

# Working Paper Series (E)

No.18

Three Worlds of Pronatalism?: Fertility and Family-Friendly Policies in Europe and Japan

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January 2003

国立社会保険人口問題研究所



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## Fertility and Family-Friendly Policies in Europe and Japan

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### Abstract

This paper compares family-friendly policies (maternity leave, parental leave, and childcare services) in Japan and the EU countries, and examines the effects of these policies on the birth rate by using QCA (Qualitative Comparative Analysis).

The present study shows, firstly, that the level of maternity leave is high in Portugal and Denmark, but low in the UK and Japan. The UK, the Netherlands, and Ireland show low levels of government support for parental leave, while these levels are high in Belgium, Sweden, and France. The provision of childcare facilities is high in Belgium and France for the 0–3 age group, while such provision is low in Greece, the Netherlands, and Ireland. The enrolment rate of children between ages 4 and 5 is high in Spain, France, and Belgium, with low figures showing in Finland, Portugal and Greece.

Secondly, with regard to the relationship between family-friendly policies and the birth rate, the results of Qualitative Comparative Analysis show a tendency for PTFR (Period Total Fertility Rate) to be comparatively high when any of the following sets of conditions are met: (1) a high income level, a well-developed maternity leave system, and generous childcare services; (2) a high level of gender equity and a well-developed parental leave system; and (3) a high male wage level, a high rate of female participation in part-time employment, and a comparatively underdeveloped parental leave system. These results suggest that the socio-economic system and the family support system to be in a relationship of institutional complementarity, with a high fertility rate found where the level of fit between the two is high.

### Keywords

Family-friendly policy/policies; Fertility; Europe and Japan; Qualitative comparative analysis (QCA); Institutional complementarity

## Introduction

In the recent past, Japan and European countries have undergone both fertility decline and population aging. The average period total fertility rate for the EU in 1998 was 1.45, a level well below population replacement (Council of Europe 1999). Among the members of the EU, the fertility rate of the Nordic countries was relatively high at about 1.7, while that of the Mediterranean countries was relatively low at around 1.2. The latter figure is only slightly below Japan's 2000 figure of 1.36. In addition, aging populations have increased in tandem with fertility decline. In 1998 in the EU, the percentage of the population aged 65 years or older reached 12 per cent. This figure is expected to increase to as much as 18 per cent by 2010 and rise further to 20 per cent by 2020. This process is causing a reduction in the percentage of the EU's working-age population between ages 15 and 64. As a result, the percentage of its dependent population was 49.3 in 1998, but is predicted to rise to 50.8 in 2010 and 55.0 in 2020, causing a severe labour force shortage (European Commission 1999). Population aging is also seen in Japan. In 1998 the percentage of the population at age 65 or over was 16 per cent, while the figure is predicted to rise to 22 per cent in 2010 and 27 per cent in 2020. Consequently, the percentage of Japan's dependent population is expected to increase from 45.5 in 1998 to 57.2 in 2010, reaching 68.0 in 2020 (National Institute of Population and Social Security Research 2000).

Due to fertility decline and population aging, the necessity for increasing fertility is now recognised in Japan and Europe, and has led to the governmental implementation of various family-friendly policies. In general terms, these policies, which are designed to encourage fertility, may be divided into two types. One type reduces the economic burden associated with raising children: child allowance and family allowance both fall into this category. The other type seeks to establish a social environment in which it is possible to reconcile childcare and employment. Policies aimed at improving maternity and parental leave schemes, and childcare services belong to this latter category (Hecht and Leridon 1993). Originally, these policies were not designed to promote the fertility rate. For instance, child allowances were initially established as preventive measures to protect families with children from falling into situations of social and economic disadvantage. They were designed to increase the welfare of families and children. Likewise, maternity leave and parental leave programmes were created to protect employees, promote gender equity, and achieve the effective use of the labour force. Thus, we may see how the programmes originally sprang from and were a part of labour market or employment policies (Hantrais 1996). However, due to the low fertility of recent years, these policies have had the purposes of encouraging

and supporting childbearing and childrearing. The policies in this second category, the so-called family-friendly policies, are aimed at ameliorating the incompatibility between childrearing and employment for mothers. These policies are also intended to compensate for any economic loss sustained through childbirth and childcare, and to reduce the cost of having children. Thanks to these effects, family-friendly policies are currently expected to increase the desire to have children, and lead to a greater fertility (Hantrais and Letablier 1996).

Some European countries had already experienced fertility decline in the 1930s, and implemented policies having pro-natalist purposes. Since that time governmental intervention to increase fertility has been discussed from diverse perspectives (Gauthier 1993). Despite this fact, it is still unclear to what extent policy intervention by the government actually increases the fertility rate (Lutz 1999). For example, Barmby and Cigno (1990) found that, while the level of child allowance had an influence on the timing of childbirths in Britain, it had no significant effect on family size. In contrast, an analysis of 22 OECD countries by Gauthier and Hatzius (1997) discovered that a 25 per cent increase in family allowance increased the period total fertility rate by 0.07 points. With reference to childrearing support, Blau and Robins (1989) found that an improvement in the provision of childcare services had a pro-natalist effect in the United States, whereas Kravdal (1996) showed no clear positive link between childcare services and the fertility rate in Norway. Furthermore, generous parental leave programmes tended to significantly increase the probability of bearing a third child in Finland, but yielded no significant effect in Norway (Rønsen 1998, 1999).

It has been pointed out that these inconsistent associations between governmental policies and fertility are derived from the diversity of social contexts in which these policies are implemented.<sup>1</sup> Obviously, industrialised countries differ considerably in terms of the structure of labour market and the social norms and traditions of child caring, which implies that policies supporting childrearing are implemented in diverse social contexts. To put it another way, the effect of an independent variable (governmental policy) on a dependent variable (fertility behaviour) varies considerably, depending on the combination (or arrangement) of the remaining independent variables. It is therefore necessary to investigate whether or not family-friendly policies have an influence on fertility behaviour in specific social conditions.

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<sup>1</sup> For a detailed review of previous studies on the relation between fertility patterns and family policies in industrialised countries, see Fukuda (2001).

Most studies on governmental policies and fertility behaviour have hitherto employed variable-oriented -- mainly multivariate -- quantitative analysis, and thereby the covariation between an independent and a dependent variable is examined with the effects of the remaining independent variables set constant. However, this method is not suitable for investigating the covariation between an independent and a dependent variable, if the degree of the association between these two variables is strongly affected by the configuration or contextuality of the remaining independent variables. Hence, it is difficult to examine the influence of independent variables on a dependent variable when complex interaction between variables exists (Ragin 1987, 1994a, 1994b, 2000; Ragin and Zaret 1983). This 'interaction effect' is particularly crucial when analysing data in which the configuration of independent variables differs widely among observations. As mentioned previously, social contexts in which family-friendly policies are implemented vary greatly across industrialised countries. Hence, it follows that countries differ in the configuration of contextual factors affecting the relation between governmental policies and fertility behaviour. For this reason, it is difficult to capture the precise impact of an independent variable (governmental policy) on a dependent variable (fertility pattern) by variable-oriented quantitative analysis. With this point in view, we will employ Qualitative Comparative Analysis (QCA) in this paper and investigate the relationship between family-friendly policies and the birth rate. QCA allows us to examine the impact of an independent variable on a dependent variable, while taking the effects of the configuration of the remaining independent variables into consideration. Accordingly, QCA is suitable for the analysis of the present study.

In this paper, we will, firstly, make a comparative analysis of Japan and Europe (focusing on the EU countries), with reference to three policy instruments: (1) maternity leave; (2) parental leave (childcare leave); and (3) childcare services. This will serve to clarify similarities and differences in governmental policies supporting childbearing and child-rearing. Subsequently, we will employ Multi-Dimensional Scaling (MDS) in order to establish a typology of governmental support for families with children in these countries. The paper will conclude with an analysis of the relationship between family-friendly policies and the fertility rate by using the Qualitative Comparative Analysis.

### Family-Friendly Policies in Europe and Japan: Differences and Similarities

As expressed in the phrase 'Reconciliation between work and family life (responsibilities)', the construction of a family-friendly society is nowadays an important policy target of the EU countries. In fact, the governments of EU Member States have been making efforts to



support parents' childcare, and to allow them to combine employment and family life more easily. However, the types and levels of governmental support for maternity and childcare actually implemented differ considerably across these countries. This is because the forms of governmental policies in each country are affected by various societal elements. Obviously the structures of the labour market, population, and education exert an influence on policy-making. In addition, the shaping of governmental policies is also affected by cultural factors and social norms that implicitly determine by whom and in what way children should be brought up in a given society (Hantrais, 1997). In this section, we will compare the differences and similarities between family-friendly policies in the EU countries and Japan.

### *(1) Maternity Leave*

The EU countries established their maternity leave schemes on the basis of an EC directive on maternity leave in 1992 (Directive 92/85/EEC). This directive stipulates that EU Member States must legally guarantee maternity leave for at least 14 weeks, and the length of the leave differs among them. Furthermore, the interruption of employment for childbirth naturally entails the loss of earnings for female employees. It is therefore necessary, when conducting an international comparison of level of maternity support, to pay attention not merely to the length of maternity leave, but also to the level of wage compensation given during the leave. With these points in view, Table 1 compares the maximum length of maternity leave and wage compensation on maternity leave systems<sup>2</sup> in Japan and the EU Member States (including Norway) in around the year 2000.

Looking first at the duration of maternity leave, Denmark showed the longest amount of leave granted at 28 weeks, followed by Italy at 5 months (20 weeks). At the opposite end of the scale, the shortest period, comprised of 14 weeks, was found in Germany, Sweden, and Japan. In these latter countries, maternity leave is 50 per cent as long as their Danish counterpart and 70 percent as their Italian counterpart. The remaining countries (Austria, the Netherlands, Spain, Belgium, etc.) fell between these two poles, with a leave of around 16 weeks. In most countries, the length of maternity leave does not change according to birth order. In France, however, birth order is used in determining the amount of leave granted. In the case of both first and second births, 16 weeks' leave was allowed, while third and

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<sup>2</sup> 'Maternity Leave' is, in this study, defined as leave stipulated by statutory provisions, and does not include leave based on collective agreements.

subsequent births met eligibility requirements for 26 weeks' leave. Thus, in the French leave system, as birth order rises, the length of maternity leave increases.

Table 1: Maternity Leave in EU and Japan (Statutory Provision), around 2000

	Length of Leave	Wage Compensation	Maternity Leave Index
Austria	16 weeks	100%	96.0
Belgium	15 weeks	82% (first one month) 75% (the remaining period)	69.2
Denmark	28 weeks	2846 DKK per week	102.9
Finland	105 days (except Sundays)	From 43% to 82%, on average 66%	69.3
France	16 weeks (first and second births) 26 weeks (after third birth)	84%	97.4
Germany	14 weeks	100%	84.0
Greece	16 weeks	100%	96.0
Ireland	18 weeks	70% (first 14 weeks) 0% (the remaining period)	58.8
Italy	5 months	80%	102.9
Luxembourg	16 weeks	100%	96.0
Netherlands	16 weeks	100%	96.0
Portugal	120 days	100%	120.0
Spain	16 weeks	100%	96.0
Sweden	14 weeks	80%	67.2
United Kingdom	18 weeks	90% (first 6 weeks) 54.44 GBP per week (the remaining period)	45.2
Japan	14 weeks	60%	50.4

Source:

Bettio, F., & Prechal, S. (1998). *Care in Europe*.

Commission of the European Communities. (1999). *Report from the Commission*.

Ministry of Labour (1999a) *Kaisei Danjyo Koyokikai Kintoho no Aramashi*.

Looking next at the level of wage compensation during maternity leave, we found the highest levels in Austria, the Netherlands, Greece, Germany, Portugal, Spain, and Luxembourg. These seven countries statutorily guaranteed the same wages during maternity leave as obtained in pre-maternity employment. Following next behind these countries, France, Italy, and Sweden set their maternity provision at around 80 per cent of the wages a mother earned before childbirth. The lowest levels of income support, however, were found to be in the UK and Ireland. In the UK, mothers were compensated for 90 per cent of their regular wage during the first six weeks of maternity leave and, thereafter, a fixed amount of £55.44 per week was offered for the remaining period. This figure is equivalent to approximately 18 per cent of the average weekly wage of a woman employed in the manufacturing sector. Likewise, in Ireland, 70 per cent of the regular wage was guaranteed for the first fourteen weeks of maternity leave, with no wage compensation for the remaining period. When weighted by the length of the period during which compensation for foregone earnings is made, the average wage compensation during the maternity period reaches 41.9 per cent of the pre-maternity wage for women in the manufacturing industry in the UK and

54.4 per cent in Ireland. Following the UK and Ireland, Japan showed the third lowest figures for wage compensation among the countries in Table 1, with only 60 per cent of the regular wage guaranteed during the maternity leave. Belgium also had a system similar to Ireland and the UK, in which the amount of compensation allowed was not fixed over the entire period of leave. Specifically, 82 per cent of the regular wage was paid in the first month of maternity leave. This figure dropped, however, to 75 per cent for the remaining period. As a result, the weighted mean of wage compensation indicates that, in Belgium, 77 per cent of a woman's pre-maternity wage is paid out to her during maternity leave.

To examine the differences and similarities between maternity leave schemes in these countries in detail, Table 1 displays 'maternity leave indices'.<sup>3</sup> This is a composite index made up of the length of maternity leave and the level of wage compensation during the period. In concrete terms, it was calculated for each country by multiplying the number of days for the maximum length of maternity leave by the average percentage of wage compensation. This calculation method also indicates the portion of maternity leave during which 100 per cent of the regular pre-maternity wage is guaranteed. For example, if maternity leave is provided for 100 days, and 100 per cent of the pre-maternity wage is compensated over the entire period, the value of this index amounts to 100 (= 100 days x 1.0). If 80 per cent of the regular wage is guaranteed, the figure becomes 80 (= 100 days x 0.8). Based on this index, the most generous maternity leave is to be found in Portugal, where the period of maternity leave was equal to 120 days if 100 per cent of the pre-maternity wage were provided during the leave. The next highest level appeared in Denmark, France, and Italy, with the approximately 100 days' leave with full wage compensation. The UK had the least generous maternity support, with the length of leave allowed amounting to only 45 days of 100 per cent wage compensation when the period of leave granted is weighted by the percentage of pre-maternity wages allowed. The UK figure amounts to less than 40 per cent of Portugal's generous allowance, and around 45 per cent of Danish and Italian provisions. Japan ranks second to the bottom in this table, just above the UK, and thus its leave scheme shows no generosity in comparison with the other countries. In fact, Japan's length of leave was equal to 50.4 days when calculating-in for 100 per cent payment of pre-maternity wages. The Japanese figure for the maternity leave index mounts to about 40 per cent of the Portuguese figures, and around half the figures for Denmark and Italy.

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<sup>3</sup> The figure for Denmark was calculated from the ratio of the amount of cash benefit over the average female wage in the manufacturing sector. The value for France was calculated as the average of the leave periods for the first two children and the third and subsequent children.

## *(2) Parental Leave*

As stated in the 'EU Recommendation on Childcare (92/241/EEC)' adopted by the Council of Ministers in 1992, the parental leave system has developed as a policy measure for the promotion of gender equity and the facilitation of childcare. The Recommendation advises that the governments of EU Member States should improve childcare services and establish special leave programmes to allow parents time for the care of their children. It was thought that these governmental schemes would serve to alleviate the conflict between 'work' and 'family' responsibilities, which had become conspicuous as a result of changes in female employment patterns. In this regard, parental leave may be seen as one of these programmes, devised for childcare and gender equity. More specifically, the purpose of parental leave is to guarantee employees the right to receive childcare leave, and change the gender division of labour between domestic and work spheres. As a result, this leave system should allow women to combine childcare and employment more flexibly and increase their opportunities for employment outside the home. Moreover it aims to encourage men's active participation in childcare, and promote an equal sharing of parental obligations between a father and mother. In this way, the introduction of the parental leave system is thought to create gender-equal circumstances in both the home and the labour market (Hantrais 1996, 1999).

The present parental leave schemes in the EU Member States have been developed on the basis of a 1996 EU Directive (EU Directive 96/34/EC). This directive, following 'ILO Recommendation No. 165', defines parental leave as leave granted to an employee after maternity leave for the purpose of childcare<sup>4</sup>. It recommends that EU Member States should guarantee a minimum of three months' leave by law. However, parental leave programmes actually implemented differ considerably across countries with regard to the length of leave allowed and the amount of monetary benefits granted. In order to establish more flexible frameworks for combining childcare and employment, a couple of EU countries have not only 'full-time' parental leave programmes (during which parents are not engaged in their jobs), but also 'part-time' leave, in which working hours are reduced. In addition to parental leave, the so-called 'paternity leave' system has recently developed in Europe, especially in the Nordic countries. This leave scheme is designed to promote the more equal sharing of responsibilities for child-rearing between parents by allowing fathers further time to actively

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<sup>4</sup> For further details of the ILO definition of parental leave, see ILO (1997).

participate in childcare.

Table 2 compares parental leave<sup>5</sup> (childcare leave) in the EU countries and Japan with data gathered mostly from the year 2000. Looking first at the maximum period of leave, France, Germany, and Spain were at the top of the list with three years, after which came Austria with 24 months, and Sweden with 450 days. In contrast, the shortest period of three months was found in the Netherlands and Belgium, which satisfies the minimum level recommended in the EU Directive. Next in order came Denmark and the UK with 13 weeks, and Ireland with 14 weeks. In addition to parental leave, Belgium has a 'career break' system allowing up to twelve months leave and Belgian parents can use it for caring for their children. Similarly, 'childcare leave', in addition to parental leave, is granted in Denmark for 26 weeks and, in Finland, until the child reaches three years of age. If we include 'career break' and childcare leave in the parental leave category, the maximum length of leave granted in Belgium, Denmark, and Finland becomes even longer. Accordingly, the shortest parental leave provisions in the EU are to be found in the Netherlands, the UK, and Ireland, in increasing order. The period of leave granted in Japan was one year, which is the same as Norway's allowance. However, because maternity leave and parental leave are granted together in Norway, the figure for the length of leave shown in Table 2 for Norway represents these two leave periods added together. However, since parental leave is calculated separately from maternity leave in Japan, the Japanese leave provision is, in fact, longer than its Norwegian counterpart.

Monetary benefits in the EU countries during the parental leave period may be categorised into four types. In the first type, no monetary benefits are offered during parental leave. Spain, Greece, and Portugal in Southern Europe, and the Netherlands, the UK, and Ireland fall into this category. The second type is the provision of a fixed amount of money; Austria, Belgium, Denmark, Germany, France, and Luxembourg are included in this category. For example, in Austria, 5,600 Schillings per month was granted for full-time leave. Likewise, in Germany, 600 Marks per month were provided during the first two years of leave, subject to a means test. In France, no cash benefits were given for the first birth, but 3045.70 Francs a month was allotted for second and subsequent births when a mother was on full-time leave. The third type is the wage compensation with a fixed percentage of the pre-birth salary granted during leave. For example, in Finland, the level of compensation ranged from 43 per cent to 82 per cent of the full wage, depending on the

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<sup>5</sup> This study deals with only parental leave stipulated by statutory provisions, and leave based on collective agreements is excluded.

amount of the employee's income. Generally, the average compensation in the country stood at 66 per cent of wages. In Italy, 30 per cent of regular wage was paid, and in Norway it was possible to choose one of two provision types: 80 per cent for 52 weeks or 100 per cent for 42 weeks. Cash benefits during leave in Japan belonged to this third type, and payments were covered by employment insurance. Under this provision, employees were paid 40 per cent of their wages if their employer did not make any wage compensation, and up to a maximum of 80 per cent if some proportion of pre-birth wages were paid by their employer during parental leave. However, according to the Basic Survey on Women's Employment Administration (Ministry of Labour 1999b), companies that paid some portion of wages to employees during parental leave accounted for only 11.4 per cent of the total in 1999, whilst the vast majority did not make any wage payment at all during leave. Taking this point into consideration, we can say that the level of wage compensation made in Japan during leave was around 40 per cent of the average wage. Turning to the fourth type of cash benefits, we can identify countries that had a combination of flat-rate monetary provision and proportional wage compensation during leave. Sweden falls into this category, where 80 per cent of wages were paid during the first year of leave, and 60 Kronor a day was provided for the remaining three months.

Taking the aforementioned diversity in cash benefits during parental leave as our point of focus, we calculated a 'parental leave index' for each country using the following method. First of all, the total amount of benefits given over the period of leave was calculated for each country. Secondly, this amount was divided by the maximum length of leave (in months), and the average of benefits per month was obtained. Thirdly, we divided this figure by the average monthly wage in the manufacturing sector in each country, and calculated an 'average wage compensation rate'. Finally, this rate was subtracted from one, and we divided the maximum length of parental leave (in days) for each country by the resulting figure. For example, if the maximum days of leave is 60, and no monetary benefits were given over the period, the parental leave index calculated will be 60 (= 60 days divided by (1 - 0.0)). When the average wage compensation rate is 0.2, the parental leave index is 75 (= 60 days divided by (1 - 0.2)). By using this index, we made a comparison of these countries<sup>6</sup> in terms of governmental support for childcare (see Table 2).

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<sup>6</sup> This calculation includes 'career break' in Belgium and 'childcare leave' in Denmark and Finland.

Table 2: Parental Leave in EU and Japan (Statutory Provision), around 2000

	Length of Leave	Cash Benefit/ Wage Compensation	Part-time Employment during Leave	Parental Leave Index
Austria	24 months	5,600 ATS per month	Yes	829.2
Belgium	3 months. In addition, career break for 5 years.	20,400 BEF per month 12,308 BEF per month (during career break)	Yes	1933.0
Denmark	13 weeks. In addition, child care leave for 26 weeks.	2,846 DKK per week. 1,710 DKK per week (during child care leave)	No	314.6
Finland	26 weeks. In addition, child care leave until a child becomes 3 years old.	Same as maternity leave. 1,500 FIM per month (during child care leave)	No	1190.4
France	3 years	3045.70 FRF per month (after a second birth)	Yes	1203.5
Germany	3 years	600 DEM per month (for 2 years, means-tested)	Yes	1088.0
Greece	3.5 months	Nothing	No	94.5
Ireland	14 weeks	Nothing	Yes	84.0
Italy	10 months	30% of monthly wage	No	385.7
Luxembourg	6 months	60,000 LUF per month	Yes	283.3
Netherlands	3 months	Nothing	Yes	72.0
Norway	52 weeks or 42 weeks	80% of the wage for 52 weeks, or 100% of the wage for 42 weeks	Yes	1560.0
Portugal	6 months	Nothing	Yes	162.0
Spain	3 years	Nothing	Yes	939.0
Sweden	450 days	80% of the wage for 1 year, and 60 SEK per day for 3 months	Yes	1926.9
United Kingdom	13 weeks (at most 4 weeks per year)	Nothing	Yes	78.0
Japan	1 year	From 40% to 80% of the wage	Yes	521.7

## Source:

Moss, P., & Deven, F. (eds.). (1999). *Parental Leave: Progress or Pitfall?*Clauwaert, S., & Harger, S. (2000). *Analysis of the Implementation of the Parental Leave Directive in the EU Member States.*Rostgaard, T. & Fridberg, T. (1998) *Caring for Children and Older People.*Ministry of Labour. (2000) *Ikuji Kaigo Kyugyo Ho no Aramashi.*

According to this index, the lowest index level was identified in the Netherlands, followed in order by the UK, Ireland, and Greece. These countries statutorily provide no benefits in cash during parental leave, and grant only 3 to 4 months of leave. This is little more than the minimum required of the EU countries. In contrast, the highest level was found in Belgium, followed in order by Sweden, Norway, France, and Finland. The Nordic countries, as a whole, commanded the highest positions in the ranking of the parental leave index. These countries tend to grant a long period for parental leave, with a high level of benefits during this period. On the basis of the parental leave index, Japan stood between Austria and Italy, and held a middle position in the ranking of governmental support for childcare. Japan's index of 521.7 was 27 per cent of Sweden's (which held the highest position), and 7.2 times as large as that of the Netherlands (which held the lowest position). Of significant interest is the fact that the coefficient of variation differed between the maternity leave index and the parental leave index. The coefficient for the former index was

25.5 with the latter considerably greater at 86.8. This evidence suggests that there is no great difference in the level of maternity support granted across these countries, but there are considerable variations to be found among them where childcare provisions are concerned.

The flexibility in leave arrangements is one of the important elements in achieving compatibility between childcare and work. The availability of part-time parental leave programmes with reduced working hours and flexi-time are of particular import here. In fact, most of the EU countries have this form of leave. Only Denmark, Finland, Italy, and Greece adhere to full-time parental leave programmes and do not, as a rule, allow parents to work during leave (see Table 2). Reduced working hours and flexi-time is provided by the Japanese parental leave programmes, which allow parents to combine childcare and employment by taking part-time leave. In most cases there is a difference between full-time and part-time leave in terms of the length of leave and the amount of cash benefits provided. For example, in France, if parents are engaged in their jobs for less than 85 working hours per month (second child and higher), the amount of their benefit during parental leave will be 2013.88 Francs a month. If they work between 85 and 136 hours per month, they will be given 1522.35 Francs a month. This is less than what they would receive for full-time leave. Likewise, for Belgian parents who opt for part-time parental leave, the period of their leave will be extended to six months, which is twice the length of time allowed them had they chosen full-time leave.

Finally, let us turn to a paternity leave system, which has recently been developing in the EU countries, especially in the Nordic countries. Looking at the statutory provision for paternity leave in Table 3, we can see that the longest period of leave is granted in Finland, with 18 days, followed in order by Norway with 14 days, and Sweden and Denmark, each with 10 days. Albeit with a shorter length of leave, this provision is also enacted in Belgium, France, Spain, and Portugal. However, the paternity leave system is mainly concentrated in the Nordic countries, and is not as yet widespread across the whole of the EU.



Table 3: Paternity Leave in EU and Japan  
(Statutory Provision), around 2000

	Length of Leave	Wage Compensation
Austria	None	
Belgium	3 days (private sector) 4 days (public sector)	100%
Denmark	10 days	Same as maternity leave
Finland	18 days	Same as maternity leave
France	3 days	100%
Germany	None	
Greece	None	
Ireland	None	
Italy	None	
Luxembourg	None	
Netherlands	None	
Norway	2 weeks	None
Portugal	5 days	100%
Spain	2 days	100%
Sweden	10 days	80%
United Kingdom	None	
Japan	None	

Source:  
Bettio, F., & Prechal, S. (1998). *Care in Europe*.  
Moss, P., & Deven, F. (eds.). (1999). *Parental Leave: Progress or Pitfall?*

### (3) Childcare Services

The reconciliation between childrearing and employment is achieved not only by the establishment of childcare leave systems, but also by the improvement of childcare services such as day-care centres, kindergartens, and nurseries. Governmental policies to increase the supply of childcare facilities are aimed at reducing the burden of childcare on parents and allowing them to accommodate both employment and childrearing in their lives by entrusting part of the care of pre-school children to agents outside the family. This kind of support may be called the 'externalisation' of childcare.

Table 4 compares the provision of childcare facilities for pre-school age children in the EU (including Norway) and Japan. The level of childcare provision in these countries was measured by means of the following three indices<sup>7</sup>: (1) the percentage of children aged 0-3 enrolled at childcare facilities; (2) the percentage of children aged 4-5 enrolled at childcare facilities; and (3) the enrolment rate at public facilities (=the number of children aged 0-5 enrolled at public childcare facilities divided by the total number of children aged 0-5 enrolled in all childcare facilities).

When looking first at childcare provision for the 0-3 age group, it was found that the percentage of enrolled children between ages 0 and 3 was greatest in Belgium, with almost 40 per cent of children being looked after in childcare facilities. France was the next highest, with more than 30 per cent of children enrolled in childcare facilities. In contrast, the lowest

<sup>7</sup> Childcare facilities here refer to only licensed facilities conducting the UNESCO ISCED (International Standard Classification of Education) 0 Level Program. For further details, see OECD (2000).

percentages appeared in Greece, the Netherlands, and Ireland. In Japan, only 13 per cent of children between ages 0 and 3 had places at childcare facilities. This percentage is almost on a par with that of Portugal. Thus, the percentage of Japanese parents taking advantage of childcare provisions available for their children between ages 0 and 3 is not higher than that of their European counterparts.

With regard to the percentage of enrolled children in the 4-5 age group, Spain, France, and Belgium ranked the highest with 100 per cent of children being looked after in childcare facilities. The next highest percentages were found in the UK, Italy, and the Netherlands. Japan's enrolment rate for this age group reached 95 per cent, standing at a higher position in the ranking. By contrast, the lowest percentage of enrolled children in this age category was identified in Finland, with only 40 per cent of children from ages four to five enrolled. Percentages in Portugal and Greece also ranked fairly low with less than 70 per cent.

Table 4: The Percentage of Children Enrolled in Childcare Facilities, 1998

	Age 0-3 (%)	Age 4-5 (%)	Enrolment Rate at Public Facilities
Austria	9.3	83.4	0.75
Belgium	37.0	100.0	0.43
Denmark	18.3	90.2	0.72
Finland	8.9	40.6	0.92
France	33.0	100.0	0.88
Germany	15.2	87.6	0.46
Greece	0.1	69.0	0.97
Ireland	1.0	77.9	0.50
Italy	24.1	99.9	0.70
Netherlands	0.1	98.8	0.32
Norway	16.9	76.4	0.59
Portugal	12.9	67.5	0.48
Spain	22.1	100.0	0.68
Sweden	18.2	72.0	0.90
United Kingdom	14.9	99.3	1.00
Japan	12.6	94.7	0.35

Source:  
EURYDICE. (2000). *Key Data on Education in Europe*  
OECD. (2000). *Education at a Glance*.

As for the enrolment ratio in public childcare facilities, the UK showed the highest figures, followed by Greece, Finland, and Sweden in that order. In these countries more than 90 per cent of children were receiving care in public facilities. This evidence indicates that, in these countries, childcare services tend to be supplied by central and regional government rather than private commercial organizations. In contrast, the enrolment rate at public facilities was the lowest in the Netherlands, with only 32 per cent of children cared for in public facilities. The Japanese percentage was only 35 per cent, the second lowest among countries in Table 4. These findings reveal that childcare services in these countries tend to

be operated on a private commercial basis.

The interesting point here is that the salient difference in the coefficients of variation exists between the enrolment percentages in the 0-3 age group and the 4-5 age group respectively. The latter figure stood at 19.8, which is less than one-third the former group's figure of 69.4. Furthermore, the coefficient for the 0-3 age group reached approximately four-fifths the coefficient of 86.8 for the parental leave index. However, the coefficient of variation for the 4-5 age group was considerably lower at only about one-fifth of the parental leave index figure. Both the parental leave index and the enrolment rate for the 0-3 age group differ greatly between the countries, but the enrolment rate for the 4-5 age group only a small difference between them. Hence, it follows that the countries hardly differ in their provision of childcare facilities for the 4-5 age group, but show significant variations on the provision for the 0-3 age group and parental leave. It seems reasonable to think that these differences stem not merely from socio-economic factors, but also from societal norms and cultural factors concerning the 'desirable agent of childcare', that is, 'who should look after children primarily?'

### An International Comparison of Governmental Support

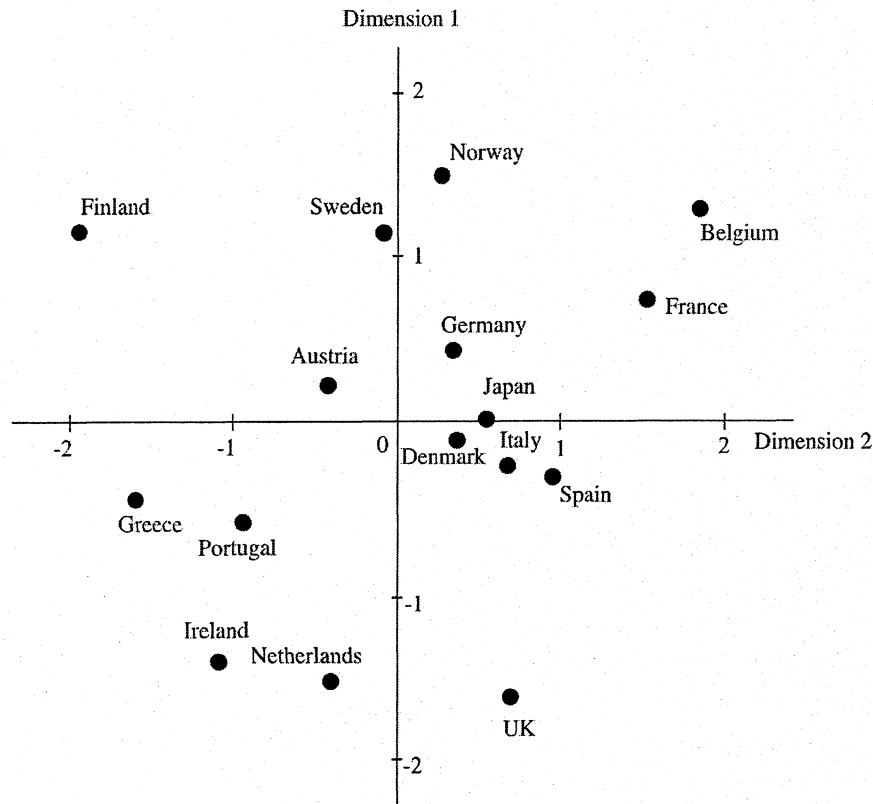
As has been seen in the previous section, the EU countries and Japan show wide variations on their provisions of maternity leave, parental leave, and childcare services. Thus, insofar as we discretely focus on single aspects of these policy instruments and make straightforward comparisons, it is difficult to grasp an overall picture of a country's support for bearing and rearing children. With this point in view, we will, in this section, compare the patterns of governmental support by employing the multi-dimensional scaling method. For this purpose, first of all, seven variables examined thus far were standardized into a z-score: (1) the maximum length of maternity leave; (2) the level of wage compensation during maternity leave; (3) the maximum length of parental leave; (4) the percentage of cash benefits provided during parental leave (=the average cash benefit per month during leave divided by the average monthly wage in the manufacturing industry); (5) the percentage of children aged 0-3 enrolled at childcare facilities; (6) the percentage of children aged 4-5 enrolled at childcare facilities; and (7) the enrolment rate of children aged 0-5 at public facilities. After this operationalization, we performed multi-dimensional scaling<sup>8</sup>. Figure 1 displays the

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<sup>8</sup> In calculating this multi-dimensional scaling, 'career break' in Belgium and 'childcare leave' in Denmark and Finland were included in the parental leave category.

two-dimensional configuration of countries.

Figure 1 : Configuration of EU and Japan



First, we can identify that two countries, the Netherlands and the UK, are positioned at the lower extremity of the Dimension 1 axis. As mentioned in the previous section, the Netherlands and the UK had the shortest periods of parental leave in the EU, and no allowances were given statutorily during the leave period. Accordingly, we can infer that countries in the lower part of this axis have relatively short periods of maternity and parental leave, and relatively poorer levels of wage compensation and monetary benefits. In contrast, Norway and Sweden are to be found at the upper extremity of the Dimension 1 axis. Maternity and parental leave periods are relatively lengthy in these countries, and the level of monetary allowances during these periods is also high. For example, the average cash benefit for parental leave in Sweden was 60 per cent of the average manufacturing industry wage, and this figure reached 80 per cent in Norway. Therefore, it is safe to say that the scale of Dimension 1 indicates the levels of leave provisions. The higher a country is situated on this axis, the more generous its maternity and parental leave programmes.

With reference to the configuration of countries on the Dimension 2 axis, Finland and Greece are at the left extremity, whereas Belgium and France are to be found at the right extremity. As seen in the previous section, the provision of childcare facilities in the two

countries at the left extremity was the least sufficient in comparison with the other EU countries. On the other hand, the countries at the right extremity showed the largest number of children enrolled in childcare facilities. For instance, in Belgium and France, almost all children in the 4–5 age group were enrolled in childcare facilities, but the figures for this age group stood at 40.6 per cent and 69.0 per cent in Finland and Greece respectively. Accordingly, the Dimension 2 axis may be safely regarded as a scale indicating levels in the provision of childcare services. As the provision of childcare facilities becomes more ample, a country is positioned further to the right on this axis. To put it another way, this axis indicates the extent to which childrearing is 'externalized' in the hands of agents outside the home; the further to the right a country moves, the greater this 'externalization' has advanced there.

According to the result of our multi-dimensional scaling, Japan and EU countries can be grouped into four clusters. The first cluster stands at the top right-hand corner of Figure 1 and consists of Belgium and France. These two countries, as seen in the previous section, offered ample maternity and parental leave and childcare facilities. In contrast, the second cluster is situated at the bottom left-hand corner and is made up of Greece, Portugal, Ireland, and the Netherlands. The features of these countries are the relatively low levels of governmental support for the bearing and rearing of children. At the top centre of the plot, two Nordic countries, Sweden and Norway, comprise the third cluster. These countries are marked by generous leave schemes although they do not always have a sufficient number of childcare facilities. The fourth cluster stands nearly at the centre of the figure, and includes Germany, Denmark, Italy, and Spain. This cluster of countries shows a medium level of governmental support for leave provisions and childcare facilities. Japan also belongs to this grouping and commands a position close to Italy and Denmark. It can be argued from this evidence that Japan does not drastically differ from its European counterparts in terms of governmental family-friendly policies. Rather, Finland and the UK are distinct from the other EU countries in Figure 1. The former country stands at the end of the upper-left corner; the latter is at the end of lower-right corner.

Moreover, our two-dimensional configuration reveals that the classification of the countries differs somewhat from what Esping-Anderson (1990) proposed for welfare states. He classified the welfare systems of advanced industrial countries into liberal, social democratic, or conservative (corporatist) regimes, based on governmental policy patterns indicating degrees of decommodification and principles of stratification. However, it has been pointed out that if social and labour policy patterns are classified according to the

gender division of labour, typologies of contemporary welfare states do not agree with those proposed by Esping-Andersen (Esping-Andersen, 1999; Gornick, Meyers, and Ross, 1998; Sainsbury, 1994; Siaroff, 1994). For example, Lewis (1992) focused on differences in governmental policies relating to the decommmodification of the female labour force, and classified welfare states in a different way from Esping-Andersen. More specifically, she divided welfare states into three types: (1) the strong male breadwinner model; (2) the moderate male breadwinner model; and (3) the weak male breadwinner model.

As is clear from Figure 1, our typology based on differences in family-friendly policies also places countries in different positions from those in Esping-Andersen's typology. First, in Esping-Andersen's model, the Nordic countries were classified as one group in the social democratic welfare regime. Nevertheless, in our classification, differences were observed among the Nordic countries. Sweden and Norway were very close to each other in Figure 1, but Denmark and Finland stood away from the former two. Secondly, considerable differences were identified between Austria, Italy, Germany, and France in our typology, although all these countries were classified into the conservative welfare regime by Esping-Andersen. Specifically, France and Austria were considerably distant from each other in Figure 1. The former showed a much higher provision of childcare facilities within this grouping of countries, while the latter displayed a considerably lower provision. By the same token, Italian leave provisions were less generous than those in the remaining countries of this category. Furthermore, Portugal and Greece were positioned at a considerable distance from the countries classified as part of the conservative regime. Thirdly, the Netherlands stood close to the UK, and displayed relatively weak governmental intervention in terms of support for families with children. Nevertheless, according to Esping-Andersen's typology, the former was regarded as a hybrid of the social democratic and the conservative-corporatist regimes, while the latter belonged to the liberal regime. Fourthly, Esping-Andersen (1997) argues that Japan is a hybrid of the liberal and the corporatist regimes. According to Figure 1, however, Japan stood close to Italy and considerably distant from the UK. This implies that liberalism has a weak influence on Japanese family-friendly policies.

The findings of our analysis also differ from the classifications presented by Chesnais (1996). He classified European countries into 'nations of families' and 'nations of individuals' according to differences in family-related policies. Countries included in the first group tended to adopt policies based on a 'breadwinner-father, homemaker-mother, and dependent children' model of the family, and their policies were designed to strengthen this

family model in its function as an agent for bringing up children. On the other hand, countries in the second group tended to recognize diverse family types (single parent families, etc.), and implement policies designed to promote a flexible combination of childcare and employment. Chesnais took Germany and Italy as representative of the former type, while the UK and Sweden are representative of the latter. However, as seen from Figure 1, the UK and Sweden stand apart from each other, which indicates that the two cannot be classified as members of the same group from the perspective of childrearing-support policies.

### Three High Fertility Regimes?

Obviously the social and economic contexts in which these policy measures are implemented vary from one country to another. Taking the diversity in the socio-economic contextuality of these countries into account, we will now, in this section, employ qualitative comparative analysis (QCA) to examine the effect of family-friendly policies on the birth rate. QCA has been developed by Charles Ragin, and is an analytic method often used in studies of historical and comparative sociology.<sup>9</sup> Unlike quantitative multivariate analysis, this method does not examine the covariation between dependent and independent variables. Instead, it applies Boolean algebra to data defined as binary variables, and discovers the conditions necessary to produce a specific result. More specifically, in QCA, we first construct a truth table, in which independent variables and a dependent variable (an outcome variable) are expressed as binary variables (1 or 0). On the basis of this truth table, Boolean algebra is employed to find the minimum combination of independent variables necessary for an outcome variable to take a specific value. Through this procedure, QCA determines the necessary conditions for independent variables to produce a specific outcome (Ragin 1987, 1994a, 1994b).

For the sake of the present analysis, three socio-economic indicators in the year of 1998 were prepared as independent variables for each country: (1) the average monthly wage for male workers in manufacturing sector (converted to US dollars by purchasing power parity); (2) the percentage of employed women between ages 25 and 49; and (3) the proportion of part-timers among employed women. In addition, we employed three independent variables related to governmental childcare support: (1) the percentage of children between ages 0 and 5 enrolled in childcare facilities; (2) the maternity leave index; and (3) the parental leave index. Since these variables were measured on ratio or interval

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<sup>9</sup> For further details of methodological problems in this analysis, see Goldthorpe (2000), Markoff (1990), Kangas (1991, 1994).

scales, they were converted to binary variables by the method<sup>10</sup> used in Ragin (1994c). In concrete terms, the values of each variable were firstly transformed into z-scores, and these were winsorised at 20 per cent from both the top and bottom. Next, countries were assigned to one of the 65 ( $=2^6+1$ ) clusters by non-hierarchical cluster analysis based on nearest centroid sorting. Through this procedure, each independent variable was converted into a binary variable. The data processed in this way were expressed as 1 where the value of the variable was comparatively high, and 0 where it was comparatively low.

For a dependent variable, first the average of the period total fertility rate for the two years, 1998 and 1999, was computed for each country, and used as an index of the fertility level. Subsequently the mean of these fertility levels was calculated. When a country's fertility level was higher than this mean, it was scored as 1. When it was lower, 0 was assigned to the country. The dependent variable was therefore expressed as 1 when the fertility level of a country was relatively high, and 0 when it was relatively low.

Table 5 displays the truth table of dependent and independent variables operationalised in this way. After this truth table was contracted with Boolean algebra, three patterns were identified concerning the combinations of independent variables yielding a relatively high fertility rate.

The first pattern was a combination of 'CHILDCARE•MATERNITY•WAGE',<sup>11</sup> which was observed in continental Europe, that is, in France, Denmark, and Belgium. We can term this combination the 'large income' type, for one of the conspicuous socio-economic characteristics in these countries is the relatively high level of wages. This type implies that when a country with this socio-economic condition has an ample provision of childcare facilities and generous maternity leave, its birth rate tends to be relatively high. In countries of this combination, women will be able to make use of maternity leave before and after childbirth, and thereafter purchase childcare services with high household earnings, which will, in turn, ameliorate the incompatibility of childrearing and employment. Our result indicates that this situation brings a relatively high birth rate to these countries.

The second pattern was a combination of 'childcare•PARENTAL•maternity', which emerged in Sweden, Norway, and Finland. This can be termed the 'gender-equity' type. These countries have high gender equity in the labour market. In fact, these countries are marked by a high percentage of female employment, little discrepancy between male and

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<sup>10</sup> For a detailed explanation of this clustering method, see Ragin (1994c).

<sup>11</sup> In QCA, variables with a 1 value are represented with capital letters, those with a 0 value with lower-case letters.



female wages,<sup>12</sup> and high female earnings. Thus, women's opportunity costs related to bearing and rearing children tend to be high in these countries. The gender-equity type suggests that if countries with these socio-economic conditions have governmental policies emphasising the improvement of parental leave programmes, rather than maternity leave or childcare services, their level of fertility tends to be relatively high. This may be due to the fact that a long period of parental leave allows parents themselves to care for their children, and the generous provision of cash benefits during the period of leave compensates sufficiently for the forgone income. In particular, since monetary benefits for employed women during parental leave are proportional to their pre-birth wage in these countries, a higher level of earnings lead to a greater amount of benefits.

Table 5: Truth Table for EU and Japan

	TFR	Wage	Employment	Part-time	Childcare	Parental	Maternity
France	1	1	1	1	1	1	1
Denmark	1	1	1	0	1	0	1
Norway	1	1	1	1	0	1	0
Belgium	1	1	0	1	1	1	1
Sweden	1	0	1	1	0	1	0
United Kingdom	1	1	1	1	1	0	0
Netherlands	1	1	1	1	0	0	1
Finland	1	0	1	0	0	1	0
Germany	0	1	1	1	1	1	0
Austria	0	1	1	1	0	1	1
Italy	0	0	0	0	1	0	1
Portugal	0	0	1	0	0	0	1
Spain	0	0	0	0	1	1	1
Greece	0	0	0	0	0	0	1
Japan	0	0	0	1	0	0	0

TFR: The average of TFRs in 1998 and 1999

Wage: Average male monthly wage in 1998 (converted by purchasing power parity)

Employment: The employment rate of women at ages between 25 and 49 (in 1998)

Part-time: The rate of female part-time employees over total female employees (in 1998)

Childcare: The enrolment rate of children at ages 0-5 in childcare facilities

Parental: Parental Leave Index

Maternity: Maternity Leave Index

Source:

Eurostat. (2000). *European Social Statistics: Labour Force*.

Eurostat. (2000). *Eurostat Yearbook*.

Ministry of Labour. (1998). *Chingin Kozo Kihon Tokei Chosa*.

Management and Coordination Agency. (1998). *Shugyo Kozo Kihon Chosa*.

The third pattern producing a high fertility rate was a combination of 'parental•WAGE'. This was found in the UK and the Netherlands, and may be termed the 'flexible-employment' type. Although male wages were high in these countries, the level of female wage was low, and a considerable proportion of women were engaged in part-time employment.<sup>13</sup> This

<sup>12</sup> The ratio of the female average wage over the male average wage for full-time workers was 87.0 per cent in Sweden and 81.6 per cent in Norway as of 1995. These figures were somewhat higher than the EU average of 76.3 per cent (Bennassi 1999).

<sup>13</sup> The percentage of part-time female employees over those employed full-time in the 25-49 age group in 1998 was 67.6 per cent in the Netherlands and 42.3 per cent in the UK (Eurostat 2000a). These figures are considerably high in the EU.

may be characterized as 'one and a half breadwinner model'(Lewis 2001). The flexible-employment type indicates that the fertility rate will be relatively high in countries with these socio-economic characteristics if government policy intervention is weak -- as seen in the low level of parental leave programmes -- and the labour market has a flexible structure. Indeed, since the structure of the labour market is rather flexible in UK, childcare and employment are combined by part-time employment (Kiernan, 1998). As far as our findings show, this combination of socio-economic conditions tends to lead a relatively high birth rate.

## Conclusion

In recent years, the EU countries and Japan have developed family-friendly policies in response to fertility falling below the replacement level. In this paper we focused on maternity leave, parental leave, and childcare services, and examined the relation between governmental support and the birth rate by employing qualitative comparative analysis.

The results of the present analysis firstly suggest that, with regard to governmental support for maternity, Portuguese and Danish maternity leave indices were highest among the countries compared. In contrast, the UK and Japan had low maternity leave indices and their governmental support was not active. With regard to government support for rearing child, the lowest parental leave indices were found in the UK, the Netherlands, and Ireland. On the other hand, Belgium, Sweden, and France showed the highest parental leave indices, and their levels of support to families with children were the highest. As for childcare services, a high enrolment rate in childcare facilities for children aged 0 to 3 was found in Belgium and France, while the enrolment rate was low in Greece, the Netherlands, and Ireland. In terms of the enrolment of children between ages 4 and 5, Spain, France, and Belgium showed high figures, with almost 100 per cent of children in this age group enrolled in childcare facilities. In contrast, the percentage of enrolled children in this age group was low in Finland, Portugal, and Greece.

Secondly, the results of this analysis suggest that our typology of countries on the basis of family-friendly policies was at considerable variance with those previously established. Previous studies have already proposed different typologies of welfare states from those proposed by Esping-Andersen, by using various criteria for classification. Our typology of countries, obtained through the multi-dimensional scaling method, was also different from that of Esping-Andersen. Specifically, Esping-Andersen classified the Nordic countries collectively as the social democratic regime, but our findings revealed that there was

variation within this group concerning family-friendly policies. Similarly, our classification identified considerable differences between France and Germany, categorised by Esping-Andersen in the conservative regime. Furthermore, the UK's position on our two-dimensional configuration was distinctly distant from its geographical EU neighbours.

Thirdly, as far as the relationship between governmental policies and the birth rate is concerned, qualitative comparative analysis revealed three combinations of conditions producing a comparatively high fertility rate: (1) a high level of wages, the ample provision of childcare facilities, and well-developed maternity leave programmes; (2) a high level of gender equity and well-developed parental leave programmes; and (3) a high male wage, a high percentage of female part-time employment, and a less-developed parental leave programme. Fertility rates tended to be high where any of these combinations existed. These results suggest that the socio-economic system and the childcare support system have 'institutional complementarity'.<sup>14</sup> Hence, if a country has a high level of fit between its socio-economic system and policies, they will act to increase the level of fertility. However, governmental policies will not exert the expected effect if the level of fit is low. Taking this point into consideration, it will be necessary in Japan to construct a childcare support system with a high level of fit with its socio-economic system, in order to provide an effective countermeasure to the declining fertility rate.<sup>15</sup>

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<sup>14</sup> For further details regarding institutional complementarity, see Aoki (2001), and Aoki and Okuno, (1996).

<sup>15</sup> For detailed arguments on problems concerning the reform of social systems in which institutional complementarity exists, see Freeman (1995).

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