The Creative Class in Japan, 3T; Talent, Technology and Tolerance
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Abstract

This project aims to apply the concept of the 3T's; as the creator Richard Florida defines them, in Japan, and whenever possible Hokkaido specifically. This project will evaluate the size of the creative class as well as its composition. This report will also look into what Japan does to encourage the growth of its creative class.

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1. Introduction

Japan has during the recent decade faced economic difficulties and hardship. Luckily, this may finally have been reversed since the economic growth finally has re-emerged from its slumber. It is true that this growth is driven by private initiatives mainly revolving around foreign trade, the public sectors policies are even holding it back, but this does not mean that everything is back on track. Growing competition on the international stage; due to globalisation, has made it necessary for actors on the world stage to adapt to the changing environment. Professor Richard Florida predicts that a social class; that has dwelled for many years, will come to play a more significant role on the world stage as it has done domestically in the United States. This class is termed the 'Creative Class' since its occupation is creative in nature.

The creative class has hastily expanded in size in the United States during the last decades and has fuelled its economic growth. Japan has also seen changes in its labour composition due to this recent trend to value creative work. What attracts and encourages the growth of the creative class is according to professor Florida how well a region can adapt to the needs of the class and how well it can measure to the 3T's: technology, talent and tolerance. This project will try to evaluate how well Japan; and Hokkaido specifically, manage to adapt to and comfort the creative class.

1.1 Aim and Scope

The aim of this project is to study the creative class in Japan, and to evaluate and compare its composition in different regions of Japan. This report will also try to evaluate how successful Japan's creative class has been compared to other major competitor nations, and this will in practice be done through studying patent applications. This report will also look into what Japan has done, and does, to foster a creative class, through public education and initiatives from the private sector and government. Since Japan has an untapped resource in its plentiful women who has not yet entered the creative class in full strength, this report will also try to look into this matter. And lastly the report will look into the difficulties in acquiring individuals from the creative class from abroad.

2. Creative Class Japan

In order to define the creative class in Japan we have chosen to study the structure of the Japanese workforce by categorising available statistics into fields of occupation that are, by professor Florida, defined as creative. We have chosen to focus on three regions in Japan, each with unique features; Tokyo, as the densely populated urban region with an intensive flow of both capital and labour force, Kyoto as a recognised education and science centre and finally Hokkaido as the young region with untraditional values.

The statistical data, the Census of Occupation and Employment statistics for 2000 provided by Japans Statistics Bureau, which has been processed in order to determine the size and penetration of the Creative Class, has been derived into five different categories[1]. These categories consist of sub-categories within which the actual employment statistics for the different professions and occupations can be found. For example category A consists of science-, health-, education-, culture- and technology related occupations whereas category D consists of service oriented occupations.[2]

People who are engaged in directly creative activities belong to the Super-Creative Core according to professor Florida. Consequently a large share of this Super-Creative Core can be found in category A, where not only scientists, engineers and such, as mentioned above, are listed but also artistic oriented occupations such as authors, musicians and artists.

Category B solely contains managers, both in the private and the public sector. In the category of managers in the public sector, naturally, governmental legislators such as politicians can be found. According to professor Florida, such legislators can, depending on their level, be part of the Super-Creative Core.

Category C represents occupations that are related to sales of goods. The high rate makes it harder to distinguish what occupations in this category that are actually part of the Creative Class but nonetheless this category also contain a high number of directors, decision makers and occupations classed as supporting of the Creative Class. Examples of fields of business found in category C are; Wholesale & Retail and Bank & Insurance and personnel engaged in Health and social security insurance.

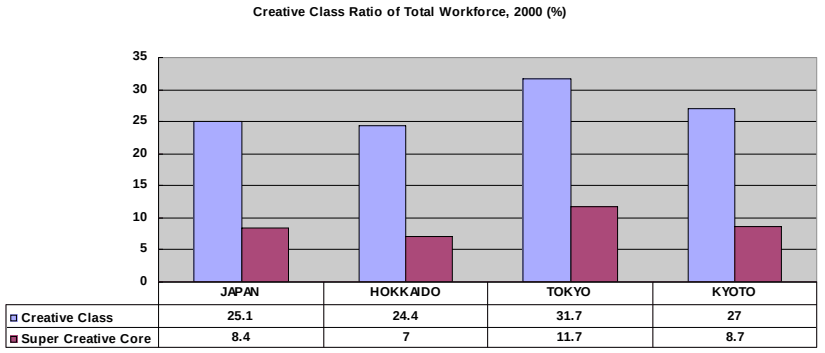
[1] Statistics Bureau: Director-General for Policy Planning & Statistical Research and Training Institute, 2006/6/26, http://www.stat.go.jp/data/kokusei/2000/shosai/index.htm

[2] From these figures new figures have been derived that will be analysed in this report. Thus, please consult the Appendix 8.1

Service related occupations such as chiefs of the food industry and hotel and inns can be found in category D. Directors and managers not listed in any of the categories above are compiled and categorized in the final category, E.

By comparing the above mentioned compilation of statistical data with the total workforce, employed people over the age of 15, the ratio of the Creative Class in Japan as a whole appears. Through the same process, the Creative Class ratio of different prefectures can be measured.

Out of Japan's total workforce of 63 million people, 15.8 million qualifies as part of the Creative Class, which is a ratio of 25.1 per cent. Through the categorization of the statistical data one can further observe that out of these 15.8 million, more than 80 per cent belong in category A and C. Approximately 8.4 per cent of the 25.1 per cent that represents the Creative Class can be classified as part of the Super-Creative Core.



	JAPAN	HOKKAIDO	TOKYO	KYOTO
Creative Class	25.1	24.4	31.7	27
Super Creative Core	8.4	7	11.7	8.7

These percentage figures for Japan can be compared to the corresponding Creative Class figures of the American workforce. Statistics in professor Florida's book show that in 1999 the United States Creative Class ration was 30.1 per cent and 11.7 per cent of the total workforce was part of the Super-Creative Core. To find statistics that resembles that of Japan (2000) in USA, the estimation of 1991 comes closest. In 1991, the Creative Class in the United States accounted for 25.4 per cent of the total workforce while the Super-Creative Core's share was 9.2 per cent. [3]

[3] R. Florida, *The Rise of the Creative Class*, Basic Books, 2002,New York, NY, p 332

These figures demonstrate that the share of the Japanese workforce engaged in Creative Class classified occupations are not as developed as in the United States. The primary reason seems to be that Japan is a few years behind the United States and some western countries in the process of shaping the features of economy from traditional industry into a service oriented economy[4]. Statistics from "OECD in figures" show that Japan is more than ten years behind in development compared to countries such as Sweden and the United States.[5]

Between the years of 1994 and 2004 Japan experienced the highest increase in percentage compared to Sweden and the United States of people in employed services, albeit from a much lower level. When studying available statistics, there is still a gap of about ten percentage points to Sweden and the United States. Especially the IT business in the service sector has experienced an increase of employment worldwide, and this part of the service business is very oriented towards the Creative Class.

To compare prefectures such as Hokkaido, Tokyo and Kyoto we measured the Creative Class in each respective area. Just as the index for the Creative Class of Japan was calculated by share of total workforce, the same method was applied on every prefecture using estimates of corresponding prefecture's total workforce.

Hokkaido, though by many being labelled a promising and fast developing high-tech oriented prefecture, scored under the national average, while Tokyo and Kyoto proved to have ratios above the same. The primary reason for Kyoto's ratio being above average is supposedly the cluster of Universities and Colleges with a high number of researchers found in the area. Though Kyoto's total workforce accounts for less than half of Hokkaido's, Kyoto has approximately 1000 more employed scientists. In addition, Kyoto also displays a high rate of artistic occupations such as photographers, painters and designers. These occupations are all part of the Super-Creative Core, of which Kyoto's ratio is above the national average.

Tokyo displays the most impressive Creative Class ratio. 31.7 per cent of Tokyo's total workforce is occupied within Creative Class classified occupations. The Super-Creative Core ratio in Tokyo accounts for 11.7 per cent. 12.3 per cent of Japan's total Creative Class is located in the Tokyo prefecture. These figures show that Tokyo is comparable to the US national ratio.

[4] See appendix for a chart depicting the composition of the civilian employment
[5] OECD in Figures, Statistics on Member Countries, 2005 Edition, 2006/06/26, http://www1.oecd.org/publications/e-book/0104071E.PDF

The explanations for Hokkaido displaying an under average Creative Class ratio are possibly a high rate of the workforce occupied as workers, either within the traditional industry sector or in the service sector alongside the lack of a high rate Super Creative Core which Tokyo and Kyoto displays. The category A, which accounts for most of the Super-Creative Core within the Creative Class, is a couple of percentage points lower compared to Tokyo and Kyoto. The percentage of the corresponding prefectures' workforces employed as scientists, for example, is considerably lower on Hokkaido than in Tokyo and Kyoto, 0.12 per cent on Hokkaido whereas ratios in Tokyo and Kyoto are 0.33 and 0.31 per cent respectively.

In order to verify that prefectures with high ratio of Super-Creative Core usually display more impressive Creative Class ratio we studied other prefectures as well. The most impressive prefectures were Fukuoka, Osaka and Kanagawa. They all had Creative Class ratios above average, but Kanagawa proved the pattern that regions with a high rate of Super-Creative Core result in a very high share of Creative Class. Kanagawa has a Super-Creative Core rate of 12.8 per cent, a figure that is higher than the one of Tokyo, due to a very high number of scientists and artistic related occupations.

To further analyze these prefectures the Bohemian Index was applied to see if a high concentration of the Creative Class had any relations to the tolerance rate. The Bohemian Index, based on artistic occupations, was set to 1.0 for Japan as a nation. By measuring an index for each prefecture and comparing it to Japan's average figure an indicator of the tolerance in the area was presented. This indicator could determine whether or not the Bohemians were over- or underrepresented. The most impressive region was Tokyo followed by Kanagawa and Kyoto. These were in fact the only prefectures in our research that made it above the national average of the Bohemian Index.

3. Patent Statistics as a Talent Indicator

Professor Florida argues that a regions number of patent applications is a valuable statistic for indicating the state of the talent T in the region, seeing as it is closely related to research and development and education. A high number of patent applications indicate healthy R&D programs. Patent statistics gives an overview of many different layers of research. While the domestic statistics on applications and registrations show data exclusive for the Japanese market, looking at applications made through the PCT, Patent Cooperation Treaty, global patents originating from Japan can give a picture of the country's competitiveness within R&D.

Putting these statistics in context with the amount of funds put into research and development programs can provide a first step in the progress of making an analysis of the talent T. Furthermore, the number of active researchers, joint research projects of universities and in what areas; if any particular stand out, a concentration of efforts can be observed along with supporting measures taken on a governmental level are all data of significance.

Even if a decline in the number of domestic patent applications the last years can be observed, the ratio of applications making it to registered patents have remained at a stabile rate at just below 30 per cent[6]. The domestic decline can also be an effect of the shift of focus towards obtaining global; in the sense of the 126 countries that have signed the international patent system of the World Intellectual Property Organization (WIPO), patents on a larger scale.

In the year of 2000, international patent applications based on the Patent Cooperation Treaty, PCT, exceeded 93'000 cases. Out of these cases about 9'500 originated from Japan, which meant a share of approximately 10 per cent. The 38'007 applications originating from USA made for a staggering 40.76 per cent, while Sweden was accountable for about 3 per cent with approximately 3'000 applications. USA, Japan and Germany together accounted for over 64.5 per cent of the total applications in 2000. In 2004 on the other hand, while the same three countries once again shared more than 64 per cent of the total number of cases, the ones originating from Japan accounted for 16.64 per cent. With a total of 120'100 applications in 2004, Japan's share in absolute numbers was 19'982, an increase of over 100 per cent from

[6] Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication, http://www.stat.go.jp/english/data/handbook/index.htm (2005-06-02)

the year of 2000. USA and Germany as well had experienced an annual growth since 2000 but nowhere near this magnitude.[7]

An increase of that proportion for an industrialized country might indicate that the country's R&D chain has undergone some kind of overhaul. Taking into consideration the decrease in domestic patent applications there has seemingly been a deliberate shift of focus towards obtaining PCT patents. This, in turn, may also indicate that the big multinational companies in Japan account for a large part of the country's research and development programs as a global patent is of much greater value for such a company than a domestic. Statistics also show that of the total of 29'663 companies and institutions that are engaged in R&D, roughly 86 per cent are business enterprises while non-profit and public organizations only account for 3.7 per cent[8].

3.1 Governmental Plans to kick-start the R&D System in a Slump

In the early 1990's the Japanese government concluded that comprehensive changes in the country's R&D system needed to made after having observed, among others, three years of declining investment, lack of flexibility and a low number of researchers compared with the US and Europe[9]. "The first Science and Technology Basic Plan" was put into practice in 1996 with the most significant key points being to promote the coordination between industry, academia and government and to increase government investment, with the goal set at approximately $150 billion during the first five year plan. Five years later "the second Science and Technology Basic Plan" was introduced and one can clearly observe that a shift in ambition had been made. The desire to turn a negative trend in the first plan had changed to a vision of making Japan "a nation with international competitiveness and ability for sustainable development," and "a nation securing safety and quality of life". The plan is altered every five years to accommodate the new situation. [10]

[7] Rannís – The Icelandic Centre for Research, http://www.rannis.is/files/%7B9b005c1f-eda1-42df-b26c-8879501644bd%7D_r&d%20stats%202003%20ensk%20utg.pdf (20/6 2006)
[8] Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication
[9] Japanese Institute of Global Communications, Japan Technology Review #7: July 10, 2001, http://www.glocom.org/tech_reviews/jt_review/20010710_s7/index.html (2006-06-20)
[10] Ibid.

3.2 Impact of the first Science and Technology Plan

A thorough evaluation of the second plans is yet to be made seeing as it is still in practice. When studying the first plan one can clearly see that great progress has been made. Increased coordination between industry, academia and government was one of the key issues in the first plan[11]. Deregulation alongside the development of related systems and facilities were some of the measures taken in order to achieve this goal. The record number of 8'023 joint research projects in 2003 can not be considered any less than a success considering that the corresponding number four years earlier, in 1999, was just above 3'000 projects.[12]

As for the issue of increased government investment the government started off by increasing its R&D budget to approximately $12.2 billion in the year of 1996[13]. Even though that increase was a major step up from the year before, the corresponding number in USA was just below $50 billion the same year.[14] However, when evaluated in 2001, the commitment to invest $150 billion over the five year period had been achieved with margin[15].

On the other hand, two outspoken goals of the first plan were not achieved; the renewal of research facilities in national universities and an increase in the number of research assistants within the universities. In a report the Tokyo Regional Office of the National Science Foundation argues that the task of renewing university facilities is such an enormous task that it is virtually impossible to complete in a five year period. The failure of increasing the number of university research assistants is explained by the fact that that very intention came in conflict with government's goal of reducing the total number of government employees by 25 percent by 2010 since such workers were labelled government employees at the time. However, steps towards accomplishment could possibly be taken after 2003 when national universities will be given the status of independent agencies, the same report agues.[16]

Even prior to the implementation of the first Science and Technology Basic Plan Japan had a high ratio of the GNP invested in R&D, approximately 2.85% in the year 1992[17]. In 2002 that ratio had increased to 3.35%[18]. The allocation of governmental funds is a

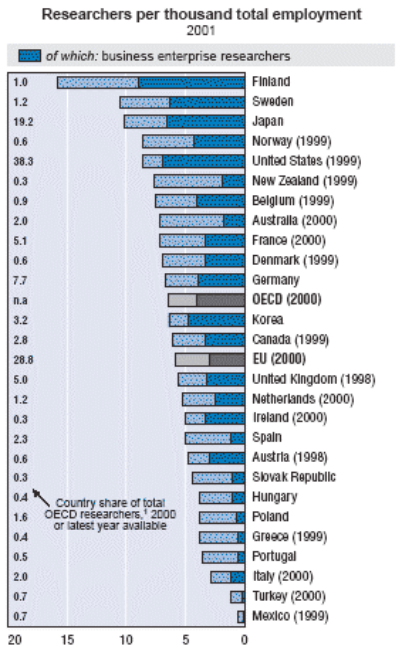
[11] Ibid.
[12] Ibid.
[13] US National Science Foundation, The Science and Technology Resources of Japan: A Comparison with the United States, http://www.nsf.gov/statistics/nsf97324/chp2.htm (2006-06-24)
[14] Ibid.
[15] Annual Report on the Promotion of Science and Technology, 2004, MEXT
[16] Ibid.
[17] Ibid.
[18] Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication

possible explanation for the increase, business funded R&D has historically made out a major part of Japan's total funds invested in R&D.[19]

An evaluation made by the National Science Foundation states that "There is a consensus that the 1996 Plan has contributed significantly to the strengthening of Japan's science and technology system as a whole."[20] Further efforts are still needed primarily to cccthen communication and intellectual infrastructures the study argues[21].

3.3 Researchers in Japan

The average ratio of researchers active in R&D projects in the OECD area was approximately 6.5 researchers per thousand employees in the year of 2000. Three countries stand out, having a ratio of over 10 researchers per thousand employees, Finland, Sweden and Japan. [22]



The total number of active researchers in Japan in 2004 was 787'000, an increase with over 100'000 from 1995[23].
Of these, 459'000 researchers were active in business corporations. A significant difference regarding the ratios of the three categories basic research, applied research and development, can be observed between business funded and government funded R&D. Development programs counted for 74.7% of the business funded R&D in 2003, while the government funded programs premiered basic, at 55%, and applied research at 36.5% of the total funding.[24]

[19] Ibid.
[20] National Science Foundation, Follow-up of the Science and Technology Basic Plan: An Interim Summary, http://www.nsftokyo.org/rm00-06.html (2006-06-26)
[21] Ibid.
[22] OECD Science, Technology and Industry Scoreboard, http://www1.oecd.org/publications/e-book/92-2003-04-1-7294/PDF%5CA92.pdf (2006-06-24)
[23] Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication, 2006/6/27, http://www.stat.go.jp/english/data/handbook/c08cont.htm
[24] Ibid.

Looking at Japan's research- and scientist workforce from a human resources oriented view some negative observations can be made. While specialist's salaries are on par with the likes of the US, the supporting staff, nonetheless highly educated, suffers a gap not seen in America. The 2004 Annual Report on the Promotion of Science and Technology by MEXT argues that in order to secure excellent human resources and give them the opportunity to reach their full potential it is of importance to guarantee treatment that matches their advanced knowledge and ability.[25]

3.4 Evaluation of the Promotion of Regional Science, Technology and Innovation

The "Study on Systematization of the Indicators on Regional S&T Activities toward Innovation" states that "...expectations are high that promoting science and technology and fostering innovation and entrepreneurship will contribute to creating new industries and jobs." In order to implement policy measures in an affective way it is of importance to regularly monitor the development of the different regions. NISTEP and MEXT, who carries out this research, have chosen to work with 85 regional S&T indicators; for example, the correlation between the number of joint research projects and the number of papers. In order to further enhance the accuracy of the assessment NISTEP has developed another instrument, "Composite Indicators measuring S&T Activities toward Innovation" which consists of 15 sub-indicators of major importance in science and technology, divided under four components as follows: [26]

- Input Indicators (3); Research expenses at public research institutes, budget allocated for regional cluster programs by the central government and acquired competitive research funds.

- Infrastructure Indicators (4); Number of scientists, number of engineers, number of private research institutes and number of public research institutes.

- Output indicators (4); Number of joint research conducted in universities, number of papers,

[25] Annual Report on the Promotion of Science and Technology, 2004, MEXT
[26] Ibid.

number of inventors for patent applications and number of newly registered plant varieties.

- Impact Indicators (4); Gross value-added amount, number of university initiated start-up companies, number of companies exited from incubators and number of companies accredited by law to promote small and medium sized enterprises' innovative activities.

Using these data, the goal of the study is to rank the highest scoring prefectures in terms of growth between 1990 and 2003 and compare that rank with corresponding prefecture's total score. The organisations behind the study, MEXT and NISTEP, have also charted each prefecture's comparative strengths.[27]

Tokyo is totally dominant, both in growth between 1990 and 2003 and in terms of total score and is followed by Osaka which nearly matches Tokyo in terms of growth rate but suffers a considerably lower total score. Hokkaido ranks as fifth in both categories. Fukuoka displays very similar total scores as Hokkaido with some differences in the ratio between the four components. Fukuoka displays a large increase in the Impact- and Output indicators from 1996 while the ratios between the four indicators have remained fairly unchanged on Hokkaido. A lack of large companies is said to be the explanation for Hokkaido's input indicators scoring a bit lower than Fukuoka's counterpart, the study argues.

On the matter of prefecture strengths the report labels Hokkaido as Input dominated. That trend can be observed in many of the remote prefectures since the enactment of the S&T Basic Plans opened for an input supported by government programs. As for Tokyo, when comparing prefecture strengths with the national average, it is Impact dominated while all of the prefectures surrounding Tokyo have their strengths in Infrastructure. This suggests the neighbouring prefectures' role in supporting "exit" activities that has made an impact on Tokyo, the study concludes.[28]

3.5 Hokkaido Region: Creating Awareness of the Importance of Creativity

The joint research carried out by MEXT and NISTEP; "Study on Systematization of the Indicators on Regional S&T Activities toward Innovation", confirms that there are a

[27] "Study on Systematization of the Indicators on Regional S&T Activities toward Innovation", March 2005, Third Policy-Oriented Research Group, MEXT, NISTEP, 2006/06/26, www.nistep.go.jp/achiev/abs/eng/mat114e/pdf/mat114ae.pdf
[28] Ibid.

widespread awareness regarding the importance of supporting innovation in order to achieve a positive regional development. Interviews with both Mr. Shin-ichi Bannai of Iwamizawa City Hall and Mr. Akira Hatsusegawa, Mr. Toshiya Kubo and Mr. Masaki Watanabe of the Intercross Creative Centre (hereafter referred to as ICC) in Sapporo further confirms that supporting and promoting creativity is considered to be of immense importance by some but yet has not reached the point of "critical mass", were so many embrace the same way of thinking that it becomes the general opinion, as Mr. Kubo choose to express it.

The people working at the ICC have very much embraced that very way of thinking. The ICC makes good use of its name, being an incubation centre for creative thinking, involving different layers of society with creativity as the centre of attention at all times. ICC was founded in 2000 on initiative by the Japanese government and is still owned and funded by the same. Mr. Kubo argues that the only way for a region like Hokkaido to be able to compete with Tokyo is to create a creative industry. The general opinion seems to be that the Hokkaido region and mainly Sapporo, by some referred to as "Japan's Silicon Valley", has the necessary pull factors needed to create such an industry. The climate, living conditions etc. are on such high level that it attracts human resources of high quality. Furthermore, innovative thinking and creativity would benefit from a shift in the general way of thinking and in inter-office politics. Seniority systems and such holds young, creative people back while company structures sometimes can constrict innovative personnel. Creative people need more freedom, Mr. Kubo concludes.

4. Depicting the educational environment in Japan

4.1 Introduction

The educational system in Japan has its origins in confucianistic values as well as the period after the Tokugawa era when unemployed, but well educated samurais found work as teachers instead. These authoritarian influences have put their traces on the educational system. According to the US library of congress "the Japanese educational system hold several important beliefs about education, especially compulsory schooling ... that effort, perseverance, and self-discipline , not academic ability, determine academic success; and that these study and behavioural habits can be taught. Thus, students in elementary and lower-secondary schools are not grouped or taught on the basis of their ability, nor is instruction geared to individual differences"[29].

This kind of thinking where discipline is the ideal is well fit for a manufacturing society but as a society that needs new innovations in order to maintain economic stability and development the authoritarian point of view might restrain the creativity and independent thinking and creativity of Japanese pupils. Japanese schools have a legal minimum of 210 days of education each year, however a clear majority of the schools often add about 30 days of extra activities ranging from sport-challenges to school festivals and general collaboration exercises[30].

4.2 Higher Education

Japan has as mentioned always held education in high regard and therefore there are naturally many students entering higher education after their upper secondary studies. In Japan there is a number of alternatives for higher education; junior college, technology colleges, universities and working schools. The choice that of first attending 2-year associate degrees and then proceed to another year of higher education, attaining a Bachelors degree or higher. The number of Japanese students entering higher education in 2004 was 49.9%[31]

[29] Library of Congress, 2006/06/21, http://countrystudies.us/japan/77.htm
[30] Ibid.
[31] Web Japan, 2006/06/26, http://web-jpn.org/stat/stats/16EDU72.html

In his book professor Florida describes universities as creativity hubs and many of the cities that score high on the creativity index also have high-status universities[32]. According to several interviews that we have made with persons involved in Sapporo's two high-tech clusters, The Bio-Chemistry and the ICT clusters, Hokkaido Daigaku is one such university; constantly given a top position on surveys of Japans and even Asia's best universities[33]. In an interview with Hokkaido Venture Capitals (HVC) president, Ikkei Matsuda, and the manager of department of investment, Dr.Atsumi Tobitani, a hint of Hokkaido Daigaku's effect on growth was given. Since 2000 the new technology transfer law had contributed to eight new biotech companies in HVCs care with ideas from Hokkaido Daigaku research. [34]

A short comparison of Hokkaido's educational situation compared with Japan in general is surprisingly normal, the average of university students on programs vying for a bachelors degree or above are:

Number of university entrances in Hokkaido. 20405[35]
Population in Hokkaido: 5,690,000[36]
Japans population: 127,687,000[37]
Total number of university entrants in Japan: 460278[38]

The average of university entrants per capita and year is 0,359% of the population for Hokkaido. The number for Japan as whole lands on 0,36% making Hokkaido an almost perfect reflection when it comes to the number of university enrolments, but in comparison with U.S.A 2'045'200 student degrees[39] divided by its population of 293'65'000 population[40]

[32] Florida R, *The Rise of the Creative Class*, 2002, Basic Books, New York, NY, p 291
[33] Institute of Higher Education, Shanghai Jiao Tong University, 2006/06/23 http://ed.sjtu.edu.cn/rank/2004/Top%20100%20Asia%20Pacific%20Universities.htm
[34] Interview with I. Matsuda and A. Tobitani of Hokkaido Venture Capital, 2006/06/16
[35] Hokkaido Board of Education, 2006/06/21, http://www.dokyoi.pref.hokkaido.jp/hk-kssku/chosa/gakkou-i/2004/g04-9(1).pdf
[36] The Northern Forum, 2006/06/21, http://www.northernforum.org/servlet/download?id=2094
[37] Ministry of Internal Affairs and Communication, 2006/06/21, http://www.stat.go.jp/data/nenkan/pdf/y2800000.pdf
[38] Ministry of Internal Affairs and Communication, 2006/06/22, http://www.stat.go.jp/data/nihon/zuhyou/n2201100.xls
[39] National Center for Educational Statistics, 2006/06/23, http://nces.ed.gov/programs/digest/d04/tables/dt04_247.asp
[40] US Census Bureau, 2006/06/23, http://www.census.gov/compendia/statab/tables/06s0017.xls

and Sweden's number of graduates, 57'000 students graduating[41] divided by its population of 9'000'000 population[42] gives 0.63%[43]. There is a huge difference between the numbers of graduates of three years or more in the U.S. and Sweden compared to Japan. What this difference depends on might be hard to say. Japans 2-year associate programs often allow their students to proceed to a bachelor's degree but that choice is not always made[44]. This might very well be a contributing factor for Japan not being able to compare with the other two countries. Since part of Richard Florida's definition for the creative class is 3 or more years of higher education they fall short of being recognised in the statistics.

In 2003 1,5% of Japans population was foreign born[45] virtually no foreign population at all compared to the melting pots of Sweden;12.011 %,[46] and USA; 12,2 %[47], respectively. Japan has one of the lowest rates of number of foreign students studying, but it has almost multiplied threefold between 1991 and 2005 foreign students of all industrialised countries, only 2.2 % of the total student enrolled in 2004[48]. Naturally most of the students come from other parts of Asia and a majority of the students are from China and Korea. It is however an important factor that these students contribute to the great university cities becoming more culturally mixed.

4.3 Encouragement of Creative Thinking

Schools can of course independently promote creative thinking and make sure that people wanting to engage in different activities such as sports, music, social networking and etc. can do this. After the change to a 5-day school-week that recently was adopted, the participation levels in extra curricular activities have most certainly increased according to Mr. Takahashi. This might have much to do with being able to spend more time on ones interests and that in conjunction to longer trips to neighbouring towns; to have for example track meetings, can be

[41] Statistiska Centralbyrån, 2006/06/23, http://www.scb.se/statistik/_publikationer/UF0527_2006A01_BR_UF07ST0601.pdf
[42] Statistiska Centralbyrån, 2006/06/23, http://www.scb.se/templates/tableOrChart____25896.asp
[43] Note that the Swedish and American numbers are for bachelors degrees and above while the Japanese numbers are for the enrolment on 4-year university programs not including eventual dropouts.
[44] Ministry of Education, Culture, Sports, Science and Technology Japan, 2006/06/23, http://www.mext.go.jp/english/statist/05101901/001.pdf
[45] Organisation for Economic Co-Operation and Development, 2006/06/23, http://stats.oecd.org/WBOS/ViewHTML.aspx?QueryName=188&QueryType=View&Lang=en
[46] Ibid.
[47] Ibid.
[48] Organisation for Economic Co-Operation and Development, 2006/06/23, http://www.oecd.org/dataoecd/1/44/35287269.xls

allowed when there are two days to spend freely[49]. The teaching does however seem to differ significantly. Japanese student Eri Kanno, who has been to Sweden for a year of studying during her high school period, stated in our interview with her; that she was surprised that the teachers actually promoted individual thinking in Swedish Upper secondary education compared to the by-heart learning of the teachers lectures that the Japanese system prescribes[50]. There are other differences when it comes to learning. In our interview with Mr. T. Murata, chairman of Softfront, Mr. Murata pointed out that it was just the last year that his company had started to recruit freshmen from universities. The reason for this was due to the lack of training in teamwork as well as the lack of programming skills. A possible reason for the lack of programming skills, said Mr. Murata, might be that it seems to be low status work for high status professors to teach basic programming. This makes the teachers unwilling to give the students enough knowledge in what they actually should know and when they graduate they need further training from the companies[51].

In 2004 the number of students enrolling to study for super-creative core trades was 7’480
1.5 Technological education

[49] Interview with Mr. Takahashi, Manager of the Planning division, Regional Development, 2006/06/01
[50] Interview with Ms. Eri Kanno, student of Hokkaido Tokai Daigaku, 2006/06/10
[51] Interview with Mr. Toshifumi Murata, Chairman of Softfront, 2006/06/23

5. Hokkaido and its major high tech industry

5.1 Hokkaido and high tech

Whenever one get asked what the definition of “high tech” is in Hokkaido, straight away the answer will be IT and biotech. This all started back in the year of 1976 with Yoshinao Aoki and his microcomputer lab, Hokkaido Microcomputer Study Group of Hokkaido University. 1997 the first basic OS was created by Yamamoto at the same university. At this time Japan was equal or even better than the U.S. students who were in the study group later started their own ventures. The first three was B.U.G., Hudson and dB Soft. From these three original ventures more spun off rapidly. The fast development of companies later led to governmental support and promotion in creating Sapporo Techno Park, a cluster of ICT companies. The promotion also included the creation of Sapporo Electronics Center and the SEC Foundation, which promotes projects, rising up ICT industry and trying to spill over technology to others. 30 years has now past since the start and the industry has evolved into being one of the leading in IT and software. This has spun off into software for mobile internet, railway and defence. Software for embedded technology that is attached to hardware; that is firmware, is also of importance.[52]

The cluster also called “Sapporo Valley” (from 1999) is today at a size of 300-400 companies and generating approximately 3 billion dollars. The number of people employed and working in this business are somewhere around 18’000.

The problems are obvious in Sapporo’s IT industry. One is the difficulties in raising capital for investment, because of Hokkaido being looked upon as not being part of the “real Japan”. Another is that it has not got the end-user close by; as the case in Tokyo, where the real market is. A general thought is also that the population is happy with what they have already got, not wanting to achieve more or advance further. Most companies are small or sub junctures. The business itself is also lacking in areas such as marketing and finance, which leads to instability. Instability itself leads to that the business is being regarded as not being creditable, which is important to have when trying to make the company grow. Promotion of

[52] Hokkaido Venture Capital, 2006/06/16

business is the biggest problem. For this purpose the government has continued for 20 years promoting this industry.

5.2 Why Hokkaido is attractive

Starting up business in Hokkaido is easier than on the mainland. Funds can be acquired for interesting technology. Talent is also found here; especially from the University of Hokkaido, with its excellent graduates in engineering and the biotechnologies. Hokkaido's history is not long compared to the older cultural regions in Japan. Being a region occupied by many different people born at different places has led to a deeper understanding of people and a higher tolerance against the fellow man. Sapporo for one has been acting as a new test market and has higher acceptance to new styles and other changes. Highly developed when comparing to other regions, environment is much better than most. Nature is closer than in most places, and the environment is of a healthy sort. Commuting that usually is the only option working in a city like Tokyo is not the same for most. Being able to have between 10 and 30 minutes to the workplace is both convenient and makes life easier.[53]
The new tidal wave of joint caring of household works in Japan, combined with the husband being able to spend more time with his children, is also a major point not to be left out. Land lots are cheaper, daily life necessaries as well. Combining all factors, even though wages may be lower in the Hokkaido area, families still decide to move here. Often one of the two is born on Hokkaido.[54]

5.3 Measures to Stop the Outflow of Talent

It is very hard for smaller Hokkaido businesses to get graduates from Hokkaido. The company needs to have at least 50 employees or be outstanding in some point. Therefore the size of the company is critical when students make their choice. Companies that are seen as promising are usually those who have around 5 starting members, but at the beginning they may not yet be ready to hire new personnel. When the company grows to around 100 it is finally stabilizing. There need to be outstanding technology and creativity in order to last in the long

[53] SEC, 2006/06/23
[54] Shin-Ichi Bannai, 2006/05/29

run. Also a sense of credibility is of essence. Without future belief, there will be no further interest in the well-being of such a company.[55]

There is a narrow choice of employment for students in Hokkaido, compared to Honshu, and a thin line of different choices, which are not suitable for all. Another point is the payment for work done. Hokkaido in general holds wages at 70-80% comparing to the larger areas in Honshu. The lack of job opportunities does not make the choice for students any easier. Sapporo also lacks big industries such as car and mobile phone. The companies are not strong enough to employ all of the graduates.[56]
A general thought is that in order to make career, a job in Honshu is preferred. Another is when it comes to women, Hokkaido seem to lack of tolerance, even though being one of the most open regions. Also higher positions in Hokkaido are seldom announced as vacant. So in order to earn a lot of money, Hokkaido has limited offers. Hokkaido mentality can also sometimes be of an obstacle. People tend to be a little less serious when it comes to earn money. It is not part of their goal in life. They often settle for less.

Some companies do not often hire newly graduated students, partly because they need more training before entering a high speed company. Generally professors at universities believe that it is not important to make something that is original work. Another important topic is to train students to work with each other in groups, which is essential for example R&D. That this is of importance is not a common belief inside the universities. There are also big gaps between the different levels of education.[57]

There is an ongoing discussion about Japans ageing population. One way to solve this could be by immigration of labour force, but most answers that the government should educate in more knowledge oriented basis. Common belief is that the government is not yet serious enough and that the private sector has better ideas. There needs to be a change of thought in the city hall. That many are employed by government without any work experience is unfortunate. Working experience in the private sector would be preferable. People with such background in government could challenge tradition with the new changes in thought. Government belief of being creative is often limited by only giving financial aid to new promising products.[58]

[55] Softfront, 2006/06/23
[56] Ibid.
[57] Ibid.
[58] Shin-Ichi Bannai, 2006/05/29

5.4 Creativeness- a different approach

As employees of IT, they belong to the super-creative core it is a highly creative line of business. The companies differ from other industries; they are for example more open. The Japanese government is also positive in promoting such local business. For Sapporo it is easy to start the business up with local talents. Services the local government can provide are amongst other administration. At the same time, generally speaking, the government is very slow towards its clients, and for a fast pace IT companies, such a contract would be difficult to maintain. By being as slow moving as the local government is, providing in general only basic supporting functions, the company needs to be highly effective and creative. Companies are self-help minded. These companies, when looking for new personnel, often hire high energy and open-minded persons.[59]

Technological meetings, demonstrations, management training and lectures as part of company education are not unusual. Since the company needs to be creative they need to be highly effective. Being able to work self-controlled in a free atmosphere is an asset. There are both good and bad sides with having a job with wider boundaries or without ties. Not being organised and wanting to do everything by their own method can cause problems when working towards a goal. Not writing specifications before starting to work can also cause discussion. Many are satisfied with doing middle-sized work rapidly, not so organised, but highly creative. A new trend is also the flat working place where all employees are at the same level as the others.[60]

There is however a different view to some Japanese companies. Being in the creative core is not always regarded as being creative. Having a product ordered by an end-user, and thereafter working within boundaries, is not regarded as being of creative nature. Only when the software is created from scratch using an original idea, it ought to be regarded as being creative. This question is where many companies differ. Being creative and coming up with a clever solution is therefore treated differently. When finding a product there is a smooth passing from creativity to being a bit more productive.

Other programs as the e-Silk Road Program, that links Sapporo IT with other IT stations in Asia, is also a step on the way to co-operate more and advance creativity. Another is Sapporo Bizcafe that promotes collaboration between companies within Sapporo Valley.[61]

[59] Softfront, 2006/06/23
[60] Ibid.
[61] SEC, 2006/06/21

Hokkaido University graduates seem to be appreciated in Sapporo's industry. Many companies have a large part of their staff consisting of these graduates. A thing remarkable for this industry is that after work activities are encouraged. To be able to meet with ones family and have free time to spend pleasantly with friends and hobbies means a lot. Many companies feel very homebound and proud to be from Hokkaido and regard themselves as very anxious to show productivity.

5.5 Information gathering in Japan or overseas

Information is a basic compound of the IT industry. Whenever faced with a problem, they first try to solve it behind closed doors inside the company. Only time information from overseas would become necessary is when working with a special script or working in a joint venture, whether it is with R&D or end-user. Mostly when working with overseas companies, they are Japan based. This means that the most normal answer is that information comes from within Japan and not from the outside world. Making information open to others overseas, also in Japan, is not generally practiced. There are not many times you can find the same relevant information in English as it is in Japanese. This construct is an obstacle when searching for possible joint ventures in areas like R&D. Writing something in different languages can also be a good promotion in order to get new customers. A closer co-operation would not only mean higher knowledge but maybe also a faster way to solve future problems.[62]

[62] SEC, 2006/06/21
ASE, 2006/06/21
Softfront, 2006/06/23

6. Women

According to Richard Florida women can by all means think creative and therefore be a part of the Creative class. Unfortunately, many women in Japan feel; and are, limited by obstacles which hinders them in their creative activity. This project will look into some of these obstacles.

6.1 The population

In 1997 Japanese population reached 126 million, and approximately 64 million of them were women[63]. The declining birth-rate and aging population is a growing problem in Japan[64]. Japan's population expects to hit the highest point in 2006, begin to decrease in 2007 and plummet to about 100 millions by 2050. During this time, the decline in birth-rate and aging of the population will hastily move forward. By 2020, three out of ten will be elderly people[65].

In the middle of the 1990s the working-age population began to decline, and the quantity of middle-aged and older people in specialised or technical occupations have been increasing. This bodes that many people will retire within the next few decades, without being replaced[66]. There is a fear that this will lead to a decline in Japanese scientific and technological potential[67]. One way to counter this threat to Japan's competitiveness on the world stage; and to guarantee the future of the pension funds, is to let more women to engage in creative activities.

The Japanese fertility rate was 4.5 in 1947 but plummeted considerably after the Second World War as a result of the improvement of child health and less incentives for childbirth. In 1970 the fertility rate was 2.00, in 1990 1.54 and fell to a record low in 1998 with 1.38[68]. Late marriage and insufficient social support for working mothers is two reasons why women are discouraged from rearing children[69].

[63] State of Women in Urban Local Government Japan, 2006/06/26, http://www.unescap.org/huset/women/reports/japan.pdf pp.1
[64] Annual report on the promotion of Science and Technology 2004 by MEXT p 23
[65] Ibid. p 50
[66] Ibid. p 23
[67] Ibid. p 24
[68] Table 3, State of Women in Urban Local Government Japan, pp 2
[69] Ibid.

There is obvious that something has to be done to increase the birth rate, if not there will be a severe problem taking care of the aging population. Late marriage and insufficient social support for working mothers are two of the reasons put forward. Interviews have revealed that it is hard for women to combine a professional career with having children. Many women have to choose between having a career or bear children. If the child care support was to be more reliable, Japanese working mothers could continue working and have children as well. Then probably the birth rate would stop to decline, or at least decline at a less rapid phase. Furthermore, if the child care support is defective, women with creative jobs have to quit their jobs in order to become housewives. If the women are housewives then they can not express their creativity at the workplace and thus join the ranks of the creative class.

6.2 Employment participation

Between 1995 and 1998 the unemployment rate, which until the mid 1990's had been stable around two per cent, increased from three per cent to 4.1 per cent (female: 4.0 per cent, male: 4.2 per cent). In March 1999 the unemployment rates reached a record high of 4.8 per cent. The high unemployment rates affected the new female university graduates since many enterprises declared that they were no longer interested in recruiting women.[70]

The major Japanese companies' strategy to increase out-sourcing of employees and part-timers to facilitate flexible utilization of the labour force affected women drastically. The group of contracted part-time workers consists of 68 per cent women. The percentage of part-timers has steadily increased among women workers from 27.9 in 1990 to 37.4 per cent in 1999. It is moreover known that the wage gap between full-time workers and women part-timers and has been widened.[71]

6.3 Women in R&D

The number and proportion of female researches have progressively increased but compared to the proportion of females among higher education graduates the rank is low. Compared to the proportion of females in general; people who are employed and compared to international

[70] Ibid.
[71] Ibid.

statistics, the figure is still low. The reasons for the low number are, amongst others, the problems for women with getting easy and ready access to child care support; and particularly, private companies lacking the will to agree female workers. It has been mentioned that the R&D branch often is tough for women.[72]

As can be seen in the figure from the "Survey on Research Activities of Private Businesses" in Fiscal 2004, companies declared "there are few or no applicants" as the main reason for the low increase of the proportion of female researches. Furthermore companies responded that "the company does not make special effort to increase the number of female researches"[73].

To sum this up the Japanese creative female researches and graduates are counteracted by the companies' lack of interest in recruiting women. Women want, but are hindered during these circumstances, to take part in the creative class. Furthermore, the lack of readily accessible child care support is a problem.

6.4 Labour force and wages

Women make up about 40 per cent of the labour force[74]. During the 1990s, female labour force participation rate has been steadily hovering around 50 per cent, while the males' employment rate has declined[75]. In 1997 the average monthly female wage was only 51.1 per cent of male wage[76]. Japan is in fact the only OECD country where the gender-based wage gap is growing[77].

In the age groups of people in their early 20's and late 40's, female labour force participation rates are the highest. In the age groups of 30's to early 40's the rates are the lowest. This shows that many women temporarily leave the labour force around the age of 30 to take care of the household either as housewives. In their 40s', the women are less occupied and re-enter into the labour force mostly as contracted part-time workers. Unfortunately working conditions are often less secure and profitable than those of women that enter the

[72] Ibid.
[73] Ibid.
[74] State of Women in Urban Local Government Japan, Table 4
[75] Ibid. pp 2
[76] Ibid. Table 4
[77] Prof. Yoshio Maya et al., Japanese Institute of Global Communications, 2006/06/19, http://www.glocom.org/special_topics/social_trends/20050127_trends_s96/index.html

labour force for the first time[78]. Thus women have a hard time to remain in the workforce and to develop the traits that are sough for by the employers.

6.5 Education

As shown in Table 2, female enrolment at primary, lower and upper secondary school is nearly equivalent to that of men[79]. When it comes to enrolment at tertiary level there is a considerable gap. Even though the female enrolment in science-related faculties has increased during the last few decades, the numbers of female students is low. Women account for 32.8 per cent at the faculties of medicine and dental surgery, 25.2 per cent at the faculties of science and just 9.8 per cent of students at the faculties of engineering[80].

By studying, women can learn how to think creatively and develop their creativity. Therefore it is extremely important that young women are encouraged to enter university to the same extent as young men. Education is one of the ways for women to enter the creative class.

6.6 Family life

The divorce rate in Japan augments each year. The increasing divorce rate will most likely escalate the number of single-parent households, especially those living in poverty[81]. In 1990 the divorce rate per 1000 of population was 1.28 but has steadily increased to 2.30 in 2002[82].

The child support payment system towards mothers and children in Japan at moment is insufficient. A woman with children can be abandoned by her husband without getting any financial support from him. Mother-headed families compose a majority of the poorest Japanese households. One of the most important reasons is the lack of child support money from absent fathers. The law obliges an absent father to pay child support money but there are no effective penalties or punishments for a father who refuses to pay child support money. Many women are frustrated that their unfaithful men can leave their children without

[78] State of Women in Urban Local Government Japan, pp3
[79] Ibid. Table 2
[80] Ibid. pp 2
[81] Prof. M. Yoshio, Japanese Institute of Global Communications
[82] J. S. Curtin, Japanese Institute of Global Communications, 2006/06/26, http://www.glocom.org/special_topics/social_trends/20030611_trends_s41/index.html

having to pay for their children's upkeep. For a single mother without any employment history and children to support, it is often hard to find a job. In Japan, only 34 per cent of divorced mothers receive support payments from their children's fathers. Even though this is a huge problem for divorced mothers the average monthly upholding payment has actually decreased from 53.200 yen in 2000 until 44.660 yen in 2005, which is a decline with 8.540 yen or 16 per cent. When trying to adjust the law and make it more useful, a group of conservative male lawmakers state that making men financial responsible for divorced children would violate "Japanese traditions". [83]

When it comes to child care, these women often have to rely on relatives such as parents for support. Another problem single mothers have to face is when their children get sick. It is not socially accepted to leave the job to take care of a sick child. Divorced mothers have, because of the lack of money, seldom the opportunity to send their children to university. Effective penalties for fathers refusing to pay child support money must be introduced; otherwise the creative class in Japan will diminish as divorce rate augments due to the poor outlook for children of these households to enter the creative class. [84]

6.7 Women in politics and governance

One obstacle to the progress of women's rights; which would make it easier to voice the needs of the women belonging to the creative class, would be to make them more visible in the House of Representatives; women's share of seats is no more than 7.3 per cent[85]. In the House of Councillors the rate is 17.1 per cent. In 1996, the percentage of women ministers was only 5.9 per cent which indicates that there are still hardly any women in the national government in decision-making capacities[86].

There continue to be few female government officials at high-ranking positions. However, the female ratio in national advisory councils has increased progressively; in 1999 the number was 19.8 per cent.[87]

The political parties in opposition to LDP have made a lot of efforts recruiting women for political positions. The Socialist Party's seats in the House of Representatives are

[83] J.S. Curtin, Japanese Institute of Global Communications, 2006/06/26, http://www.glocom.org/special_topics/social_trends/20050422_trends_s102/index.html
[84] Ibid.
[85] State of Women in Urban Local Government Japan, Table 6
[86] Ibid. p 5
[87] Ibid.

since the 2000 General Election divided equally. The Liberal Democratic Party believe that actions to secure female candidates is discrimination against male candidates and that equal opportunities is the most appropriate way to encourage gender equality. Still the Liberal Democratic Party has chosen female candidates at points when they have realized that a women candidate will get greater support than a male candidate.[88]

6.8 Obstacles for women in politics and governance

In theory, there is no obstacle that prevents women from entering politics in the same manner as men. In urban local government, the lack of representation of women is tangible; roughly 56.1 per cent of village and town assemblies and 10.1 per cent of city councils have only male members. Men have been the traditional decision makers, and first and foremost on the countryside, this tradition still is widespread[89]. Women in politics have to face tough stereotyped sex roles and norms as a result of the Japanese patriarchal society. There is prejudice that women's views are inappropriate in politics, and therefore women have a hard time to gain authority. Furthermore there is a shortage of awareness about the necessity to augment participation of women in politics and governance[90].

An increased women participation in the public life would most likely boost women's participation in the public creative class. It is important that creative women who wants to take part in politics and government are encourages by society. Today creative women in politics have to face stereotyped sex roles. Women do not get trusted as politicians because of their sex. The Japanese patriarchal society counteracts creative women to take part in politics and governance. Traditional thinking must be changed; otherwise women will never be able to enter the creative class in the same extent as men.

[88] Ibid
[89] Ibid. p 9
[90] Ibid. p 19

7. Immigration

Professor Richard Florida discusses the problems of tolerance vividly in his book "The Rise of the Creative Class". One of the characteristics of a creative community in the United States is that many persons from the creative class are pulled here because of the open-minded community and working conditions that encourages creative thought. Thus many foreigners are drawn to these melting-pots of creativity.

Japan is a large country with a huge population, but only 1.57 % is of foreign descent[91]. These persons may bring new ways to deal with and solve problems. Thus it may be very rewarding to attract persons from abroad. Currently the situation looks quite grim since the outflow of persons are higher than the inflow[92]. There are several reasons why the inflows of individuals are so low, even though it has increased during recent years. In the end, even though it is not official policy, the current Japanese policy is one that discourages foreigners to come and stay.

7.1 Troubles of immigrating

One of the troubles facing imports of labour is the strict and complicated rules regarding work-permits or visas. Therefore under the current system, "outstanding foreign students can not always smoothly begin work"[93]. It is also fairly difficult to transfer smoothly from Japan to the western countries because the systems differ quite a lot in design.

The Japanese system favours long time employment, which makes it hard for older specialists to move to Japan for longer times since it will make them poorer when they get old and have to live off the public pension[94]. But to be granted residential status as a foreigner, in for example the IT-profession, the person needs a credible "university degree or over 10 years of practical experience"[95]. This can make it hard for middle-aged people from the creative class to enter the Japanese public pension system and then expect to live well off. To expect foreigners of the creative class, during these circumstances, to stay in Japan for longer times are to wish for too much. There exist special laws that make the pension costs lower during

[91] The National Union of General Workers, 2006/06/20, http://nambufwc.org/2006/05/27/registered-foreigners-top-2-million/
[92] Japan Statistical Yearbook, 2006, 2-1, 2006/06/26, http://www.stat.go.jp/English/data/nenkan/index.htm
[93] JETRO, The Survey on Actual Conditions Regarding Access to Japan, 2001, http://www.jetro.go.jp/en/stats/survey/access/business_activity_support_services.html p.11
[94] Ibid. p.13, 20-21
[95] Ibid. p.52

ones stay, but only if one stays for a few years. Thus the policy cannot be seen as a policy to attract foreign workers to reside in Japan for longer periods of time.

7.2 Inflow of immigrants as a result of Government Policies

Much of the inflow of personnel to Japan is a direct result of government policies, but these are aimed at foreigners of Japanese descent, not of people from the creative class. Many of these foreigners are from Brazil; approximately 300'000 have immigrated during the last decade and they are increasing rapidly. Many of these foreigners emigrated from Japan during the 1920's and 1930's, under government support. Japan during this era suffered from economic hardship and searched for options to relieve itself of its problems regarding poverty, It thus chose to support emigration of its citizens abroad, mainly to Manchuria, Brazil and Hawaii. Now when the solution to the contemporary economic hardships is immigration the government policy has reversed.[96]

This government policy of encouragement of immigration should not be taken as a sign that the government welcomes immigration whole-heartily. Instead this option was chosen as it was believed that these persons would not disrupt the political stability. They are not physically different from other Japanese or have different names, but they lack language skills, many of them emigrated from Brazil without any prior knowledge of Japan or Japanese. These have in general not been granted Japanese citizenship; instead they are here on working visas. Neither are they covered by the social security system, at best their employer covers them[97]. Many suffer hardships and are paid much lower wages than their Japanese co-workers.[98]

Since these foreigners are denied the same rights as the Japanese citizens, and are not encouraged to integrate into the Japanese society the current government policies should be interpreted to be that they are not welcomed to stay. They are an expendable force pool doing work that the citizens would refuse to perform to these lower salaries in order to make the Japanese companies to remain competitive on the world stage[99]. The types of works that they

[96] Interview with Arudou Debito, Human Rights Activist in Hokkaido, 2006/05/25
[97] D. Diene, Report of the Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia and Related Intolerance, 2006/06/26, http://documents.un.org/mother.asp p.17
[98] Interview with Arudou Debito
[99] Ibid.

have been inclined to take are usually termed the "sanki's": kitanai, kiken and kitsui, meaning dirty, danger and hardship[100].

7.3 Foreigners, crime and politics

Yet other examples that reveal the government's lack of interest in foreigners are the lax view and opinion on the international treaties that it has signed but failed to ratify.[101] Even though human rights organisation has pressured the government the government does little to change. The government policy is that the contemporary, and thus the current, jurisdiction was sufficient[102]. "Foreign residents in Japan are also guaranteed fundamental human rights under the Constitution except the rights which, owing to their nature, are interpreted to be applicable only to Japanese nationals"[103].

Even though it has been criticised the current cabinet seems to do little to alter the course of affairs.[104] It may even be argued that they fuel the anti-foreign sentiments in the country. Several propaganda campaigns have been issued by the government to combat illegal immigration and crime, even though these are minimal problems, statistics actually reveal that foreigners commit about half as many crimes per capita compared to Japanese, although serious crimes just are slightly lower[105]. Regarding the problem of illegal immigration there is an infamous case from the build-up of the 1998 Olympics in Nagano when the government's agencies recruited thousands of illegal workers from abroad and as soon as the work was completed they were hastily deported by the authorities.[106]

The police are a government organisation that has been responsible for becoming severely harsh against foreigners during recent years. If a foreigner commits a crime the police defend itself by saying it lack resources and authority, while if Japanese commits the crime the police is criticised for being incompetent. In addition to the complaints voiced by the police a debate in the media would ensue.[107]

[100] Ibid.
[101] D. Diene, p. 20
[102] The Ministry of Foreign Affairs Japan, 2006/06/20, http://www.mofa.go.jp/policy/human/race_rep1/intro.html
[103] Arudou Debito, 2006/06/20, http://www.debito.org/japanvsun.html
[104] D. Diene, p.16
[105] Arudou Debito, 2006/06/20, http://www.debito.org/TheCommunity/communityissues.html
Arudou Debito, 2006/06/20, http://www.debito.org/TheCommunity/xeneoncommunity101202.html
[106] Interview with Arudou
[107] Ibid.

A change from before is the view on foreigners that the media conveys[108]. Since the year 2000 the media coverage of crimes involving foreigners has increased rapidly, "a study by Nara University associate professor of sociology Ryogo Mabuchi of the Asahi Shinbun morning and evening editions for the first half of 1998 found that crimes by foreigners were 4.87 times more likely to be covered than crimes by Japanese"[109]. Since the government hardly does anything to stop this harassment of foreigners by the media and various government organisations the central government must be blamed for the lax policy.

7.4 Job security

People of foreign descent are less likely to be integrated on the job market. While very few Japanese men, roughly half of the women, almost all foreigners are employed through contracted part-time work[110]. This has the effect of making them less likely to advance in the company hierarchies[111]. They are in effect there as visitors. Of course there exist several reasons for why this outcome would be natural, for a starter the low skills in Japanese. This problem results in high transition costs for the immigrants. But a part of the reason why people are offered these jobs with less security is that they are cheaper to offer, and immigrants are generally worse off on the job market and thus are more eager or likely to accept the working conditions.

7.5 The situation in Hokkaido

Even though the government has trouble being heartily towards foreigners the citizens shows other opinions. Many Japanese are welcoming and friendly. Even the U.N. report on racism in Japan does not state that the problem lies in the people since the populace does not seem to be racist by nature; however it is true that the tolerance level is low, but that seems mostly to do with that foreigners are so rare[112]. The populace have not been given the chance to get accustomed to the appearance of foreigners.[113]

[108] Arudou Debito, 2006/06/20, http://www.debito.org/ihtasahi121502text.html
[109] Ibid.
[110] Interview with Arudou
[111] Ibid.
[112] D. Diene, p.2
[113] Interview with Arudou

The human rights activist Arudou Debito confirms that Hokkaido is a somewhat easier community to live in as a foreigner.[114] It is easier in the respect that people do not care as much if a person is of Japanese descendant or not. But it is also harder because people are less used to deal with foreigners, the tolerance is lower. This has much to do with that there are just some 16'000 foreigners living in Hokkaido[115]. Actually, Hokkaido is the only place in Japan that lacks a human rights organisation for foreigners[116]. The action to protect foreigners that takes place are performed by individuals, some of Japanese descent, some are not. But one cannot say that the reason why there exist no such organisations is due to that people are so heartily towards foreigners. There exist several cases when people of foreign background; but with Japanese citizenship, have been denied entrance to public baths or been refused housing[117].[118]

The treatment of shops and government organisations deserve some extra attention. Large companies and government organisations that give little room for the employees to act on their own initiative treats foreign looking people as the rules dictate[119]. Thus government organisations and large companies do not treat foreigners differently. Smaller establishment can act differently which has had negative effects on the situation for foreigners[120].

Another marking feature of Japanese is that most people conceive foreigners as English language teachers, but 2/3's of them do not have English as their native tongue. In descending order most come from Korea, China, Brazil and the Philippines. It should be pointed out that the Koreans are slowly decreasing in numbers while the Chinese, Brazilians and people from the Philippines are increasing at a rapid phase. [121]

Interviews confirm that there exist intolerance against foreigners, but it has to a large degree a *positive* correlation with education[122]. That is, the higher the education an individual has and the higher up in the hierarchy the individual is, the lower the tolerance

[114] Ibid.
[115] Ibid.
[116] Ibid.
[117] Arudou Debito, 2006/06/21, http://www.debito.org/TheCommunity/communityissues.html
[118] Since the following section has been heavily influenced by the interview with mr. Arudou, a net based survey was conducted among JET-teachers on several large entertainment sites for foreigners in Japan. This survey mostly confirmed what mr. Arudou claimed and thus we found it enough to use this interview as the base of operations to understand the situation for foreigners in Japan, and Hokkaido specifically.
[119] Interview with Arudou
[120] Ibid.
[121] Japan statistical yearbook, 2006, 2-14,
[122] Interview with Arudou

level is. If applying the European sense of social classes on the Japanese society, the upper classes; that is the elite, is more antagonistic than the working or lower classes. It is still true that individuals with good English language capabilities generally has a more openly voiced opinion towards foreigners, but it does not necessarily bode that they are heartily towards foreigners or foreign influences; both extremities exist[123]. The reason seems to be that some in this group becomes very patriotic; in the negative sense, and thus holds negative opinion on alien influences.

7.6 The Current Outlook for Immigration

The current outlook for mass immigration of people belonging to the creative class looks pretty grim. It is however not futile since it seems to be possible to change the current situation. If the political sciences knowledge holds true then it would actually be fairly easy to change the current outlook. The political sciences states that something as a "people" or "public opinion" is just something that exist in the elites psyche[124]. Since the view of the elite seems to be the problem in this instance, it probably would be fairly easy to change the conception on foreigners and foreign ideas.

The reason why it would be fairly easy to change the conception on foreigners and foreign ideas is quite straightforward. Since the elite consumes a lot of media content and that their views to a large degree is formed by it, new ideas and conceptions would be fairly easy to reach to them, especially through the old channels of information distribution; such as newspapers, radio and television. It would certainly take some time but it is manageable, especially if supported and encouraged by the government. Not only in nice words but also in practice by the enactment of much needed reforms that would make it obvious that foreigners are welcomed to stay. If they would address the issues put forward by the different human rights groups then much would be gained to make Japan a much pleasant place for foreigners of the creative class to live in.

Other measures that should be implemented are in accordance with the proposals presented by the United Nations Special Rapporteur. Measures including revised jurisdiction, change in policy towards minorities and foreigners as well as "condemn and oppose to any statement by public officials which tolerates or even encourages racial

[123] Ibid.
[124] W. Lippmann, The Public Opinion, 2006/06/26, http://www.gutenberg.org/etext/6456

discrimination or xenophobia".[125]

[125] D. Diene, p.19-23

8. Conclusion

The creative class in Japan has been measured by categorising professions; just as professor Richard Florida did in the U.S. in 1991. A comparison between the U.S. and Japan shows that Japan is approximately at the same level as the U.S. was ten years ago. The transition from the traditional industry to the service based sector has taken much longer in Japan.

The size of the creative class differs between the different prefectures of Japan. A comparison has been made between Tokyo, Kyoto and Hokkaido. The result shows that the size of the creative class is partly explained by the tradition and history of education and culture of the area. According to the statistics, Tokyo is the only area that is comparable to the U.S. national average.

Japanese R&D have been successful and it is steadily improving in quality and quantity. Difficulties that hinder more rapid development include such measures as the Japanese traditional structure that does not encourage creative and independent thought.

When it comes to the Japanese education system many Japanese students enters higher education, but the educational curriculum is different from that in the West which makes comparisons difficult. Still great achievements are being performed.

Hokkaido's IT and biotechnology industry is small but is growing rapidly. The companies are often small; therefore companies have a hard time to utilize economies of scale. A problem is that the educational system is not sufficient which makes it difficult to engage newly graduated students. These companies in Hokkaido are often independent from government support, which encourages creative thinking.

The Japanese work-force pool is dwindling. Yet, not all citizens have entered it, and this is especially true for women. Thus women are the hidden reserve of the nation and they can enter the creative class on broad front if some measures are taken. The Japanese patriarchal society with stereotyped sex roles hinders women to fully participate in R&D, politics and governance. Another obstacle is the insufficient Japanese child care system which makes women to temporarily leave the creative sectors, and sometimes the re-emergence to the work-force makes it difficult to proceed with creative work due to the many years of absence. There also is a clear lack of interest on behalf of Japanese companies' to recruit female researchers and graduates. This also very much applies to the question of immigration.

The lack of interest on the behalf of the government to attract individuals from abroad; that belongs to the creative class, has made it difficult for foreigners to live and work in Japan.

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Mr. Shin-Ichi Bannai, Manager Secretariat of Audit Commissioners, City of Iwamizawa, 2006/05/29

Ms Hiromi Hashimoto, Japanese language teacher, 2006/06/05

Mr Hino, transgender high school teacher 2006/06/23

Ms Ryoko Hirai, Career consultant, 2006/05/22

Mr. Ikkei. Matsuda and Mr. Atsumi Tobitani of Hokkaido Venture Capital, 2006/06/16 Ms.

Ms. Eri Kanno, student of Hokkaido Tokai Daigaku, 2006/06/10

Mr. Yoshitaka Kitada, Manager Planning and Promotion, SEC, Sapporo Electronics and Industries Cultivation Foundation, 2006/06/21

Mr. Toshifumi Murata, Chairman of Softfront, 2006/06/23

Mrs Reiko Ogoshi, housewife and student 2006/06/13

Mr. Takahashi, Manager of the Planning division, Regional Development, 2006/06/01

Mr. Kimihiro Toyota, Director General Manager, Management Dept. Advanced Soft Engineering INC. 2006/06/21

Ms Madoka Watanabe, single mother and a part of the creative class 16/6 2006

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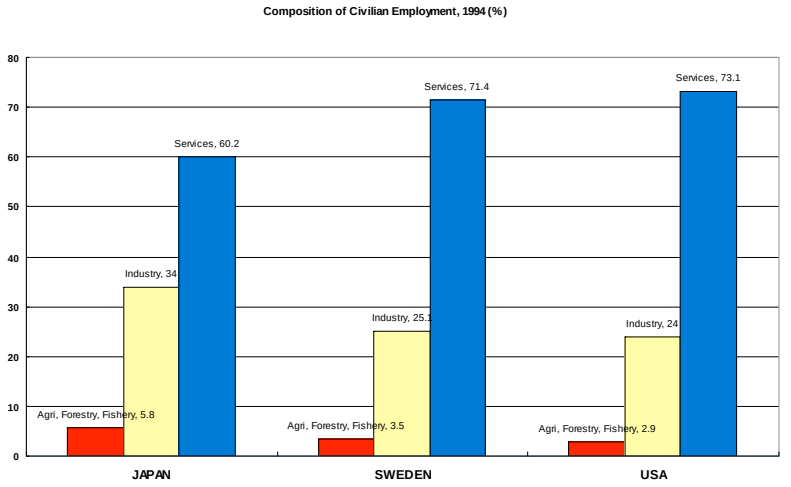
10. Appendix

10.1 The Creative Class in Japan

Share of workforce employed in the Creative Sectors

	Creative Class (in %)	Super-Creative Core (in %)	Bohemian Index
Japan	25.2	8.4	1.00
Hokkaido	24.4	7.0	0.63
Tokyo	31.7	11.7	3.10
Kyoto	27.1	8.7	1.10
Osaka	27.6	7.9	0.97
Fukuoka	26.9	7.6	0.75
Kanagawa	30.0	12.8	1.50
Hiroshima	26.0	7.9	0.68
Iwate	20.7	6.1	0.47
Aichi	24.6	7.9	0.79



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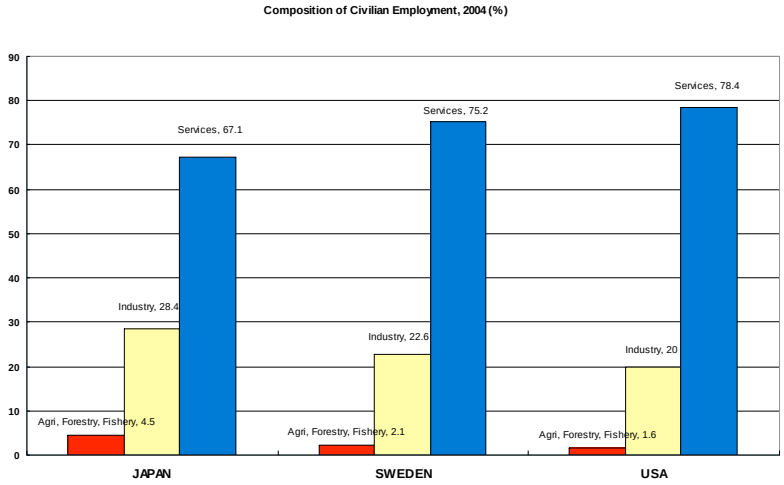

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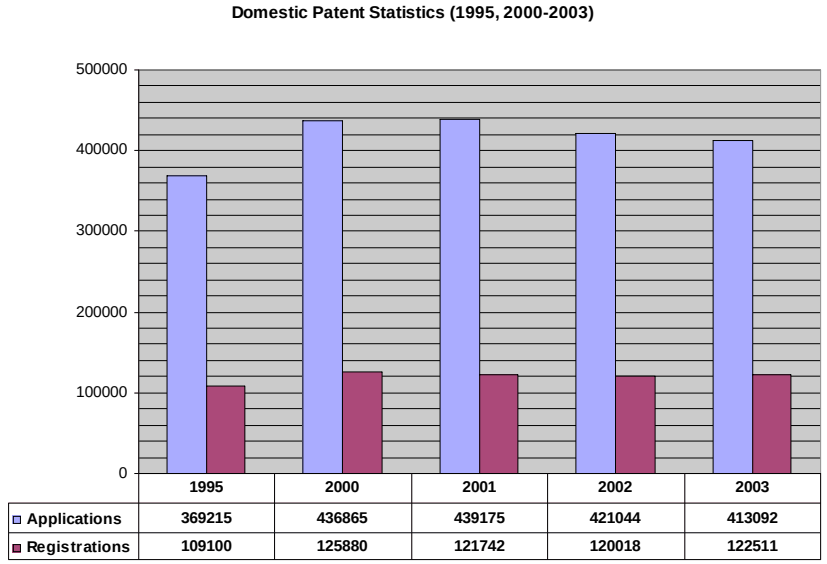
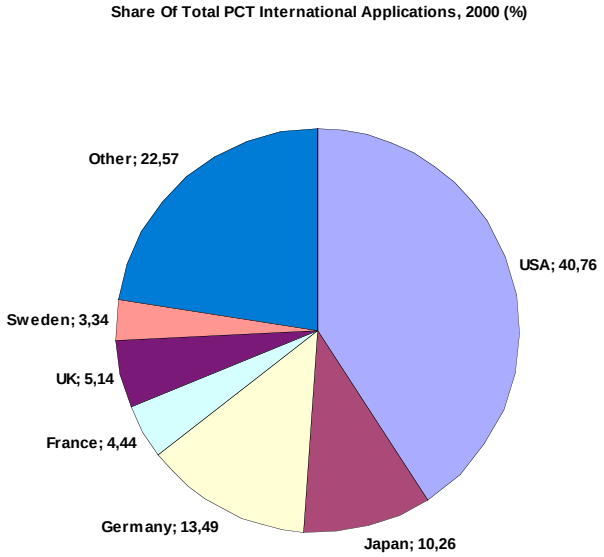
10.2 Patent Statistics as a Talent Indicator

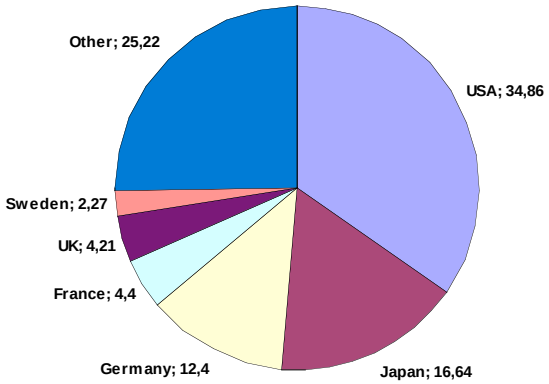


	1995	2000	2001	2002	2003
Applications	369215	436865	439175	421044	413092
Registrations	109100	125880	121742	120018	122511

Source: Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication

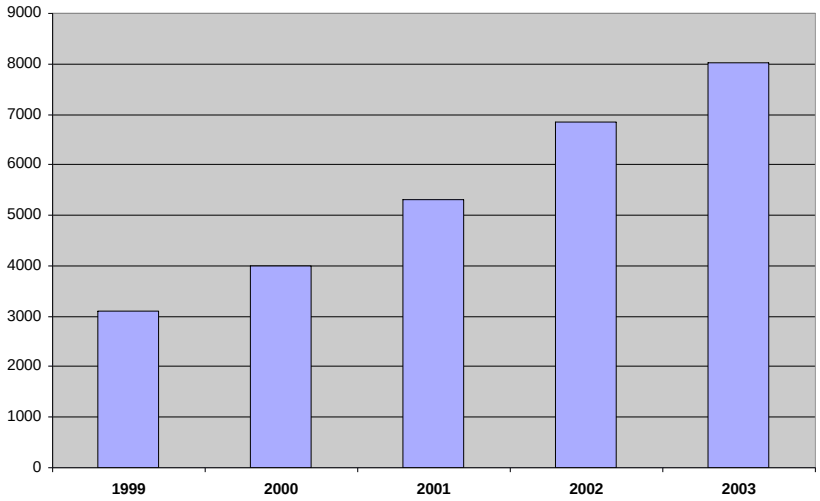


Share Of The Total PCT International Applications, 2004 (%)



Source: Statistical Handbook of Japan 2005, Chapter 8, Science and Technology/Information and Communication

Joint Research Projects of National Universities etc.



Proportion of population aged 25–64 with higher education and engaged in life-long learning (2001). Nordic countries and major industrial economies

	Proportion of population with higher education (%)	Proportion of population engaged in life-long learning
Denmark	26.5	20.8
Finland	32.5	19.3
Iceland	23.8	23.5
Norway	33.8	14.2
Sweden (2000)	29.7	21.6
Scandinavia: total	30.3	19.6
EU average (2000)	21.2	8.5
Japan (2000)	29.9	
USA (2000)	36.5	

Source: 2002 European Innovation Scoreboard (Annex Table B.1.2)

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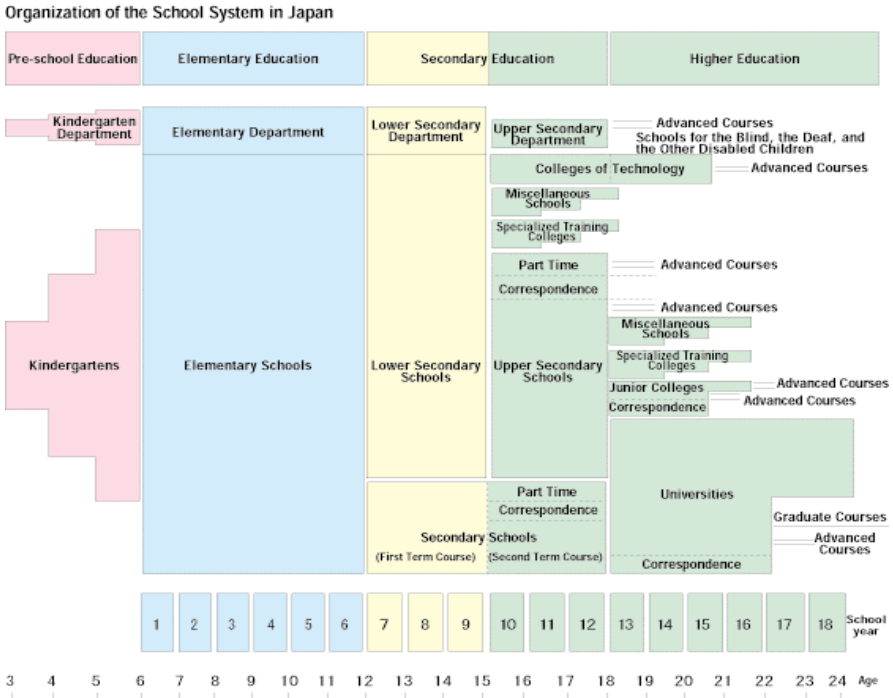
10.3 Depicting the educational environment in Japan



Source: Education Japan, 2006/06/15, Picture from: http://educationjapan.org/jguide/education_system.html

Foreign Students in Japan (1991-2005)[126] (as of May 1, persons)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	45,066	48,561	52,405	53,787	53,847	52,921	51,047	51,298	55,755	64,011
China	19,625	20,437	21,801	23,256	24,026	23,341	22,323	22,810	25,907	32,297
Taiwan	6,072	6,138	6,207	5,648	5,180	4,745	4,323	4,033	4,085	4,189
Korea	9,843	11,596	12,947	12,965	12,644	12,265	11,785	11,467	11,897	12,851
Malaysia	1,742	1,934	2,105	2,276	2,230	2,189	2,128	2,040	2,005	1,856
U.S.A.	1,257	1,245	1,192	1,146	1,087	1,088	999	949	1,073	1,044
Thailand	898	894	992	1,014	1,010	1,018	992	1,059	1,107	1,245
Indonesia	1,032	1,154	1,206	1,178	1,085	1,052	1,070	1,140	1,220	1,348
Hong Kong	455	496	520	479	392	-	-	-	-	-
Philippines	477	503	528	487	433	448	447	434	497	477
Brazil	-	-	-	-	-	390	-	-	-	-
Bangladesh	423	479	581	637	710	791	732	750	806	800
Others	3,242	3,685	4,326	4,701	5,050	5,594	6,248	6,616	7,158	7,904

	2001	2002	2003	2004	2005
Total	78,812	95,550	109,508	117,302	121,812
China	44,014	58,533	70,814	77,713	80,592
Taiwan	4,252	4,266	4,235	4,096	4,134
Korea	14,725	15,846	15,871	15,533	15,606
Malaysia	1,803	1,885	2,002	2,010	2,114
U.S.A.	1,141	1,217	1,310	1,456	1,646
Thailand	1,411	1,504	1,641	1,665	1,734
Indonesia	1,388	1,441	1,479	1,451	1,488
Hong Kong	-	-	-	-	-
Philippines	490	483	508	525	544
Brazil	342	347	353	330	338
Bangladesh	805	823	974	1,126	1,331

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10.4 Women

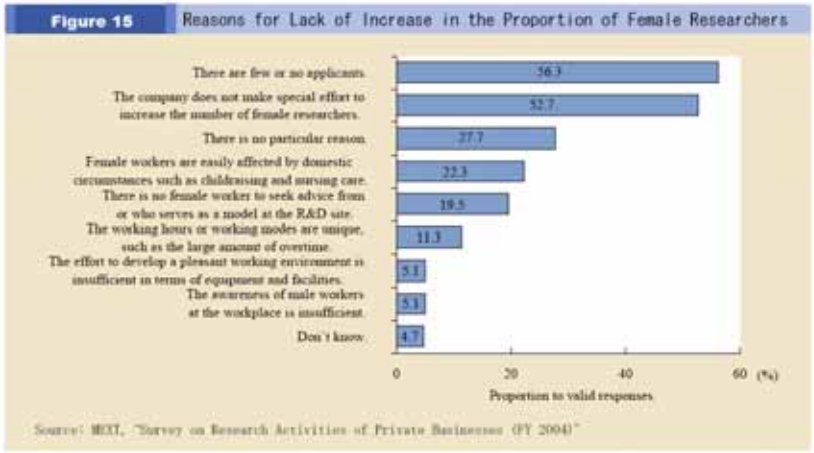

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Table 2: Gross enrolment ratios (per cent)

	Primary		Lower/Upper Secondary		Tertiary	
	Female	Male	Female	Male	Female	Male
1980	101	101	94	92	20	40
1985	102	102	96	94	20	36
1990	100	100	98	96	23	36
1996	102	101	n.a.	n.a.	n.a.	n.a.

Source: *1998 UNESCO Statistical Yearbook*.

Source: State of Women in Urban Local Government, 2006/6/27
http://www.unescap.org/huset/women/reports/japan.pdf , Table 2

Table 8: Women in government administration

Year	Female Ratio among Top Four Levels of National Civil Service	Female Ratio in National Advisory Councils	Female Ratio among Managerial Positions of Prefecture Offices	Female Ratio among Managerial Positions of Specially Designated City Offices
1980		4.1		
1985	0.5	5.5		
1990	0.8	7.9	1.4*	1.7*
1995		13.1		
1999		19.8	3.4	2.9

* 1991 figures.

Source: Prime Minister's Office, *Women's Situation and Programmes 1978, 1992, 1997*. Prime Minister's Office, *White Paper on Gender Equality 2000*.

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Table 7: Female Representatives in Local Assemblies (1976-1999)

	Prefectural Assemblies			City Councils			Town and Village Assemblies			Special Ward Assemblies			Total		
	Total	Female member	Female Ratio	Total	Female member	Female Ratio	Total	Female member	Female Ratio	Total	Female member	Female Ratio	Total	Female member	Female Ratio
Dec., 1976	2807	35	1.2	20062	397	2.0	48010	232	0.5	1073	71	6.6	71952	735	1.0
Feb., 1980	2833	34	1.2	20080	441	2.2	47221	274	0.6	1073	73	6.8	71207	822	1.2
Dec., 1985	2857	38	1.3	19729	601	3.0	45293	390	0.9	1032	73	7.1	68911	1102	1.6
Dec.,1989	2844	75	2.6	19241	817	4.2	43113	579	1.3	1028	91	8.9	66226	1562	2.4
Dec., 1992	2896	82	2.8	19252	1111	5.8	42188	844	2.0	1024	121	11.8	65360	2158	3.3
Dec., 1996	2876	94	3.3	19071	1412	7.4	41306	1198	2.9	1007	145	14.4	64260	2849	4.4
Dec., 1997	2872	99	3.4	18965	1439	7.6	40977	1275	3.1	993	141	14.2	63807	2954	4.6
Dec., 1998	2837	99	3.5	18755	1491	7.9	40559	1339	3.3	989	141	14.3	63140	3070	4.9
Dec., 1999	2898	158	5.5	18550	1821	9.8	40076	1702	4.2	972	191	19.7	62496	3872	6.2

Source: State of Women in Urban Local Government, 2006/6/27,
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Table 6: Female Representatives in National Diet 1950 - 2000

	PARLIAMENTARIANS			Members of the House of Representatives			Members of the House of Councillors		
	Total no.	Female	Ratio of female members	Total no.	Female	Ratio of female members	Total no.	Female	Ratio of female members
Nov. 1950	749	24	3.4	499	12	2.7	250	12	4.8
May., 1955	716	23	3.2	466	8	1.7	250	15	6.0
Sep., 1960	698	24	3.4	451	11	2.4	247	13	5.3
Dec,. 1965	704	24	3.4	454	7	1.5	250	17	6.8
Jan., 1970	733	21	2.9	486	8	1.7	247	13	5.6
Oct., 1975	726	25	3.4	475	7	1.5	251	18	7.2
July., 1980	762	26	3.4	511	9	1.8	251	17	6.8
July., 1986	763	29	3.8	512	7	1.4	251	22	8.8
July,1992	752	49	6.5	500	12	2.4	252	37	14.7
Mar.,1996	764	48	6.4	494	12	2.4	252	36	14.3
Mar.,1997	752	57	7.6	500	23	4.6	252	34	13.5
Mar.,1998	750	60	8.0	499	24	4.8	251	36	14.3
Mar.,1999	750	68	9.1	498	25	5.0	252	43	17.1
June 2000	731	78	10.7	480	35	7.3	251	43	17.1

Source: State of Woman in Woman in Urban Local Government, 2006/6/27, http://www.unescap.org/huset/women/reports/japan.pdf , Table 6