

How can Korea Raise its Future Potential Growth Rate?

Elena Ianchovichina and Danny Leipziger

Introduction

Korea has achieved tremendous economic progress over the last three and a half decades, but in recent years growth has slowed down. During the Roh administration, the average growth rate of real GDP was only 4.8%, more than three percentage points below the real GDP growth rate during the pre-crisis period of 1985–97. The rapid accumulation of factor inputs, coupled with large productivity gains in the manufacturing sector, has been the driving force behind Korea's outstanding growth record (International Monetary Fund 2006). However, in recent years growth has slowed down as investment and productivity declined.

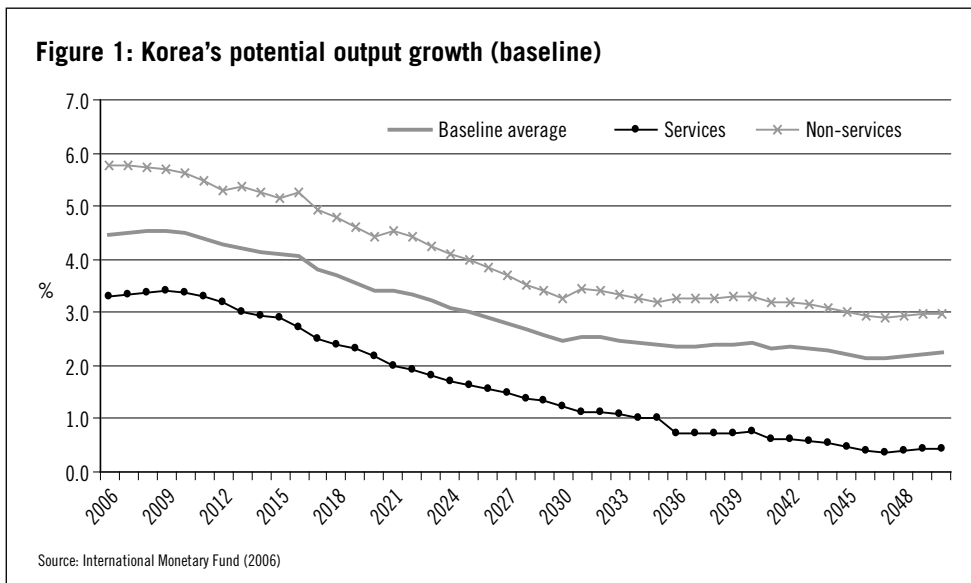
Economic events dominating 2008 did not improve the public perception of the country's economic situation. Indeed, a number of events have further clouded the short-term economic outlook, including the surge in oil and commodity prices, the worsening of the economic outlook in the US, and the mass protests against US beef imports. The current rise in inflation has forced the new administration to shift its focus in the near term from growth to controlling inflationary pressures.

The new Lee administration still maintains its '747' policy platform, promised during the election campaign, and aims for an annual growth rate of 7% for the next ten years, which would enable a per-head income level of \$40,000, and place Korea among the group of seven largest economies. However, 7% real growth is much higher than the forecasted expected growth rate of 4.2% in 2008, and 3.4% in 2009. Household consumption

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growth has slowed considerably since last year, and construction continues to contract. The won has been allowed to weaken in 2008, making imports more expensive, exacerbating inflation and increasing companies' import costs.¹

Looking forward, most forecasters expect growth to decline substantially. Potential growth has already fallen from 8% before the Asian crisis to about 4.5% since then.² By 2030, the IMF estimates it could drop to just 2.5% (Figure 1) because Korea's labour supply will start to fall in less than 15 years in line with Korea's expected demographic transition, and also because productivity growth in services is assumed to continue lagging behind the productivity growth in the non-service economy (International Monetary Fund 2006).³ Under this IMF baseline scenario, potential growth is estimated to average just 3.0% per year between 2008 and 2050.



¹ Source: Oxford Analytica, July 25, 2008.

² The consensus rate for potential growth predicted by most private research institutions is in the range 4.5 to 5.0% (Pyo Hak-kil, 2008).

³ The IMF study uses a production function approach to construct a baseline that assumes: (i) labour force growth is in line with population growth projections with a constant participation rate; (ii) labour is expected to continue shifting into services until Korea's service sector share of employment reaches the OECD average within 10 years, and gradually rising thereafter to Australia's level (74%) over the next 20 years; (iii) capital stock is expected to grow at the average rate of the past 5 years (about 4% per annum) for most of the projection period; (iv) productivity growth in services is constant at its current rate which is close to zero, while productivity growth in non-services declines over time in proportion with the shift of labour into services.

Given all this, can the administration deliver on its promise? How can Korea increase its future potential growth rate? We provide answers to these questions by analyzing the key factors determining potential growth in Korea using the IMF's methodology and conducting simulations tracing the path of potential growth to 2050 under different scenarios. *We find that policies to boost labour force participation rates and productivity growth in services could raise the expected annual potential output growth rate to 5% from the 2.7% estimate of the business-as-usual baseline scenario in the period 2020–2040. The growth dividends in the period 2008–2020 will be even higher enabling Korea's per capita income level to surpass \$40,000 by 2020!*

What can be done about sluggish productivity growth in services?

Productivity in services has been low despite the sector's growing importance. Pyo *et al.* (2006) estimate labour productivity growth in Korea's service sector to be half of the rate in the manufacturing sector during 1984–2002. The same study finds that total factor productivity (TFP) growth in many sub-sectors, including transportation, wholesale and retail trade, and public services, was negative. While other developed countries recorded increases in TFP growth in services between 1980s and 1990s, Korea's TFP growth in services slowed down from an average annual rate of 1.7% in the 1980s to just 0.4% in the 1990s (Kim, H. 2006).

Low productivity in services is not preordained. Productivity in services can be improved through reform. Deregulation has generated large productivity gains in financial services and the same principle can be applied to other service sectors. Australia offers a good example of strong links between reform and productivity. In the service sector, TFP growth increased across nearly all sub-sectors as reforms introduced progressively from the mid-1980s through to the 1990s enhanced not only competition, but stimulated the adoption of advanced technologies and raised the rate of innovation (Parham 2002). TFP growth for the wholesale trade sector turned around from negative in the early 1990s to sharply positive later in the decade.

Some progress has been made in deregulating the service sector in Korea. Special economic zones with tax incentives for foreign investors, such as foreign hospitals, were introduced in 2002 and helped to ease

entry barriers. Policies to strengthen competitiveness in the services sector, including business support services and job training, have been implemented since 2003. Korea abolished or reformed 56 anti-competitive regulations in 2004, eased regulations on admission into the legal and accounting services, and is currently reviewing 94 additional regulations, while many regulations on foreign direct investment have been reformed.

Korea can do more however to raise productivity growth in its service sector. Land use regulations could be further relaxed to facilitate the development of large scale retail centers, and restrictions on entry and business activity in professional services could be eased. Promoting competition in education, health and business services by opening the market to foreign providers is another crucial step towards raising the level of human capital needed in a knowledge economy.⁴ Streamlining regulations, increasing the transparency of the regulatory framework, improving the efficiency of the bankruptcy framework, and facilitating innovation by improving access to financing for R&D are also steps that will improve the efficiency of the service sector.

The growth payoff of a turnaround in Korea's TFP growth in services could be significant. As shown in Figure 2, annual potential growth for the period 2008-2050 would average 4.2%—an increase of 1.2 percentage points relative to the baseline if, as in Australia, Korea's TFP growth for services increased sharply and matched its TFP growth rate for non-services by 2015.⁵

Is the decline in labour supply preordained?

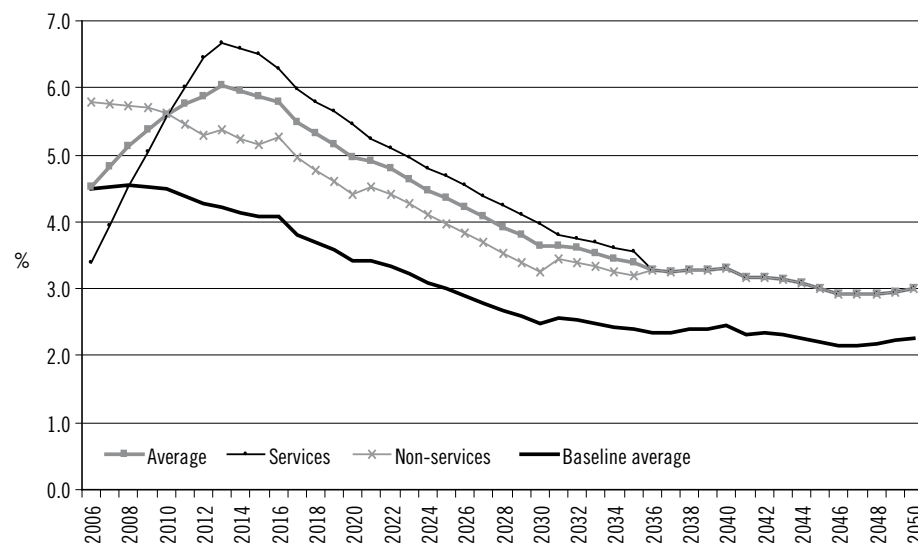
Korea's labour supply is set to decline dramatically because its society is ageing rapidly. By 2026 the share of the population over 65 years of age is expected to surpass 20%. The ageing of the society is linked to one of the lowest birth rates in the developed world. Korea's fertility rate is at 1.1 births per woman, compared with 1.3 in Japan, 1.4 in Europe (including Eastern Europe), and 2.0 in the United States.⁶

⁴ The multilateral trade liberalization under the Doha development round of negotiations and the planned free trade agreement with the US could provide stimuli to opening up the service sector.

⁵ All other variables evolve as in the baseline.

⁶ Source: *World Population Data Sheet* (Population Reference Bureau, Washington, 2006).

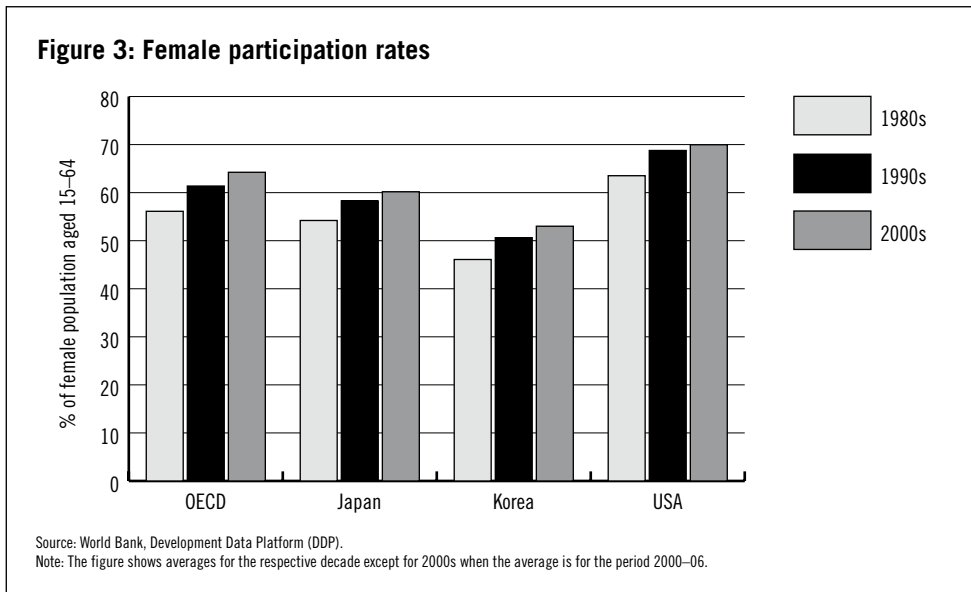
Figure 2: Korea's potential output growth outlook with reform in services



Source: Authors' calculations using a model for potential growth output developed for Korea by International Monetary Fund (2006)

There is scope to offset these low birth rates to some extent through increased labour force participation. The data suggest that Korea is lagging behind other developed economies in terms of female participation rates. The share of working-age women who do not participate in the labour force has been higher in Korea than in Japan, US, and the OECD average (Figure 3). Indeed, in 2006 only 54% of Korea's working-age women participated in the labour force, compared to 61% in Japan, 65% in OECD, and 70% in the US. Male participation rates have also been lower in Korea than in other developed economies, but the gap has been narrower compared to female participation rates (Figure 4). In the period 2000–2008, male participation rates were just 4 percentage points below the average male participation rate in the OECD countries.

There are cultural reasons why women focus on household responsibilities, which appear to be particularly strong in Korea, where women leave their careers to raise children and take care of the household. But there are also the issues of government support for childcare, maternity leave and



equal opportunities and treatment at the workplace.⁷ Given the significant gap between female and male participation rates in Korea (Figure 3 and Figure 4) and between the female participation rates in Korea and other developed countries, there is a scope for policy action to encourage female participation in the labour force and potentially raise future fertility rates.

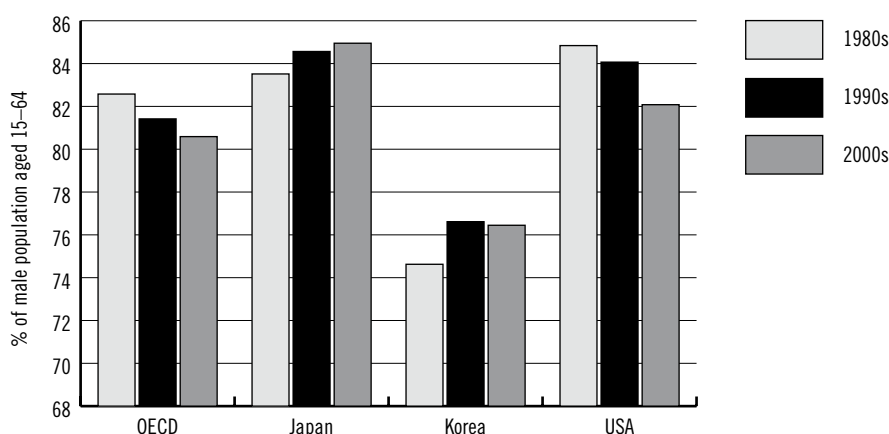
The government may consider implementing full day schooling and an increase in the availability of affordable and quality childcare services, including at the work place, as the presence of young children in the household is an impediment to labour supply among prime age females. These measures would encourage female participation, in addition to encouraging labour formalization, and may also lead to greater participation of the elderly in the work force.⁸

The size of government childcare spending differs across countries, but spending per child has been lowest in Korea among a group of developed countries. In 1999, Korea's public expenditure on formal day care and pre-primary education was just 0.1% of GDP, of which the spending on

⁷ In general, the tax system is another source of distortions on the labour supply decisions of married women relative to those of men and single women. In Korea and a few other countries, however, this is not the case since second earners and single individuals are taxed equally.

⁸ Older household members can be relied upon for childcare through informal intra- household arrangements.

Figure 4: Male participation rates



Source: World Bank, Development Data Platform (DDP).

Note: The figure shows averages for the respective decade except for 2000s when the average is for the period 2000–06.

formal day care was zero (Jaumotte 2003).⁹ The empirical evidence from other advanced studies shows that childcare subsidies do increase female labour supply, though in some instances their effectiveness is reduced as, for example, women substitute formal for informal childcare (Gelbach 2002; Viitanen 2002).

Another form of government support is child benefits which increase the disposable income of families with two children on average, for countries where data are available,¹⁰ by 7.5%. Child benefits are very low in Korea and some other countries¹¹ which also have relatively low public childcare spending. According to Jaumotte (2003), child benefits (including tax allowances) are less desirable than childcare subsidies for the purpose of raising female participation and have an insignificant effect on female participation rates.

Other policy options include parental leave, childcare leave, and maternity leave that would allow mothers to reconcile household and work responsibilities. The job security dimension strengthens the continuity of

⁹ By comparison, in Sweden – the country with the most generous spending on childcare – public expenditure on formal day care and pre-primary education was 1.9% of GDP in 1999.

¹⁰ Source: OECD database 'Taxing Wages'.

¹¹ These include Greece, Japan, Mexico, New Zealand, Spain and Turkey.

attachment to the labour market, though negative effects on hiring cannot be excluded. Econometric evidence in Ruhm (1998) suggests that rights to short periods (three months) of paid parental leave increase the employment-to-population ratios of women by 3–4% while having little effect on wages in some OECD countries. More extended periods of parental leave raise predicted female employment-to-population ratios by approximately 4% but decrease hourly earnings by around 3%.

Two primary factors are likely to account for the increase in female employment when women can benefit from parental leave.¹² First, women who would not otherwise get employment might obtain jobs prior to childbirth in order to qualify for future leave benefits which raise the effective wage for holding a job in the year prior to childbirth by 25% (Ruhm 1998). Given relatively large female labour force participation elasticities,¹³ parental leave may induce a substantial temporary increase in participation. There is however little evidence on the size of the permanent participation effect. Second, parental leave might speed the return to work of new mothers. Klerman (1993) shows¹⁴ that in the US the median time away from work for a woman receiving either paid or unpaid leave is around seven weeks compared to more than one year for a woman who quits her job at or immediately before childbirth. Rösén and Sundström (1996) study how parental leave affects the return to work in Norway and Sweden. They find that in Sweden, where leave entitlements are considerably more generous than those in Norway, re-employment rates considerably surpass those in Norway, and that Swedish women are nearly twenty percentage points more likely to be employed three years after their first child is born.

Flexible workingtime arrangements are often used to facilitate the integration of women in the labour market by allowing them to combine market work with family responsibilities. In OECD countries about a

¹² According to Ruhm (1998), the fact that mothers on parental leave are counted as employed but absent from work, rather than not employed, accounts for between one-quarter to one-half of the total estimated effect. There are several other reasons why the estimate in Ruhm (1998) may overstate the true impact of parental leave guarantees. Some countries represented in the data may have provided additional rights to unpaid leave or implemented other 'family-friendly' policies (such as subsidized childcare) at the same time they extended durations of paid time off work. There may be uncontrolled-for-factors that simultaneously shift the female labour supply curve out and create political pressure to extend parental leave. It is possible also that the entitlements encourage households to substitute female labour for male employment, violating the assumption that the introduction of parental leave has no effect on the comparison group.

¹³ Zabel (1996) estimates female participation elasticities between 0.5 and 1.0.

¹⁴ Klerman (1993) uses the US National Longitudinal Survey of Youth (NLSY).

quarter of female workers aged 25–54 have part-time jobs, and the percentage of women who work part-time because of family responsibilities is above 40% in a number of countries.¹⁵ Korea is among the countries with the least women employed in part-time jobs (Table 1).

Gender discrimination in pay and promotion opportunities reduces the return to labour of females and tends to discourage female labour participation.¹⁶ Most developed countries have introduced gender-specific anti-discrimination laws which have been effective in lowering the gender pay gap. The higher wages stimulate female participation, but the evidence on employment effects is mixed. Korea could improve the environment for female workers by providing equal opportunities to both sexes and avoid sex discrimination in the process of hiring, firing, and rewarding employees (Kim, I. 2000). Evidence suggests that the higher the level of education, the greater the

Table 1: Percentage of employed women aged 25–54 in part-time* jobs, 1999

	%
Australia** ^a	38.3
Austria	26.2
Belgium	37.1
Canada	22.3
Denmark	15.1
Finland	9.5
France	23.5
Germany	34.3
Greece	13.3
Iceland	31.3
Ireland	32.1
Italy	23.8
Japan** ^b	39.2
Korea**	9.2
Luxembourg	29.2
Mexico	27.0
Netherlands	54.3
New Zealand	34.1
Norway	30.7
Poland**	16.5
Portugal	11.1
Spain	15.7
Sweden	19.0
Switzerland ^a	47.4
United Kingdom	38.6
United States ^c	13.0

* Part-time employment refers to persons who usually work less than 30 hours per week in their main job. Data include only persons declaring usual hours.

**Part-time data are based on actual hours worked.

^a Part-time employment based on hours worked at all jobs.

^b Part-time employment is defined as less than 35 hours per week.

^c The share of part-time employment is for wage and salary workers only.

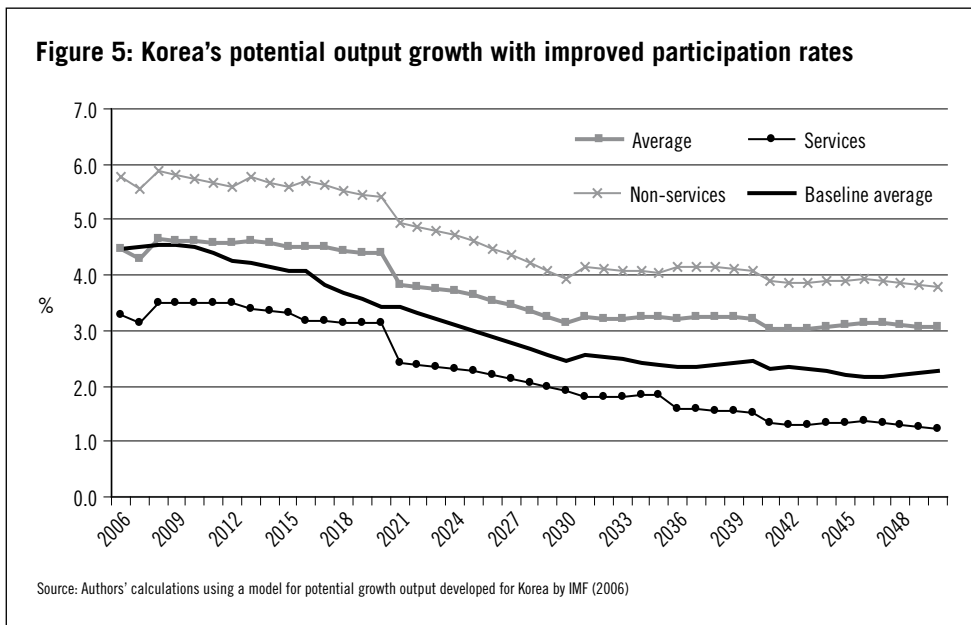
Source: OECD Labor Market Statistics.

¹⁵ Source: European Labor Force Survey (2001).

¹⁶ Empirical evidence on the existence of gender discrimination is difficult to obtain because theoretically gender differences in pay and promotion could result from gender differences in unobserved characteristics (Paris: OECD Employment Outlook, 2001). It has also been argued that women may be under-represented at higher job levels because they voluntarily choose jobs that offer fewer opportunities for promotion, and not because of discrimination.

gender gap.¹⁷ Measures must be taken to nurture talent, provide opportunities for career advancement and recognition (Kim, K. 2006), and help women's transition from higher education to the labour market.

Korea could make the retirement age flexible depending upon the health condition and ability of the elderly. This would have a positive effect on the participation rate of both male and female workers. According to a national survey (Rhee 1994), nearly 80% of Korea's workers aged 65 and above want to remain in the workplace as long as possible. Yet most government workers retire as early as 60, with the exception of teachers (62) and professors (65). In the private sector the situation is even worse with 65% of employees retiring at the age of 55 (Yoo 1999).

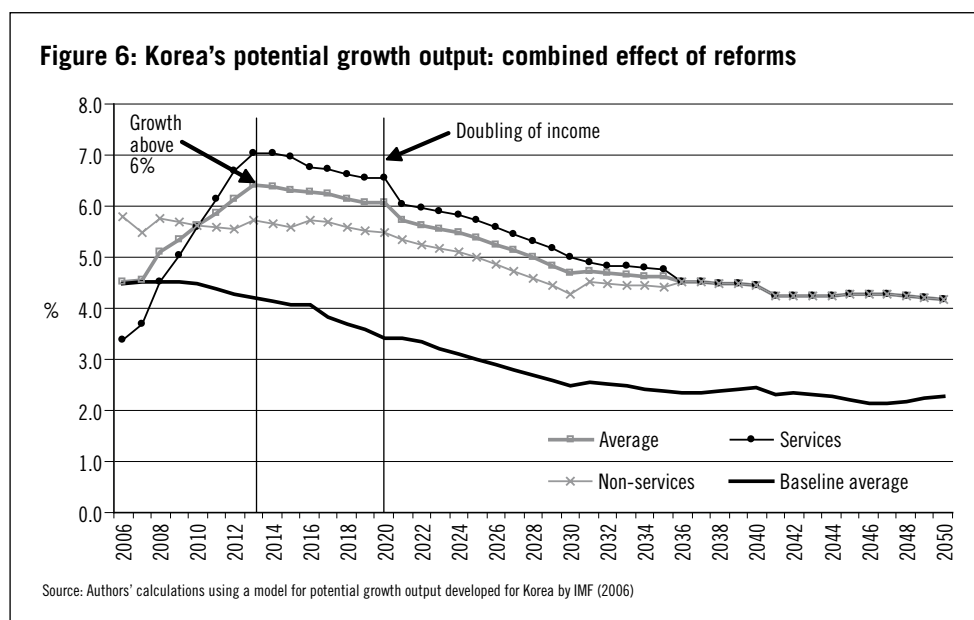


The growth dividend of increased participation rates in Korea will not be insignificant. If Korea managed to encourage participation rates through various incentives so that by 2020 (a) the country matched the female participation rate observed in Japan in 2006 and (b) the male participation rate reached the OECD average in the same year, the economy

¹⁷ Women are only 9% of professors in Junior Colleges and Universities and 13% of all R&D personnel—very low compared to the proportion of female students in sciences and engineering schools.

could grow at almost half a percentage point above the average, annual real growth in the baseline by 2020 (Figure 5).

The combined effect of reforms intended to boost productivity in services and labour participation will make a significant difference in speeding up the convergence of Korea to income levels in other advanced countries. *The economy could reap a growth dividend of up to 1.5 percentage points in addition to the average baseline growth rate of 4.4% by 2014 (Figure 6), implying that, on a cumulative basis, a doubling of per capita income is still possible by 2020!*



What can be done to halt Korea's ageing?

A rapidly ageing population will threaten Korea's growth potential and impose enormous fiscal pressures, according to Schiff and Syed (2008). Although these issues are not unique to Korea, the ageing is taking place faster than perhaps in any other country in history. The Korean labour force is expected to decline within the next decade.¹⁸ Without a quick and forceful policy response to arrest this trend, the fiscal burden will rise precipitously over the next decade, while the growth slowdown will trump

¹⁸ Source: Seoul: Korea National Statistical Office (2006).

any hopes of achieving the target of joining the club of the seven biggest economies as envisioned by the government program.

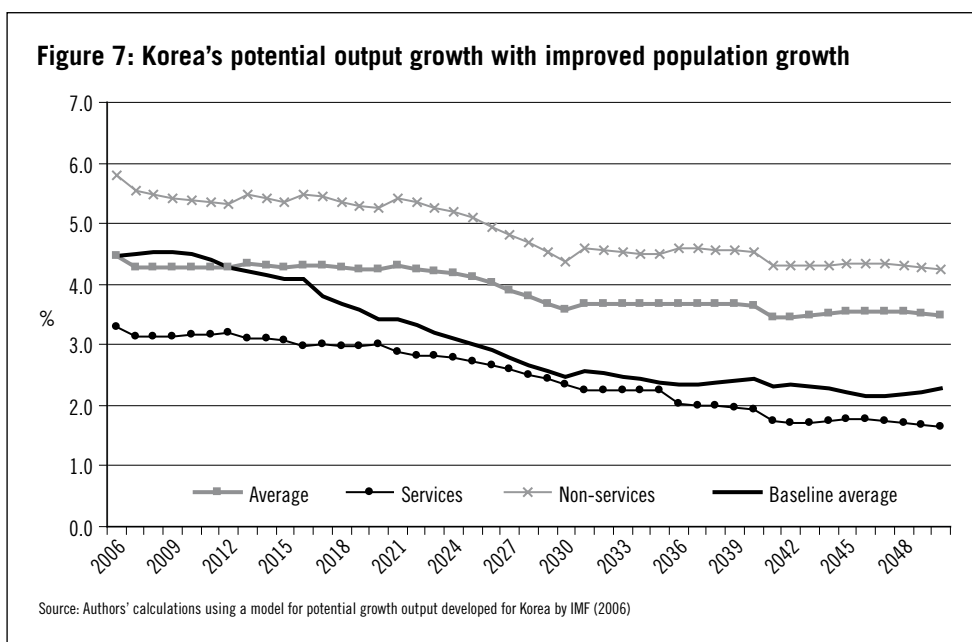
Policies that help women reconcile work and family may actually stimulate both participation and labour force growth through their positive effect on fertility (Sleebos 2003). Cross-country evidence and recent time-series evidence for some countries do not support concerns that raising female participation rates will reduce fertility and point to the role of work–family reconciliation policies in avoiding this trade-off. Nordic countries have a high number of children relative to the OECD average despite high female participation rates, while southern European countries have both low female participation rates and low fertility. Family-friendly labour participation policies enable women who previously stayed at home to take care of their children and successfully to combine family life with labour market participation. In addition, women who had previously chosen to reduce their family size to participate in the labour market can now have more children.

Korea may also follow other countries which have implemented direct measures to raise birthrates, increase overtime work, or relax immigration restrictions.¹⁹ Over the last few years, a large number of unskilled workers entered Korea to seek employment because of the labour shortages in certain occupations. Foreign workers have grown from a few thousand in the early 1980s to 168,000 in 1999.²⁰ Many of these foreign workers (65%) work illegally. Korea needs to evaluate carefully the pros and cons of letting foreign workers in on a temporary or permanent basis.

The benefits of augmenting the labour force through measures intended to reverse the demographic change in Korea could be significant. If through a combination of measures, by 2020 Korea managed to catch up with the average population growth rate observed in the OECD countries in 2006 (0.62% per year), potential growth in Korea could average 3.7% per year in the period 2020–2050—an improvement of 1.2 percentage points relative to the average, annual potential growth in the baseline during the same period (Figure 7). In the long run, the combined effect of reforms intended to boost productivity in services sector, labour participation and

¹⁹ The immigration law of Korea has continuously restricted the admission of even new foreign workers to a few categories (Kim, J. 2000). Legal status has been offered only to those who seek employment in reporting, technology transfer, business, capital investment, education and research, entertainment or upon recommendation by a government minister (Abella and Park 1995).

²⁰ Source: Bureau of Medium-Sized Industries (1999).



population growth could help Korea grow at double its baseline growth rate in the period 2020–2040 (Figure 6).

The analysis in this paper suggests that only if Korea implements swift reforms to (i) address the low productivity of its services sector, and (ii) prevent the further decline in its labour supply, can the country achieve a doubling of its income levels by 2020. Without such a rapid response this goal will be unachievable and the growth slowdown predicted by many observers will be unavoidable.

References

- Abella, M.I. & Park, Y. (1995) Park Labor shortages and foreign workers in small firms of the Republic of Korea. In A. Park and Bohning (eds) *Adjustments to Labour Shortages and Foreign Workers in the Republic of Korea*. Geneva: International Labour office
- Chevalier, A. & Viitanen, T.K. (2002) The causality between female labour force participation and the availability of childcare, *Applied Economics Letters*, 9, 14.

Gelbach, J.B. (2002) Public schooling for young children and maternal labor supply, *American Economic Review*, 92, 1.

International Monetary Fund (2006) *Republic of Korea: selected issues*, IMF Country Report N. 6/381, October, Washington, DC: IMF.

Jaumotte, F. (2003) Female Labour Force Participation: past trends and main determinants in OECD countries. *Economics Department Working Papers* No. 376, Paris: OECD.

Kim, H.-J. (2006) The Shift to the Service Economy: causes and effects, mimeograph, Seoul: Institute for Monetary and Economic Research, Bank of Korea.

Kim, Ik Ki (2000) Policy Responses to Low Fertility and Population Aging in Korea. Paper No. UN/POP/PRA/2000/12, United National Secretariat, Department of Economic and Social Affairs.

Kim, J. (2000) Policy Responses to Low Fertility and Population Aging in Korea. Paper No. UN/POP/PRA/2000/12, United National Secretariat, Department of Economic and Social Affairs.

Kim, K.-W. (2006) Policies for Increased Women's Participation in Science, Engineering and Technology: Korean Case. Presentation at the Workshop on Women in Science, Engineering and Technology (SET): Strategies for a Global Workforce.

Klerman, J.A. (1993) Characterizing Leave for Maternity: Modeling the NLSY Data .National Longitudinal Surveys Discussion Paper No. 95-21, December. Bureau of Labor Statistics.

Parham, D. (2002) Productivity and Policy Reform in Australia. *International Productivity Monitor*, No. 5, Canberra: Australia Productivity Commission.

Pyo, H.-K. (2008) Korea's economic achievements and prospects. *Korea's Economy*, 24.

Pyo, H.-K., Kuen H.R., & Bongchan H. (2006) Growth accounting and productivity analysis by 33 industrial sectors in Korea (1984–2002), mimeograph, Seoul: National University.

Rhee, K.O. (1994) *Analysis of Life Conditions of the Elderly and Policy Questions* (in Korean). Seoul: Korean Institute of Health and Social Affairs.

Ronsen, M. & Sundstrom, M. (1996) Maternal employment in Scandinavia: a comparison of after-birth employment activity of Norwegian and Swedish women. *Journal of Population Economics*, 9, pp. 267–285.

How can Korea Raise its Future Potential Growth Rate?

Ruhm, C.J. (1998) The economic consequences of parental leave mandates: lessons from Europe. *Quarterly Journal of Economics*, **113**, 1.

Schiff, J. & Syed, M. (2008) The graying of Korea: addressing the challenges of aging. *Korea's Economy*, 24.

Sleebos, J. (2003) Low Fertility Rates in OECD Countries: facts and policy responses. OECD Social, Employment and Migration Working Papers No. 13.

Yoo, S.-H. (1999) The economic status of the aged and income security programs for the aged in Korea. *Aging in Korea: Today and Tomorrow*.

Zabel, J.E. (1996) Estimating wage elasticities for lifecycle models of labor supply behavior. mimeo, Tufts University.

