

Klabunde, Anna; Korn, Evelyn

Working Paper

Parasites and Raven Mothers: A German-Japanese Comparison on (Lone) Motherhood

Ruhr Economic Papers, No. 196

Provided in Cooperation with:

RWI – Leibniz-Institut für Wirtschaftsforschung, Essen

Suggested Citation: Klabunde, Anna; Korn, Evelyn (2010) : Parasites and Raven Mothers: A German-Japanese Comparison on (Lone) Motherhood, Ruhr Economic Papers, No. 196, ISBN 978-3-86788-221-7, Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI), Essen

This Version is available at:

<https://hdl.handle.net/10419/45297>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



RUHR

ECONOMIC PAPERS

Anna Klabunde
Evelyn Korn

Parasites and Raven Mothers: A German-Japanese Comparison on (Lone) Motherhood

RUHR
UNIVERSITÄT
BOCHUM

RUB

#196

Imprint

Ruhr Economic Papers

Published by

Ruhr-Universität Bochum (RUB), Department of Economics
Universitätsstr. 150, 44801 Bochum, Germany

Technische Universität Dortmund, Department of Economic and Social Sciences
Vogelpothsweg 87, 44227 Dortmund, Germany

Universität Duisburg-Essen, Department of Economics
Universitätsstr. 12, 45117 Essen, Germany

Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI)
Hohenzollernstr. 1-3, 45128 Essen, Germany

Editors

Prof. Dr. Thomas K. Bauer
RUB, Department of Economics, Empirical Economics
Phone: +49 (0) 234/3 22 83 41, e-mail: thomas.bauer@rub.de

Prof. Dr. Wolfgang Leininger
Technische Universität Dortmund, Department of Economic and Social Sciences
Economics – Microeconomics
Phone: +49 (0) 231/7 55-3297, email: W.Leininger@wiso.uni-dortmund.de

Prof. Dr. Volker Clausen
University of Duisburg-Essen, Department of Economics
International Economics
Phone: +49 (0) 201/1 83-3655, e-mail: vclausen@vwl.uni-due.de

Prof. Dr. Christoph M. Schmidt
RWI, Phone: +49 (0) 201/81 49-227, e-mail: christoph.schmidt@rwi-essen.de

Editorial Office

Joachim Schmidt
RWI, Phone: +49 (0) 201/81 49-292, e-mail: joachim.schmidt@rwi-essen.de

Ruhr Economic Papers #196

Responsible Editor: Thomas K. Bauer

All rights reserved. Bochum, Dortmund, Duisburg, Essen, Germany, 2010

ISSN 1864-4872 (online) – ISBN 978-3-86788-221-7

The working papers published in the Series constitute work in progress circulated to stimulate discussion and critical comments. Views expressed represent exclusively the authors' own opinions and do not necessarily reflect those of the editors.

Ruhr Economic Papers #196

Anna Klabunde and Evelyn Korn

**Parasites and Raven Mothers:
A German-Japanese Comparison
on (Lone) Motherhood**

RUHR
UNIVERSITÄT
BOCHUM

RUB

Bibliografische Informationen der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über:
<http://dnb.d-nb.de> abrufbar.

ISSN 1864-4872 (online)

ISBN 978-3-86788-221-7

Anna Klabunde and Evelyn Korn¹

Parasites and Raven Mothers: A German-Japanese Comparison on (Lone) Motherhood

Abstract

Having a child out of wedlock used to be associated with shame and scorn. This is mostly not the case anymore in the western world. Therefore, freed from social sanctions, single motherhood has become an additional family-choice alternative for women, along with marriage and childlessness. Yet, the institutions that influence women's decisions differ across countries. We compare the institutional frame, in particular labor-market characteristics and family law, in Germany and Japan and, in addition, the interaction between culture and institutions. Both countries had a very traditional (one-earner) family system until the second half of the 20th century. Now we can observe that social changes that happened in Germany decades ago are happening only now in Japan. We analyze if and how the consequences in terms of family structures and fertility rates that resulted in Germany can be transferred to Japan.

JEL Classification: D10, J13, J18, K36

Keywords: Out-of-wedlock childbearing; fertility; family law; Germany; Japan

July 2010

¹ Anna Klabunde; Ruhr-Universität Bochum; Evelyn Korn, Marburg University. – All correspondence to Anna Klabunde, department of Economics, Ruhr-Universität Bochum, Universitätsstr. 150, 44801 Bochum, Germany, e-mail: Anna.Klabunde@ruhr-uni-bochum.de.

1 Introduction

During the last decade the Japanese society has faced a number of major institutional changes. On the one hand, the labor market has lost its inherent structure that formerly saw employees working for their whole lifespan for the same employer – virtually without the possibility of being fired. Now, temporary employment and long-term unemployment are almost as prevalent as they are in other western countries.

Also in the realm of family law reforms have taken place: a 2007 change in pension law has made divorce more attractive for women. In fact, as they are now entitled to a share in some cases as big as half of their spouse's pension, divorce has just begun to be a real option for many women.

At the same time, the lives of women have changed dramatically in the last two decades, and they are still changing. A lot of those changes are similar to those that happened in Germany many decades ago.

More and more women gain access to higher education – in 2007, 40% of students enrolled in university were women, as opposed to 22% in 1980 (Statistics Bureau of Japan (2008)).

At the same time fertility rates are decreasing, with 2005 and 2007 being the first years since data-gathering began in which Japan experienced a natural population decline (Ministry of Health, Labour and Welfare (2009)) Special attention is directed at a group of younger women who are well educated and full-time employed and still stay with their parents. Although these women are high-profile consumers and therefore make a major contribution to the Japanese economy, they are often referred to as "parasite singles" because they neither marry nor reproduce but "exploit" their parents. One reason for this pointed view is the fear that Japan's already low fertility rate might further drop.

Another phenomenon that has until recently been virtually inexistent in Japan is lone parenthood. In 2005 5.6% of all households were headed by a lone mother (Statistics Bureau of Japan (2009)). Of those, most are divorced mothers. The proportion of non-marital births in Japan is only 1.6% (National Institute of Population and Social Security Research (2004)).

Divorce in Japan implies sole custody for one of the parents. Yet, based on the parasite-single experience, intended lone motherhood could be a new choice for Japanese women.

These numbers resemble the situation in Germany 30 to 40 years ago. The mechanism that tried to keep women as non-working housewives and

mothers were structurely the same: A male-centered labor market, poor financial rights to women – that were, in addition, also poorly enforceable – and stigma put on working women. Yet, in Germany it was not the parasite (childless) single but the working mother who was in the focus of abuse. She was – and quite often still is – referred to as a raven mother, an expression that is only known in Germany and is intended to single out the self-centered, irresponsible mother who lets her dependent children down by entrusting them to a nanny or a public day-care center.

Following a major change in the labor market in the 1950s and 1960s when Germany's economy boomed, female labor-market participation slightly increased and family and divorce law changed such that unwed motherhood is now common and about 18% of all German households with dependent children are single-headed. Based on the similarities between both initial positions we ask if the German experience can help us to predict the Japanese future. To answer that question we describe the institutions that are decisive in marriage and fertility decisions of Japanese and German women. To that end we sketch a theoretical model of the relationship between institutions and marriage and fertility decisions and derive a set of hypotheses on the direction of effects of different institutions. We then apply those hypotheses to Japanese and German institutions.

2 A theoretical perspective

An institutional analysis of (female) family decision making needs to be rooted in some theoretical considerations of the issue. In what follows we will shortly survey the literature on unwed and lone motherhood and provide a model that connects fertility decisions to a number of institutional factors.

While family related decisions in general have been intensely discussed within economic models since the seminal work by Becker (1981), the question of unwed motherhood started to be in the centre of attention much later. Whereas earlier work attached out-of-wedlock childbearing to social welfare payments (see Moffitt (1997) for a literature overview), Rosenzweig (1999) provides a theoretical analysis that models unwed motherhood as one of a set of choices women face in a more general setting. He assumes that a woman chooses rationally between three alternatives: remaining single and childless, marrying and having children, and becoming a single mother. Willis

(1999) enriches this model and incorporates the possibility of child support payments into a marriage-market equilibrium. Based on this idea Del Boca (2003), Del Boca and Ribero (1998), and Del Boca and Ribero (2001) have built and compared models for child support and visitation rights as bargaining outcomes between mother and father.

Only recently family decisions (and within that framework the decision for unwed motherhood) have been addressed in a more general framework, for instance by Björklund (2006), Edlund (2006), and Korn (2007) who show that marriage and fertility decisions can be modeled as rational choices that depend on a number of institutional factors. Laroque and Salanié (2008) provide an empirical study that shows how fertility reacts to monetary incentives.

Our paper borrows from the general perspective on family decisions used in Edlund (2006) and Korn (2007) and connects it to the comparison of female motherhood options within and outside marriage by Willis (1999) and Rosenzweig (1999). In particular, we provide a descriptive analysis of institutional impacts on women's decision to be a married mother, a lone mother, or to stay childless (married or unmarried). Our main objective is to provide a comparison between institutions that result from social policies and long-term social values in Germany and Japan. However, to be able to assess the impact of different real-world institutions, we need to formulate at least a sketch of a theoretical model of how we expect institutions to matter.

We assume that individuals derive utility from consumption, companionship, leisure time, and children. The analysis to follow is based on a number of general features of these goods and their provision in different marital arrangements. We start with a short description of these assumptions and turn then to the female decision problem.

Consumption is measured by the income an individual has at her disposal, where income sources we take into account are labor-market income, welfare payments, intra-marital transfers, and alimony payments. Parents can be an additional source of income (as mentioned in Rosenzweig and Wolpin (1994)), especially for very young mothers; but, as we do not want to address this group in particular, we abstain from modeling this aspect.

Companionship is a fixed outcome of marriage or cohabitation; yet, we see that companionship also has a downside as togetherness also curbs individual freedom. The extent to which individuals are subjected to social norms that limit individual freedom is hard to quantify. Therefore, we will devote a paragraph to this issue when we discuss the effects of institutions

on individual decision making and wellbeing.

In our context, *leisure time* is time that is spent neither for labor-market work nor for childcare. Thus, the amount of time that is left for leisure depends on consumption needs as well as on the existence of children and the childcare arrangements that are available (public institutions, sharing between spouses, etc).

The most complex component of our utility model are *children*. First of all, we assume that women have access to modern contraceptive technologies. Thus, parenthood is voluntary and a purely female decision. In our model, men are consultants only in the decision to become a mother. Of course a woman's utility from being a mother is influenced by her spouse's consent in the decision; yet, the final decision is made by the woman.¹ In addition, we assume that the societies under consideration are libertine such that sexual activity is not exclusively canalized through marriage.

Therefore, although women hold the final decision power with respect to fertility, men influence this decision in different ways. They may provide financial support and time to an extent that depends on marital status and legal and informal arrangements (the institutional frame); in addition, they can be competitors in child consumption. These aspects interact in two ways:

On the one hand, children have aspects of private as well as public goods to their parents. The public-good aspect includes biological parenthood (genes of both parents are passed on to the next generation although men may not recognize this aspect due to paternity uncertainty) which is independent of marital arrangements and will not be considered here in any further detail. In addition, there is public consumption to married or cohabiting parents that is attached to time spent jointly with the child and from joint-custody decisions. We assume that if a woman decides to be a lone mother or if parents are divorced, there are almost no public aspects to the child. In that case, all child consumption is private – which allows for the inclusion of conflicts between parents concerning custody or visitation rights.

On the other hand, the costs of raising children also have public as well as private aspects. Within marriage monetary and caring needs can be borne by both parents whereas separated or never-married parents face difficulties

¹We do not consider unwanted childlessness. If we allow for time-inconsistent preferences, inefficiently low fertility can result from biological reasons as well as bad planning (see Wrede (2009)). In addition, as we are interested in modelling the transition from childlessness to motherhood, we will assume that a woman who decides to become a mother will have exactly one child.

in sharing these costs (at least as far as the use of time is concerned). In addition, there might be support from society, for instance, if there is publicly subsidized day care. We will address all these aspects when discussing the effect of marriage-related as well as child-related institutions.

The extent to which the four inputs (consumption, companionship, leisure time, child) add to female utility depends on marital and motherhood status. As we want to describe the effect of marriage-market and child-support institutions on female decision making in two developed countries, we concentrate on a special setting. First of all, we assume that marriages are consensual – which is the case for the Japanese as well as the German society and is crucial for all institutional considerations addressed in what follows. Second, we concentrate on women as decision makers and include male decision making by means of marriage-market constraints. Furthermore, we take education levels as given and we assume that labor-market institutions are exogenous and known to all individuals. That is, if married women or lone or married mothers are able to work and which income is to be expected, can be assessed by men and women when facing family decisions.

Based on these general assumptions we can now describe the female decision-making process. We model marital status and motherhood as an outcome of a sequential (partly interactive) decision process as depicted in Figure 1. Within this framework we compare women’s utility in nodes 1 to 5 with a special emphasis on institutional aspects.

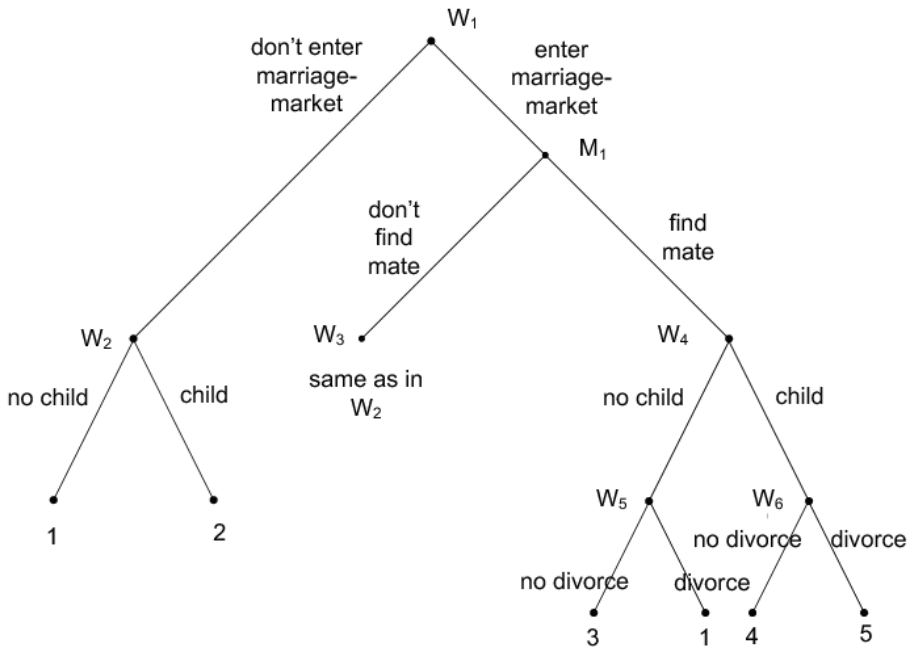


Figure 1: Payoff structure from female perspective

Payoffs 1 to 5 are results of a series of individual decisions that are to be made in decision nodes W1 to W6 for women and M1 for men.²

At each decision node women decide which path to take, taking into consideration all information available to them at that moment. The inclusion of the male decision node points to the existence of a marriage market. Although we will not model the matching process on this market in detail, we would like to stress a number of features of marriage markets that impact on the likelihood of finding a spouse.

As is known from empirical studies, matching depends in a – positive or negative – assortative way on personal characteristics of the spouses (see, for instance, Becker (1981), chapter 4, and Lam (1988)). Within our modelling framework the marriage-market impacts of education level and occupational success are most important. We will therefore concentrate on these two aspects on an aggregate level (i.e., their influence on likelihood of finding a spouse). Marriage markets in Germany and Japan are in principle hypergamic, that is, men prefer to marry women with an equal or lower education level and equal or lower income, whereas women prefer to marry “up”. Within the institutional part we will address the effect of labor-market changes on this social rule.

Besides personal traits, features of the marriage contract itself have a strong influence on outcomes of the matching process. If an individual is willing to sign such a long-term contract depends on the rights and duties resulting from the contract and the possibilities to terminate it. In particular the question how custodial rights and alimony payments are arranged within and outside marriage is to be addressed. To address these contractual questions, we also have to define the usage of the term “marriage” in our model: In most countries, in particular our focal countries Japan and Germany, there is a third option between staying single and marrying, which is cohabiting. Judicial systems treat cohabitation either similar to marriage or similar to

²The outcomes “divorce” and “no divorce” obviously also depend on the husband’s decision. We assume that divorce can be obtained if one spouse wants it – which implies that the decision “divorce” can be made by the wife alone. However, “no divorce” implies a consensual process between husband and wife. To keep the analysis as simple as possible, we subsume the case where the husband wants a divorce into payoffs 1 and 5. This simplification is noncritical for our analysis as long as child-support payments and other details do not depend on the question of who has filed the divorce. In addition, our model is backed up by the fact that the majority of divorce cases are female driven (56% of all German divorce cases in 2006 were female driven, Statistisches Bundesamt Deutschland (2008)).

lone motherhood. Therefore, we use the dichotomy for sake of simplicity and classify cohabitation as "close to marriage" or "close to staying single" depending on institutional details.³

To prepare our discussion of the impact of institutional aspects on family-related decisions, we address the payoffs in the decision tree in Figure 1 and compare them in a backward-inductive way. Based on the outcome of the marriage market (after nodes W1 and M1) a – single or now-married – woman can choose between becoming a mother or staying childless.

If a woman decides not to enter the marriage market, the only remaining decision is to stay single and childless (payoff no. 1) or to become a lone mother (payoff no. 2). A married woman can later on decide to get divorced or not. Thus, we get:

Payoff No. 1:

If childless a woman's utility is based on her consumption – financed by labor-market income – and leisure time, both of which are unrestricted by child investments. The downside of this unlimited freedom is missing utility from a spousal relationship or a child.

Payoff No. 2:

A lone mother has consumption utility from her child which is a mainly private good as explained above. Yet, the woman has to provide monetary and caring resources for the child. As we have argued, sharing arrangements are difficult for separated parents. Thus, the extent to which the woman has to share her private child consumption and can share her time and monetary investment depends on visitation and custodial rights and duties an unmarried father is entitled to. Institutional aspects determine how much of a mother's caring time for her child can be substituted by someone else's time. Important factors are the provision of public or free-market day-care facilities, social norms concerning working mothers, and incentives to work provided by welfare payments.

The latter two, through their impact on female labor-force participation, also influence the woman's monetary income and, thus, her and her child's consumption level. In addition, alimony rules and their enforcement (if the father is known and has recognized the child) impact on the woman's monetary income. Similar to payoff no. 1, a lone mother may face more individual

³In Germany, cohabitation steadily converges to marriage – which is mainly driven by supreme-court decisions that are based on equal-treatment rights stated in the constitution. In Japan, cohabitation is virtually non-existing.

freedom than a married mother but lacks support and companionship of a spouse.

To compare payoffs 1 and 2 in her decision process, a woman has to assess the trade-off between child consumption and the opportunity costs in form of lost monetary income, leisure time, and labor-market opportunities.

Payoff No. 3:

The consumption level of a married woman without children depends on institutions like social norms concerning working wives, the tax system, and the (privately bargained as well as publicly influenced) rules of intra-household income sharing. Once income splitting within marriages is accounted for, married women without children face a similar situation as non-married women without children except for the fact that they have exchanged individual freedom against companionship.

If a married childless woman decides on a divorce, her payoff is even closer to that of an unmarried woman. Marriage might entitle to alimony payments after a divorce which could raise the woman's income. We assume that the payoff of a divorced and an unmarried childless woman is the same.

Payoff No. 4:

A married mother has utility from child consumption. In contrast to the unwed mother, she enjoys the private- as well as the public-good aspects of being a parent. Her monetary income and, thus, her consumption level depend on social norms for working mothers (and child-caring fathers) as well as on childcare facilities. In the latter aspect the married mother is similar to the unwed mother. Yet, her time investment into the child can more easily be substituted by father's time but she might be more limited in her access to publicly financed day care. These aspects are part of the institutional analysis to follow.

Payoff No. 5:

A divorced mother is in a situation that is close to that of an unwed mother. The main difference between both payoffs is that legal institutions might attach a different set of rights (visitation and custodial) and duties (alimony payments for the mother and the child) to a divorced father. To compare payoffs 2 and 5, a woman has to assess the trade-off between payments and support in childcare from her husband during marriage and alimony payments afterwards on the one hand and social benefits that are designed for lone mothers only on the other hand. In a similar style she has to assess the difference between payments and support from a husband to alimony payments from an ex-spouse and public support in childcare to compare payoffs

4 and 5. The exact trade-offs depend on institutional arrangements.

3 An institutional perspective

Based on the payoff structure derived in chapter 2, we can now turn to a comparison of institutional arrangements in Germany and Japan. We address the question which institutional arrangements influence payoffs 1 to 5 and which changes are likely to induce transitions from one terminal node of the decision tree to the other. To structure the considerations, we formulate a set of seven hypotheses:⁴

1. Social benefits can make transfers from men redundant and therefore increase the incidence of divorce. This effect is even stronger if benefits are exclusively paid to single mothers.
2. The more expensive a child in terms of direct costs and opportunity costs, the lower fertility. Put the other way around, institutions that decrease the cost of having a child increase fertility.
3. Favourable conditions on the labour market for women have an ambiguous effect. On the one hand, they increase opportunity costs of childrearing and make childlessness more attractive. On the other hand, they make men redundant and increase the incidence of divorce and single motherhood. The income tax treatment of women's earnings during marriage has a similar effect: The more a wife is allowed to keep, the more likely she is to work more hours, and the more independent she becomes.
4. Childcare facilities decrease opportunity costs of childrearing and increase fertility, both within and out of wedlock.
5. Parental leave for fathers increases utility from marriage and reduces the probability of divorce.
6. Child support from divorced fathers has the opposite effect: it makes divorce more attractive for mothers. But there is even an effect at an earlier stage: women, especially when slightly risk averse, are more

⁴A number of the hypotheses stated have been addressed in the studies mentioned before. We (re)state them here to match the institutional setup we want to discuss.

likely to decide in favor of having a child if they can expect child support in case of divorce. Child support from never-married fathers increases utility from out-of-wedlock motherhood. In the same style, shared custody increases the utility from single motherhood because costs in terms of time can be shared and the woman has more leisure time available. Furthermore, custodial fathers are more likely to invest directly in child quality.

7. The more socially acceptable each option is, the more likely are women to be working mothers, single mothers or childless. Social norms that disapprove of working mothers decrease the attractiveness of motherhood within and out of wedlock for women who would like to work as childlessness can be seen as a transition state while being a working mother cannot. Fertility is likely to decline. A lack of acceptance of single mothers decreases the payoff of a divorced mother and in consequence fertility.

Based on these hypotheses we will interpret institutions in Germany and Japan and compare the predicted effects with current trends in fertility and marriage behavior in order to find out which institutions seem to play an important part, and in how far the fertility and marriage decisions of Japanese women are likely to mirror the ones made by German women in the past. The information used in the paragraphs to follow is collected from OECD sources, the National Institute of Population and Social Security Research in Japan, the Statistical Bureau of Japan, and the DICE Database of CESifo.

3.1 Social benefits

Social welfare benefits or tax exemptions often depend on a woman's family situation (e.g. on whether she is a single mother), or on her income. In particular, in the case of single mothers – whether divorced or never-married – the role of social welfare is crucial. It is the main support if she can't earn enough income on the labor market to satisfy her consumption needs.

In both Germany and Japan, social welfare consists of unemployment insurance benefits and social assistance. In Japan, unemployment benefits are paid for a maximum duration of 10 months, whereas in Germany they are paid for 12 months. The amount of benefits as percentage of previous earnings is very similar in both countries, whereas in Japan maximum benefits

are capped at a much lower level. The amount of social assistance in both Germany and Japan depends on the number of children in the household.

Despite a gradual increase of Japanese child benefits over the past few years, German benefits are still much higher (4% of an average worker's income vs. 1% in Japan) and are also paid a lot longer: at least until the child is 18, even longer if the child is still a student. In Japan, child benefits are only paid until the child is nine years old. Moreover, the Japanese benefit is means tested. Both countries have a child tax allowance.

All in all, parents in Germany receive higher benefits which decreases the opportunity cost of having a child in general, while support payments are more targeted towards lone mothers in Japan. However, the overall level of social welfare is rather low and the labor market is not very receptive to single mothers (see 3.3) such that the overall effect on fertility is still to be discussed.

3.2 Direct cost of having children

Institutions influence how much parents spend for children and how much is e.g. paid for by the public, and they can therefore increase or decrease the utility from having children. Of the long list of cost factors we will focus here on health, education, and housing because within those there are major differences between Germany and Japan.

There is a big difference in health-related maternity benefits. Whereas in Japan regular examinations during pregnancy are not covered by health insurance,⁵ in Germany they are. Furthermore, children are insured for free in Germany, whereas in Japan they are often not.

The most important cost component is education. Its importance showed in a 2004 Japanese survey quoted by Chapple (2004) where 75% of respondents said the top reason for the falling birthrate was the economic burden involved with having children. In Japan, only 44.3% of costs for pre-primary education (kindergarden etc) are paid for by the public, whereas in Germany it is 72.1%. For post-secondary education the difference is even greater: The Japanese public pays for only 33.7%, whereas the German one finances 85.3%. This does not even account for the tutoring and extra-curricular classes that most Japanese parents want to provide for their children in order to prepare them for the entrance examination for one of the elite schools, which in turn

⁵According to Chapple (2004), each visit costs about 5000 yen (about 50 USD).

prepare them to enter the elite universities. For many parents, the competitiveness of the educational system and the associated social pressure also play a part in deciding for or against children. Therefore, if parents believe they would not be able to afford the full range of educational offers for their child, they decide to remain childless.

In addition, particularly in Japan, housing costs play an important part as well. Housing is generally expensive but Hirayama and Izuhara (2008) argue that women in particular have been disadvantaged in the housing market. Under Japanese law, the proportion of an individual's investment in a house is translated directly to a share of his ownership of the property. Thus, since men tend to be breadwinners in a family, they are very often sole owners of the house. In their sample, only 20 percent of married women own a share of the family home. After divorce, the wife has no rights to the house: whereas only 28% of men move out after divorce, 71% of women do so. Anticipation of this loss of wealth in case of a divorce tends to stabilize marriages. Yet, this financial insecurity also affects family decisions by deterring women from entering the marriage market in the first place – which would increase the number of lone mothers or childless women.

The latter might result in another friction that women face in housing: The rental sector is rather small in Japan (only about a quarter of the housing stock). In addition, owners often reject female-headed households because they fear that working single women, whether childless or not, might not have stable employment. Social norms and lack of acceptance of female-headed households play a part here as well. But also for married couples not being able to afford child-adequate housing is often cited as the major reason for not having children.⁶ With seniority wages still in place in many firms it takes a while until an employee has moved up the corporate ladder enough to be able to afford a house with garden in the suburb or a spacious city apartment. Childbearing and often also marriage are delayed until then – and might not occur at all if things don't go as planned.

These considerations are not as prevalent in Germany although the trade-off between own consumption and child investment has a similarly deterrent effect for younger women. The question of affordable education is also not an issue in Germany. On the one hand this is rooted in the already mentioned fact that schooling is basically publicly financed. On the other hand the Ger-

⁶What exactly child-adequate housing is, is largely socially determined, therefore social norms are important here as well.

man education system is – as has been persistently criticized by the OECD for a long time – not permeable. Thus, parents' own education characteristics and not their investments play a major role in children's educational success. One major issue in assessing the cost of having children is the reconciliation of work and family life. Women's opportunity costs of having children in terms of foregone earnings are considered as high. Therefore, this issue is addressed in a paragraph on its own.

All in all, direct costs of having children are lower in Germany than in Japan. The difference, however, seems to be mainly driven by quality aspects that are more important for Japanese parents. They decrease fertility in general but have only little impact on the ratio between in- and out-of-wedlock birth rate.

3.3 Characteristics of labor market and tax system

According to neoclassical labor supply theory, individuals choose if and how many hours they want to work according to their preferences. This, however, is not possible if major constraints keep them from doing so. In the case of German and Japanese mothers those are mainly constraints inherent to the labor market, constraints caused by the availability of external childcare facilities, and constraints through social norms. As the numbers of working mothers in both countries are comparable and, in addition, rather low compared to other developed countries,⁷ it is worthwhile to compare the situation in both countries.

In 2006, the gap in average hourly wages between men and women in Germany was 28% (Anger and Schmidt 2008), one of the largest gaps within the EU. Of course, this gap does not only result from direct wage discrimination, but also from the low percentage of women in management positions (only about 17% of German managers are women), from differences in professions and sectors and from the high percentage of women working part-time. 90% of working German men work full time, as opposed to only 46% of working women. Part-time work is particularly common among mothers: According to Berger (2009) only 18% of mothers of children under 14 work full time (more than 35 hours a week). 39% don't participate in the labor force at all.

⁷According to the OECD in Germany 54.9% of women with children under 16 worked in 2005 and 52.5% of Japanese women in the same situation. With these numbers Germany is in the bottom third of the European Union where the leading countries have rates around 80%. In North America and Australia these rates are around two thirds.

However, even corrected for those factors, the gender wage gap is still about 15%. If one takes into consideration that a considerable part of the gender wage gap is also because of child related pauses in employment biography, the gap shrinks to an estimated 6% for women who go back into work rapidly after a child-related pause. However, this is mostly not possible in Germany due to a dramatic shortage of childcare-facilities.

Furthermore, this pattern of female part-time work and long child-related pauses is supported by the German income tax system. This system is designed such that two (married) couples with the same joint income pay the same tax, no matter who contributed to which extent to that income. If the spouses' individual incomes differ, for instance because one is doing part-time work, the marginal tax rate on the lower income is a lot higher than it would be if the person was single. Thus, the incentive to take up a job or to increase working hours is lower for a married (low-earner) woman than for an unmarried woman with the same income.

So, if a married mother decides to exit the labor market temporarily to take care of her children, her incentive to get back in is lower than in other countries. If one considers that her income prospects might be meager due to the child-related pause, it becomes likely that she decides to stay at home. However, her human capital from the employer's point of view diminishes with each year she doesn't participate in the labor market. The lower her earnings potential is, the greater her dependency on a husband's earnings and the lower the probability of divorce. In addition to these obstacles, childcare facilities are scarce in Germany (see 3.4) which forces many mothers to work part-time. Yet, it is factually impossible in Germany to pursue a career and to strive for leading, well-paid positions while working part-time as long working hours and a high degree of flexibility are expected for these jobs. Thus, working mothers – be they married or not – are curbed in their career and income options.

In sum, from a labor-market perspective, the opportunity costs of having children are considerable for German women.

Women in Japan also face many obstacles as far as their labor-market opportunities are concerned. Japanese employers often pay benefits for the spouses of regular workers – given that the spouses don't work themselves. Furthermore, the Japanese system discourages dependent spouses from earning more than 1.3 million Yen per year (that is about 31% of the earnings of an average production worker) as above this level spouses generally have to pay health and pension contributions. Therefore, although everyone is taxed

individually in Japan, incentives to work during marriage are diminished significantly through institutions as well. In 2005, only 56.6% of Japanese married women between 15 and 64 participated in the labor force. In the age group of 30 to 34 only 48.1% of married women work, whereas 83.7% of unmarried women do. Therefore, Japanese women often depend on a husband's earnings. This makes divorce less attractive. On the other hand, women whose opportunity costs are high are reluctant to accept the "marriage package" and decide against entering the marriage market in the first place.

Moreover, a seniority-based remuneration system makes it extremely hard for women to re-enter their job after a child-related pause. It is often only possible to re-enter low-paying non-regular employment.⁸ Accordingly, more than 85% of men in work have regular contracts, compared with about 55% of women. Half of lone-parents are in low-paid non-regular work. Yet even for full-time regular workers the gender wage gap is 35%.

All in all, stepping out of employment to have children and then coming back is very costly. In 1993, the Japanese Economic Planning Agency estimated that of two college graduated women, one of whom continues full-time jobs until she is 60 and the other one steps out of employment for 5 years to take care of her children and then re-enters into part-time work until she is 60, the latter earns 78% less life time income than the former. Under these conditions, the opportunity costs of having children are even higher than in Germany.

However, ever-changing markets, new competitors from emerging economies and rapidly evolving technologies require a more flexible response by Japanese companies. Jacoby (2004) argues that the "three pillar system" of Japanese capitalism which is said to consist of lifetime employment, enterprise unions and seniority-based pay, is gradually being diluted. For young, well-educated women this may imply new career opportunities, circumventing the old male dominated corporate ladder. However, this will require considerable sacrifice in terms of long work hours and transferability. For this type of woman, remaining childless might not only be the most attractive, but possibly also the only feasible option.

⁸The distinction between regular and non-regular work is a particularity of the Japanese labor market that denotes a two-tier system of workers with differing lay-off rules and other labor-market-related rights.

3.4 Balancing work and family life: Childcare facilities

In Japan, a possible connection between the ease of reconciling work and family life and the birth rate has been subject of public debate for quite a while and has led to the – announced with great fanfare but all in all rather effectual – implementation of the “Angel Plan” in 1994 and its revision in 1999. The purpose of the public policy plan was to offer more counseling services for parents, more public childcare facilities and encouraging attitudinal change towards working mothers in companies.

However, most of these initiatives became stuck in the sand, argues Chaple (2004), because the local governments, which were in charge of implementing them, could not finance them. The “Plus One Proposal”, though more ambitious – the funds for the construction of 50,000 new day-care centers are included in the plan – is likely to suffer a similar fate (Bonnett (2009)). However, putting part of it into law through the amendment of the Child Welfare Law in 2003 was an important step to render the cornucopia of well-meaning plans to increase the number of childcare facilities more binding. This amendment enabled local governments and non-profit organizations to establish after-school-hours care centers, whose number has increased since then.

Therefore, the number of day-care slots seems -more or less- to match the demand. However, many child-care centers and kindergartens still don't open until late. Combined with the above mentioned need to work long hours if one wants to pursue a career, the supply is not sufficient for mothers to be able to work.

Childcare facilities are nevertheless more easily available in Japan, where according to OECD statistics 18% of children up to the age of two are enrolled in childcare centers, than in Germany, where only 13% of children under three years of age attend a childcare center. In a survey quoted by Anger and Schmidt (2008), 35% of German parents of children under three years of age said they would enroll their child in childcare if they had the opportunity. Wrohlich (2005) finds that more than 50% of children aged zero to three years and 10% of children aged four to six years are queuing for a childcare place.

Berger (2009) argues that a major reason for the short supply of childcare for small children is due to an over-regulated market: municipalities decide on funding and market entrance, so that for-profit providers almost never enter the market. Furthermore, since the supply of childcare is publicly funded and not demand-driven there are no incentives to adjust opening hours to

parental preferences.

German law states a right for every child to be enrolled in kindergarden (childcare for children aged three to six), however, many kindergardens only offer part-time care and therefore don't enable mothers to work. Neither do schools: In Germany most schools end around noon, discharging the children again into their mother's care. Lack of childcare facilities often means that mothers can't work the desired number of hours: 44% of mothers said in a 2008 survey by the Forsa Institute that they would like to work or work more hours if the current availability of childcare facilities permitted this.

Berger (2009) uses data from the German Socio-Economic Panel and finds that periods of part-time work or non-participation have a significant negative effect on mothers' subjective well-being beyond the effect of foregone earnings. She concludes that women don't step out of the labor force voluntarily but have no choice, mainly due to lack of childcare facilities. However, she also notes a decrease over the years in mothers not able to take up employment.

To sum up, in Germany as well as in Japan, it is hard to reconcile work and family life, although there has been some recent additional public funding of childcare in both countries. Available and affordable childcare facilities decrease the opportunity costs of motherhood and release mother's time constraint, whether married or not. Therefore they increase fertility if women want to work. All in all, the perceived scarcity is more pronounced in Germany.

3.5 Balancing work and family life: Parental leave

The term "maternal leave" is used for shorter leave periods right after birth and guarantees reemployment and mostly also continuation of wage payments. Parental leave in general is an extended time period of several months during which the leave taker is also guaranteed reemployment. However, he or she is not always paid a wage. Maternal leave duration in Germany and Japan is similar, the payments differ. As parental leave regulations cover a longer time period, they are likely to have a larger impact on a woman's decision on motherhood and on having a break in her work life. Therefore, the analysis to follow concentrates on the more general parental leave.

Since 2007, German parents have been entitled to a new kind of child credit, worth 67% of former wage income, which is paid for 12 months if a parent stays at home after a child is born. This period is extended to 14

months if also the other parent takes at least two months of leave. Unpaid leave can be taken for a total period of three years for both parents. However, the duration of paid parental leave has been reduced from a maximum of 24 months to a maximum of 14 months in order to encourage mothers to return to employment more quickly. It is possible to work part-time during leave period, which helps mitigate the human capital loss through an employment pause.

Legally, Japanese parents have been entitled to one year of parental leave with 40% of the salary being paid through social insurance during the leave and re-employment guaranteed. However, Imamura (2004) argues that few take the whole leave period because they fear to be transferred to a position with lower responsibilities or made redundant altogether. Furthermore, leave is only available to workers in regular employment, which many women are not. In addition, Japanese parents of young children have the right to not work over-time for more than 24 hours a month or 150 hours a year. They are also entitled to a more flexible work schedule. However, considering Japanese culture and work ethics it is very doubtful that these laws are often enforced.

Although both German and Japanese parental-leave regulation addresses mothers as well as fathers, the German entitlement for fathers and for shared parental leave is independent from marital status. In June 2010 an important change to parental leave regulation took effect: much like in the German case it is now possible to share parental leave, and the leave period will be extended to 14 months if both parents participate (The Mainichi Daily News, June 25, 2010). This new policy initiative again shows public awareness of the difficulty of balancing work and family life in Japan. However, also here, the new law will have little effect if work ethics, which still require full commitment to job and firm, are not prone to change.

According to Anger and Schmidt (2008) German fathers brought forward 10.5% of all motions for parental leave in Germany in 2007 – whereas most of them only took the minimum duration of two months. In Japan, only 1% of fathers take paternal leave (Imamura (2004)).

Fathers who contribute to their children's education and who are willing to invest resources, especially time, increase the utility from marriage. Furthermore, the mother's direct costs in terms of time decrease if the father helps her out, increasing the utility from having children. Thus, the German institution and possibly the new Japanese one will slightly increase women's willingness to become mothers independent of marital status.

3.6 Family law

In Germany, the child-support and child-related alimony law was reformed in 2007. Before that, divorced mothers received child-related alimony for much longer (until the child was at least eight years old) than never married mothers (only until the child was three). Since the 2007 reform, all mothers receive alimony only until the child is three.⁹

The new law was created to enhance incentives for divorced men to marry again because they do not have to spend as much money on their first family anymore. However, for women the situation is different: The new law decreases the utility from marriage from the female perspective, since it does not make a difference in terms of own consumption whether a mother is never married or divorced. This decrease in utility from marriage is aggravated by the fact that scarcer day-care places (see 3.4) are more likely to be given to working lone mothers than to wives – which makes it more difficult for the latter to work. Therefore, the expected decrease in human capital and, thus, future income is bigger for married than for unmarried mothers. In consequence, a working woman who wants to have children is under the current German legislation better off if unmarried.

In Japan, court assigned child support is generally low. Few women are entitled to child support at all. However, payment is seldom enforced and therefore basically voluntary. Married women cannot expect much child support after divorce, and for unmarried women, the rules for visitation and financial support are even less clear. Thus, marriage is not a reliable income source as long as divorce is a likely event – which was not the case in Japan but is now changing (see 3.7). Therefore, the current situation concerning payments is similar in Germany and Japan – albeit for different reasons: Financial support for the mother from the father in case of a separation is not a reliable income source.

Differences are bigger in terms of custody legislation: If German parents are not married, the default is that the mother has sole custody. Yet, she can share custody with the father – an act that cannot easily be undone. Shared custody after divorce is also possible and has turned to be the default option. In any case, both never-married and divorced parents have the right and duty to spend time with their child.

Shared custody can increase the utility from single motherhood because

⁹Payments to support the child itself have not been subject to change and have to be paid at least until the child is 18.

costs in terms of time can be shared and because custodial fathers are more likely to invest in their children because they can observe better the outcome of their investment. Shared custody is therefore a way of combining the benefits of marriage (shared costs of childrearing in terms of time and money) and the benefits of single motherhood (private-good character of the child). Therefore, women considering divorce are more likely to actually get divorced, and women considering out-of-wedlock pregnancy are more likely to fulfill their wish for children, increasing the incidence of single motherhood.

By contrast, there is no shared child custody in Japan. Visitation rights are sometimes granted, but hardly ever enforced. Theoretically, one can imagine that mother and father can agree on a positive amount of child support if the mother is willing to trade it for time spent with the child, i.e., visitation rights. Anecdotic reference says that this indeed happens a lot in Japan. Nevertheless, the custodial parent has to incur higher costs in terms of time and probably money than in Germany, decreasing the utility from single motherhood.

3.7 Social norms

As Fernandez (2007) and Fernandez and Fogli (2009) have shown, individual adaptation to institutions differ according to cultural values an individual has internalized. The effect is particularly strong with respect to social norms affecting family life and – in our context – labor-market decisions. From sociology and psychology it is known that internalized social norms are driven by long-term cultural factors as well as – as economists would call them – short-term institutions. In what follows we will address this correspondence between institutions and social norms.

The Japanese society is rooted in confucianism, from which it derives the importance of patriarchal family structures (Atoh et al. (2004)). Therefore, lone motherhood is socially still not very accepted as an alternative family model. Social constraints are thus one of the major reasons the rate of single mothers is still lower in Japan than in many other developed countries. However, traditional nuclear families have already lost the huge prevalence they once had; the parasite-single phenomenon and older women divorcing their husbands due to a reform that grants them a larger portion of their husband's pension are obvious examples of this. Therefore, in particular if we account for the labor-market aspects we have addressed in the sections before, we expect this tendency of erosion of traditional structure to soon

affect single motherhood as well.

There has been a lot of commentary on the changing features of Japanese marriage markets. All in all, much more women remain unmarried than in the past, both because they decide not to enter the marriage market in the first place, and because they don't find a partner when they do enter the marriage market. This is especially the case for highly educated women. These are independent of a husband's earnings, but they are also used to a high standard of living they can afford because of their own education and job. If they marry they know they might have to work part-time with the well-known labor-market consequences of significantly decreased wages and future labor market and career opportunities (Raymo and Iwasawa 2005). Furthermore, many husbands still expect their wives to stay at home and take care of household and children, so women used to having a career of their own opt against the "marriage package" if they can afford to live on their own.

Tsuya et al. (2005) found that indeed men do very little housework: Wives in general did 90.5% of the housework, where even among employed wives the wife's share of a couple's housework was 90.1%. The difference of hours spent on housework between employed and not employed women is even becoming smaller. Women who want to pursue their career mostly have to shoulder the burden of housework in addition to their job responsibilities, resulting in extremely long work hours for employed women. In 2000, the combined workload (market and household work) of employed wives was 73 weekly hours which was more than double the workload (just household work) of non-working wives, at 34 weekly hours. Childcare time is not even considered here.

Raymo and Iwasawa (2005) find that the decline in marriage rates has been most pronounced among highly educated women. They conclude: "(t)he association between women's educational attainment and marriage is most likely to be negative when relative improvements in women's economic opportunities are not accompanied by convergence in men's and women's economic roles within the family" (p. 802). So, marrying is not an attractive option for highly educated women. In addition, long university enrollment delays entry into the marriage market as well. At that point the first marriage market round is over, and they stay single or marry after their childbearing age is over.

Retherford et al. (2001) argue that another reason for marriage market mismatch is that Japanese men still seem to prefer to marry less educated

women and women prefer to marry higher-educated men. This might be because – due to institutions of the labor market that hinder women’s reentry and career opportunities – men still have the role of primary economic providers and therefore there is competition for economically “attractive” men. With more women obtaining university degrees, more highly educated women remain single due to a decline in the relative supply of equally well educated men. In more egalitarian societies like Sweden or the US women’s economic resources are positively or insignificantly related to marriage, but negatively in Japan.

In Germany, major changes in the labor market as they happen in Japan today have taken place some decades ago. The first step was that equal rights – which had already been granted by the 1949 constitution – were implemented by the civil code in the late 1950s. From that day onwards women were entitled to sign their own employment contracts¹⁰. In addition, the economic boom in the 50s and 60s increased the demand for workers (which was, however, not completely met by German women but by guestworkers due to reasons that are outside the scope of this paper) such that women became able to finance their own living. In consequence, lone motherhood and cohabitation, which were socially and legally sanctioned¹¹ developed into options that now enjoy equal treatment if not special support from society.

Yet, in Germany as well as in Japan women are kept on track by social norms. For instance, the view that mothers and not educated childcare workers should take full-time care of children is still widespread. The German pejorative term “raven mother” refers to mothers who spend “too little” time with their children, due to work or other commitments. The role of a working mother with career prospects is still connected with ambiguous feelings in Germany. In a survey by the Forsa-Institute, 70% of women claim that they are the primary caregivers for their children, regardless of whether they work or not. In 27% of cases, mothers state that both she and her husband take care of the children and only in 2% of cases the father is the primary caregiver. However, in the same survey, when asked which division of labor in a family they would find ideal “in principle”, 62% of parents (60% of men and 64% of women) stated that both parents should work and take part in raising the children. This indicates that the traditional division of labor in most

¹⁰Although a “male cartel” between employers and husbands did not immediately follow suit in applying the new rules.

¹¹Until 1969 an unmarried father was legally not even considered kin of his biological children and children born out of wedlock automatically got a legal guardian.

German families is not only due to social norms, which are slowly changing, but also to other constraints, such as lack of childcare facilities.

Yet, increased provision of childcare facilities and the increased (and legally supported) uptake of parental leave by German fathers reveal a beginning change not only in preconceived gender roles but also in an adaptation of the institutional setup. Given the labor-market institutions we have already addressed such a new balance is likely to eventually increase fertility.

The situation in Japan shows a similar change in gender roles. Using the Japanese General Social Surveys 2000-2003, Kawaguchi and Miyazaki (2009) find that 55% of men agree with the statement “If a husband has sufficient income, his wife should not work.” However: Men raised by full-time working mothers were 6 percentage points less likely to agree with the statement than those raised by not fully employed mothers – which is perfectly in line with Fernandez (2007). Thus, with more women entering the labor force, public perception of what is appropriate will change step by step. However, in Japan there is still a much longer path ahead.

4 Conclusion

So, which institutions seem to be most decisive in determining women’s joint marriage and fertility decision? We found that those institutions that are crucial in widening or narrowing women’s set of attractive choices are able to tell us which path women are likely to choose. In particular, these seem to be institutions that facilitate or exacerbate the reconciliation of work and family life, such as the availability of childcare facilities, and institutions which affect the affordability of life as a single mother. As far as the first aspect is concerned, in both Japan and Germany it is difficult to find an adequate work-life balance. Therefore, many well educated women decide in favor of childlessness.

Being a single mother is more easily affordable and more socially accepted in Germany than in Japan: social welfare is higher and child support is enforceable, albeit not as reliable a payment as it used to be. Women have in most cases become independent of a husband’s earnings, and divorce is very common. Accordingly, the percentage of single – never married and divorced – mothers is much higher in Germany.

In Japan, labor market institutions, mainly seniority, are in a process of loosening and yield opportunities for women to become independent of a hus-

band's earnings. The affordability of being a single mother is not very likely to increase soon – living of social welfare is hardly an attractive option and direct costs of children often remain too high for a single person to afford. However, there is a group of women for whom becoming a single mother might become an attractive option: “parasite singles” who live with their parents and have sufficient earnings of their own. Thus, we can conclude that women's decision on marriage and fertility are connected to a different extent in both countries. In Japan women seem to consider marriage and children as strict complements and decide either in favor or against the “marriage package”. Attractiveness of one or the other option is determined by institutions of the tax system and labor market. The current development increases labor-market opportunities of women – as long as they are unmarried and childless. Japanese women thus benefit from a more flexible labor market, but without deeper changes in affordability of children and gender roles within marriage change is not likely to come fast.

In Germany, new interpretations of the constitution have loosened the connection between marriage and motherhood. Thus, women may decide on having children but against being married. Yet, lacking availability of childcare makes motherhood an expensive option, in particular for middle earners who cannot afford private solutions. Nevertheless, there are some signs of a slow reversal of the trend of falling birth rates as the number of childcare places is increasing and there are reliable signals that this increase will persist even under the budgetary cuts the German public sector has to face. In addition, a growing awareness of the needs of lone mothers has changed social norms such that lone motherhood is now a generally accepted option. However, connected to the rising number of one-parent families, another question is moving into the center of interest. How can policy initiatives foster the stability of two-parent families? Policy means to stabilize marriage and/or cohabitation seem to fail persistently with so far unknown consequences for the next generation.

Since it became socially acceptable in Germany to be a single mother many women have followed this track. With respect to the future of marriage and motherhood we can therefore conclude that fertility rates in Germany might have reached the bottom where an increase of the numbers is to be expected if formal and informal institutions move away from the “raven mother”. Marriage will certainly further lose its importance. If politicians find prudent institutions they might be able to stabilize cohabitation and, in consequence, dependable conditions for children. The current institutions

are not likely to provide incentives for such long-standing relationships.

From our considerations a different development is likely for Japan. Here, motherhood and marriage are still highly connected and as a package rather unattractive for highly educated women. Thus, if institutions do not change quickly, fertility rates in Japan will further drop.

References

- Anger, Christina and Schmidt, Jörg (2008). Gender Wage Gap und Familienpolitik. *IW-Trends*, 2/2008: 1–15.
- Atoh, Makoto, Kandiah, Vasantha, and Ivanov, Serguey (2004). The Second Demographic Transition in Asia? Comparative Analysis of the Low Fertility Situation in East and South-East Asian Countries. *The Japanese Journal of Population*, 2: 42–75.
- Becker, Gary S. (1981). *A Treatise on the Family*. Harvard University Press, Cambridge, MA.
- Berger, Eva M. (2009). Maternal Employment and Happiness: The Effect of Non-Participation and Part-Time Employment on Mother's Life Satisfaction. SOEPpapers on Multidisciplinary Panel Data Research 178, DIW Berlin.
- Björklund, Anders (2006). Does family policy affect fertility? Lessons from Sweden. *Journal of Population Economics*, 19: 3–24.
- Bonnett, Alastair (2009). The Plus One policy. *The New Statesman*, March 5, 2009.
- Chapple, Julian (2004). The Dilemma Posed by Japan's Population Decline. *Electronic Journal of Contemporary Japanese Studies*, 5/2004.
- Del Boca, Daniela (2003). Mothers, fathers and children after divorce: The role of institutions. *Journal of Population Economics*, 16: 399–422.
- Del Boca, Daniela and Ribero, Rocio (1998). Transfers in non-intact households. *Structural Change and Economic Dynamics*, 9: 469–478.

- Del Boca, Daniela and Ribero, Rocio (2001). The Effect of Child-Support Policies on Visitations and Transfers. *American Economic Review*, 91: 130–134.
- Edlund, Lena (2006). Marriage: Past, Present, Future? *CESifo Economic Studies*, 52: 621–639.
- Fernandez, Raquel (2007). Women, Work, and Culture. *Journal of the European Economic Association*, 5: 305–332.
- Fernandez, Raquel and Fogli, Alessandra (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics*, 1: 146–177.
- Hirayama, Yosuke and Izuhara, Misa (2008). Women and Housing Assets in the Context of Japan’s Home-owning Democracy. *Journal of Social Policy*, 37: 641–660.
- Imamura, Anne E. (2004). The Japanese Family Faces 21st-Century Challenges. Japan Digest September 2004, National Clearinghouse for United States-Japan Studies.
- Jacoby, Sanford M. (2004). *The Embedded Corporation: Corporate Governance and Employment Relations in Japan and the United States*. Princeton University Press, Princeton.
- Kawaguchi, Daiji and Miyazaki, Junko (2009). Working mothers and sons? preferences regarding female labor supply: direct evidence from stated preferences. *Journal of Population Economics*, 22: 115–130.
- Korn, Evelyn (2007). Zerstört der Sozialstaat die Familie? *Perspektiven der Wirtschaftspolitik*, 9: 156–172.
- Lam, David (1988). Marriage Markets and Assortative Mating with Household Public Goods: Theoretical Results and Empirical Implications. *Journal of Human Resources*, 23: 426–487.
- Laroque, Guy and Salanié, Bernard (2008). Does Fertility Respond to Financial Incentives? Working Paper Series 2339, CESifo.
- Ministry of Health, Labour and Welfare (2009). Summary of Vital Statistics. <http://www.mhlw.go.jp/english/database/db-hw/populate/index.html>.

- Moffitt, Robert A. (1997). The Effect of Welfare on Marriage and Fertility: What do We Know and What do We Need to Know? Discussion Paper 1153-97, Institute for Research on Poverty.
- National Institute of Population and Social Security Research (2004). Child-related policies in Japan. Tokyo.
- Raymo, James M. and Iwasawa, Miho (2005). Marriage Market Mismatches in Japan: An Alternative View of the Relationship between Women's Education and Marriage. *American Sociological Review*, 70: 801–822.
- Retherford, Robert D., Ogawa, Naohiro, and Matsukura, Rikiya (2001). Late Marriage and Less Marriage in Japan. *Population and Development Review*, 27: 65–102.
- Rosenzweig, Mark R. (1999). Welfare, Marital Prospects, and Nonmarital Childbearing. *Journal of Political Economy*, 107: 3–32.
- Rosenzweig, Mark R. and Wolpin, Kenneth I. (1994). Parental and Public Transfers to Young Women and Their Children. *The American Economic Review*, 84: 1195–1212.
- Statistics Bureau of Japan (2008). *Japan Statistical Yearbook 2009*. Tokyo.
- Statistics Bureau of Japan (2009). *2005 Population Census*. Tokyo.
- Statistisches Bundesamt Deutschland (2008). Ehescheidungen 2006. *Wirtschaft und Statistik* No.4.
- Tsuya, Noriko O., Bumpass, Larry L., Choe, Minja Kim, and Rindfuss, Ronald R. (2005). Is the Gender Division of Labour Changing in Japan? *Asian Population Studies*, 1: 47–67.
- Willis, Robert J. (1999). A Theory of Out-Of-Wedlock Childbearing. *Journal of Political Economy*, 107: 33–64.
- Wrede, Matthias (2009). Hyperbolic Discounting and Fertility. *Journal of Population Economics*, forthcoming.
- Wrohlich, Katharina (2005). The excess demand for subsidized childcare in Germany. Discussion Papers No. 470, DIW Berlin.