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China: Abolishing the one child policy

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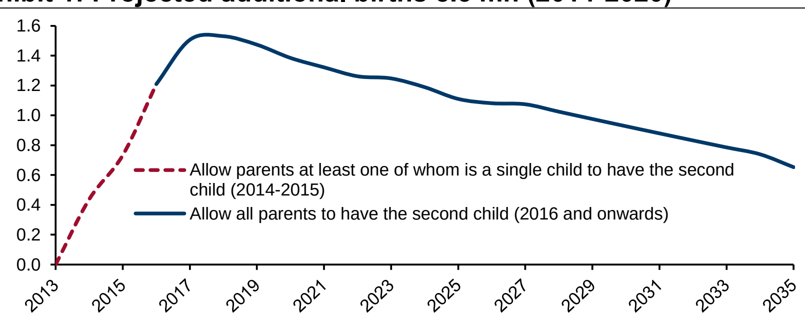
- We present the demographic and economic implications of China abolishing the one child policy. We expect easing of the one child policy to kick off in 1Q2014 when parents (at least one of whom is the single child in their family) will be allowed to have the second child. Total easing of the policy allowing all parents to have the second child is expected around 2016.
- We think that the market may have over-estimated the number of additional babies following the easing of policy as proving to be a parent who is a single child in the family is a tedious process along with increasing child-rearing costs. We expect 8.3 million additional births between 2014-2020, on top of the current 16 million births every year. We estimate the average spending per child (over 0-18 years) to be RMB 416,000.
- We estimate RMB 59.1bn (0.11% of GDP) additional expenditure in 2014, including the multiplier effect, generated by easing of the one child policy. The figure rises to RMB 122bn and RMB 203bn in 2015 and 2016 respectively. By 2020, the cumulative spending exceeds RMB 2.3tn.
- Based on international comparisons, the Chinese fertility rate decline is not as extreme (contrary to popular perception). The Chinese fertility rate exceeds that of Germany, Italy, Japan, Korea, Singapore and Thailand.
- Future Chinese progress in education and skills base is likely to result in decrease in outward migration and acceleration of reverse migration. Alongside relaxed one child policy, Hukou system reform is critical to increased domestic consumption.
- Based on large data revisions (by statistical agencies) and the latest labour market trends, we project China to become a net labour shortage country in 2020 with the labour (demand-supply) gap peaking at around 6.2 mn in 2024, and narrowing after that due to automation and delayed retirement ages.

Exhibit 1: Projected additional births 8.3 mn (2014-2020)



Source: NBS, Credit Suisse

Changing the one child policy

The third plenary session of the 18th Chinese Communist Party Congress has made it official that the country will attempt to ease the one child policy launched thirty years ago. In our view, this is the most important policy, among 60 reform initiatives, which will have major implications for China's consumption, growth and labour supply. The relaxation of the one child policy will be handled at the local government level, subject to the approval of local People's Congress, so we expect that this will most likely occur in 1Q14 when most local congress hold their annual sessions.

Exhibit 2: The evolution of China's one child policy

Time	Phrase	Initiatives and Policies
1972-1979	Voluntary	Promotion of "prefer one, at most two children" was initiated in 1978.
1980-1983	Mandatory with strong reinforcement	One child policy and strict enforcement became the state policy.
1984-1990	Mandatory with some adjustment	Second child was allowed for some provinces if criteria were met, e.g., rural family with first child as a girl.
1991-2011	Mandatory with steady reinforcement	Second child rule was extended to some other areas
2000-2012	Mandatory with some ease	The "second child for two-singleton couple" rule became effective as "singletons" moved into child-bearing age. Since 2009, this rule has been implemented nation-wide.

Source: Credit Suisse

The one child policy started in the early 1970s on a voluntary basis, but became law in 1982 mandating that Chinese families restricted themselves to one child. Some restrictions were eased in the following years but the one child policy has largely remained in force over the last 30 years. Exhibit 2 presents how the one child policy has evolved over the last 40 years. This policy is strictly enforced in large cities, subject to some negotiations in smaller cities (typically after paying a penalty, having the second child is tolerated) and loosely enforced in most rural areas. Some cities in recent years have allowed parents whom are both single child in their families, to have the second child. We show the birth rate across Chinese provinces in Exhibit 13 in the Appendix, illustrating how the implementation of the one child policy differs across provinces based on urban-rural categorization, size of cities etc.

The one child policy of China has resulted in an estimated 400 million less babies over the last thirty-odd years – the largest demographic cliff-fall in human history outside of famine or disease. In our view, the one child policy has helped in easing the social burden on the government in the 1980s and 1990s, concentrating resources on building up Chinese industrial production and enabling it to become the "world factory". However, some labour shortages started to emerge six-seven years ago, causing a significant rise in salaries at the lower end of the skill spectrum and a consequent decline in relative competitiveness of China's export sector. The one child policy has also created an ageing society and a skewed gender ratio in China, which is illustrated in the changing shape of the Chinese population pyramids. In the Appendix we present the Chinese population pyramids in 1995 and 2011, which illustrate the changes in gender and age distribution (Exhibits 14 and 15). We believe that the change in the one child policy will not change the labour supply over the coming decade, but will have a material impact on longer term labour supply and economic growth. We discuss this topic in the second part of this report.

This new policy, when in force, will allow parents, at least one of whom is the single child in their family, to have the second child. We expect a total easing of the second child policy around 2016, i.e., all parents can have the second child but not the third child. That is our central case scenario, although there is the risk that further easing might encounter delays or that parents are allowed to have the third child and beyond.

8.3 million additional babies expected by 2020

The impact of the easing of the one child policy on birth rates may be overstated based on the experience of easing restrictions on parents who are both single children in their families (as shown in Exhibit 3). Guangzhou, a southern China city, had more than 14,000 couples, who were both single children in their families, hence eligible to have the second child, but only 360 couples had the second child in 2009.

Exhibit 3: Additional births post policy easing may not be as high as expected

The policy that allows parents, who both are single children in their family, to have the second child was started in China in 2000. However, evidence shows that the additional births from this scheme may be lower than expected. For example:	
Guangzhou city:	14,000 couples eligible, but only 360 additional babies in 2009
Nanjing city:	More than 10,000 couples eligible, but additional babies were only slightly above 100 in 2009.
Henan province:	The last province implemented this scheme in late 2011, but only around 600 additional babies were born in the 2-year period until now.

Source: Xinhua News, Credit Suisse

It is an extremely complicated process for a couple to receive an approval for having the second child (Exhibit 4). Take the example of Nanjing, where if a couple decides to have the second child, they need to discuss the birth plan with their neighborhood organizations. It requires more than 30 official stamps and 50 approval letters, to verify the Hukou status and one child status, before the couple can be granted the right to have the second child. In the past, having a child was a decision not just made by parents but also the government. Now, the decision is made collectively by the couple, their neighbours and those controlling the approval process. If one does not have connections with the authorities ("Guanxi"), the process could take months. The economic pressure also weighs in, as costs of having a child has increased in recent years. According to a survey conducted earlier by sina.com, only about one third of respondents indicated that they prefer to have the second child in case of policy easing. In our view, those who really want to have their second child will rush to do so, but the additional births after the first batch is likely to cool off quickly, though there still will be additional babies every year as a result of the policy easing.

Exhibit 4: What is required to get the approval for the second child?

It takes a great deal to get the approval to have the second child, even after the policy that allows parents, who both are single children in their families, to have the second child was implemented. It involves more than 30 official stamps and more than 50 supportive documents. These supportive materials cover even three generations of the family. For example:
Standard identification documents such as family's registry book;
The marriage and birth documents of the parents of the parents who intend to have the second child, i.e. documents related to the grandparents of the future baby;
Documents to show that the parents are both single children in their families;
Birth documents of the parents' first baby;
Job and employment documents of the parents.

Source: Xinhua News, Credit Suisse

We expect 8.3 million additional babies born by 2020 under the proposed one child policy reform compared to a no-policy change scenario as shown in Exhibit 5**.** In recent years, there have been slightly above 16 million births every year[1]. Wang (2013)[2] estimates that there are about 10-12 million child-bearing women eligible to have the

[1] We compared the recent census results of China and India in Credit Suisse Demographics Research, "Getting Counted in the Demographic Giants - China & India", 2011

[2] Guangzhou Wang, Population and Labor Economics Research Institute of CASS

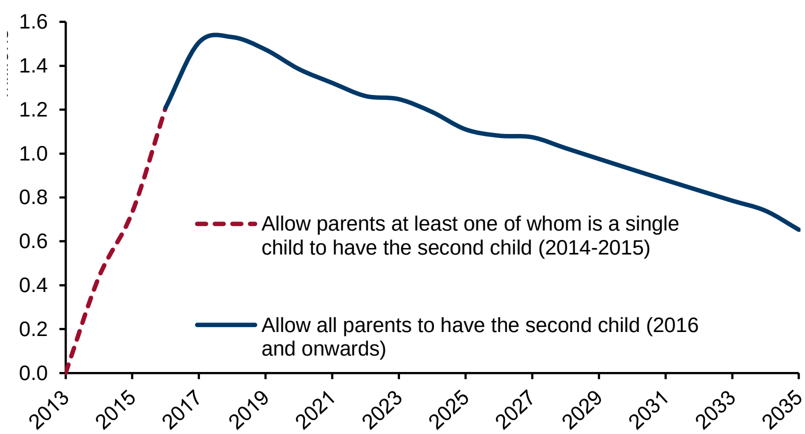
second child in 2013. A survey undertaken by Chinese Academy of Social Sciences (CASS) also estimates that about a third of the Chinese families do qualify under the recent policy change. We assume that the policy will be further eased around 2016 allowing all families to have the second child if they wish to do so. We expect a rush of baby-carrying over the next few years but once women currently in the age of 30s move out of the fertile period, interest in having additional children starts waning as the younger generation feels less about "compensational carrying"[3].

In addition to roughly 16 million babies every year in the past few years, we project that an additional 438K babies will be born in 2014, 733K babies in 2015 and 1,209K babies in 2016 in response to the relaxation of the policy. The figure is expected to peak at 1,531K in 2018 before gradually coming down. Over 2014-2020, we estimate a total of 8.3 million additional children born due to the relaxation of the policy on top of 108 million children without the easing of the policy. By 2030, we project 19.5 million additional children. Our projection is slightly more conservative compared to the estimates by other research teams in Financial Services. That is because (1) gaining the approval letter for the second child may prove to be a complicated and torturing process; (2) some couples otherwise willing to have their second child have already been sterilized and therefore can never have children in the future; (3) some are intimidated by the economic costs of raising children, housing and educational costs in particular.

Underlying Exhibit 5, the projection of the annual number of the additional births due to one child policy relaxation is available from the authors on request.

Exhibit 5: Projected additional births as a result of policy easing

Incremental number of births in millions



Source: NBS, Credit Suisse

Implications to consumption and growth

We argue that the removal of one child policy is probably the biggest consumption booster we can imagine for the coming years. It takes at least nine months from conception to birth normally, but consumption increases originate when women of child-bearing age start planning to conceive. We estimate RMB11,000 spending during the pregnancy period, based on surveys from various sources. Exhibit 6 presents the child-rearing costs over a typical child's life between 0-18 years.

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[3] This term "compensational carrying" is a literal translation of the Chinese term. This refers to the phenomenon whereby women would now rush to have the second child under the reform, in order to compensate for not being able to have them under the one child policy.

Exhibit 6: Basic expenditure on raising a child in China

Period	Basic cost Rmb at 2013 price level	Details
Baby carrying period cost on mother	11,000	Regular medical check; Supplementary food; Basic medical cost for delivery; Other basic goods (e.g. maternity dress);
Average annual spending for a child between 0-3 years old	22,800 p.a.	Food and supplementary food; Baby caring goods and accessories; Clothing and toys; Medical and health care expenses.
Average annual spending for a child between 3-6 years old	25,800 p.a.	Nursing center and kinder garden fee; Nursing center and kinder garden supplementary fee; Extra expenses on educational activities; Basic cost on food and supplementary food; Clothing, toys, books and accessories; Medical and health care expenses.
Average annual spending for a child between 6-18 years old	21,600 p.a.	Standard and supplementary school fee Extra expenses on educational activities Spending on education hardware Basic living cost Medical and health care expenses

Source: Xinhua News, Credit Suisse

We estimate an average of RMB 22,800 per year for children between ages 0-3 and RMB 25,800 per year for ages 3-6. The expenditure then moves down to RMB 25,800 for ages 7-18. In total, under current price structure and without considering the inflation factor, we project RMB 416,000 for the family to raise a child until 18 years.

We estimate RMB 59.1bn extra spending, including the multiplier effect, generated by the easing of the one child policy in 2014. This adds 0.11 percentage points to China's GDP growth. By 2020, the cumulative spending generated by the ease of policy exceeds RMB 2.3tn, bigger than Beijing's fiscal stimulus in 2009, yet the government does not need to spend a penny. Exhibit 7 presents the dynamics of additional consumer expenditure as a result of the relaxation of one child policy.

Exhibit 7: Impact of easing one child policy: additional expenditure dynamics

	Incremental new babies	Direct expenditure from incremental new babies (Rmb mn 2013 price level)*	Total incremental impact with multiplier (Rmb mn at 2013 price level)**	Direct expenditure as % of 2013 retail sales	Total incremental impact as % of 2013 GDP
2014	437,650	14,793	59,170	0.08	0.11
2015	732,941	34,752	121,631	0.18	0.22
2016	1,209,486	67,570	202,710	0.35	0.37
2017	1,506,487	106,498	319,494	0.56	0.58
2018	1,530,723	143,864	431,592	0.75	0.78
2019	1,473,813	180,469	541,408	0.94	0.98
2020	1,384,994	213,754	641,254	1.12	1.16

Source: Credit Suisse

The removal of the one child policy may also serve as a catalyst for the transformation towards a more consumption driven economy. This combines with the changing role of the local government as part of the reform initiatives which leads to lower infrastructure investment. We anticipate China's trend growth to slow down further, but it will be of improved quality and with reduced financial risks.

This will be in line with the better balanced growth objective of the Chinese government in its twelfth Five Year Plan[4]. Higher number of potential consumers will aid towards a higher domestic consumption to GDP ratio compared to the lower ratio of 36% currently which the government would like to increase to 50% in the coming years.

[4] We discussed the top policy priorities of the current leadership in China, India and Japan in Credit Suisse Demographics Research, "Demographic insights into policy: Asia's Big 3 (China, India & Japan)", 2013.

Total fertility rates: International evidence

In Exhibit 8 we show changes in total fertility rate for a group of 30 countries over different time horizons: 1970-1975 to 2010-2015 (last 40 years), 1980-1985 to 2010-2015 (last 30 years),1990-1995 to 2010-2015 (last 20 years) and 2000-2005 to 2010-2015 (last 10 years).

Exhibit 8: Total fertility rate changes 1970-2015 for 30 selected countries

Changes in number of children per woman of child-bearing age.

Cells shaded in blue indicate the largest decline in total fertility rate whereas cells shaded in pink indicates the smallest.

	Last 40 years	Last 30 yrs	Last 20 yrs	Last 10 yrs
	Asia			
Bangladesh	-4.71	-3.77	-1.91	-0.67
China	-3.10	-1.03	-0.39	0.11
Hong Kong	-2.16	-0.59	-0.11	0.17
India	-2.77	-1.97	-1.17	-0.50
Indonesia	-2.95	-1.76	-0.55	-0.13
Japan	-0.72	-0.34	-0.06	0.12
Malaysia	-2.58	-1.75	-1.44	-0.47
Philippines	-2.91	-1.85	-1.07	-0.63
Republic of Korea	-2.97	-0.92	-0.38	0.10
Singapore	-1.53	-0.41	-0.45	-0.06
Thailand	-3.64	-1.54	-0.58	-0.20
Vietnam	-4.58	-2.85	-1.48	-0.18
	Europe			
Denmark	-0.09	0.45	0.13	0.12
France	-0.32	0.11	0.26	0.09
Germany	-0.29	-0.05	0.11	0.06
Greece	-0.80	-0.44	0.15	0.24
Ireland	-1.82	-0.76	0.09	0.03
Italy	-0.87	-0.06	0.20	0.22
Portugal	-1.52	-0.69	-0.19	-0.13
Russia	-0.50	-0.51	-0.02	0.23
Spain	-1.35	-0.38	0.22	0.21
Switzerland	-0.34	-0.01	-0.01	0.12
Turkey	-3.29	-2.02	-0.82	-0.28
UK	-0.13	0.11	0.11	0.23
	Others			
Argentina	-0.96	-0.97	-0.72	-0.17
Australia	-0.66	-0.03	0.02	0.13
Brazil	-2.90	-1.98	-0.78	-0.43
Canada	-0.31	0.03	-0.03	0.15
Mexico	-4.30	-2.05	-0.96	-0.34
USA	-0.05	0.17	-0.06	-0.07

Source: UN, Credit Suisse Demographics Research

The 30 selected countries that we include in our comparative analysis are: Bangladesh, China, Hong Kong, India, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Vietnam (Asia); Denmark, France, Germany, Greece, Ireland, Italy, Portugal, Russia, Spain, Switzerland, Turkey, UK (Europe); Argentina, Australia, Brazil, Canada, Mexico, USA (Others).

The cells shaded in blue pertain to the countries that saw the largest fertility rate drops. In none of the different horizons that we consider did China figure amongst the largest fertility drop countries. For example in the last 30 years, the largest declines in total fertility rates were seen in Bangladesh, Vietnam, Turkey, Brazil and Mexico and in the last 10 years, the countries with the greatest declines are: Bangladesh, India, Malaysia, Philippines and Brazil. The replacement fertility rate is 2.1 children/woman with only two of the advanced countries close to that – the USA (1.97) and Ireland (2.0). The total fertility rate of the world has declined from 4.44 children per woman in 1970-1975 to 2.50 in 2010-2015. In contrast, the drop has been far more significant in Asia with the total fertility rate decreasing from 4.99 children/woman in 1970-1975 to 2.19 in 2010-2015. One reason could be fertility choices in lower income countries are probably more dramatic as costs of child-rearing relative to their GDP per capita are likely to be much higher than in the case of developed countries. It is largely dependent on the education levels and literacy of women and couples making these decisions.

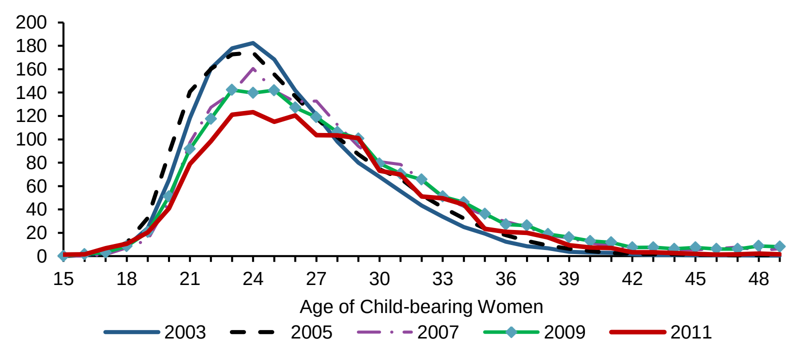
Based on the international evidence presented above, China's experience puts it neither in the group of high fertility decline countries nor high fertility increase countries. Therefore, we note that contrary to common perception the "one child policy" did not result in the most dramatic of fertility rate declines within our selected set of countries. We believe that the global press exaggerates the impact of the policy and gives it a sensational dimension. The numbers do not support such exaggeration. Total fertility rates for the 30 countries during 1990-1995 and 2010-2015 are also listed in the Appendix (Exhibit 16).

There is disagreement regarding China's fertility rates with current estimates ranging from 1.18 (National Bureau of Statistics, China) to 1.66 (UN) to 1.8 (National Health and Family Planning Commission of China). We believe that based on available data and statistics, China's actual fertility rate is in the range of 1.48 -1.53 children/woman.

We study China's age-specific birth rates from 2003 to 2011 and show that different age groups of Chinese women have demonstrated different degrees of fertility rate declines over the period, with the most dramatic drop occurring in the age group 20-27 as shown in Exhibit 9. In addition, over the same period, the birth rate for the first child has gradually declined whereas the birth rates for the second and third (or above) have not changed much. This reflects the fact that the willingness of child-bearing age Chinese women to have children has been declining over the last 9 years.

Exhibit 9: Age-specific fertility rate of Chinese women (2003-2011)

Fertility rate (Number of births per 1000 child bearing women in the particular age group)



Source: NBS, Credit Suisse Demographics Research

Why are fertility rates low and why do they decline? Theory

Virtually all the countries have experienced lower fertility rates over the last 50 years and the trend is largely universal. But why do countries exhibit low fertility rates and why do women have fewer children? J.C. Caldwell in his Theory of Fertility Decline argues that the conditions of stable high fertility and its subsequent destabilization lie in the nature of economic relations within the family[5]. The family that determines economic advantage and demographic decision is not synonymous with the co-residential family used in censuses and surveys. He describes six propositions to characterize the transition from a family agricultural production system to a more capitalist production system.

Essentially as countries grow and develop, economics dictates that child-bearing and child-rearing become expensive economic activities leading women and families to choose to have fewer babies and that is common irrespective of region of world or religious affiliation. Note that Bangladesh has one of the lowest fertility rates of poorer countries 2.20 children /woman which is close to the Asian average and just slightly higher than the replacement fertility rate of 2.1 children/woman.

Eric Kaufmann and Bradford Wilcox (2013) in a book titled “Whither the Child?”[6] present a study by Short, Xu and Liu covering the aftermath of the one child policy announcement in Chapter 5 entitled “Little Emperors”. The results of the authors suggest that after adjustments for the place of residence, family wealth, parental education, child age and sex, while on most dimensions only children and children with siblings are similar, only children may have day-to-day experiences different than their peers with siblings. Children in only child families are more likely to participate in formal extra-school activities, are also prone to more personality problems. The authors emphasize concern about the indulgence of only children in China is largely focused on urban settings. Single children are like “little emperors” relative to many other children challenged to secure basic needs. Lowest low-fertility is usually accompanied by increases in intensive parenting over time, this is likely to happen in China too as in many other advanced countries. In another recent book titled “the Global Spread of Fertility Decline (Population, Fear and Uncertainty)[7]” Winter and Teitelbaum allocate a chapter to the China Trajectory and mention that the startling rapidity of China’s fertility decline in the 1970s happened before the formulation and implementation of the “one-child” policy against the backdrop of a famine and the Cultural revolution. They say that politics maters alongside economics in explaining the fertility decline in China.

In a study based on advanced countries and other large Asian countries like Republic of Korea and China that faced rapid declines in fertility, Takayama and Werding[8] consider factors that affect fertility choice and ask how different public policies can be engineered to affect those choices. They address the issue of how private fertility choices may not be optimal from a public policy perspective. In an interesting study, Muhuri, Blan and Rustein look at the international evidence on fertility and connect it to the influencing socio-economic characteristics such as education, current work status, urban-rural residence, migration status and husband’s occupation[9].

5 J.C. Caldwell (1982), The theory of Fertility Decline, Academic Press

6 Eric Kaufmann and W Bradford Wilcox (2013), "Whither the Child?" Paradigm Publishers, USA

7 The Global Spread of Fertility Decline (2013) by Jay Winter and Michael Tietelbaum studies declines in fertility rates and their consequences in major large countries and the world.

8 Fertility and Public Policy (2011) by Noriyuki Takayama and Martin Werding.

9 Demographic & Health Surveys Comparative Studies 13--Socioeconomic Determinants of Fertility (1994), Macro International, by Pradip Muhuri, Ann K Blanc and Shea O Rutstein.

Neglected role of migration in Chinese population & labour force

A lot of attention in demographic and economic studies focused on China has been on fertility rates and health. An exogenous and much more uncertain factor is the role of migration in explaining population increase. Population increase of countries are typically decomposed into **natural population increase** (number of births less deaths) and **net migration** (immigration less emigration).

In the case of China and India, emigration (people leaving the country) has been larger in numbers than immigration (people coming in to the country). We believe that as China progresses and develops over time, it is likely that many of the Chinese emigrating abroad will choose to contribute to the growth and modernization of China as an economic superpower. Below we present the contrast between China and Germany or Japan in terms of the role of immigration. China has lost approximately 2 million people each 5-year period net of people coming in over the last 12-15 years. A reversal of this trend combined with reverse migration from countries that the Chinese emigrated to would not be an insignificant number.

We present the current trends in projected migration relative to natural population increase from 2010 to 2015 for the selected countries in Exhibit 10. The net migration could change from -1.5 mn to a positive number of +1.5 mn, thereby creating additional consumption from 3 mn consumers.

Exhibit 10: Population increases in selected countries, 1980-85 vs. 2010-15

In thousands

	1980-1985		2010-2015	
	Natural Population Change	Net Migration	Natural Population Change	Net Migration
China	78,542	-258	43,265	-1,500
Germany	-563	290	-1,005	550
Japan	3,864	212	-885	350
Republic of Korea	2,734	317	996	300

Source: UN, Credit Suisse Demographics Research

In addition to external migration, it is equally important to look at the trends in internal migration within China. We have discussed the dynamics of rural- urban migration as well as regional migration within China in our paper on "Chinese Demographics – Labour mobility, migration, urbanization and reforms" (2013).

Labour market update

The change in one child policy will not make a difference in China's short term labour market, but we now believe that the timing of China becoming a net labour shortage country may occur later than we previously thought. In our previous demographics report titled China: The turning point of the labour market, published on January 2011, we projected that China will become a net labour shortage country in 2014, with steady salary increase almost across the board but especially in the low end labour market. That was a relatively early detailed analysis on the street regarding the labour market outlook in the country, with most points still valid today. There are two changes, however, making us believe that an update on the labour market is necessary - change in the outlook on labour demand as well as labour statistics revisions.

On the labour demand side, there is a significant shrinkage in the export industry due to rising costs. The Chinese currency has appreciated by 22% against USD since 2007 and the migrant workers' salary on average jumped by an average of 17% per year during the same period. This has resulted in almost a half of export factories closing down in Guangdong province, an export manufacturing hub where a third of Chinese exports originate. Other provinces have suffered a shrink in production base as well, albeit at smaller magnitude.

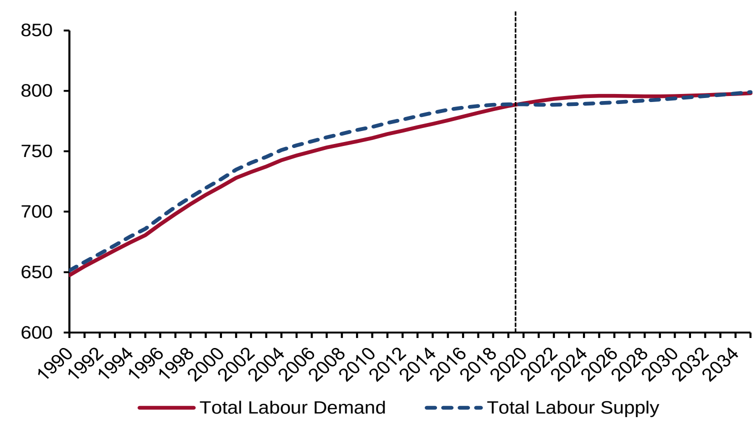
Demand for low end labour from the export sector has moderated faster than we previously thought although the service sector has expanded well absorbing part of the labour supply. Another important trend is that the labour demand from factories, services and infrastructure investment in the inland areas has increased strongly, as Beijing places more emphasize on developing the inland provinces. While salary levels are relatively low compared to that of coastal areas, a large sum of migrant workers[10] opted to accept lower salary (though rising fast) for closer to home. For the time being, labour shortage remains in the coastal area but we believe it is more of regional issue than a cross-country issue. The cyclical slowdown in growth has added a lid on salary growth. For the migrant worker market, average salary increase is reported around 7-10% in 2013 from the previous year, in comparison to over 20% during most parts of 2007-2011. The migrant market is shifting from severely overheated to warm, but by no means is slow. In the Appendix, we present the real wage growth of Chinese migrant workers over 2000-2012 (Exhibit 17).

The urban labour market is softer, with expectations of low single digit salary increase in the beginning of 2014. Weakened growth and sales affects the urban white-color workers more than the migrant workers. Unemployment in specific pockets, e.g., fresh college graduates or workers near retirement age, is bad but the overall unemployment rate does not seem much affected by the economic slowdown. In our observation, corporate profits take a much bigger beat than workers. The reform initiatives launched by the government is likely to change the labour demand dynamism as well, in our judgment. We expect less local government driven infrastructure investment. Consumption is likely to increase in the medium term, but probably cannot completely offset the slowdown in investment and it takes time to fully utilize the new potential. We expect slower trend growth but improved quality of growth over the next decade.

Following some significant revisions in labour statistics, we updated our labour supply projections too. On the labour supply side, we have increased upwards the estimates of labour supply growth in China in the mid-2010s. In Exhibit 11, we plot the labour demand and supply projections until 2035 in light of the trends and data revisions discussed above.

Exhibit 11: Projections of labour supply and labour demand

In million



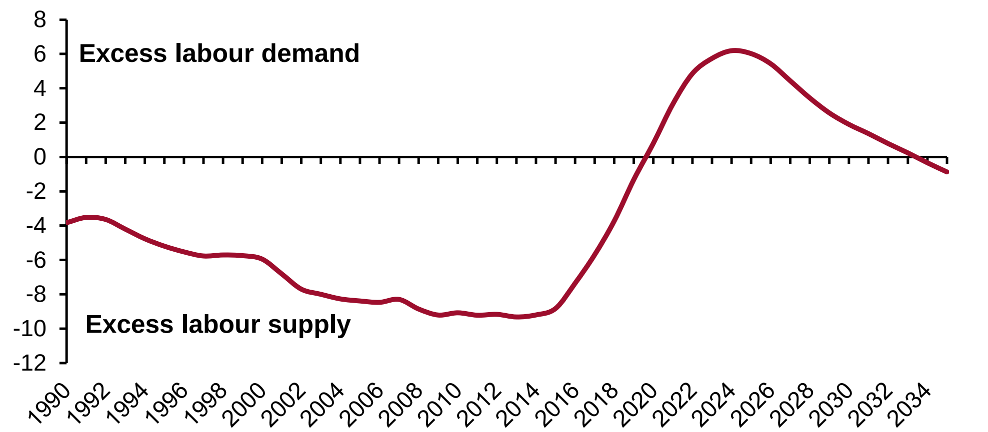
Source: NBS, ILO, Credit Suisse

[10] Credit Suisse Demographics Research, "Chinese Demographics – Labour mobility, migration, urbanization and reforms", 2013

We now expect that China will become a net labour shortage country in 2020, based on the latest available data and weakened demand. We project 773 mn labour demand and 782 mn labour supply in 2014, resulting in a -9.2 mn (demand less supply) gap. That gap is expected to shrink further to -8.8 mn in 2015, the smallest since 2007. Still, the turning point of the labour market when demand outstrips supply is estimated to occur in 2020. Detailed projections are illustrated in Exhibit 12.

Exhibit 12: Projected labour gap (labour demand- labour supply)

In million



Source: NBS, ILO, Credit Suisse

As the consequence of one child policy and voluntary shrinkage in family size (Exhibit 18) materializes fully, the labour shortage is likely to increase significantly over the period of 2020s. We believe that China will run about 4-6 millions of labour shortage every year throughout that decade. We expect the labour shortage starts to shrink in the late 2020s, with structural change in labour supply (automation and delayed retirement age) and moderating demand. The gap increases to a max of 6.2 mn in 2024 and starts decreasing reaching a zero balance in 2033/2034 and a small negative gap in 2034 and 2035. This should ease the pressure on salary increase a little, but is unlikely to change the direction of further wage increase, barring onset of another major economic crisis. The current easing of the one child policy is expected to add additional labour force to the market in the early 2030s.

Conclusions

Despite its one child policy, the Chinese fertility rate decline has not been as extreme. The Chinese total fertility rate (1.48-1.66 children/woman) exceeds that in Germany, Italy, Portugal as well as Japan, Korea, Singapore and Thailand.

Following relaxation of the policy, we project an additional 1.53 mn babies in 2018 (at the peak) and 8.3 mn over the 2014-2020 period. This would translate into RMB 59.1bn (0.11% of GDP) additional consumption expenditure in 2014, including the multiplier effect, generated by easing of the one child policy. The figure rises to RMB 122bn and RMB 203bn in 2015 and 2016 respectively. By 2020, the cumulative spending exceeds RMB 2.3tn. We believe relaxation of the one child policy provides the most powerful stimulus for consumption, without the government spending a penny.

We provide updated labour projections based on the latest revisions from NBS. Our labour projections suggest labour deficit (demand less supply) from 2020 and a peak deficit of 6.2 mn in 2024. In 2034 we project that the labour gap which decreased from 2024 to 2033 eventually turns negative from 2034. This reflects our belief that automation and policy changes on retirement age in combination with the additional babies due to relaxation of one child policy entering the labour force will push up labour supply.

External and internal migration in China will also play an important role in influencing Chinese consumption. We expect a decrease in outward migration and perhaps an acceleration of reverse migration due to increasing Chinese educational levels and a growing skills base. The Hukou system reform is an important reform that needs to be undertaken to increase Chinese domestic consumption and supplement the impact on consumption from relaxation of the one child policy.

Related Research

Credit Suisse Demographics Research, "Demographic insights into policy: Asia's Big 3 (China, India & Japan)", 2013

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Noriyuki Takayama & Martin Werding, "Fertility and Public Policy: How to Reverse the Trend of Declining Birth Rates, "Population and Development Review (2012)

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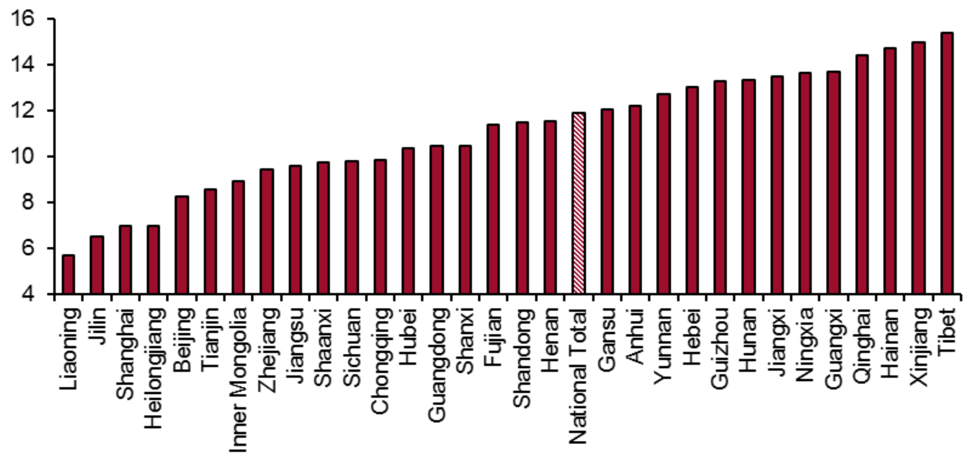
Appendix

Exhibit 13: Chinese provinces by birth rate, 2011

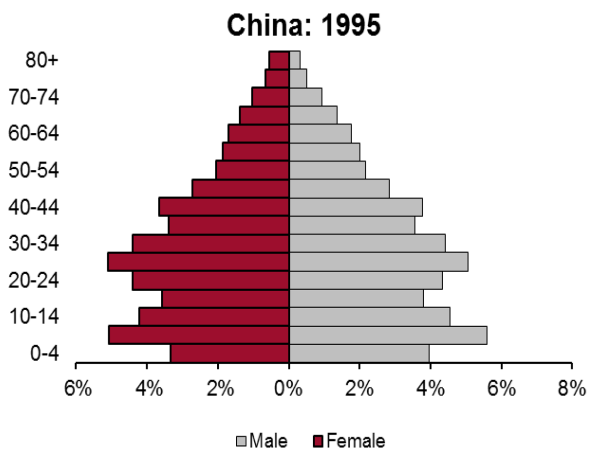
Number of births per 1,000 population



Source: NBS, Credit Suisse

Exhibit 14: Population Pyramids of China (1995)

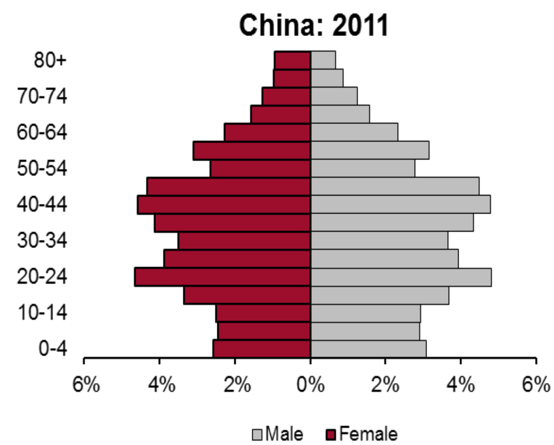
Age distribution of population by gender (% of population)



Source: NBS, Credit Suisse

Exhibit 15: Population Pyramids of China (2011)

Age distribution of population by gender (% of population)



Source: NBS, Credit Suisse

Exhibit 16: Total Fertility Rates, 1990-95 to 2010-2015

Number of children per woman of child-bearing age.

Cells shaded in pink indicate that countries have their total fertility rate higher than the replacement level of 2.1 in 2010-2015. Cells shaded in blue indicate that the total fertility rate of the particular country is lower than China's in 2010-2015.

	1990-1995	2000-2005	2010-2015
		Asia	
Bangladesh	4.11	2.87	2.20
China	2.05	1.55	1.66
Hong Kong	1.24	0.96	1.13
India	3.67	3.00	2.50
Indonesia	2.90	2.48	2.35
Japan	1.48	1.30	1.41
Malaysia	3.42	2.45	1.98
Philippines	4.14	3.70	3.07
Republic of Korea	1.70	1.22	1.32
Singapore	1.73	1.35	1.28
Thailand	1.99	1.60	1.41
Vietnam	3.23	1.93	1.75
		Europe	
Denmark	1.75	1.76	1.88
France	1.72	1.88	1.98
Germany	1.30	1.35	1.42
Greece	1.37	1.28	1.52
Ireland	1.91	1.97	2.00
Italy	1.28	1.25	1.48
Portugal	1.51	1.45	1.32
Russia	1.55	1.30	1.53
Spain	1.28	1.29	1.50
Switzerland	1.54	1.41	1.53
Turkey	2.87	2.33	2.05
UK	1.78	1.66	1.89
		Others	
Argentina	2.90	2.35	2.18
Australia	1.86	1.75	1.88
Brazil	2.60	2.25	1.82
Canada	1.69	1.52	1.66
Mexico	3.16	2.54	2.20
USA	2.03	2.04	1.97

Source: UN, Credit Suisse Demographics Research

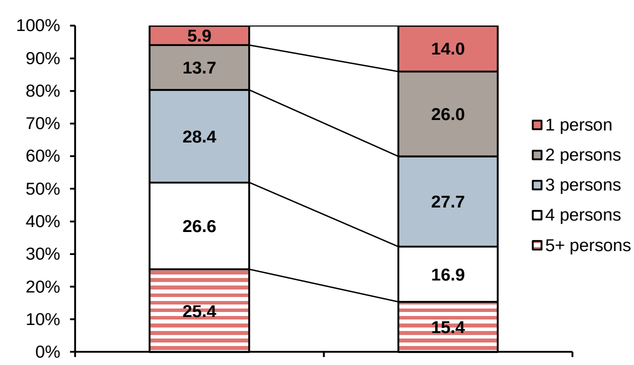
Exhibit 17: Real growth in migrant worker wages (2000-2012)

Rate per annum (%)

Source: NBS, OECD, Credit Suisse

Exhibit 18: Chinese Family Structure Changes over Time (1995 vs. 2011)

Share of households by family size (%)



Source: NBS, Credit Suisse

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Disclosure Appendix

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