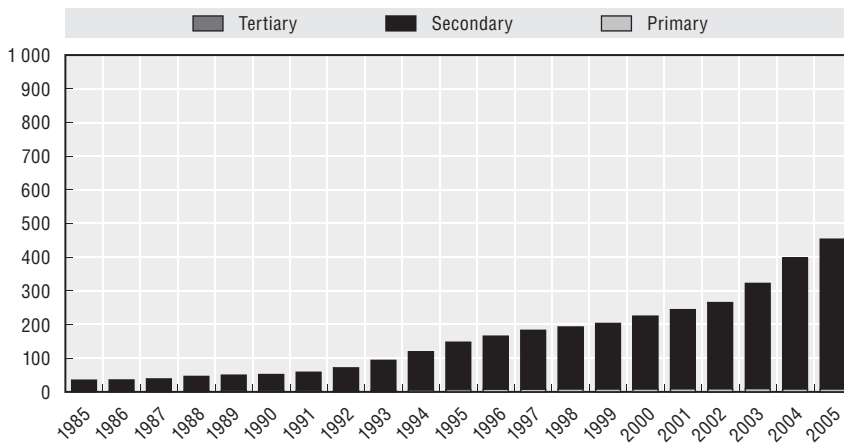
Attracted by favourable policies under the Pudong development initiative, which dominated the country's economic policy throughout the 1990s, significant investment from various sources, particularly foreign investment, poured into Shanghai. The city's economy took off quickly and grew at over 15% annually in the first half of 1990s.

However, the sustainability of this growth was constrained by an outdated manufacturing sector, and a relatively undeveloped tertiary sector of producer and consumer services. Historically a key industrial base of China, Shanghai had accumulated a large number of state-owned industrial enterprises (SOE) during more than four decades of state-dominated socialism. Producing outdated products using obsolete technology, and overloaded with redundant employees, Shanghai's industrial SOEs faced intense market competition during the 1990s

from foreign joint-ventures and private companies. Widespread stagnation of Shanghai’s industrial SOEs became apparent in 1994, and Shanghai lost its economic momentum. While substantial efforts and financial inputs were allocated from both the central and municipal governments to re-vitalise the rapidly deteriorating industrial SOEs in Shanghai, these efforts were largely unsuccessful. Shanghai’s economy experienced a sharp downward trend from 1994 to 1998 (Figure 3.3). This forced the SMG to launch a risky and high cost initiative in 1998 to fully restructure the city’s industrial sector.

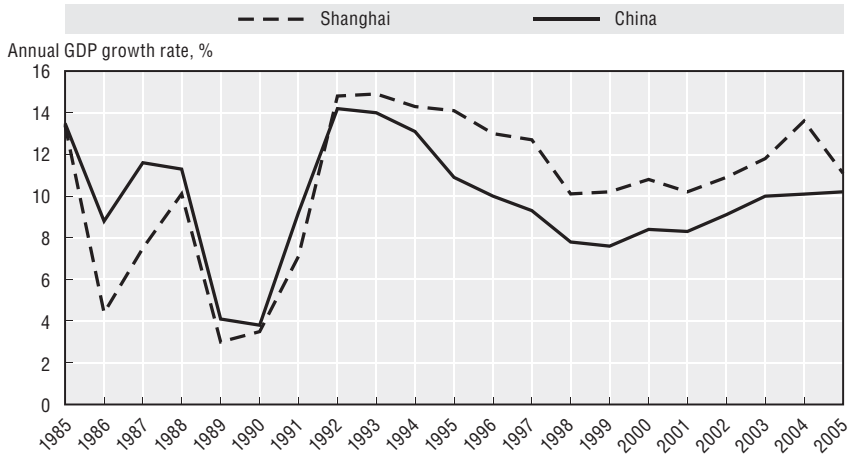
Under this industrial restructuring initiative, Shanghai closed all the industrial SOEs in its traditional industrial sectors characterised by outdated products with no markets, high pollution, and inefficient resource consumption (energy, water, land). From 1998 to 2002, over 1.27 million employees were laid-off due to SOE re-structuring in Shanghai, of which 30% (380 000) were from the traditional textile industry. Shanghai shifted its economic development priorities to the tertiary and higher value-added manufacturing sectors. Industrial restructuring in Shanghai was rapid and thorough: it is generally viewed as a successful model by other cities in China. A combination of government policy incentives to attract foreign and private investment in Shanghai’s industry sector, a pool of skilled workers, and the city’s advantageous location for accessing large markets in the Yangtze Delta region and inland China, led to significant foreign and private industrial investment. Industrial enterprises in the form of joint-ventures, wholly foreign owned firms, and domestic private companies soon replaced the SOEs in Shanghai’s industry sector. By the late 1990s, the city’s

Figure 3.3. **Shanghai gross domestic product (GDP), 1985-2005**



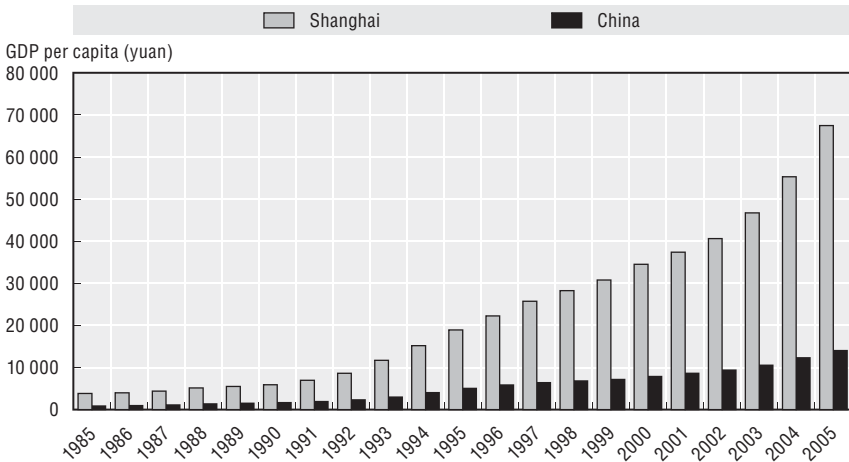
Source: *Shanghai Statistical Yearbook 2006*.

Figure 3.4. GDP annual growth rate in Shanghai and China, 1985-2005



Source: Shanghai Statistical Yearbook 2006, China Statistical Yearbook 2006.

Figure 3.5. Per capita GDP, Shanghai and China, 1985-2005



Source: Shanghai Statistical Yearbook 2006, China Statistical Yearbook 2006.

economy was restructured into export-oriented manufacturing and a rapidly growing tertiary sector.

Development strategy towards a global metropolis

Rapid economic growth, particularly after industrial restructuring in the late 1990s, has led to significant increases in business costs. The cost of land in Shanghai is rising due to limited land supply, and limited land that the city

can allocate to industrial development. Labour costs in Shanghai have also risen quickly due to the increase of wages tied to growing living expenditures. Rising business costs, particularly of land and labour, have dramatically eroded the comparative advantages that Shanghai had in competing with other cities and regions in China for foreign direct investment (FDI) and private industrial investment. Significant FDI and private industrial investment has bypassed Shanghai and gone to neighbouring cities in Jiangsu and Zhejiang Provinces. With far lower land and labour costs, the cities of Suzhou and Kunshan – which are less than one-hour drive away from Shanghai – have become major destinations for foreign and private industrial investment, particularly for export-oriented manufacturing.

By the late 1990s, Shanghai’s economy had developed to a level close to moderately developed countries with per capita GDP over USD 3 000. International experience suggests that economic growth in many developing countries and cities slows or even stagnates after reaching per capita GDP level of USD 3 000, largely due to the absence of new driving forces to sustain the dynamics of urban economies.

Recognising the constraining impacts of rising input costs and the need to activate new driving forces for a stagnating economy, in the late 1990s SMG adopted a new development strategy that had, as its vision, developing the city into an international metropolis and a global centre of commerce, finance, trade and shipping. Given its potential contribution to the national economy, the central government embraced and strongly supported Shanghai’s long-term development strategy by incorporating this municipal development strategy into the national Five Year Plans for 1990-1995, and 1996-2000 as one of the nation’s key development priorities.

To support the global metropolis strategy, comprehensive programmes and sectoral development plans – with clear, time-bound objectives – were prepared and implemented. Highest priorities were attached to developing the service sector and seven pillar industries in Shanghai. For the service sector, Shanghai has focused on developing subsectors of i) information service, ii) financial services and banking, iii) logistics services, iv) culture and creative sector, v) producer services of legal, accounting, and advertising services, and vi) retail/commercial business. For the industrial sector, Shanghai focused on higher-tech and higher value-added manufacturing in: i) information technology, ii) equipment manufacturing; iii) automobile manufacturing; iv) high-end steel products; v) petrochemistry; vi) bio-pharmaceuticals; vii) and ship manufacturing. Shanghai’s municipal government has recognised that upgrading the competitiveness of Shanghai is the key for becoming a global city: improving competitiveness is a key theme embodied in Shanghai’s new development strategy, in supplementary sectoral strategies (focusing on sectors of service, finance, trade, and shipping) and policy frameworks.

However, SMG also recognises that all of these competitiveness building initiatives and sectoral strategies will flounder unless a focal issue is squarely addressed: the serious shortage of skilled human resources in Shanghai.

Skills strategies in Shanghai

While almost all the municipalities in China have by now prepared a skills strategy, Shanghai was the first to identify the need for comprehensive and sustained programmes of skills upgrading during the second half of the 1990s as it confronted several serious impediments to the development of human capital:⁴

- In 1998, although Shanghai had second largest talent pool in China (only outranked by Beijing) of 0.89 million people,⁵ this pool was facing a serious ageing crisis. The city was to lose 90% of its top level leading scientists, 70% of its enterprise executives and managerial resources, and 40-60% of its high level specialised talents in two years (by 2000) due to retirement.⁶
- The city had experienced a severe brain drain as local talent migrated to developed countries during the 1980s and 1990s. From 1978 to 1996, the Shanghai Science Academy (the predominant pool of scientists and researchers in Shanghai) lost 58.8% of its young scientists and researchers to other countries.
- With over 85% of its talent highly concentrated in the fields of civil engineering, education, medicine, and scientific research, Shanghai had very limited talent resources in the industrial and service sectors (finance, banking, logistics, international trade and business). This significantly constrained the development of the service sector and higher-value added manufacturing – the two key driving sectors for Shanghai’s economic growth in the long run.

Shanghai was losing its competitiveness in: i) competing with neighbouring cities and provinces for foreign direct investment and private investment in industry; ii) competing with other R&D and innovation centres (Beijing, Shenzhen) in the high-tech sector in terms of R&D capability and high-tech products manufacturing (information and computer technology and bio pharmacy, in particular). Adding to the competition with domestic competitors was the looming competition from multinationals after China joined the WTO.

SMG launched its first talent development initiative in 1995 to develop Shanghai as a “highland” of talent in mainland China. The priorities were to attract and develop specialised talent and professionals in the service sectors of finance, insurance, foreign trade/business, accounting, and international law, all of which were urgently needed to serve the rapidly expanding demands of Shanghai’s service sector and the boom of foreign investment in Shanghai. The Talent Highland Initiative included efforts to attract talented people to upgrade Shanghai’s R&D and innovation capacity.

Box 3.1. Shanghai’s definitions of talent

Codified in 1982, China’s current official definition of “talent” for statistical purposes is based on levels of educational attainment and professional qualification. According to this definition, talent refers to people with educational attainment of “specialised secondary school” level or above (中专及以上文凭), or having a professional qualification of primary level or above (初级及以上职称). Over the last few years, the rationale of this national statistical definition of talent has been widely questioned, particularly its low benchmarks.

While this national definition of talent is still widely applied in China’s statistical practice, many of China’s larger cities, such as Shanghai and Beijing, began to use new talent definitions since 2000 with a higher standard to facilitate the development and implementation of their local talent strategies and policies. In Shanghai (as in Beijing and China’s other major cities), the definition of talent refers to people with junior college diploma or above (中级及以上职称), or having a professional qualification of medium level or above (中级及以上职称). Using this definition, Shanghai has a talent pool of 1.67 million in 2005.

In SMG’s literature of talent strategy and human resource management, talent is classified into three categories: i) talent of the party and government (including leaders and officials in the party and the government of various level in Shanghai); ii) professional and technical talent (including scientists, academics and technicians); and iii) talent of managers and executives. The framework of SMG’s talent development strategy and implementation programme reflects this talent classification.

It should be noticed that parallel to SMG’s new talent definition (with junior college diploma or medium-level professional qualification), a broad definition of talent is also used in SMG’s practice of talent statistics and human resource planning. The size of Shanghai’s talent pool under this broad term definition of talent is 2.67 million in 2005, including:

1. Party and government talent of all the formal staffs in the party organisations and public servants in the government at various levels in Shanghai.
2. Managerial talent of all the employees in managerial/administrative positions in enterprises.
3. Technical talent of all the employees on technical positions or employees doing non-technical jobs but holding professional qualifications (of any level).

However, the objective of sharpening Shanghai’s competitiveness was not achieved as anticipated, since the 1995 Talent Highland Initiative was too general and vague, and lacked clear and focused directives that could guide

feasible action programmes. The 1995 initiative also concentrated on the attraction and retention of high level talent and failed to adequately address the need to upgrade the skills of the existing workforce. This partially led to a severe shortage of the skilled workers who were increasingly demanded by Shanghai’s modern manufacturing sectors. The restructuring and downsizing of the city’s deteriorating industrial SOEs in late 1990s also distracted SMG’s efforts in implementing the Talent Highland Initiative. Although the initiative had been included in Shanghai’s Five-Year Plans and SMG’s annual workplans since the mid 1990s, effective efforts to implement a concerted talent and skills upgrading strategy did not occur until SMG promulgated a detailed “Action Framework for Implementing Shanghai Talent Strategy” in 2004.

In 2004, the Shanghai Talent Strategy was revamped with a greater focus on the needs of Shanghai as an international metropolis and a global centre of finance, trade and shipping by 2015. The strategy was structured in a more comprehensive and consolidated way with the scope of talent development activities expanded to cover not only high-level talent, but also the skills upgrading of Shanghai’s existing labour force.

The Action Framework of the Shanghai Talent Strategy defined ten priorities to be addressed between 2004 and 2010. With the approval of this action framework by the Municipal People’s Congress, and committed inputs from the municipal government, the implementation of the Action Framework over the last few years has been progressing well, and outcomes are encouraging. The ten-priority programme of talent and skills development includes:

- Talent development programme for the party and government leaders.
- Programme for developing top-level leading talents (scientists, academics, and researchers).
- Talent development programme for professional managers and executives.
- Skills upgrading programme for public servants.
- Talent development programme for 21st century engineers.
- Programme for developing highly skilled workers.
- Programme for attraction of overseas talents.
- Education and training development programme.
- Talent development programme for Shanghai Expo.
- Regional talent development co-operation programme.

Shanghai’s talent strategy action framework set out clear time-bound goals (by 2010) for the overall talent strategy and each of the ten component programmes. It also defined the institutional settings, responsibilities, policy measures and evaluation mechanisms to support the programme’s implementation. The targets of the action framework are: i) to expand the size of

Shanghai’s talent pool from 1.49 million people in 2003 (people with a junior college diploma or above, or having a professional qualification of medium level or above) to 2.2 million people in 2010; ii) to increase the number of specialised technicians from 1.29 million in 2003 to 1.8 million in 2010; iii) to increase the number of high-skilled talent workers from 0.14 million in 2003 to 0.25 million by 2010; iv) to upgrade the average education level of new entrants to the labour force to 14 years of education by 2010; v) and to increase the number of long-term expatriates working in Shanghai from 70 000 in 2003 to 150 000 by 2010.⁷

To facilitate the timely fine-tuning and adjustment of the talent and skill development programmes in responding to the changing market, SMG has released a talent development catalogue annually since 2004 (the SMG’s talent development catalogue was only updated every 3-5 years before 2004). Based on actual market information, the SMG’s talent development catalogue provides key information on demand/availability of talents and human resources in various sectors, and market outlooks for sectors in which trained and skilled workers will likely be under- or over-supplied (see Box 3.2 below). The catalogue also defines the prioritised sectors or fields that those implementing the government funded talent/skills upgrading programmes should address in their annual workplans.

At the same time, policy incentives and instruments, and new institutional setups were developed and issued to support the programme implementation, and to scale up the outcomes and effectiveness of the talent/skills development programme. Effective policy instruments applied by SMG included:

- Tax incentives.
- Financial assistance (including subsidies, grants, low-cost loans).
- Social security benefits (providing local residency certificates (called *Hukou*), pension and health insurance benefits).
- Family benefits (schooling for children, jobs for spouse, and housing assistance).
- Career development (high positions in government or public academic institutions, enterprises owned by the government, and high wages).

Once the policy incentives and instruments are tested and judged to be feasible, effective and sustainable, SMG recommends that the Municipal People’s Congress codifies them as local regulations. By 2006, Shanghai had issued 49 local regulations regarding the promotion of talent development, the largest number of local regulations for promoting talent/skills development in China.⁸

SMG anticipated that, upon completion of the Action Framework and its ten point talent development programme by 2010, Shanghai would have addressed the shortage of talent in key sectors, and that the city’s goal of being a national pole for talent (called “Talent Highland” by SMG) would be fulfilled.

Box 3.2. SMG’s talent development catalogue

As one of the activities identified in SMG’s municipal talent strategy, Shanghai Municipal Personnel Bureau develops and issues a *Catalogue of Talent Development* (人才开发目录). The catalogue is updated and issued on an annual basis with the first edition issued in 2001. The highlight of the catalogue is the listing of talent types that are most needed or likely will be needed in a short term of 1-3 years in Shanghai. The preparation and updating of the catalogue is grounded on comprehensive information relating to Shanghai’s labour market, and the inventory and registration database of the cities talent. The prioritisation of the catalogue list reflects the priorities identified in the city’s mid and long term development plan (SMG’s rolling Five-Year Plan), and the municipal annual work plan. It also reflects the need and changing trend of talent demand/supply on the city’s labour market. As the leading organisation of the task, Shanghai Municipal Personnel Bureau conducts wide consultations with other stakeholders, including related government agencies, leaders of Shanghai’s major industries, major academic institutions of HR, leading HR companies and job agencies in Shanghai. For example, in preparing and updating the catalogue of 2005 and 2006, twelve major municipal bureaus and commissions were involved and worked jointly on the task.

SMG’s annual *Catalogue of Talent Development* serves as a barometer for guiding the implementation of all the talent and skills programmes under SMG’s Talent Strategy. Each of these programmes is fine-tuned every year to conform with the priorities of the catalogue. The catalogue is also embraced by colleges, training institutions and vocational training schools (of both public funded and private) who take the catalogue as an important guide in designing and updating their training courses and curriculums. Shanghai Municipal Personnel Bureau and Municipal Labour and Social Security Bureau are the two key actors for developing and implementing SMG’s talent and skill initiatives. They collect and maintain comprehensive information to support their work on talent policy development and talent/skills programme design. Major information that the two bureaus managed include:

1. Labour market information: sourced from i) the Municipal Labour and Social Security manages a web-based public platform for job application/recruitment. In 2004, over 70 000 enterprises released their recruitment needs for total jobs of 1.003 million, and over 1.03 million applicants applied on the this job recruitment system; ii) job application/recruitment records from the Municipal Job Recommendation Centre and its branches that SMG established in each district; and iii) data and records from the official job-matching fairs organised by the Municipal Labour Bureau. In 2005, the Bureau organised 880 job-matching fairs in Shanghai. Over 48 000 enterprises participated in these job fairs with a total requirement for more than 500 000 jobs; iv) labour market tracking information collected and managed by a local non-public HR Agency Association (the association shares their data with the Bureaus).

Box 3.2. SMG’s talent development catalogue (cont.)

2. Population census information: China conducts a full-scale national census of population every ten years, and a sample survey of population every two years (1-5% sampling). The census and sample surveys of population provide basic data of demographic and educational attainment, jobs and other essential information. At the municipal level this census is managed by the Shanghai Municipal Statistic Bureau.
3. Statistical data: the annual statistical data managed by the Municipal Statistic Bureau provides information of education (scale of enrolment in colleges and schools of various level), and other social and economic activities in the city.
4. Inventory and registration data of professional qualification and skill qualification: managed by the Municipal Personnel Bureau (responsible for professional qualification) and the Municipal Labour Bureau (responsible for worker skill qualification).
5. Information from specific surveys conducted by the two bureaus.

Attraction and retention of talent

The shortage of high-level talent in the specialised fields of management, economics, finance, information technology and new material research became a bottleneck to SMG’s efforts to build up the city’s competitiveness, and to develop the city into a global centre of commerce, finance, trade and shipping. The process of scaling up Shanghai’s modern manufacturing sector was constrained. Parallel to reforming the city’s education system to develop local talent in the key sectors, the attraction of overseas Chinese graduates and talent in the key fields was viewed as an efficient and quick way to tackle Shanghai’s talent shortage in the short term.

In 2003 Shanghai launched a three-year programme to target young professionals who migrated to, and were educated in, advanced economies during the 1980s and 1990s. SMG expected to attract 10 000 talented overseas Chinese to Shanghai within three years. It sent talent recruiting delegations to countries where young Chinese talent concentrated, including the United States, Canada, UK, Germany, France, Japan, and Australia. The recruiting delegations were headed by high level SMG officials, and consisted of managers of top financial firms, VC firms and large manufacturing enterprises. Resident missions were set up in the key cities of these countries for the continuous promotion of highly paid and highly sought after positions in Shanghai to overseas Chinese talent, and to help connect the overseas talent with SMG and firms in Shanghai.

When the first phase of this overseas Chinese Talent Attraction Programme ended in late 2005, Shanghai had: successfully attracted 10 203 overseas émigrés; recruited high level talent for 4 045 positions; and assisted other returnees to set up private firms. This attraction programme was closely tied to SMG’s talent development catalogue. Of the total number of more than 10 000 Chinese émigrés returned under this programme, over 60% are specialised in the fields of management, economics, finance and banking, information technology and new material technology, and 12% are specialised in law, media, and culture.

Following the success of the first phase of this attraction programme (2003 to 2005), the implementation of the second phase (2006-2008) of the programme was launched in 2006 with the goal of attracting another 10 000 talents over a three year period. The newly launched second phase expanded the scope to cover not only young overseas Chinese émigrés, but also foreign professionals, and high-skilled people in Hong Kong and Taiwan. In 2006, the programme helped to attract another 9 492 skilled people to Shanghai, including overseas Chinese (accounting for 50.5%), foreign expatriates (46.4%) and professionals from Hong Kong and Taiwan (3.1%).

Design of the Overseas Talent Attraction Programme

SMG set up a high profile programme office chaired by senior officials from the municipal government; it also established resident missions in major developed countries. The key responsibilities of this programme office and its resident missions are: i) promoting the programme to overseas Chinese talent; ii) collecting and consolidating the recruiting requirements of firms and institutions in Shanghai, and introducing these vacant positions to the communities of overseas Chinese talent; iii) collecting information on overseas Chinese talent and recommending candidates to firms and institutions in Shanghai; iv) conducting market research, monitoring and evaluating the performance of returning talent; v) providing advisory services and support to overseas talent regarding SMG’s policies, business establishment, and adjustment assistance.⁹

The funding of the Programme is fully covered by SMG’s municipal fiscal budget. SMG asks all government organisations, public universities and research institutes, public hospitals, top firms owned by SMG and state-owned banking and financial firms and institutions in Shanghai, to provide top level positions for attracting overseas talent, with the level and number of positions clearly defined by SMG for each type of institution and government owned enterprise.

Complementary to the high pay and high level positions for overseas talent, a package of policy incentives was provided by SMG:

- Local residency certificate (Shanghai *Hukou*), for returnees (and their children and spouse). For those with foreign citizenship, provision of a special residency

certificate equivalent to a Shanghai *Hukou*, with full access to all the public and social security services.

- Special schooling programmes for the children of returnees to help them adjust to new living and school environments. The children of returnees have full access to the SMG’s schooling and education systems, from primary school to universities.
- Returnees can apply for professional qualification certificates under Shanghai’s professional qualification/certification scheme.
- Grant funding schemes at both municipal and sub municipal levels, with government fiscal input to support returnees in starting their careers, setting up private firms, and short-term lecturing in Shanghai.
- Exemption from individual income tax for returnees working in the prioritised sectors.
- Higher salary level than local employees for returnees who obtain positions in Shanghai’s government institutions, public institutions and enterprises owned by SMG.

Grant funding scheme for attraction of overseas talent

As part of its Programme for the Attraction of Overseas Chinese Talent, SMG initiated a special grant funding scheme in 2005 at both the municipal and sub-municipal levels to provide funding assistance to returnees. While the high-level and high-paying positions provided to returnees by SMG can attract and retain part of the returning overseas talent pool, the scheme called Pujiang Programme,¹⁰ can be of much more benefit to high-skilled émigrés who are considering returning to Shanghai.

Designed to support returnees to Shanghai to start their private firms and conduct research, the Pujiang Programme is managed jointly by the Shanghai Municipal Personnel Bureau and the Municipal Science Commission with an annual total grant of CNY 40 million allocated from SMG’s fiscal budget. Overseas Chinese who return to Shanghai to continue their research, set up their own firms, or lecture are eligible for grant assistance from the funding scheme. Varying by sector and by activity, and in line with the priorities of SMG’s talent strategy, the grant funding under this scheme ranges from CNY 50 000 to CNY 500 000 per person or per application.

Complementary to the Pujiang Funding Programme at municipal level and modelled on the same design, each of the 19 sub-municipal governments in Shanghai set up similar grant funding schemes at the district level. The size of the district grant funding scheme varies from CNY 5 million to CNY 10 million per year with input from the sub-municipal government annually.

Shanghai's programme for the attraction of overseas talent has proven to be well designed and effectively implemented. By the end of 2005, Shanghai had attracted over 63 000 overseas skilled migrants. Over 3 200 firms have been established by returnees with a total investment of USD 450 million (registered capital). The number of skilled returnees attracted to Shanghai accounts for over 33% of the total number of returning overseas talent in the whole country. In comparison, during the period of 1978-1999, a total number of 16 000 overseas talents returned to Shanghai which accounted for 16% of the total number of skilled people from overseas returning to China during the same period.

Surveys show that about 80% of skilled Chinese emigrants consider Shanghai as their first choice of destination for their career development when they return to China.¹¹

Upgrading the skills of the current labour force

As China's predominant industrial base, Shanghai has one of the top largest pools of skilled workers in the country. During four decades of China's planned economy, a large number of polytechnics were established under Shanghai's state owned enterprises (SOEs) on various industrial subsectors to educate and train skilled workers needed by the SOEs. Vocational training and on-the-job training were also provided by SOEs to their employees at their polytechnics.

The large scale re-structuring and downsizing of Shanghai's industrial SOEs in the late 1990s led to a huge number of workers being made redundant. Over 1.27 million skilled workers were laid off between 1998 and 2002. Following the large-scale restructuring, Shanghai's polytechnic system, which was structured under individual SOEs, also shrank dramatically. The teaching capacity and curriculums of SOE polytechnics were typically established in line with the outdated technology and products of the parent SOEs. When Shanghai fully restructured its industry sector towards modern manufacturing in upper value chains by 2002, the city faced a big challenge: the increasing shortage of qualified workers with the skills needed by newly established manufacturing enterprises (typically manufacturers with foreign investment) or restructured large enterprises who were adopting new technology.

In addition to the shrinking number of skilled workers resulting from SOE downsizing, early retirement and the collapse of polytechnics, the quality of the worker pool was also poor. In 2003 when the shortage of skilled workers in Shanghai peaked, over 60% of the workforce had only low or very rudimentary skills. Workers with a high level of skills accounted for only 6% of Shanghai's skilled labour force. The low skills of Shanghai's labour force, in particular the scarcity of highly skilled workers, became a critical constraint for SMG to

upgrade its industrial sector toward higher value-added manufacturing. In 2003, only 10-20% of the market demands for highly skilled workers could be met in Shanghai.¹² While efforts to scale up the new manufacturing industries in Shanghai were constrained by the lack of sufficiently skilled workers, what worried SMG more was the increasing number of unemployed workers resulting from SOE layoffs, the new generation of school leavers, and growing numbers of rural surplus labourers moving into the city. Although SMG had provided piecemeal job training to different jobless groups since the mid 1990s, this was typically structured to address unemployment pressures. The training initiatives were fragmented and did not contribute much towards upgrading the skills of Shanghai's labour force.

Challenged by the severe shortage of skilled workers and the pressures of increasing unemployment, SMG launched a comprehensive programme in 2003 to upgrade the skills of Shanghai's labour force. This skills upgrading programme consolidated the piecemeal job training initiatives into a systematic programme with clear objectives over the short and long term. The skills upgrading programme expanded training activities to cover all segments of Shanghai's labour force. A highlight of this programme was to fully reform the polytechnic and vocational training system in Shanghai towards market-oriented practice, and align the training programmes with the city's economic development strategy, focusing on modern manufacturing and service sectors.

Eight training programmes tailored for different labour force segments were designed and implemented under SMG's skills upgrading initiative launched in 2003:

- Skills building and upgrading: focusing on the training and skills upgrading of existing workers, new generation of school/college leavers, and jobless labour force.
- Developing highly skilled workers: expanding Shanghai's resource pool of highly skilled workers through the focused training and skills upgrading of workers such as numerical control machine operators, highly skilled nurses etc. The objective of this programme is to increase the proportion of highly skilled workers as a percentage of Shanghai's total number of skilled workers from 6% in 2003 to 15% by 2005, and 25% by 2010 to meet the market demands for highly skilled workers in Shanghai.
- Training of agriculture workers: providing training and knowledge transfer to agricultural workers in modern farming technology, processing and marketing of agricultural products.
- Training to migrant workers: providing essential job training to migrant workers in Shanghai. The majority of migrant workers do not have any skills for urban jobs.

- Establishing a continuous education and life-time learning system: A long term effort to establish life-time learning and continuous education services for residents in Shanghai.
- Establishing training centres in leading enterprises and promoting on-the-job vocational training: establishing specialised skills training centres within the enterprises of industry leaders in major industrial sub-sectors, and promoting vocational training to workers.
- Establishing a qualification-based job certification system.

Substantial efforts and fiscal inputs were made by SMG in implementing these skills upgrading and training programmes. By 2006, three years after the programmes started, achievements were observed, particularly in the components of i) training and skills upgrading of existing workers and the jobless labour force; ii) expanding the resource pool of highly-skilled workers; and iii) encouraging enterprises to provide vocational training to their on-job workers. The shortage of skilled workers has become a nationwide bottleneck constraining the country's industrial upgrading process. Today almost all of China's cities are struggling to tackle the shortage of skilled workers within their local markets. Shanghai is one of the very few cities in China (if not the only city) not to be heavily affected, because SMG addressed the issue one step earlier than other Chinese cities.

In 2006, SMG conducted a review and assessment of the design and implementation of its skills upgrading initiatives. Based on the results from the review and the analysis of the changes and trends of market demands, and in line with national skills building initiatives newly launched by the central government, SMG revised its municipal skills upgrading initiative in 2006. The overlapping of training activities and overlapping of implementation responsibility allocation were removed, and the training components were more consolidated and focused on five key tasks:

- Developing highly skilled workers: effectively implemented from 2003-2005 with solid and encouraging outcomes. SMG considers this component as high priority, needing continuous efforts and inputs given its significance in supporting SMG's economic development strategy in service and modern manufacturing sectors.
- Training programme for rural surplus labour: a new training initiative launched by the central government in 2004 under the national urbanisation strategy, focused on providing training to rural residents to build their basic skills for urban jobs. Training under this programme is fully funded by government (cost sharing between central and local government with major contribution from central government).
- Training for agriculture workers.

- Vocational training for on-the-job and workless labour forces.
- Training for migrant workers, where only limited achievement occurred during 2003-2005.

Design of the skills upgrading programme

The skills upgrading programme touches on many sectors and government agencies. Implementation responsibility and funding arrangements for each of the training components have been clearly defined by SMG and allocated to specific agencies for implementation through discussions with relevant agencies and lower-level government. The Municipal Labour Bureau (responsible for highly skilled worker training, vocational training, migrant worker training) and Municipal Agriculture Commission (responsible for rural surplus labour training, agriculture workers training) are the leading agencies for implementing SMG’s comprehensive skills upgrading programme.

Implementation frameworks for each of the five training components (seven components before consolidation in 2006) were designed in detail, tested and further developed during implementation. Supporting instruments, policy regulations and institutional settings, funding arrangements and financial assistance were prepared and issued in Shanghai to facilitate the implementation of these training components. Given the size of the city, with a total population of 17.8 million (including 4.38 million migrants) and a labour force pool of 8.63 million people, the complexity and scale of the resources mobilised in implementing a programme of skills upgrading for the whole labour force in Shanghai is enormous. Among the five training components that are under implementation, the component of vocational training for on-the-job and workless labour forces is an example of how the training programmes in Shanghai are designed and implemented.

The training programme for groups of on-the-job workers and the workless was derived from the training assistance given to laid-off SOE employees launched in 1998 by SMG. As part of the SOEs’ downsizing and re-structuring programmes, SMG provided necessary training to those laid-off by SOEs to help them build up essential skills needed for the new jobs recommended to them by SMG. Since most of the workers laid-off by SOEs had low levels of education, SMG provided training courses for jobs with low skill requirements, such as taxi driver, cook, typist, gardener, home maid service, restaurant service, etc. An implementation agency, the Shanghai Municipal Skills Training and Support Centre, was set up by SMG in 1998 under the Municipal Labour Bureau to organise and manage the training courses for redundant SOE workers. Designed as “set-meal” courses, those laid-off by SOEs picked the training courses relative to the jobs they wished to pursue. SMG provided full funding for the job training of these workers with an accumulated input of over CNY 100 million during

the period of 1994-1998. Over one million redundant SOE workers were trained under this programme.

Recognising the effectiveness and contribution of the job training programme for redundant SOE workers, SMG decided to expand the job training programme to cover other labour force segments in 2002, when the industrial SOE downsizing task was completed in Shanghai.

Still managed by the Municipal Skills Training and Support Centre, SMG's skills training programme was further developed and gradually expanded to serve more segments of Shanghai's labour force: i) jobless groups (1998); ii) on-the-job workers (covered in 2002); iii) rural surplus labourers (2003); and iv) new graduates from schools and colleges (2004). SMG's skills training programme experienced a transition from a specialist training programme tailored for a specific group of the labour force (redundant SOE workers), to a comprehensive skills upgrading and training initiative covering literally all the urban labour force groups (except migrant workers). The training courses and curriculums provided by the programme were also expanded from low-skilled job training e.g. taxi driving, cooking, gardening, and road cleaning to higher-skilled jobs ranging from high-skilled manufacturing to financial services. Each year SMG releases a catalogue of training courses that are eligible for support from the municipal skills training initiative. The catalogue mirrors the priorities of skills and jobs defined in the municipal talent strategy. The most recent catalogue issued in 2007 has 138 types of skills training courses.

As the executive agency of SMG's skills training programme, the Municipal Skills Training and Support Centre does not provide or organise training courses itself (although it did organise “set-meal” job training courses for redundant SOE workers in its early stages). Rather, it authorises training service providers for the programme. Training service providers, including colleges, universities, private or foreign training institutes in Shanghai, can receive endorsement from the centre if they pass the training capability assessment. The list of qualified training service providers and a training course catalogue is published on the centre's website. So far, 650 training service providers have been qualified for the skills training programme. Applicants (with Shanghai *Hukou*) can choose their training course and training service provider from the list. Applicants are supposed to pay the training cost themselves in the first instance. When the course has been completed, and if the applicant successfully passes the final exams, they can get their training costs refunded from the Municipal Skills Training and Support Centre. Depending on the type of applicant, the skills training programme refunds 50-100% of training costs: 100% is refunded for jobless and rural surplus labour, 50-70% for on-the-job workers, 50% for new graduates from schools and colleges. There is no limit to the amount of training for each applicant except for the limitation of one training course per year per applicant. From 2003 to 2005, over one million workers were trained by

the municipal skills training initiative, accounting for 74% of Shanghai’s total number of skilled workers. In 2005, 290 000 people were trained through this programme, of which 183 000 participated in training for medium and high skills, and 127 000 were jobless or rural surplus labour.

The funding of the municipal skills training programme is provided by the municipal government, sourced from its fiscal budget.

SMG further developed the skills training initiative in 2006 with an innovative plan to establish a special account of skills training for each individual worker. Similar to a bank savings card, SMG made a personal card available to each worker with a fund of CNY 2 000 (EUR 197) on each card. The deposit on the card can only be used for the payment of training costs (technically not “real money”) and cannot be cashed. The objective of this personal training account is to encourage people to plan and participate in training and to upgrade their skills, through simplifying the procedures of training payment reimbursement and pre-payment made by the trainees. The first batch of personal training accounts was created for 300 000 jobless people and rural surplus labourers in 2006 (150 000 urban jobless workers, 150 000 rural surplus labourers). It is scheduled to gradually establish individual training accounts for other eligible groups of the labour force in Shanghai.

Funding for individual training accounts comes from the municipal unemployment security fund. The “fund” in the individual training account is valid for the life-time of the holder. The average cost of training is about CNY 500 (EUR 49) per person per course in Shanghai. This means the training account can support the holder for training over four years on average. Additional funds will be transferred into the account from the municipal unemployment fund if the fund in the account is used up. The idea of creating individual training budget accounts for each worker received very positive feedback from Shanghai local residents, and received praise from the Ministry of Labour.

Integrating hard-to-reach groups into the skills development system

Of the city’s total population of 17.8 million (2006), 4.38 million are migrants (long term migrants over six months), accounting for 25% of Shanghai’s total population. In a rapidly aging city (age 60+ accounts for over 20% of Shanghai’s local population), migrants, typically young singles or young families from rural inland areas of the country, make up a significant portion of Shanghai’s labour resource pool. Of the city’s 8.63 million labour force, 3.7 million are migrant workers, accounting for 42% of Shanghai’s total labour resource.

Compared with the local labour force, migrant workers in Shanghai generally have a much lower level of education: only 76.3% have passed through primary school.¹³ The low education level of migrant workers has

led to their high concentration in low-skilled and low-paying jobs: civil construction, restaurant services, street cleaning, landscape maintenance, low-skilled manufacturing of clothing, toys, etc.

As in all other cities in China, the municipal social services in Shanghai (programmes of pension administration, healthcare, housing, unemployment, and public schooling) are limited only to local residents with a Shanghai urban *Hukou*. Without a Shanghai *Hukou*, low-skilled migrant workers are not eligible for any of SMG’s subsidised skills training schemes. The reasons for blocking migrants out of the municipal subsidised training programme and other urban social services are: i) the limited fiscal resources that China’s municipalities can allocate to scale up these schemes to cover the large migrant populations, and ii) the high mobility of the migrants moving between cities and regions over time, which creates concerns within the city government regarding the long-term return or benefits from their investment in upgrading the skills of migrant workers.

Shanghai’s local skills strategy cannot be a complete strategy and will not achieve full success if the strategy ignores the group of migrant workers in Shanghai, which accounts for almost half of Shanghai’s total labour resources. Some emerging factors recently changed SMG’s perception towards integrating services and training for migrants into the city’s social and talent development schemes:

- While the first generation of migrant workers from a rural area typically will return to their rural home when they age, the second generation of migrants who are born into migrant families and grow up in the city, are less likely to move back to their rural home with their parents. Born with a non-Shanghai *Hukou*, the children of migrant families number over 370 000 in Shanghai; they are not eligible for any of the public schools in Shanghai funded by SMG. As a result of this, hundreds of sub-standard small scale primary schools for migrant children (typically renting warehouses or other abandoned buildings in the suburbs) emerged in Shanghai’s suburbs where migrant families concentrated. In the peak year of 2001, there were 519 sub-standard schools for migrant children in Shanghai suburbs.¹⁴ The education quality in these informal primary schools for migrant children is far below national requirements and standards for primary education.

The national urbanisation initiative launched by the central government requests local governments to gradually phase out the *Hukou* system which strictly separates the access to public services for local and non-local residents. Although the deadline for removal of the *Hukou* system is not defined, SMG understands that it is only a matter of time. The migrant population, particularly the young generation of migrants, will eventually be entitled to the same full residency status as local residents. In 2004,

recognising the consequences of having a large proportion of the city’s future population with sub-standard primary education, SMG eventually issued a regulation requiring all the sub-municipal governments in Shanghai, (responsible for providing public schooling services), to completely remove the public schooling barrier and provide full access to the public education system for migrant children, as is the case for local children with Shanghai *Hukou*.

- A sizeable pool of low cost workers is critical to many sectors of Shanghai’s economy, particularly the construction sector, commercial services (restaurants and hotels), and to the large amount of export-oriented labour intensive industries in Shanghai’s suburban districts. To increase the commitment of migrant workers to their jobs in Shanghai, in 2002 SMG established a social security scheme for migrant workers under the existing municipal social security system, providing basic security benefits of insurance against injury at work, healthcare, and pensions.

Training and skills upgrading for migrant workers in Shanghai

The need for training and skills upgrading for migrants was addressed in Shanghai’s training and skills upgrading initiatives issued in 2003 and 2006, with a specific component of migrant worker training defined. While the other training and skills upgrading components earmarked for local workers with Shanghai *Hukou* are pooled at the municipal level and implemented through executive agencies at the municipal level, the implementation responsibilities for the training of migrant workers are decentralised to district governments. With no codified funding assistance from the municipal government towards migrant worker training, it is fully subject to the capacity and decision of each district government to design the training the district wants to provide to migrant workers.

In the suburban districts where the predominant portion of Shanghai’s manufacturing enterprises are located, such as Jiading, Baoshan, Minhang, and Songjiang, the district governments have a much better understanding of the need for migrant worker training than in urban districts. These suburban districts have a large number of migrant workers attracted by jobs in manufacturing factories. Recognising the importance of low-cost migrant workers to a local economy predominated by manufacturing industries, these suburban district governments have designed and implemented various training schemes tailored for migrant workers to upgrade their skills. Initiated by district government, these training courses and curriculum are typically prepared jointly by the district government, enterprises recruiting migrant workers, and training schools in the district. Training is designed in line with the specific needs of the enterprises. Funding is shared by the enterprises and the trainee. Both district and town governments provide *ad hoc* subsidies to

these training programmes. During the period 2001-2004, 264 000 migrant workers were trained in these suburban districts.¹⁵

With the enterprise and individual migrant worker mainly covering training costs (*ad hoc* and very limited financial input from the government), the scale and level of training for migrant workers is too small in Shanghai, given the size of the migrant labour force and enterprise needs in these suburban districts and especially compared with the achievement of vocational training and skills upgrading programmes for local workers with Shanghai *Hukou*.

In Shanghai's central urban districts, migrant workers typically take low-skilled and low-paying jobs in landscaping maintenance, street cleaning, home maid service, caring for the aged, etc. The urban district governments organise training for migrant workers focused on transferring the essential know-how of these jobs. Compared to training for migrant workers in the manufacturing sector, which has a much higher skills requirement, the average cost for migrant training in the urban districts, for low-skilled jobs, is much lower. The cost of migrant training for urban service jobs is shared by the urban district government and the trainee. The estimated number of migrant trainees in Shanghai's urban districts is around 350 000 per year.¹⁶

Training and skills upgrading activities for migrant workers in Shanghai scaled up dramatically in 2006. What triggered this change is a top-down national training scheme for migrant workers. In 2004, China's central government launched a nation-wide training scheme for rural surplus labourers under a strategic initiative to accelerate the country's urbanisation process. The objective of this national training programme for rural surplus labour, the China Sunshine Project, is to provide government subsidised training to the increasing number of surplus workers in China's rural areas, assisting them to acquire essential skills for urban jobs when they migrate to cities. Training under the Sunshine Project is fully funded by government grants. The central government contributes the major proportion of the grant and local government is required to contribute some counterpart funds.

The Sunshine Project is scheduled to: i) train 5 million rural surplus labourers during 2004-2005, with priority allocated to the country's poorest regions and major out-flowing regions of migrant workers; ii) train 30 million rural surplus labourers during 2006-2010, with training assistance expanded to cover the whole country. This means the destination cities of migrant workers, such as Shanghai and Beijing will also receive some grant assistance from the Sunshine Project to subsidise training for migrant workers. In 2004 and 2005, the central government provided grants of CNY 250 million and CNY 400 million to this national Sunshine Project.¹⁷

Through the national Sunshine Project, SMG raised CNY 45 million in 2006 (including grants from central government, and requested counterpart funds

from municipal government). The funds of CNY 45 million were allocated to 19 districts in Shanghai, and earmarked for providing government subsidised training to the migrant workers in Shanghai. With the solid grant assistance from the central and municipal governments, training and skills upgrading for migrant workers in Shanghai scaled up dramatically, particularly in Shanghai’s suburban industrial districts where migrant workers are concentrated. SMG recently approved a proposal to build a Training Centre for Migrant Workers, with a central campus attached to the Shanghai Industrial Technology College, and branch training centres of each of Shanghai’s 19 districts. Migrant workers in Shanghai, a sizeable hard-to-reach group of Shanghai’s labour force, are therefore gradually beginning to integrate into the city’s skills upgrading system.

Implementation and allocation of tasks to different stakeholders

As in many other countries, the design and implementation of Shanghai’s talent and skill upgrading strategies touches on many stakeholders. In principle, the talent and skills upgrading initiatives in Shanghai are structured into two packages: 1) “Shanghai Talent Highland Strategy” focusing on sectors of high level human resources (party and government leaders, academics and scientists, managers and executives, overseas talents); and 2) “Shanghai Skills Upgrading Initiative” which focuses on skills upgrading and vocational training to the labour force in Shanghai.

In line with the unique political and governance systems in China, the China’s Communist Party Commission of Shanghai, which is the real leading organisation at China’s local government level, takes the lead for the preparation of “Shanghai Talent Highland Strategy”. The personnel department of Shanghai’s Party Commission, on behalf of the Party Commission, is the key agency for organising the design of the overall Shanghai’s Talent Strategy and the implementation framework. The implementation responsibilities of each programme defined in the strategy and framework are allocated to relevant agencies (commissions or bureaus) of Shanghai Municipal Government depending on the nature and scope of each programme.¹⁸ The Shanghai Municipal Personnel Bureau is the key executive agency for the implementation of most programmes under Shanghai’s Talent Highland Strategy. Typically, a programme office is established and stationed in the programme executive bureau or commission for the purposes of programme implementation and management. For example, as the designated executive agency for the “Programme for attraction of overseas talent”, the Personnel Department of Shanghai’s Party Commission and Shanghai Municipal Personnel Bureau jointly set up and chaired a Programme Office stationed in the Municipal Personnel Bureau. Staffing of this programme office includes the full-time representatives from other municipal agencies that are involved in the programme (Municipal Science and Technology Commission, Municipal Education Commission, etc).

Shanghai Municipal Government takes the full lead in designing and implementing “Shanghai Skills Upgrading Initiative”. An institutional arrangement of joint meetings was established to jointly prepare the initiative, design skill upgrading programmes, and coordinate the implementation of the initiatives.¹⁹ The joint meeting is chaired by the top leader of SMG with members consisting of representatives from i) the relating government agencies (municipal education commission, labour and social security bureau, personal bureau, fiancé bureau, planning commission, construction commission, commerce commission, agriculture commission; ii) leading enterprises of the key industries in Shanghai, and business chambers; and iii) training providers. A general office supporting the joint meetings was also set up and stationed in the Municipal Education Commission to manage the implementation of the Skills Upgrading Initiative. The implementation responsibility of each programme defined in the Skills Initiative was commissioned to the relating government agencies. The Municipal Labour and Social Security Bureau is the leading and executing agency for implementing most programmes under this initiative. A programme implementation unit, typically a programme office, is established within the agencies to manage and execute the programme the agencies are responsible for. For example, the Municipal Labour and Social Security Bureau established a programme implementation unit under the bureau, “Municipal Skills Training and Support Centre”, for the “Programme of skills building and upgrading” for jobless groups, new graduates, and existing workers. The following figure shows the implementation responsibility allocation of various programmes under Shanghai’s talent and skills upgrading initiatives.

Budget

Under the fiscal arrangement between the Central Government and Shanghai Municipal Government, SMG has the prime responsibility for HR/education expenditures. Except for the fiscal transfers from Central Government for part of the budget of universities/colleges at national level in Shanghai, and occasionally some *ad hoc* grants earmarked for migrant worker training, the entire HR and education budget is fully covered by SMG’s fiscal resources. SMG, as for other local governments in China, has full responsibility for providing public education and training services within its territory, including planning, implementing, and financing the Municipal Talent Strategy and Skill Upgrading Initiatives.

SMG’s fiscal input in Shanghai’s HR activities can be typically grouped into three types: education budget, skill upgrading and vocational training budget, and budget for attraction and retention of talent.

1. **SMG’s education budget:** A rapid increase of the education budget, from CNY 21.3 billion in 2001 to CNY 40.4 billion in 2005, reflects SMG’s increasing priorities in education and HR development. Typically, the government

Figure 3.6. Implementation arrangements for the Shanghai talent and skills upgrading initiatives

		"Shanghai Talent Highland Strategy"						"Shanghai Skills Upgrading Initiative"								
Key programme under the 'Shanghai Talent Highland Strategy' and 'Shanghai Skills Upgrading Initiative'		Talent Development Programme for the Party and Government Leaders	Programme for Developing Top-Level Leading Talents (Academics and Scientists)	Talent Development Programme for Professional Managers and Executives	Skills Upgrading Programme for Public Servants	Talent Development Programme for 21st Century Engineers	Programme for Developing Highly Skilled Workers	Programme for Attraction of Overseas Talents	Talent Development Programme for Shanghai Expo 2010	Skills Building and Upgrading for Jobless Groups, New Graduates, and Existing Workers	Programme of Developing Highly Skilled Workers	Training of Agriculture Worker	Training to Migrant Workers	Establishing Continuous Education and Life-time Learning System	Establishing Training Centres in Leading Enterprise and Promoting On-the-job Vocational Training	Establishing a Qualification-Based Job Certification System
Shanghai Municipal Government	Personal Department of Shanghai Communist Party Commission	■	■					■								
	Municipal Personnel Bureau	○	○	■	■	■	○		○							■
	Municipal Science and Technology Commission		■			✓		○						○		
	Municipal Education Bureau		○			○		○		○				■		
	Municipal Labour and Social Security Bureau				✓		■	✓		■	■	✓	■		■	○
	Municipal Agr. Commission											■	✓			
	Municipal Adm. Commission of State-owned Assets			○		✓	✓									
	Shanghai EXPO Bureau							■								
	Municipal Public Security Bureau							✓								
	Municipal Foreign Affairs Office							✓								
	District Government							✓				○	○			
Colleges and Training Agencies			✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Enterprises, Industry leaders, Business chambers			✓						✓	✓		✓		○		
Labour Union						○			✓			✓				

- Leading and executing agency of programme implementation
- Key supporting agency to programme implementation
- ✓ Partially involved in programme implementation

Source: Chreod.

resources (including both central and municipal government's inputs) accounts for 65-70% of Shanghai's annual education budget. In the year of 2005, government resources accounted for 66% of Shanghai's total education budget, of which 24% was central government's contribution, and 42% was SMG's contribution.

However, in a global context, SMG's fiscal input in education has been still relatively low in terms of education budget as % of GDP. In 2005, Shanghai's education budget accounted for 3.04% of the city's GDP, comparing with a global average of 5.5% in 1999 (6+ % for advanced countries, and 4+ % for developing countries). Although higher than China's national average, SMG's education budget as % of GDP is considerably lower than Beijing's.

2. **Skill upgrading and vocational training budget:** At municipal level, SMG’s budgets for skill upgrading and vocational training come from two primary funding sources: tax revenue, from the Municipal Education Surcharge, and the Municipal Unemployment Fund. SMG has committed 30% of total tax revenues from the education surcharge to finance polytechnic education targeted to skills upgrading and training of Shanghai’s labour force. Parallel to the budget input from the municipal level, all the district governments are required to arrange earmarked funds from their annual district government budget for vocational training and skill upgrading activities implemented at district levels. Complementary to these codified public resources from municipal and district governments budgets for skill upgrading and vocational training activities, additional funds from both municipal and district government are arranged for some specific skills upgrading or vocational training programmes on a programme basis (*ad hoc*).
3. **Budget for attraction of talent:** SMG allocated an annual budget of CNY 40 million from its fiscal resources to finance the Programme of Attraction Overseas Talent. Complementary to this municipal budget, each of the 19 sub-municipal governments in Shanghai has a similar budget arrangement to finance the Overseas Talent Attraction Programme at the district level (which is modeled on the design of the municipal programme). The size of the district budget varies from CNY 5 million to CNY 10 million per year with input from the sub-municipal government annually.

The aggregated size of Shanghai’s public budget for talent strategy and skill upgrading initiatives in Shanghai is not publicly available. Given the institutional complexity of programme implementation (implementation allocated to various agencies of municipal and district governments) and substantial diversity of funding sources (codified budgets, additional *ad hoc* programme budget from public finance of both municipal and district government), it is difficult to gauge SMG’s total budget on talent and skills upgrading.

Conclusions

The Municipal Talent Development Strategy and Skills Upgrading Initiative have been central to SMG in developing, managing and upgrading the city’s human resources in line with the city’s dynamic economic growth over the last decade. Strategic planning approaches are widely applied in SMG’s practice of designing and implementing these skills strategies and initiatives. SMG’s talent strategies and skills programmes are grounded in a clear vision of becoming a competitive global city. SMG’s talent strategies and skill upgrading initiatives, HR policies and policy instruments that facilitate the strategies’ implementation are reviewed and updated on a regular basis to account for changes, trends, challenges and opportunities emerging from the rapid growth of the metropolis and Yangtze Delta region, and from changes in global markets. These municipal strategies are

explicitly addressed and disseminated to the various stakeholders involved in the city’s HR development: municipal government organisations, lower-level governments, industries, education and training service providers, and individuals.

The outcome from these policies and instruments are encouraging. The number of highly skilled workers as a percentage of Shanghai’s total skill workers increased to 14.98% by 2005, compared with 6.2% in 2002, and 9.4% in 2003. However, compared to the rapid increase of market demand for high-skilled workers in the city’s labour market, the supply gap is still large: less than 30% of the market demand for high-skilled workers can be met in Shanghai’s labour market in 2005. At the same, in the Yangtze Delta Region, only 10% of market demand for high-skilled workers could be met. SMG expects to increase this portion to 25% by 2010.

Innovation is a noteworthy feature of SMG’s talent strategy and skills upgrading initiative. Many innovative mechanisms including institutional arrangements, financial instruments, and operational tools were explored, developed, and widely applied after pilot testing. Examples include: i) reform to public vocational training delivered directly by the municipal government, replacing it with a new approach of tendering the training provision to qualified training schools (including introduction of a qualification scheme of training service providers), supported by state financial subsidies to individuals who need training; ii) establishment of a special account for skills training for each worker to encourage individuals to upgrade their skills; iii) the grant-based “Pujiang Programme” for attracting overseas talent, and incentives designed under this programme, including the provision of “Shanghai Residence Certification” to returnees. Many of these innovations in Shanghai were unprecedented in China, and were later introduced to other cities in China.²⁰

While many challenges could constrain the effectiveness and efficiency of SMG’s efforts to develop the city’s talent pool and upgrade the skills of its labour force, the institutional factor is one of the critical issues that SMG has confronted in its HR development activities. Due to the unique political and governance structure in China, particularly at local government levels, the design and implementation of SMG’s talent/skills strategies and programme is fragmented across a large number of government organisations at both municipal and sub-municipal levels. With the implementation and co-financing responsibilities dispersed across agencies at various levels (in many cases one programme is allocated to two or more agencies for joint implementation), common understanding, joint-efforts, and cross-institutional coordination and collaboration are critical to ensure the productive and effective outcomes of SMG’s skills strategy as a whole. Although SMG has allocated considerable attention to this issue, improvements in inter-agency communication, coordination, and performance measurement and monitoring are still required.

Note: All sources are in Chinese.

Notes

1. *China Statistical Yearbook* 2004.
2. *Shanghai Statistical Yearbook* 2006.
3. *Shanghai Statistical Yearbook* 2006, *China Statistical Yearbook* 2006.
4. The municipal talent strategy was first initiated in 1994 by Shanghai Municipal Government, which was a precedent among all the local governments in China. In late 2003, the Central Government adopted the talent strategy as a national policy with high priority (2003-12-20, 中共中央国务院召开全国人才工作会议). Under this directive from the central government, talent strategies were soon prepared and implemented by all local governments throughout the country.
5. Sun Luyi, “Talent Strategy and International Metropoli”, page 23.
6. Cai Zheren: “Objective, Strategy, Policy: A Strategic Program to Build Shanghai as Talent Highland”, p. 22.
7. Communist Party Commission of Shanghai: “Action Framework for Implementation of Shanghai Talent Strategy”, 2004-11-11.
8. Shanghai Personnel Bureau: “Study of Establishing Local Regulation for Talent Strategy in Shanghai”, 2006, page 10.
9. Huang Weimao, “China Scholars Abroad”, 2005-8-23.
10. Pujiang is the name of a major river in Shanghai, considered as a “mother river” of the city.
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ANNEX 3.A1

*Shanghai Data Summary*Table 3.A1.1. **Demographic information**

	2001	2002	2003	2004	2005
Demography					
Local population (million)	13.27	13.34	13.42	13.52	13.60
Age group: ≤ 17				1.70	1.61
Age group: 18-34				3.17	3.23
Age group: 35-59				6.04	6.09
Age group: ≤ 60				2.61	2.66
Migrant population (million)			4.99	5.36	5.81
# of migrants stay less than 6 months			1.16	1.32	1.42
# of migrants stay longer than 6 months			3.83	4.04	4.38
Total population (local + migrants ≤ 6 months, million)			17.25	17.56	17.99
Retired					
Number of retired people (million)	2.40	2.47	2.55	2.65	2.91
% of retired people in local population (%)	18.07	18.51	18.97	19.62	21.37

Source: Shanghai Statistical Yearbook 2001-2005.

Table 3.A1.2. **Employment**

	2001	2002	2003	2004	2005
Employment¹					
Total number of employee (million)	7.52	7.92	8.13	8.37	8.63
By sector					
Primary sector (million)	0.87	0.84	0.74	0.67	0.61
Secondary sector (million)	3.10	3.21	3.17	3.16	3.22
Tertiary sector (million)	3.55	3.87	4.22	4.54	4.80
By subsectors					
Farming	871 800	842 400	737 200	672 900	610 200
Mining	700	500	300	700	600
Manufacturing	2 697 900	2 834 900	2 760 200	2 720 300	2 753 200
Power, gas and water production	60 200	57 200	56 400	56 200	54 900
Construction	340 300	316 700	354 300	382 500	414 600
Transportation and warehousing	322 300	323 400	459 000	477 000	484 000
Information, computer service and software			71 000	78 500	94 800
Retail and wholesale	908 200	1 017 900	1 138 000	1 255 300	1 313 100
Hotel and restaurant services	110 500	137 500	235 100	230 500	236 000
Finance	110 700	1 262	173 200	159 200	182 400
Real estate industry	87 700	87 900	288 700	289 400	289 600
Leasing and business service	78 000	76 400	216 000	381 100	458 700
Science research, technical service and surveying	100 100	91 800	123 900	133 500	152 300
Water/environmental/public facility management	8 600	7 000	77 200	67 000	67 400
Resident service and other services	724 200	867 200	734 300	747 300	783 000
Education	291 500	265 700	275 400	273 000	276 300
Health, social security and welfare	171 900	143 200	163 300	176 700	182 900
Culture, sports and entertainment	50 200	45 600	81 400	82 800	82 500
Public administration and social organisations	158 400	165 800	185 600	184 800	196 700
Others	429 400	638 038			
Unemployment¹					
Number of registered urban unemployed	257 200	287 800	301 100	274 300	275 000
Registered urban unemployment rate (%)	4.3	4.8	4.9	4.5	4.4
Employment agencies²					
Number of job/employment agencies			464	458	
Number of vacancies registered			1 458 400	1 514 200	
Number of people registered as seeking a job			1 216 700	1 288 700	
<i>Of which: woman</i>					
Laid-off workers			533 800	551 700	
Unemployed			152 500	151 100	
People with job qualifications			613 100	694 300	
			87 100	181 600	

Table 3.A1.2. **Employment** (cont.)

	2001	2002	2003	2004	2005
Number of people receiving career training			866 400	882 300	
Number of people got a job through employment agencies			425 400	466 500	
<i>Of which: woman</i>			203 100	214 700	
Laid-off workers			73 500	65 800	
Unemployed			223 600	272 600	
People with job qualifications			82 700	111 400	

1. Data from *Shanghai Statistical Yearbook 2001-2005*.
2. Data from Shanghai Municipal Labour and Social Security Bureau.

Table 3.A1.3. Education and skills

	2001	2002	2003	2004	2005
Education¹					
Number of schools	2013	1902	1 839	1 726	1 694
University and college	45	50	57	59	60
Secondary schools	1 084	1 069	1 065	990	966
Specialized secondary schools	82	82	83	82	81
Vocational secondary schools	54	48	55	42	37
Polytechnic schools	83	83	83	44	41
Regular high schools	865	857	844	822	807
Primary schools	852	751	686	648	640
Special schools	32	32	31	29	28
Number of full-time teachers	127 800	125 700	123 000	128 500	131 000
University and college	21 700	22 900	24 400	28 700	31 800
Secondary schools	62 200	61 200	61 200	61 300	60 800
Specialized secondary schools	5 100	5 000	5 300	5 300	5 300
Vocational secondary schools	3 700	3 500	3 600	3 400	3 100
Polytechnic schools	2 300	2 000	1 500	1 300	2 300
Regular high schools	51 100	50 700	50 800	51 300	51 200
Primary schools	43 000	40 600	38 800	37 500	37 400
Special schools	900	1 000	1 000	1 000	1 000
Number of graduates	544 100	548 000	529 500	521 500	539 000
University and college	42 800	55 200	71 200	88 600	103 400
Secondary schools	326 400	334 600	328 800	322 400	325 500
Specialized secondary schools	29 400	29 400	33 900	30 800	33 900
Vocational secondary schools	33 600	25 800	22 000	23 500	23 400
Polytechnic schools	14 300	15 500	15 200	11 300	14 300
Regular high schools	249 100	263 900	257 700	256 800	253 900
Primary schools	174 300	157 600	128 700	109 700	109 300
Special schools	600	600	800	800	800
Number of new student enrolment		553 400	532 800	523 200	502 800
University and college		109 200	120 300	130 600	131 800
Secondary schools		342 500	311 300	286 400	266 700
Specialized secondary schools		39 300	43 400	38 700	33 300
Vocational secondary schools		26 600	21 100	18 500	18 400
Polytechnic schools		16 400	16 400	11 100	6 000
Regular high schools		260 200	230 400	218 100	209 000
Primary schools		101 100	100 500	105 500	103 600
Special schools		600	700	700	700
Number of student enrolment	2 052 400	2 045 400	2 039 400	2 027 900	1 975 800
University and college	280 000	331 600	378 500	415 700	442 600
Secondary schools	1 044 100	1 035 900	1 007 100	1 069 400	993 000
Specialized secondary schools	121 200	126 600	136 900	140 500	136 700
Vocational secondary schools	75 200	75 600	70 400	64 300	57 600
Polytechnic schools	45 400	44 000	45 100	36 800	28 500
Regular high schools	802 300	789 700	754 700	827 800	770 200

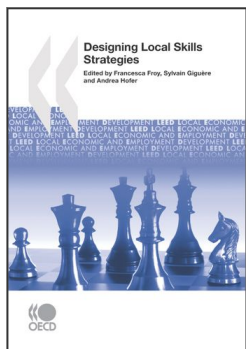
Table 3.A1.3. **Education and skills** (cont.)

	2001	2002	2003	2004	2005
Primary schools	722 800	672 400	648 300	537 400	535 000
Special schools	5 500	5 500	5 500	5 400	5 200
Vocational education/Training¹					
Adult education of university/college level					
Number of schools/college	31	30	27	22	21
Number of graduates	27 600	30 800	42 400	49 100	56 400
New students enrolment	53 800	67 300	72 200	72 200	65 000
Students enrolment	138 300	170 900	198 000	147 000	147 200
Number of full-time teachers	2 400	2 200	2 100	1 800	1 500
Adult secondary education					
Number of schools	439	345	106	93	65
Number of graduates	140 300	127 100	38 700	51 400	27 800
New students enrolment	207 800	177 300	5 000	3 800	3 700
Students enrolment	173 400	130 600	71 300	65 700	41 100
Number of full-time teachers	4 500	3 300	1 000	1 000	900
Adult vocational training					
Number of training schools	822	630	726	612	901
Number of graduates	718 200	144 600	174 200	105 200	198 200
New students enrolment					
Students enrolment	264 500	75 100	193 700	133 200	354 300
Number of full-time teachers	4 100	3 600	5 500	4 200	7 400
Education budget¹					
Total annual education budget (Y billion)	21.29	24.49	29.17	35.97	40.43
Allocation from Central Gov's budget (Y bn)	4.59	6.05	7.21	9.01	9.72
Allocation from local Gov's. budget (Y bn)	11.00	10.35	11.30	13.61	16.97
Funds of private sector for running schools (Y bn)	0.71	1.01	1.33	2.04	2.02
Donations (Y bn)	0.31	0.54	0.58	0.58	0.24
Tuitions (Y bn)	2.68	3.40	5.04	6.48	7.47
Other funds for education (Y bn)	2.00	3.15	3.71	4.25	4.01

Table 3.A1.3. **Education and skills** (cont.)

	Local residents		Migrants	
	# of people	%	# of people	%
Skill Levels: education attainment²				
Total number of people	1 321 6300		3 500 200	
With education of primary school and below	3 863 000	29%	1 046 700	30%
With education of junior high school	4 864 000	37%	1 933 500	55%
With education of senior high school	3 042 000	23%	391 800	11%
With education of university and above	1 446 000	11%	128 200	4%

1. Data from *Shanghai Statistical Yearbook 2001-2005*, Note 2: Data from Shanghai Municipal Labour and Social Security Bureau.
2. Data from Shanghai Municipal Labour and Social Security Bureau.



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