



Life and Pensions Newsletter

(The Four Pillars)

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Established in 1987, the Life and Pensions Programme of The Geneva Association (previously the Four Pillars Programme) is a research programme set up to study the key importance of Social Security, Insurance, Savings and Employment in the new service economy. The programme focuses on the future of pensions, welfare and employment.

The main reasons for this programme have been:

- complementarity between social security and insurance;
- the changing perspective of the welfare state, employment and the life-cycles;
- changing demography and its financing impact.

The programme derives its original name—The Four Pillars—from a proposal to use part-time work for those at retirement age to deliver mutual benefits for the worker (including continued earnings, a tapered transition into retirement, ongoing social integration) as well as society (continued economic contributions, a reduced burden on social security and experienced mentors in the workforce).

The Geneva Association is the leading international insurance think tank for strategically important insurance and risk management issues. Its membership comprises a statutory maximum of 90 CEOs from the world's top insurance and reinsurance companies. It organises international expert networks and manages global discussion platforms, being the leading voice for insurers with policymakers, regulators and multilateral organisations. The Geneva Association's annual General Assembly is the most prestigious gathering of leading insurance CEOs worldwide.

Business, Society and Governance in Shrinking Societies: Four Levers of Action for Japan and Switzerland

by Jonas Huber⁺ and Hans Groth⁺⁺

1. Introduction

Although all developed economies will face demographic slowdowns and unprecedented population ageing in the decades to come, their experience will differ in the (a) timing, (b) pace and (c) pattern of population dynamics. In terms of demographic ageing, Japan is by far the most advanced nation, while Switzerland leads in the “Healthy Old Europe” phenomenon. Although both countries lie approximately 10,000 kilometres apart and represent fundamentally different cultures, they have a striking number of similarities. Both countries are economically successful, as reflected in their prosperous service sectors, and both have distinctly advanced technological production factors. In both countries, citizens are used to a high quality of life and consider well-developed social security and health-care systems to be the norm. Both also share life expectancies far above the global average (Groth and Gutzwiller, 2011): in 2010, the life expectancy in Japan was 87.1 years for women and 80.1 for men; in Switzerland, it was slightly lower for women (84.6) but around the same for men (80.2) (see Table 1).

In both countries, however, continuously increasing life expectancies have been accompanied for four decades by below-replacement birth rates, leading to major demographic shifts such as decreasing rural populations, increasing urbanisation, a declining workforce and skyrocketing 80+ populations (in 2010, 6.3 per cent of Japan's and 4.7 per cent of Switzerland's population were over 80) (Groth and Gutzwiller, 2011). Yet despite these similarities, each country has taken a different approach to handling its demographic challenges. Whereas the “island nation” in the Far East accepts the shrinking of its population and considers the “import of workers to replace the ageing/shrinking workforce” taboo, Switzerland, a “political island” within the EU, maintains a positive growth rate mainly through a (somewhat unpopular) policy of foreign worker “in-migration”.

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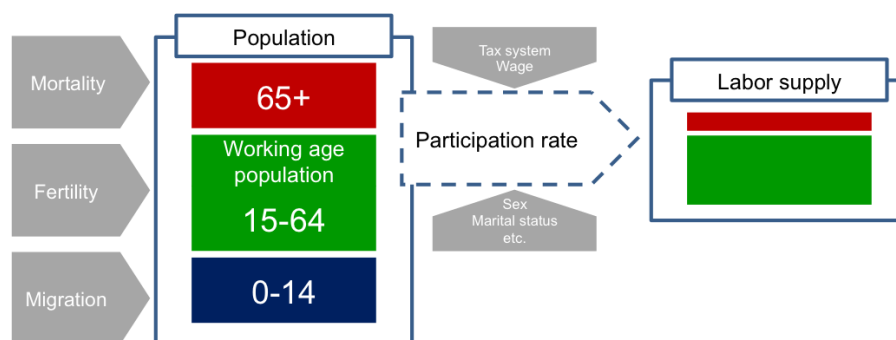
In any given nation, any demographic ageing and societal shrinking, if left unattended, will strongly affect economic growth, private and public consumption and wealth, as well as the sustainability of social security systems designed and continuously upgraded in the 20th century. Most particularly, in the face of increasingly visible population dynamics¹, labour markets play a critical role in ensuring sustainable development, not only in business, but also in society and governance. Hence, comparing the past and future demographic evolution of Japan and Switzerland and the strategic approaches under discussion or already implemented in each country provides a unique opportunity for mutual learning.

To this end, based on extensive desk research and 36 interviews with senior executives and labour market experts in Japan and Switzerland (Huber, 2012), this paper proposes four areas for action tailored specifically to these two countries but potentially useful for wider application.

2. How do population dynamics shape labour supply?

The Figure 1 overview of the determinants of labour supply immediately makes obvious the central role of total population and age composition. Hence, any attempt to anticipate changes in labour supply must begin with analyses of the parameters influencing population size and composition and the participation rates of the different demographic groups.

Figure 1: Determinants of labour supply



Source: Huber (2012).

The main features of the demographic change occurring in Japan and Switzerland are summarised in Table 1. In Switzerland, the growth of the total population seems to level off over the next decade, while in Japan the slow decrease in population that began in 2005 is expected to accelerate over the coming years. Both countries are likely to experience an unprecedented development in age composition: the share of the working population (15–64), as well as the share of the subsequent generation of young people (0–14), is decreasing, while the share of the non-productive generation (65+) is constantly increasing.

The triggers driving demographic change are fertility, mortality and migration. In both countries, during the last century, fertility rates declined and life expectancy soared. For the future, Japan expects a slight increase in its fertility rate, while Switzerland expects stabilisation at around 1.5 children per woman (see Table 1). Nonetheless, for both countries, the rate remains well below the 2.1 threshold necessary for natural population replacement. Yet according to the published scenarios, both countries will enjoy an ongoing increase in life expectancy; for example, a baby girl born in Japan in 2030 can expect to reach the age of 89.4, while one born in Switzerland in the same year may reach age 87.8.

In terms of the third trigger, migration, Japan and Switzerland have taken very different approaches. With the exception of 1965, 1970, 1975–1978, 1996 and 1997, Switzerland has experienced continually positive net migration rates since the end of World War II (Bundesamt für Statistik, 2010), and the predominance of young adult immigrants (aged 20 to 39 years) has led to a certain degree of population rejuvenation and counteracted the population ageing trend induced by the other two triggers (Avenir Suisse, 2006). Japan, in contrast, continued the restrictive emigration policy first imposed by the Allied occupying forces during the post-war period (1945–1951)—a reflection of the isolationist policy in

¹ In Japan, the share of 65+ increases from 22.8 per cent (2010) to 29.8 per cent (2030) and the share of 80+ from 6.3 per cent (2010) to 12.7 per cent (2030). In Switzerland, the share of 65+ increases from 14.4 per cent (2010) to 25.1 per cent and the share of 80+ from 4.7 per cent (2010) to 8.5 per cent (2030).

place for centuries—in order to ensure a large supply of labour for its rapidly growing economy (Akaha, 2008). In 2009, the 2.18 million immigrants living in Japan represented only 1.71 per cent of the total population (Vogt, 2008) as compared to 22.8 per cent in Switzerland and similarly high numbers in other countries. Yet the predicted scenarios to 2030 assume a steady influx for Japan and a decreasing net migration for Switzerland. In reality, however, as the figures clearly show, immigration has not been an important trigger for demographic development in Japan, while in Switzerland predictions have always been exceeded.

Table 1: Future development of Japan's and Switzerland's population

	Japan			Switzerland			
	2010	2020	2030	2010	2020	2030	
Population *	126'536	124'804	120'218	7'870	8'357	8'714	
Population Growth (in %) **		-1.37	-3.67		6.18	4.27	
Age 0-14 *	16'903	15'910	14'980	1'191	1'165	1'179	
Age 15-64 *	80'926	73'461	68'833	5'349	5'443	5'345	
Age 65+ *	28'707	35'432	36'404	1'330	1'749	2'190	
Age 80+ *	7'996	11'459	15'245	373	530	739	
Total Fertility Rate	1.42	1.58	1.71	1.54	1.53	1.52	
Net migration *	54	54	54	64.9	28.8	22.5	
Life expectancy (at birth)	Male	80.1	81.4	82.4	80.2	82.5	83.8
	Female	87.1	88.4	89.4	84.6	86.3	87.8

* In .thousands, ** compared to the preceding decade.

Source: The figures for Japan are based on United Nations [UN] (2011) and those for Switzerland from the Bundesamt für Statistik (2012). The figures for 2020 and 2030 are based on the medium variant scenario for each country.

3. Levers for fuelling the labour force pipeline in shrinking and ageing populations

Having provided a demographic perspective and statistical evidence that both countries, and the companies located there, already face (Japan) or will face (Switzerland) a declining or stagnating labour supply, we now use basic macroeconomics to evaluate the impact of such demographic developments. Because labour supply is a primary determinant of economic output as measured by GDP (Gärtner, 2006), a shrinking labour force *ceteris paribus* negatively impacts GDP growth and could even constitute the initiating impulse for a vicious cycle. There are thus three major pillars that influence or drive GDP growth:

- the amount of capital per worker
- technological progress or innovation and
- the growth of the labour supply.

In terms of the first pillar, the fact that many economists assume that capital grows at a steady rate in line with overall economic growth (Magnus, 2010; Gärtner, 2006) excludes it as an efficient lever for coping with a decreasing labour supply. In contrast, technological progress which implies a more efficient use of inputs, is equal to productivity gains and thus relates to the main factors already introduced as influencing labour supply: fertility, mortality, immigration and participation. As regards labour supply growth, because it is virtually impossible (especially for business leaders) to influence mortality and fertility rates, these levers are not appropriate as short- to medium-term measures. Instead, immigration and participation warrant further consideration. The participation rates of older people, women, in particular, still leave room for considerable improvement, at least in advanced economies. We therefore identify four levers for coping with the impending shortage of labour supply:

- participation of older workers,
- participation of women,
- immigration, and
- productivity.

Participation rate of older workers: Despite the increased life expectancy and the generally good health status of older workers, a trend towards early retirement is still observable in developed countries. At the same time, although any attempt to change this tendency is met by public resistance, in many

European countries a move is under way to increase the formal retirement age (Gleining, Schwalke and Stotz, 2012). Tapping into this pool of workers by either encouraging them not to retire or by enticing them back into the labour force would certainly help to ameliorate labour force shortages, thereby benefiting both individuals and society (Sanders and McCready, 2010). In general, according to recent studies, the determinants of early retirement lie in regulation or legislation (Burkhauser and Rovba, 2009; Higo, 2006, Kyrrä and Wilke, 2007; Hairault, Langot and Soprased, 2010; Duval, 2003), in managerial beliefs such as increased salary and health costs or declining productivity (Torres-Gil, 2009; Jordan, 2006), in traditional, cultural or personal (i.e. older worker's) attitudes towards a suitable work/leisure balance (Czaja and Sharit, 2009), in age discrimination with respect to promotion and training (Kunze, 2010) and in the acute persistence of a seniority principle (Cappelli, 2009).

Participation of female workers: Although female participation has increased markedly in most advanced economies over recent decades, it still differs significantly from male labour force participation in all countries (Montanari, 2009; Euwals, Knoef and van Vuuren, 2011; Fortin, 2009). Non-working females and part-time female workers therefore represent another potential labour pool that could be exploited to cope with labour force scarcity. According to extant research, the main reasons for lower participation rates include not only legislated gender discrimination (The World Bank, 2010), labour market demand and inadequate social policies (Coulmas, 2008), and workplace bias and workplace inflexibility (Heilman, 2001; McGrath, Driscoll and Gross, 2005), but also traditional and cultural attitudes and the personal attitudes of women (Fernández, 2007; Bradley, Guthrie and McDonald, 2005; Schulz and Martire, 2009; Babcock et al., 2003).

Immigration: Unrestricted immigration would certainly be a preferred option for many businesses trying to cope with a shortage of skilled labour because it would enable them to select skilled workers from a global pool. Such importation of skilled labour, besides increasing productivity and the participation rates of native citizens, would be an indispensable determinant of economic growth in developed countries whose declining fertility rates herald a shrinking labour force (McDonald and Kippen, 2001). In fact, as early as three decades ago, Hamilton and Whalley (1984, as cited in O'Rourke and Sinnott, 2006) argued that freeing up world migration would lead to a substantial increase in world income. Yet, despite these positive effects on the economy, all developed countries have legislation and regulations that restrict immigration. Governments erect such barriers to unrestricted immigration across borders in response to anti-immigrant voter mindsets, which are the result of negative attitudes, prejudices and fears (see, e.g. Ridell, 2011; Bolzen, 2011).

Productivity: If the labour supply cannot be boosted sufficiently by either immigration or increased participation of older workers and women, the alternative would be to pursue higher productivity growth. Among the most prominent factors involved in increasing productivity are technological improvements, the accommodation of intangible assets, an increase in labour quality through education, outsourcing, labour market flexibility, adjustments in the hours worked per employee, and the reallocation of both labour input and materials (Gordon, 2003; Oliner, Sichel and Stiroh, 2007). Nonetheless, although researchers agree that productivity will increase over the decades to come, the projections contain a high degree of uncertainty (Jorgenson, 2008; Conference Board, 2011). It is therefore difficult to answer the question of whether the anticipated productivity increase will be sufficient to compensate for the expected labour shortages.

4. Recommendations for exploiting the four levers in Japan and Switzerland

We justify the appropriateness of the four strategic levers proposed by briefly summarising corresponding data from interviews (of at least one hour) with 36 business leaders and labour market experts from Japan and Switzerland (Huber, 2012). For convenience, we also outline our recommendations to the relevant stakeholders in the two countries (e.g. business leaders or policymakers) in tabular form.

a) Participation of older workers

Compared to other OECD countries, both Japan and Switzerland have high participation rates of older workers, probably due, at least in part, to restrictive pension systems that discourage people from taking early retirement. Nonetheless, both countries predict only a limited potential for increasing labour force participation by raising the statutory retirement age and improving actuarial fairness (Duval, 2003). Differences exist, however, because of both cultural attitudes and company practices.

Older workers in Japan, for example, exhibit a greater willingness than those in Switzerland to work beyond the statutory retirement age. In fact, in Japan, willingness to work and commitment to the company is an indispensable element of self-confidence and sense of life. Swiss workers, in contrast, are less committed and more interested in optimising their work/leisure balance, which makes it much more difficult to retain workers via such soft factors. Companies in Japan also offer many different means by which older employees can prolong their working lives, many designed to circumvent the difficulties induced by the seniority principle (high wages, horizontal career planning). According to interviews conducted by Huber (2012), however, very few companies in Switzerland have begun to work in this direction even though such a practice is certainly recommended based on Japan's experience and preliminary Swiss findings.

In both countries, the primary constraints on older worker retention from a company perspective are the seniority principle and stereotypes about increasing health-care costs and older workers' lack of flexibility, state-of-the-art training and willingness to learn. Such stereotypes and beliefs frequently lead to frustrating discrimination against older workers with respect to vocational training and career planning. In Table 2, therefore, we summarise a set of recommendations that focus on these areas.

Table 2: Recommendations to increase the participation of older workers

Recommendations for business leaders in both Japan and Switzerland:

- intensify vocational training for older workers with respect to quantity and quality
- implement two-way mentoring
- exchange best practices.

Recommendations for business leaders in Switzerland:

- implement alternative workplaces and innovative work time and compensation models
- create a corporate culture that appreciates age, experience and intergenerational dialogue.

Recommendations for business leaders in Japan:

- implement innovative work time, work place and employment models that support corporate allegiance
- exploit (as a foreign company) the pool of neglected older workers.

Recommendations for policymakers in both Japan and Switzerland:

- change pension laws and regulations to reflect flexibility and both tangible and intangible incentives to work longer
- encourage cultural change in society by example, transparency and openness.

Source: adapted from Huber (2012).

Intensify vocational training for older workers with respect to quantity and quality (Japan and Switzerland): Companies must first eliminate negative stereotypes and any form of discrimination with respect to accessibility to vocational training. Training programmes must be attuned bilaterally to the needs and psychological mechanisms of knowledge acquisition in older adults. Learning goals must be implemented in performance, development and incentive plans to increase the motivation and commitment of employees to actively participate. To address the frequently expressed concern about the cost of training, because it benefits both employees and employers, training could be financed via a fund amassed over the years by both parties and/or employee tax incentives. Such actions should have a positive cooperative effect on both productivity (higher skill sets, greater motivation) and immigration (increased employability of older staff means less immigration and thus less resistance).

Implement two-way mentoring (Japan and Switzerland): Two-way mentoring between younger and older employees could minimise the brain drain and lack of technological knowledge among older workers. In fact, multigenerational teams are ideal environments in which to identify critical knowledge and its owners and potential recipients, between whom two-way mentoring needs to be established. The dialogue induced by the mentoring programme could also foster intergenerational acceptance. The implementation of learning goals in performance and incentive planning would also earn the mentoring programme appropriate recognition and emphasise the importance that management assigns to such activities.

Implement alternative workplace, work time and compensation models (Switzerland): Switzerland can learn from the many Japanese models:, even from those such as teleworking, which failed in Japan

because of cultural attitudes; these models, could be successful in Switzerland where workers are less burdened by deeply-imbedded cultural attitudes and more interested in optimising their work/leisure balance. There is, however, room for alternative models, such as the creation of expert pools for internal consulting and/or more fragmented career models that assure a better balance between working, learning and leisure time. Companies in Switzerland, therefore, should first review the wide spectrum of possible models at their disposal and then select those options that best suit their needs. Additional activities, for example, might include tailoring the models to their needs, implementing suitable retirement models, switching to performance-based wage compensation and fostering awareness of these new opportunities among employees and managers.

Implement work time, workplace and employment models that support corporate allegiance (Japan): Japan has to cope with aversion to certain models because of culture-based attitudes. For instance, it must offer models that support older workers' self-confidence by adequately considering the importance of, for example, their sense of belonging, their commitment to a company and/or their corporate integration. Models must therefore be expanded to enable close interaction with the company and thus increase their sense of belonging. They should not, for example, be excluded from team work, corporate briefings, social events, performance planning, performance assessment and incentive plans. Rather, the inclusion of older workers in all such events can increase their acceptance and thus the model's success.

b) Participation of women

The difference between male and female participation is more notable in Japan than in Switzerland, even though both countries have adopted a single breadwinner model, implemented and cultivated primarily during the 20th century. This model assigns the role of housewife to women, who are responsible for housework and caring for children and, if necessary, ill or elderly relatives (Stähli et al., 2009; Garon, 2010). In Japan, this family model seems engraved in stone and is as deeply internalised as other traditions, meaning that changing the model means disturbing a part of the culture. Yet the presence of children or ill relatives means that women who remain in this role have little chance to apply for a full-time job and climb the career ladder: for many, it is simply impossible to satisfactorily combine work and family life. Moreover, even though regulations and legislation are in place to alleviate these difficulties, government and companies still show significant reluctance to implement them.

Switzerland, on the other hand, seems to be in a transitional phase, that is, the state and many companies have clearly signalled their willingness to change, and preliminary steps have already been taken. As a result, the government receives fewer exhortations from international organisations monitoring the implementation of anti-discriminatory measures, and an increasing number of women occupy key positions. The Swiss Federal Council, for instance, now includes three female and four male members, the inverse of the picture in 2011. Nonetheless, even though the signs of change are positive, much remains to be done. Many of the managers interviewed (Huber, 2012) have as yet implemented no special programmes to support female participation despite being sensitised to the need to implement such programmes without unnecessary delay.

These subtle differences between two countries that began with a similar family model but are now drifting apart suggest definite recommendations in respect to the opportunities given to women for labour force participation. Our interviews, like the extant literature, focus on three key areas that are vital for improvements within the female participation lever, namely, legislation and regulation, company disposition, and societal attitudes and stereotypes.

Because the lack of female participation results primarily from workplace inflexibility, widespread role stereotypes—especially among employers—and an absence of self-confidence, our recommendations are designed to tackle stereotypes and meet women's changing career needs. We offer no recommendations for quotas because our interviewees clearly rejected such measures. As regards the laws and regulations already in place, we simply urge more emphatic government enforcement.

Table 3: Recommendations to increase female labour participation rates

Recommendations for business leaders both in Japan and Switzerland:

- support the eradication of female role stereotypes
- adapt working conditions to father's needs
- increase managerial awareness of the distinct characteristics of men and women

- exchange best practices.

Recommendations for business leaders in Switzerland:

- adapt employment conditions to women's changing needs and competencies
- remove inherent aversion to certain industries (especially to high-tech and financial industries).

Recommendations for business leaders in Japan:

- adapt employment conditions to women's changing needs
- intensify sourcing of skilled female workers by foreign companies.

Recommendations for policymakers in Japan and Switzerland:

- increase supply of affordable care (to remove "tax" burden)
- influence the perception of women in society and their tangible and intangible contributions.

Recommendations for policymakers in Switzerland:

- countrywide alignment of school and education system to fit the demands of working mothers

Recommendations for policymakers in Japan:

- eliminate discriminatory practices.

Source: adapted from Huber (2012).

Support the eradication of female role stereotypes (Japan and Switzerland): Stereotypical views of the woman's role are strongly persistent in Japan and have not yet completely vanished in Switzerland. Although women are partly responsible for liberating themselves from this prescribed function, society must support this process. Companies can contribute to this support by identifying alternative female role images and clearly communicating a serious interest in skilled women. Higher visibility of women in executive positions, for example, could slowly eradicate the omnipresent housewife stereotype. Managers also need to be trained in how to act when offering jobs to and planning the promotion of women; they must understand, for instance, that hesitant behaviour by a female is not a sign of lack of interest. It is thus the trained manager's duty to encourage women to take responsible jobs during recruitment, performance interviews and at university job fairs. Such actions can enhance women's self-confidence and convince them of their ability to successfully assume a position of high responsibility.

Adapt employment conditions to women's changing needs (Switzerland): Employment conditions, generally designed for and by a male-dominated economy, must be adapted to women's highly fragmented careers. Hence, breaks and re-entries must be facilitated by more flexible career models and by measures that enable women to remain tied to the company and up-to-date with respect to new skills. Gender neutrality in promotion must also be implemented, and facilities and work models offered that make it possible to reconcile family and work life.

Adapt employment conditions to women's changing needs (Japan): Since male domination is still high in the Japanese business world, the activities outlined for Switzerland are *a fortiori* applicable to Japan. The double-track system, the most prominent instrument for discouraging women from management careers in Japan, must be applied in a gender-neutral manner or eliminated altogether.

Intensify sourcing of skilled female workers by foreign companies (Japan): Skilled, ambitious female workers who are discriminated against by Japanese companies because of the double-track system constitute a rich pool that foreign companies can exploit to meet their demands. To become attractive, therefore, foreign companies must offer innovative working models, perhaps drawing from the experiences of the corporate centre in their home country. Their employment of women nationals in top positions will in turn demonstrate the company's willingness to promote competent females.

c) Immigration

Although Japan and Switzerland seem similar with regard to their political (democratic) and economic orientations (high-tech industry), they differ totally in terms of government policy and firm behaviour profiles related to the current handling and exploitation of the immigration lever. Switzerland, although it practices cultural pluralism and has few immigration limitations, is not free from negative attitudes and discriminatory behaviour that are strongly reflected in its political agenda. Hence, for decades, the country has managed to find an acceptable compromise between the prospering economy's

unappealed demand for foreign labour and the people's fear of foreign infiltration (xenophobia). Nonetheless, there is still room for improvement, especially as regards the naturalisation and assimilation of the many immigrants. Japan, in contrast, has no historical tradition of immigrant integration, having resisted both internal and external pressure for immigration; most particularly, because of deep belief in a homogeneous cultural and national identity. The fear of losing this identity is widespread in all population groups and prevents policymakers from following a strategy that embraces immigration.

Companies located in Switzerland practice cultural pluralism to an even greater extent than the country itself: immigration currently represents the dominant lever for coping with labour force scarcity, and the economy would not be as prosperous without the import of skilled workers. Concentrating on immigration, however, also harbours growing risk: immigration will only remain a solution as long as the opportunities for immigrants are more favourable in Switzerland than in the countries of origin or other developed countries. If conditions change—for instance, because of demographic changes in the countries of origin or better employment opportunities elsewhere—the flow of immigrants would soon dry up. The extensive exploitation of the immigrant lever may also trigger resistance by the domestic population, thereby increasing the speed of this lever's erosion. Companies located in Japan, in contrast, are highly reluctant to recruit from international markets. In fact, some of their current business practices actually undermine activities that would help broaden the horizon of young skilled workers. For example, companies do not reward stays in foreign countries to gain experience or additional education, even though such workers have the potential to support the establishment of a global culture in Japanese companies.

The recommendations directed at policymakers and business leaders in Switzerland, therefore, are modest and designed mostly to reduce resistance or negative sentiments. The recommendations for Japan, however, call for radical changes at both national and corporate levels. On a national level, legislation and regulations must become more transparent and more compatible with other industrialised countries, and both the country and the companies located in it must enhance the nation's comparative attractiveness for immigrants.

Table 4: Recommendations for an optimised application of the immigration lever

Recommendations for business leaders in Switzerland:

- prevent overuse of the immigration lever to avoid resistance in society and political populism
- communicate the merits of immigrants.

Recommendations for business leaders in Japan:

- internationalise companies with respect to staff, culture and language.

Recommendations for policymakers in Switzerland:

- change legislation and regulations for immigration from non-EU states
- create awareness about alternatives to immigration such as female and/or older worker labour participation
- maintain the country's attractiveness and competitive advantages
- craft transparent and demand-driven migration goals with local responsibilities.

Recommendations for policymakers in Japan:

- change immigration legislation and regulations
- enhance the country's comparative attractiveness for immigrants (workers, students)
- support cultural openness among native citizens.

Source: adapted from Huber (2012).

Prevent overuse of the immigration lever to avoid resistance (Switzerland): The easy manageability of hiring skilled workers from abroad tempts companies to apply this lever, particularly because it substantially increases their chances of finding workers with the exact skills, experience and attributes they seek. Such overuse of the immigration lever, however, may not only increase resistance and polarisation in Swiss society; it could reduce the lever's "ease-of-applicability" because of changing comparative attractiveness and similar demographic developments in other countries. Companies must therefore begin developing contingency plans for such an immigration drought, primarily by developing the other levers and exploiting their potentials. Companies must also send the message that domestic

workers, especially marginal groups (women and older workers), will be given a fair chance to remain in the labour force.

Internationalise companies with respect to staff, culture and language (Japan): The Japanese business professionals interviewed by Huber (2012) expressed doubts that company attractiveness is sufficient to draw large numbers of skilled immigrants. Hence, the major task for Japanese business leaders is to implement a welcoming culture able to integrate a large number of immigrants. This necessary change could be initiated slowly in a stepwise approach designed to reduce fear and promote trust. First, companies must foster the skills necessary to interact with foreigners; for example, by making the completion of successful training programmes (language skills, behavioural training) to improve managerial communication skills a mandatory condition for promotion. Instead of penalising post-doctorate years spent abroad, they should use them to support promotion and offer sabbaticals at overseas universities to prospective managers. Second, companies must give foreigners (students, consultants, university experts) opportunities to bring in new ideas, technologies and managerial methods; for instance, by offering them temporary positions in which they have daily interactions with the entire staff. Third, companies must move away from the local proprietary knowledge and standards implicit in “*keiretsu*-like systems” and set up more international partnerships. They must therefore view off-shoring, outsourcing and other collaborations with foreign companies as opportunities for international interaction and collaboration. Not only could such activities prepare firms to benefit from higher immigration rates, they should also have positive cooperative effects on the productivity lever through diversity-boosted innovation.

Enhance the country's comparative attractiveness for immigrants (workers, students) (Japan): In addition to adjusting legislation, Japan must enhance its comparative attractiveness to immigrants. Although already highly attractive with respect to wage levels, personal security, leisure and lifestyle, the country also needs to take the important step of establishing a “welcome state” that ensures equal treatment for all people, immigrants and natives alike. Equal citizenship, including eligibility for all services in the welfare system, is necessary in order to give immigrants a sense of belonging. To achieve these goals, Japan needs to brush off the stereotype of a country that defends monoethnicity and monoculturalism at any cost, for instance, by offering positions in public institutions (e.g. universities, museums and theatres) to foreign staff.

d) Productivity

Although productivity growth was relatively substantial for both countries in 2010, trends for the first decade of the 21st century indicate a decrease in productivity growth (OECD, 2011a, 2011b). Productivity growth is impacted by the contribution to productivity of the older cohort, which in turn is jeopardised by insufficient vocational training opportunities, even though both countries have well-developed, albeit different, education systems that are outstanding with respect to quality and quantity.

The low output is also due in part to a misallocation of investments. That is, although both countries and the firms located in them invest heavily in research and development (R&D) activities, these investments fail to generate appropriate output. In Japan, companies are making major R&D investments in the manufacturing sector, but not in the fast-growing service sector (Fukao, 2010; JETRO, 2007; Syed and Lee, 2010), a reluctance that Japanese experts and managers attribute to fears that change will bring about a decline in quality. In Switzerland, the low productivity growth results from a concentration of R&D activities in traditional fields with a low return on investment (Guellec, 2006), which in turn leads to a relatively small number of patents being filed in cutting-edge science (information and telecommunications technology (ICT), biotechnology, nanotechnology). In fact, interviewees from Switzerland mentioned off-shoring as an activity that could free capacity for greater engagement in such emerging technologies.

Although the publication intensity of basic research is high, in Switzerland exploitation of the research results for new product and process developments is weak, probably because of the poorly developed risk disposition among firms, particularly venture capital investors (Guellec, 2006). The adoption of technology is also slow in Japan, where some determinants of its speed are especially unfavourable, for example, venture capital is scarce (Guellec, 2006); openness, internationalisation and thus exposure to competition in the R&D field is small; and there is no large propensity for firms to support academic research.

Taken together, this productivity data obtained from the interview analysis and literature calls for

improvements in several key areas.

Table 5: Recommendations to increase productivity

Recommendations for business leaders in both Japan and Switzerland:

- shift the focus of R&D to more promising sectors with higher a return on investment (e.g. the service sector)
- concentrate on higher value-generating activities.

Recommendations for business leaders in Switzerland:

- develop higher risk disposition for cutting-edge technologies
- support the education of skilled workers
- develop a motivating and less risk-averse corporate culture.

Recommendations for business leaders in Japan:

- implement a dual education system
- change corporate culture and exploit human resource potential
- increase internationalisation and openness.

Recommendations for policymakers in both Japan and Switzerland:

- shift R&D focus to more promising sectors with higher return on investment (e.g. service sector)
- support venture capital-driven commercialisation of R&D outcomes.

Recommendations for policymakers in Switzerland:

- improve macroeconomic conditions to increase competition.

Recommendations for policymakers in Japan:

- improve macroeconomic factors to enhance knowledge dispersion
- implement a dual education system.

Source: adapted from Huber (2012).

Develop higher risk disposition for cutting-edge technologies (Switzerland): Although the predictions among OECD countries for Switzerland's innovation-driven productivity growth are outstanding, full exploitation of this potential requires higher risk disposition. Companies and venture capital investors must therefore intensify contacts with universities that undertake cutting-edge research, thereby securing early access to emerging technologies. If a given technology fits their portfolio, companies should establish collaboration for its rapid maturation and adoption. Likewise, venture capital investors must intensify support for the foundation of spin-offs to exploit the most promising technologies emerging from the universities. Contracts for such collaborations and spin-offs must take into account the fact that inventors' motivation only remains high if they can reap the fruits of their risk-taking.

Support the education of skilled workers (Switzerland): Companies should influence and support the education of skilled workers over the entire education and work cycle. Most particularly, they should provide further support for the dual education system whose advantages for Swiss companies have been well documented. They should also intensify their contacts with universities in order to communicate their needs and practice orientations and encourage investigation into research topics of interest to companies. The speedy transfer of the resulting technologies and knowledge can be facilitated through collaboration, internships, post-doctoral fellowships, and the mentoring/coaching of older or even retired employees. Companies should also promote the lifelong education of skilled employees to a higher extent either through internal training or sabbaticals at universities. Such education, however, must be balanced with the interest and remit of the universities to undertake general basic education and research.

Change corporate culture and exploit human resource potential (Japan): Both the interview data and the literature indicate that in Japan, corporate culture is responsible for low productivity growth via suboptimal labour utilisation. First, therefore, the rigid dual-track system that prevents workers from changing career paths must be abolished. Because the non-regular workers in this system are excluded from benefits and vocational training (and are thus less motivated and less educated), the application of this status should be minimised or non-regular workers should be included in benefit and educational programmes to increase their productivity and ease their transition to regular employment. The strong seniority principle must also be replaced by performance-related promotion and compensation systems that increase the motivation of all workers. Rigid hierarchies and the belief that

effective work means long working hours must be weakened because they encourage workers to adopt unproductive behaviour.

Implement a dual education system (Japan): The implementation of a dual education system in Japan may help the country increase productivity in three ways: reducing youth unemployment by smoothing the transition from education to work life, supplying companies with skilled workers trained in practical and theoretical knowledge tailored to their demands, and reducing the number of students with mediocre performance at universities while simultaneously increasing their level of education and reputation. Given the high value accorded to university degrees in Japanese society, however, policymakers and business leaders need to push and promote this educational path collaboratively to achieve the level of acceptance needed. Such promotion should include a clear commitment by companies to demonstrate the value of this path and implementation of company networks to organise the apprentice system and networks of universities of applied science to supply higher education and prepare the legal framework required for implementation.

5. Conclusions

Overall, our analysis reveals shortcomings in both Japan and Switzerland for the four levers proposed as critical to cope with the challenges induced by a shrinking labour force, namely, participation of older workers, participation of women, immigration and productivity. Despite the two countries' similar political and economic orientations, however, they differ in the magnitude and origins of the shortcomings for some levers. Our analysis unambiguously attributes these differences to legal, regulatory, cultural and educational factors, but also to stereotypes and prejudices in the way business is conducted. The revelation of these factors lays the foundation for recommended actions to improve the efficiency and effectiveness of efforts to avert serious workforce scarcity. Although the recommendations are directed towards either policymakers or business leaders as the responsible parties, the discussion reveals that, in most cases, only a joint effort will lead to sustainable success. The most important findings for each lever are briefly summarised below:

The participation of older workers is high in both Japan and Switzerland compared to other industrialised countries. Japan's older workers, however, show a greater propensity to remain in the workforce, a greater willingness that can be attributed to both soft (cultural traditions) and hard factors (e.g. corporate employment models). Although Switzerland can learn useful lessons from these hard factors,² both countries need to improve the training of their older cohorts and foster a culture of lifelong learning.

The participation of women lags behind male participation in both countries, signalling that prejudices and stereotypes prevail in both the business world and society at large and need to be removed. Such removal is even more pressing given the high education level of women. As Switzerland is already in a state of transition, it may take Japan longer to remove these barriers and tap into this high potential.

Immigration receives different treatment in each of the two countries. Although Switzerland, has always embraced this lever and both its companies and its society have learnt how to efficiently and effectively integrate immigrant workers, it should be careful not to overuse the immigration lever, thereby accelerating its erosion and neglecting other options. Japan and the companies located there, in contrast, have not yet embraced this option, which, although it offers a large and hitherto untapped pool of potential labour, also requires a change in practice the sudden implementation of which would be infeasible. Rather, the country could best prepare to make use of this lever through a step-by-step approach, a gradually increasing cultural exchange that could help reduce fears and increase trust.

Productivity in both countries is already at a high level; however, the low growth rates of the last decade may jeopardise their lead at a time when the decreasing number of available workers makes productivity growth even more urgent. Nonetheless, key areas of opportunity for improvement exist in both nations: accumulation of brain power through education in both companies and the country in general, R&D activities in higher risk and higher benefit sectors and technologies, faster exploitation of upcoming cutting-edge technologies, and development and strengthening of venture capital.

In sum, demographic ageing is both an achievement and an opportunity. Capturing such an opportunity, however, as so aptly pointed out by Theodore Roosevelt, requires an early lead-off: "Old age is like everything else. To make a success of it, you've got to start young."

² The authors are convinced that it would be pertinent to learn from the soft factors (e.g. strong link between quality of life and work and higher appreciation of experience and age); however, these cultural changes would require a much longer incubation period.

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