Duensing, Martin

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Luxembourg Income Study Working Paper Series

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RAISING FERTILITY: LESSONS FOR GERMANY FROM CROSS-COUNTRY COMPARISONS?

Martin Duensing

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Raising fertility - Lessons for Germany from Cross-country Comparisons?

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Abstract

This paper aims at identifying the conditions which drive successful family policy. Therefore, it is necessary to know the economic and sociodemographic situation of families which is investigated in eight OECD countries. Special attention is drawn to income, education and labor supply of the parents as well as to the redistributive impact of family payments. Significant differences can be identified and conclusions for an effective family policy are presented.

*University of Oldenburg, Dept. of Economics, D - 26111 Oldenburg; E-mail: martin.duensing@uni-oldenburg.de; the author would like to thank Udo Ebert and Heinz Welsch for very helpful comments and the members of the LIS Project for uncomplicated provision of data.

1 Introduction

1.1 Family Policy - A Controversial Issue

Family policy is - and has always been - discussed in social and economic terms. Its instruments and even its raison d'être are widely debated and controversial. On the one hand, it is obvious that most of the industrialized countries make an effort in order to raise fertility. Public statements and announcements to do so are numerous. This can also be seen in Germany where active population policy had no good reputation for historical reasons so far. Arguments in favor of raising fertility rely on scenarios of collapsing social security systems and similar developments associated with demographic change.

On the other hand, there are many voices pointing out that active demographic policy is costly and ineffective. In their view, the results of demographic change are rather neutral or even positive: People will grow older but will also increase their healthy span of life what in turn would prolonge their productive period.

This paper focusses on two questions. Firstly, it raises (and answers) the question of economic justification of family policy. This is done in section 2. Allocative and distributive aspects of family policy are highlighted. Afterwards, five fundamental views are presented that are crucial for the choice of the concrete family policy instrument(s).

Secondly, it shows the conditions of families in eight industrialized countries[1] in order to reveal the potentials (and limits) of family policy. Section 3 considers some sociodemographic factors concerning families (education, residence area, marital status) as well as the labor supply situation of the parents. Furthermore, we describe the distributional impact of family policy. The final section 4 concludes by summarizing some results of the preceding sections. Possible lessons for the German family policy are discussed.

[1] Australia (AUS), Finland (FIN), France (F), Germany (D), Italy (I), Norway (N), United Kingdom (UK), United States (US)

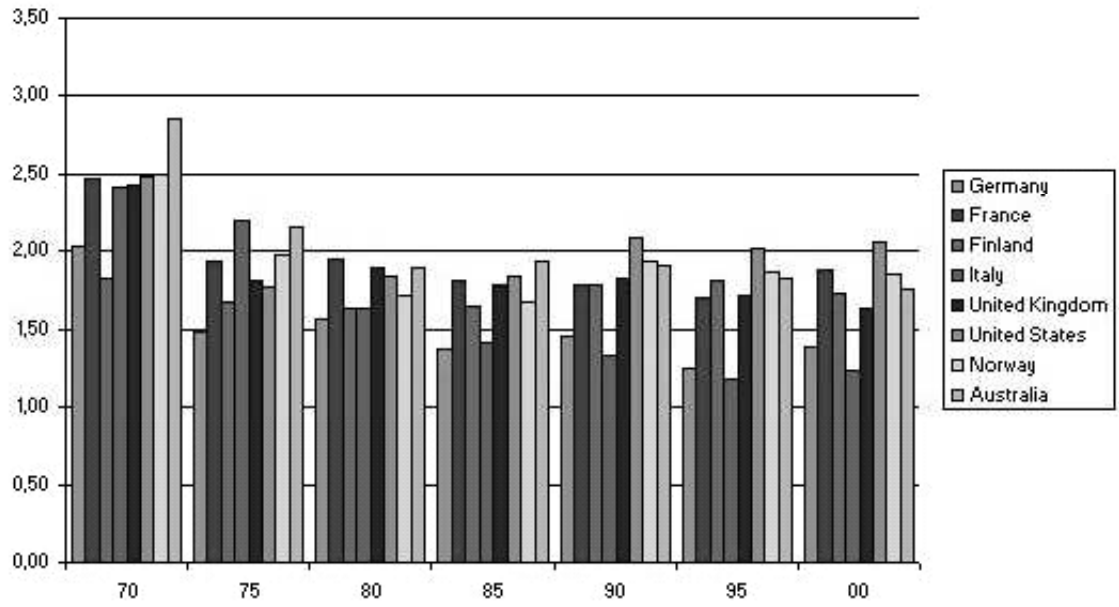

Figure 1: Fertility rates between 1970 and 2000; Source: OECD [Org06]

1.2 Motivation

It is well-known that age-specific and total fertility rates have fallen in nearly all industrialized countries during the past decades. Most states face (or will soon face) the fact of overaging societies.

But the crucial point is that fertility rates are not at all equal nor have they declined with the same speed (though economic preconditions seem similar). This can be seen in figure 1 which shows the development of the fertility rates from 1970 to 2000. Except for the US, there is actually no country with a fertility rate at the replacement level, i.e. the level at which the population size remains unchanged. This result will not be modified if other industrialized countries are included; solely Ireland has a fertility rate of 1.97 (2002). At the same time, political efforts to raise fertility rates seem to increase and family policy gets more and more important. The OECD countries have increased their expenditures for family policy (in constant prices) between 1980 and 2002 with the only exception of the Netherlands and the US [Org04b].

Furthermore, in most countries the annual growth rate of expenditures for family policy exceeds the growth rate of real GDP. But the data also suggest that the correlation between expenditures for families and fertility rates is not necessarily positive: Germany increased its expenditures by 3.38 % per year since 1985 while its fertility rate decreased. The US on the contrary managed to raise the fertility rate although expenditures dropped. So it could be argued that some instruments of family policy seem to be more effective than others and some may even be completely useless in terms of raising the fertility rate. This motivates the analysis carried out in section 3.

2 Justifications of Family Policy

2.1 Market Failure

In principle, government interventions can only be justified if market failure occurred (at least from an economic view point). This could be the case if the private decision of the parents to have children affects third parties (positively or negatively), e.g. if there are externalities.

One could argue in this respect that such externalities exist with respect to the firms' labor demand. Firms are interested in children today as potential labor suppliers tomorrow. Along the lines of this argument, the firms benefit tomorrow from the children raised today without contributing to their costs. Though this argument seems plausible at first sight it neglects that firms in fact do pay for the labor supply of the (former) children: They simply pay them wages when they have grown up. It would be the children's duty to recompensate their parents for their costs as soon as they enter the workforce, but not the firms'.

Pay-as-you-go pension schemes (as applied in Germany) provide rather concrete arguments for the existence of intertemporal externalities. The rate of return of such systems heavily depends on the "biological rate of return", i.e. the growth rate of the population (which is obviously connected with

the fertility rate). Though all the members of the pension insurance system benefit from high fertility, it is the parents who bear the costs (at least in principle). This view inspires the recurrent demand to grant parents a rebate on their social security contributions resp. to cut the payments for the childless.

Static externalities could arise for the society as a whole if it would benefit from the mere existence of children. If so, children would represent a value for the country *per se* (see [Cig83]). This value ("Existence value") would have the properties of a public good (non-rivalry and non-excludability) and would therefore justify public intervention. Unfortunately, a rather vague concept like the "Existence value"-concept is hard to verify and difficult to measure. Therefore, it can only be thought of as a rather abstract argument in favor of family policy.

In addition to the allocative aspects, also distributive reasons can be found to support children respectively families with children. It is nevertheless necessary to keep general redistribution and child-focussed redistribution separated. They are justified differently. It has to be justified why each society member should share its resources with a new member (the child) the entry of which it cannot prohibit (see [Rak91]). It is certainly legitimate to assume such reasons, but a discussion of them is beyond the scope of economic analysis.

2.2 Paradigms of Family Policy

Once a society has chosen to implement family policy in order to raise fertility, it is necessary to decide about the concrete means. They heavily depend on the view policy makers have on children. Public finance distinguishes between (at least) five different concepts:

1. *Investment good approach ([NE93])*: Children are treated as invest-

ment goods if they are a provision for their parents' old age. This could be the case in countries with incomplete capital markets. If so, children should be funded by means of tax law. Deductions and allowances would be an appropriate way to account for child expenses. This leads to a higher relief of parents with higher marginal tax rates in absolute terms than of parents with low ones[2].

2. *Consumption good approach*: If children are considered as consumption goods of their parents there is no need to encourage parents to have children from an economic point of view.

3. *Elitist approach*: The society is, above all, interested in children being raised by the well-off (and well-educated) because then the potential costs for the society are low. A policy based on this view may include a family splitting without ceiling (as formerly practiced in France) which would favor the taxpayers with the highest gross income[3].

4. *Welfare approach (see [Mes03])*: If policy makers are convinced that each child generates identical positive externalities they should compensate parents with an identical lump-sum amount per child. This could be achieved by means of tax law (tax credits) as well as by the social transfer system.

5. *Input approach*: Children may be seen as household goods which require time inputs for education and -more generally - for care. Normally, this is provided by the parents themselves who in turn reduce working hours or buy care time. An option for the government is to grant subsidies for day care or to provide parents with public day care facilities.

Nowadays, the second as well as the third approach are rarely found as fundamental philosophies for family policy in industrial countries but they

[2]Provided that the tax schedule is progressive as it is in nearly all industrialized countries.

[3]Provided again that the tax schedule is progressive.

are nevertheless still discussed in tax law and public finance.

3 Children and Family Support - Stylized Facts

The eight countries chosen for this analysis do not exclusively follow one of the approaches presented in section 2 but their respective family policies show clear preferences for one approach or another. Each of the four types of welfare states[4] can be found in this group of countries. The UK, the US and -partly- Australia focus on tax credits but public day care infrastructure has a rather low priority. The tax credits (like the Australian Family Tax Benefit) are in parts dependent on income.
Similar provisions can be found in Italy.
The German "Familienleistungsausgleich" ("Compensation for the achievements of the family") has a dual character (meaning that either a lump-sum transfer or a tax deduction is granted for a child) and is actually dominated[5] by the child transfer (which is lump-sum). The provisions can be found in tax law: Either a tax allowance or the transfer is granted whichever is more favorable for the family. France also grants lump-sum payments but disposes of a sophisticated mixture of conditional allowances and grants (for example for in-house day care provided by nannies). Furthermore, France is one of the few countries worldwide applying a family splitting (with a ceiling) in tax law.
Finland's and Norway's family policy is traditionally characterized by a generous provision of public day care. This pattern dominates in every Scandinavian country though transfers and allowances are also in use. The coverage rate of day care facilities is fairly high[6].

The following focusses mainly on two aspects. On the one hand, the socio-

[4]These are the Nordic, the Mediterranean, the Anglo-American and the continental Christian type, see Diprete et al. [DH04] and cited references.

[5]Until 1996, the child tax allowance and the child transfer were granted simultaneously.

[6]For more country-specific details of family policy in the chosen set of countries set see [MIS02], [Sch05] and [Hii04]. Indicators of social protection are developed in [GK97]

demographic situation of families with children is highlighted (e.g. the question of correlation between education, income and the number of children as well as the implication of the presence of children for the labor supply of the parents is investigated).

On the other hand, the redistributive impact of family policy is considered. The data is taken from the Luxembourg Income Study Project (LIS). It provides five waves of micro level data about income components, working hours and other personal and household charateristics from 30 countries (for a full documentation see [Luxng]) which is based on microcensus surveys.

We shall use data from wave V which is the latest one[7]. The number of cases is sufficiently high in each country (ranging from 5,750 (GE) to nearly 50,000 (US) households) and for each characteristic so that there are no problems with extreme values. Furthermore, the household (resp. the individual) data will be weighted with household (resp. personal) weights. These weights are based on the respective frequencies of the social groups in the whole population so that over- or underrepresentation of those groups in the whole sample can easily be corrected.

3.1 Educational Level and Socio-Demographics of the Parents

In order to make an effective design of family policy instruments, it is necessary to know the background of the families. Education, more specifically the number of children in households with a certain educational level, is an important and widely discussed characteristic.

A frequent pretention is that in Germany, it is predominantly the households on a low educational level who have children respectively that households on a high educational level have less. As the correlation between the educational level and income is high, this is often used as an argument to replace

[7]The data is from the years 1999 (UK), 2000 (FI, GE, IT, NW, US) resp. 1994 (AS and FR, for which more recent data turned out to be unusable for the purpose of this paper)

	D	F	FIN	I	US	N	AUS
low	7.2	3.9	3.5	2.8	4.1	4.1	4.9
medium	4.1	4.9	4.2	6.3	4.2	4.5	2.8
high	3.6	2.4	3.8	4.8	3.1	4.1	4.4

Table 1: Fraction of women with 3 or more children, dependent on educational level; source: LIS [Luxng]

lump-sum payments by allowances and other payments that work rather prorich in order to induce the well-educated to have more children. The LIS database allows for a rough differentation of educational levels (low, medium, high) as well as for a more detailed one that accounts for country-specific graduations.

There are significant differences between the countries considered with respect to the number of children in correlation with the educational level of the mother (the results for the fathers are similar). The part of the women with low education under the age of 60 who have three or more children under the age of 18 is twice as high as the same part of women with high education in Germany (see table 1).

This pure pattern (declining percentage in educational level) is observable only for Germany. Admittedly, the fraction of highly educated in France is just a bit more than half the part of low educated (2.4 vs. 3.9 %) but it is highest for women with mediumn education. A similar result can be gathered for the US.

In comparison with that, the results for Finland and Norway are well-balanced. For all groups of educational level, the share is around 4 %. It can be stated that education has the lowest impact on the decision of having children in these countries.

It should nevertheless be added that a categorization in "low", "medium" and "high" can only be an approximation, namely in cross-country comparisons with fairly different education systems (especially in secondary and tertiary education).

A more detailed picture concerning the influence of education on the adults' decision to have children can be obtained by carrying out a regression analysis for each country using the LIS data. The number of children under the age of 18 is the dependent variable, the independents are - apart from the three education levels - a dummy for married couples (MARRIED), for foreign head of household (FOREIGN) and for households living in a rural area (RURAL). Gross wage rates of the parents (if existent) are also included (WM resp. WF) in order to be able to compare the results. The data set chosen is different: Only households with couples are considered here.

The number of children is only partly explained by the model chosen (R^2 is between 2.8 and 11.9 %)[8]. As it is clear that the desire to have children is determined by many things that lie beyond the economic sphere (which is observed here), this result is not surprising. Most of the estimates of the coefficients, nevertheless, are highly significant (at the 0.001 level)[9].

The country-specific results show a lot of variation.

For Australia, none of the education dummies is reasonably interpretable. This is also true for the high education dummies of Finland and Italy as well as for the low education dummy of the US. The education coefficients for France do not show any significant difference: They are all positive and cannot be interpreted properly so that we are not able to identify different inclinations to have children in the different educational groups.

Norway and Finland have negative coefficients for low education. This is true for men (-0.233 (N) resp. -0.232 (FIN)) as well as for women (-0.319 (N) resp. -0.273 (FIN)). The results for Germany are positive (except for low education of women) but low.

Summing up, it can be stated that the impact of education of on the number of children varies between the countries (in magnitude and significance). Furthermore, the effects do not pull into the same directions.

The results for the wage coefficients are not surprising. Wherever enough data is available (D, F, I, UK, US) it turns out that a high wage rate of

[8] All coefficients and t-values can be found in table 5 in the appendix.

[9] The same can be said about the F-test on multicollinearity.

women has a significant negative impact on the number of children which probably supports Becker's argument of a lower number of children when opportunity costs are high [BH73]. This effect is strongest for Germany and the UK and relatively weak for the US. It seems that a high female wage rate tends to raise the opportunity costs of having children so that women with a higher education are more likely to have fewer of them.

Two facts should be stressed concerning the male wage rate coefficient. Firstly, it is slightly positive (except for France). Secondly, it is much smaller than the coefficient of the female wage rate. Furthermore, its t-values are smaller. Obviously, the male wage rate is less powerful in explaining the number of children.

One could object that the wage rate is connected with the educational level so that the OLS regression would be distorted. This correlation is nevertheless weak because the data sets contain information about the highest educational level reached by a woman but they often do not display her wage rate if she does not work. As this may be a non-negligible part of the women, the correlation will be rather weak.

The variables FOREIGN, RURAL (in parts) and MARRIED in contrast are strongly significant and their coefficients are fairly high. Being married is, especially in Finland, the US and France (0.49, 0.433 and 0.397) a strong indicator for the number of children while this correlation is rather weak in Norway (0.078)[10]. This is less surprising taking into account the rather liberal attitude of Norwegians with respect to non-married couples who live together and with respect to out-of-wedlock births.

The coefficients for FOREIGN are even stronger. Only Finland and Australia show slightly negative values. In Finland this is due to the definition of FOREIGN which has the only realizations "Finnish speaking" and "Swedish speaking"[11]. In the remaining six countries, the fact that the household head is a foreigner increases the number of children significantly. This effect

[10]This means that married Norwegian couples have (on average) 0.078 more children than non-married couples, all else equal.

[11]In all other countries, the realizations for FOREIGN are numerous nationalities.

is strongest for Germany and the UK.
A distinct impact of the variable RURAL on the number of children can be seen in Finland (0.231), Germany (0.111) and France (0.109) while it is only weakly positive for Norway, Italy and the US, weakly negative for the UK and Italy.
It can be summed up that there are country-specific differences in the propensity to have children across households of different education levels. But these are less significant than other socio-demographic variables as the marital status, the nationality and the living area.

3.2 Children and Labor Supply

In many countries, an important function of family policy is the support of (or incentive for) female labor force participation. This is often a strategy which is parallel to the promotion of births. The OECD [Org04a] revealed a positive correlation between female labor force participation and fertility rates. It is therefore straightforward to think of a pro-female labor participation strategy as a priority of a successful family policy.
The average working hours per week of fathers and mothers with respect to different numbers of children can be gathered from table 2. Only households with couples where the household head is between 20 and 64 years are chosen which is considered to be the typical active working period in the indutrial countries. Unfortunately, data for Finland, Norway and Australia is missing.

The average number of working hours per week of the men do not differ greatly between the countries. It is nevertheless striking that they are quite low for Italian (29.12) and German (31.78) men without children. This may be due to the late start (or early end) of the male working period which could be investigated by a further differentiation by age but this is beyond the scope of this paper.
A common tendency is that the men's working time increases in the number of children up to the second child (US: third child). Afterwards it declines

	D		F		I		UK		US	
	m	f	m	f	m	f	m	f	m	f
0	31.78	23.68	41.56	34.48	29.12	15.01	35.75	24.55	39.39	30.33
1	39.53	19.61	42.12	35.27	40.98	17.52	41.72	22.72	42.08	29.44
2	42.12	14.43	41.54	33.56	44.49	16.91	43.15	19.12	43.33	26.32
3	37.37	9.54	42.06	32.49	41.24	10.39	40.59	15.67	43.97	23.85
4	38.60	12.77	40.86	33.59	39.97	4.05	35.38	10.75	42.59	19.58

Table 2: Average number of working hours, depending on the number of children; source: LIS [Luxng], own calculations

but generally remains at the level of a full-time job.

The situation of the women is quite different. Following their traditional family pattern we would expect the women's working hours to decrease in the number of children. This can be confirmed for Italy where women work only 15.01 hours per week even if they do not have children (French and American women work twice as long). Couples in Germany, the UK and (partly) the US also show the pattern of "work division": The difference of working hours between spouses with 4 children is between 23.01 (US) and 35.92 (I) hours.

Solely France is an exception in both respects. On the one hand, women do work significantly more than the women in all the other countries (irrespective of the number of children under the age of 18). On the other hand, their number of working hours does not decrease in the number of children. This result is certainly due to a high coverage rate of public and private day care and early compulsory schooling as well as to the widely accepted role model of the working mother. The French fertility rate is one of the highest in all industrial countries which shows the importance of a good compatibility of having children and working.

There are other facts that underline the importance of a good family policy design for the provision of day care. Figure 2 shows that working hours de-

pendent on the age of the youngest child are quite different in the selected countries. In Germany and - partly - in the US and the UK, mothers increase their working hours when their children get older (Note that mothers in the US work on average 10 hours more than German mothers).

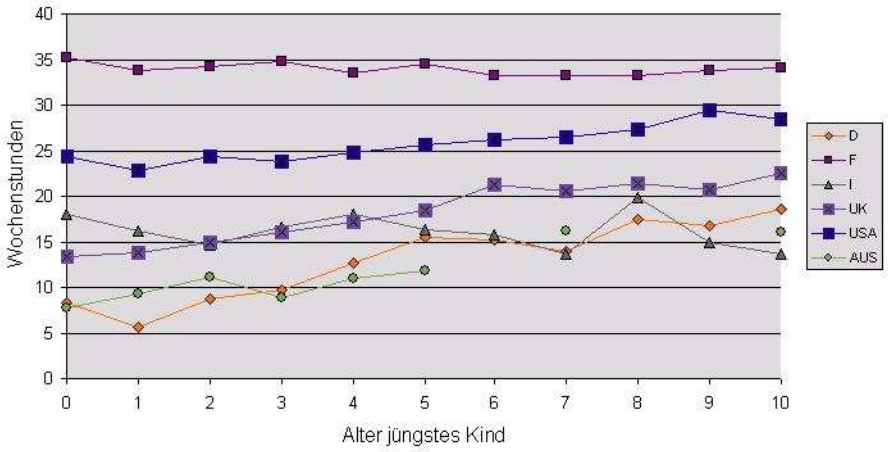

Figure 2: Average weekly number of working hours of women, dependent on age of the youngest child; source: LIS [Luxng], own calculations

Australian data is missing for mothers with six-, eight- and nine-year-old children; for the remaining, a trend to increase working hours when the child gets older is observable.

Another interesting trend is that working hours of the women tend to decrease in the child's first year (except for Australia and the UK). This can be explained by the fact that the given number is the *average* for the *whole of the year* in which the child is born, and it is likely that a fraction of the mothers worked more before the birth of their than afterwards which raises the average.

No trend can be found for Italy (Italian mothers work between 13.7 and 19.09 hours per week) and for France. Working hours are highest for French mothers, reaching 33 to 35 hours per week. There are no correlations with the age of the youngest child what makes the result from table 2 even more

impressive.

It seems that the parents' labor supply patterns are different across the countries. For some, the number of their children is crucial, for others (especially the French) it is not. It could be shown that the number and the age of children has a direct effect on the working hours of the women (except for France). There are significant differences across countries.

3.3 Redistributive Effects

Finally, we will examine some distributive implications of family policy. In Section 2, some possible differences in the distributive implications of different measures of family policy were mentioned. The micro data of LIS shows some of these implications because it contains family allowances and other direct payments to the household which are related to the presence of children (except for Italy and the US).

These payments (per child and year) are shown in table 3 for the six remaining countries (converted into $ (US)). To clarify the distributive effect, they are subdivided into the first, the second to fifth, the fifth to ninth and the last decile. In order to test the time-robustness of these results, the same calculations were carried out for the first wave. There are (apart from the absolute amounts) no significant differences between the waves.

	D	**F**	**FIN**	**UK**	**N**	**AUS**
1^st	1432.89	929.56	1056.77	988.19	2164.17	646.26
$2^nd - 5^th$	1750.20	1267.87	2296.06	1056.87	4345.90	1016.09
$5^th - 9^th$	1823.76	1292.05	1962.25	1080.12	1754.08	513.09
10^th	1952.23	1062.40	1548.04	1214.62	1547.29	172.92

Table 3: Average child related allowances in different income groups ($US); source: LIS [Luxng], own calculations

Basically, it can be stated that family payments act pro-rich in Germany and the UK: They increase in income. Payments for the tenth decile decile

correspond to 1.36 resp. 1.23 times the payments for the lowest decile in Germany resp. in the UK. Finland, Norway and Australia pay the highest amounts to households in the second to fifth decile, afterwards they are decreasing (in Australia even significantly which is due to the strong income-relatedness of the Child Tax Benefit). Finland does hardly use tax allowances (which have regressive effects). The high payments for Norwegian families in the second to fifth decile are striking.

A similar pattern can be found in France where the payments in the second to fifth decile as well as in the fifth to ninth decile are high while they are decreasing in the tenth. This can be understood as a result of the ceiling of the family tax splitting and some of the allowances; this mitigates regressivity.

Comparing the absolute magnitude of payments, Norwegian households below median income receive the highest while Finland pays the most to families in the fifth to ninth decile. Germany favors households beyond median income, especially the most well-off. Fertility rates are (among the countries considered here) highest in Norway, France and Finland. One could conclude that a generous family support in the medium income range has a rather positive correlation with fertility.

It should be remarked that both variables (disposable income and family payments) are correlated. The higher the payments, the higher is disposable income, depending on whether child-related benefits are taxable or not[12].

Redistributive implications may be clearer when comparing Gini coefficients of the countries before and after accounting for family payments (table 4).

The payments then generally (despite the results above) reduce inequality (if one accepts the Gini coefficient as a measure of inequality). This impact is strongest for Finland and France where the Gini coefficient is decreased the most by family payments. Taking into account the rather pro-rich effect observed for Germany, the inequality reducing impact of family payments

[12]The treatment for tax purposes is different across countries. Germany for example does not tax them, Spain does.

	D	F	FIN	UK	N	AUS
G_{ME}	0.348	0.384	0.350	0.475	0.326	0.414
G_{ME+Tr}	0.321	0.342	0.309	0.454	0.296	0.387

Table 4: Gini coefficients: market income resp. market income + family payments; source: LIS [Luxng], own calculations

also seems remarkable.

4 Lessons for the "Familienleistungausgleich"

The German debate about the means of raising the fertility rate has been dominated by budgetary questions rather than reasoning about effectiveness [Kau05, 182 ff.] and it has also been shadowed by tax law debates (about the ability-to-pay-principle).

It is nevertheless true that the German government is a generous spender with respect to families (even after taking into account current benefit cuts for home owner families (Sec. 34f GTC) in absolute terms. This can also be gathered from table 4. The relatively low fertility rate can be explained by three scenarios. Either the birth rate is low because of the family payments (e.g. they are ineffective) or it is low despite the payments (e.g. the fertility rate depends on other aspects that may not be influenced by economic incentives) or, finally, it is low because family policy is effective but it is dominated by trends and influences that cannot be determined separately. The last possibility is clearly most difficult to recover; a possible research method would be a difference-in-difference-analysis with a control group but this is difficult to think of. But if there is a chance that family policy is (at least partly[13]) effective, it is worth thinking about an improvement based on the experience of other countries. Germany may learn in two respects.

The above-mentioned argument that it is especially the least educated that

[13]Econometric research supports at least a weak effectiveness, see Gauthier and Hatzius [GJ97] for example.

have a lot of children seems to be proved by the data. This is especially true in comparison with other countries. One reason might be the poor performance of the German "Familienleistungsusgleich" with respect to provision of public and private day care. Opportunity costs are high for the well-educated and a good set of opportunities to let the children in day care would probably diminish them. The Northern countries and France have good day care facilities and they do well in cross-country comparisons with respect to the educational background of the parents. Furthermore, the gender gap concerning working hour patterns is much smaller and the dependence of working biographies of women on the number and age of their children is negligible[14]. Apart from this, the market productivities of the parents are less important for the number of children and the division of household work (table 5 in the appendix and section 3.2).

Of course, a day care system like the French or the Swedish one is no blueprint for Germany. But as day care is a (relatively) cheap and effective way of decreasing the opportunity costs of having children, efforts should be devoted to develop such concepts for Germany. This could be financed via decreasing lump-sum payments - no payment could compensate a complete salary[15].

Secondly, the German specialty of the dual approach to family policy seems overhauled. It was established as a compromise between the mandatory requirements of tax law and the desire of the political leaders to redistribute. But it fulfills none of the goals properly. On the one hand, children allowances of 2904 €[16] do not represent the minimum expenses of a child (according to social law). On the other hand, the consequences of the German tax policy (table 4) leave serious doubts if the redistributive goal is met, taking into account the enormous budgetary efforts it takes. A re-allocation of means in

[14]Data for Norway is not available in the LIS database but the comparably high participation rates in the whole of Scandinavia underline this result (72.1 % (FIN), 76.9 % (S) compared to 59.3 % (OECD average), data for 2003 [Org05].

[15]It should be added that the "Elterngeld" actually proposed by the German government aims at replacing the salary of the (formerly working) spouse who takes care of the child(ren), but this will only run up to two thirds of the net salary.

[16]Sec. 32 (6) GTC (2005); the amount doubles for married couples.

favor of day care would certainly enhance fertility while a general objective to redistribute should be left over to general income taxation. Moreover, a better provision of public day care (in quality and quantity) could certainly be seen as a more effective instrument of redistribution in favor of the less privileged. The effect of a decrease in lump-sum payments (which would act pro-rich) could be mitigated.

If economic incentives were totally ineffective, family policy could be reduced to assure a guaranteed subsistence income to the families. But the experiences of France (and also of the Nordic countries) have shown that a correlation between public inputs and fertility rates is likely and can be used to raise the number of births. There is no reason, a priori, why that should not be the case for Germany.

Appendix

	D		**F**		**FIN**		**I**	
	coeff	t	coeff	t	coeff	t	coeff	t
Indep.var. # children								
Dep. variables								
MARRIED	0.353	375.6	0.397	357.8	0.490	177.3	0.265	149.5
EDLOM	0.002	1.3	0.379	35.8	-0.232	-67.4	-0.105	-102.7
EDMEDM	0.050	32.6	0.408	38.6	0.141	47.9	0.092	129.4
EDHIM	0.035	22.4	0.453	42.9	...	...	...	...
EDLOF	-0.101	-66.5	0.681	120.8	-0.273	-83.2	-0.391	-397.4
EDMEDF	0.190	122.8	0.766	136.5	...	...	-0.011	-15.3
EDHIF	0.128	78.9	0.879	155.4	0.093	32.4	...	...
FOREIGN	0.544	575.9	0.465	327.6	-0.035	-6.7	na	na
RURAL	0.111	200.3	0.109	113.1	0.231	76.7	-0.006	-7.9
WM	0.005	328.8	-0.001	-74.1	...	...	0.004	119.7
WF	-0.011	-655.6	-0.004	-300.1	...	...	-0.007	-165.5
R squared	0.099		0.050		0.068		0.046	

	UK		**US**		**N**		**AUS**	
	coeff	t	coeff	t	coeff	t	coeff	t
Indep.var.								
# children								
Dep. variables								
MARRIED	0.352	365.6	0.433	562.9	0.078	25.0	...	...
EDLOM	-0.725	-33.3	...	...	-0.233	-17.2	...	...
EDMEDM	-0.266	-12.2	-0.071	-129.0	0.031	2.4	0.055	36.4
EDHIM	-0.449	- 20.6	-0.081	-128.9	0.015	1.1	0.198	85.1
EDLOF	-0.131	-7.4	...	...	-0.319	-28.1	...	...
EDMEDF	0.423	23.9	0.072	132.1	0.044	4.0	0.136	82.9
EDHIF	0.273	15.5	-0.024	-38.5	0.120	10.9	0.008	3.9
FOREIGN	0.567	368.4	0.365	709.2	0.288	57.8	-0.121	-78.2
RURAL	-0.055	-80.6	0.055	103.4	0.021	2.6	0.051	63.8
WM	0.003	68.3	0.000	3.4	...	...	...	...
WF	-0.026	-419.5	-0.003	-187.2	...	...	...	...
R squared	0.119		0.033		0.028		0.008	

... : omitted (not enough data)

na : not available

Table 5: OLS regression estimates and t-values; own calculation using LIS

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