

Sonja C. Kassenboehmer and  
John P. Haisken-DeNew

# Social Jealousy and Stigma

Negative Externalities of  
Social Assistance Payments in Germany

#117



# 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  
Universitätsstraße 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 55-32 97, 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 83-36 55, 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 #117

Responsible Editor: Christoph M. Schmidt  
All rights reserved. Bochum, Dortmund, Duisburg, Essen, Germany, 2009  
ISSN 1864-4872 (online) – ISBN 978-3-86788-130-2

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

#117

Sonja C. Kassenboehmer and John P. Haisken-DeNew

# Social Jealousy and Stigma

Negative Externalities of Social Assistance Payments  
in Germany



**Bibliografische Information 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 978-3-86788-130-2

**Sonja C. Kassenboehmer and John P. Haisken-DeNew\***

## **Social Jealousy and Stigma – Negative Externalities of Social Assistance Payments in Germany**

### Abstract

This paper examines the role of social assistance payments (SAP or Sozialhilfe) in determining levels of life satisfaction in Germany using the SOEP 1995–2004. We find strong evidence that individuals in Germany are negatively influenced by increased SAP payments controlling for income, whether or not they actually receive such payments (stigma and social jealousy). While there are obvious benefits to making SAP to those needy, there are substantial negative externalities experienced by those who neither receive SAP nor qualify (counterfactual SAP). Furthermore, these negative effects are even stronger for those who do receive benefits (stigma) suggesting that social jealousy and stigma are a force to be reckoned with when evaluating social policy. We show that the added benefits of increasing SAP are reduced by 50 to 100% because of social jealousy and stigma costs, whereas child benefits (Kindergeld) are seen to enhance life satisfaction over and above a simple income effect. Further, own-earned income, over and above the SAP subsistence level is valued much higher than transfer payments at the SAP subsistence level, suggesting a policy focus on increasing employment integration efforts for SAP recipients as opposed merely to providing SAP transfers.

JEL Classification: I31, I38, J64

Keywords: Well being, life satisfaction, social assistance, stigma, social jealousy

June 2009

---

\* Sonja C. Kassenboehmer, RWI and University of Bochum; John P. Haisken-DeNew, University of Bochum, RWI, McMaster University. – The authors thank Thomas Bauer, Markus Hahn, Andrew Oswald, Christoph Schmidt, Mathias Sinning, Steve Stillman, Matthias Vorell, Rainer Winkelmann for helpful comments on this paper. Financial support for this study from the Deutsche Forschungsgemeinschaft SFB 475-B9 is gratefully acknowledged. – All correspondence to Sonja C. Kassenboehmer, RWI, Hohenzollernstr. 1–3, 45218 Essen, Germany, e-mail: kassenboehmer@rwi-essen.de.

# 1 Introduction

Social assistance payments (SAP) or "welfare benefits" seems to be a double-edged sword. Those who receive SAP only do so, as they are otherwise unable to provide for themselves, either through long-term unemployment, inability to accumulate work-related entitlements or some sort of health disability etc. However, at the same time, for the marginal potential SAP recipient, incentives to work are also negatively affected. In some constellations (in Europe, especially when the main earner is not well educated and many children are present in the household), the difference between full time wages from employment and SAP receipt (*Lohnabstand*) is minimal (ISG, 2006) reducing incentives for work. Furthermore, there have been discussions in the public and the press about the absolute level of minimum existence, triggered by a controversial study that showed that as little as €132<sup>2</sup> but no more than €278 per month (excluding rent, heat and electricity payments) would be sufficient instead of the €347 that one would currently receive as a healthy single male SAP recipient (Thiessen and Fischer, 2008). They specifically cited that expenditure patterns for food, household items and clothing were very similar to that of the general population and in no way represented a minimum existence, but rather an average existence.

While this study has specifically looked at the needs of (male) adults and therefore has triggered a discussion on their needs, another discussion on the level of payments to children for unemployed people receiving *Hartz IV* (since 2005 unemployment assistance and social assistance for employable people have been combined to *Arbeitslosengeld II* on a level effectively similar to the level of the former SAP - the former standard rate of SAP had been lower than *Arbeitslosengeld II* but had the possibility of one-off payments for special needs) has been risen since the Federal Social Court (*Bundessozialgericht*) has found these payments to be unconstitutional on January 27, 2009. Setting the payments for all children between age 0 and 14 to 60% (€211) of the standard rate of adults (€351) would violate the constitutional principle of equality (*Gleichheitsgrundsatz*), because contrary to the determination

---

<sup>2</sup>It should be remembered that at the time of the study (2008), the German state paid between €154 and €179 per child and month in the form of child benefits (*Kindergeld*). Thus, suggesting that an adult could subsist on €132 is clearly a low estimate in the literature.

of the standard rate for adults, the court found that the needs for children had not been explicitly defined and determined. Furthermore, the fact that the level of payments is the same for all children between the ages 0 to 14 would ignore differing needs for children of different ages.<sup>3</sup>

These two controversial discussions reflect that (i) there is still no public consensus as to the actual level of a socially acceptable minimum existence, (ii) there might be incentives not to work for certain groups of people at given levels of social transfer payments and (iii) payments to different groups of needy persons (adults vs. children) might be afflicted with different levels of stigma and social jealousy which we will employ to show the robustness of our results. Given that the state or in the end the tax payer has to pay for these transfers, the general question arises how these transfers are *actually valued* by the people, first of all, obviously by those who receive the payments and second, by those who finance them. Answering these questions is not straightforward because for SAP recipients, the payments lead on the one hand to securing their living, but on the other hand, these people are also afflicted with stigma costs<sup>4</sup> which is often forgotten in the debate. For the second group of people, the non-takers, SAP may be soothing comfort in uncertain times, but also worrying because someone, namely those working, has to finance the SAP system in the end.

Hence this paper tries to examine SAP from a different angle in that it explicitly tries to gain insight as to how different kinds of people *actually value these payments*. The aim of this paper is to examine the role of SAP in determining an indicator of general wellbeing, namely life satisfaction. How do people in Germany value transfers as a form of income? Is one Euro of money transferred equivalent to one Euro earned? How are people affected in their life satisfaction by transfer recipients in their area? Do transfer recipients value the income they receive in form of transfers? Are those who do not receive transfers negatively or positively affected by the outside option of receiving transfers? In other words, we can gain some insights as to

---

<sup>3</sup><http://www.zeit.de/online/2009/05/hartz-kinder-bundessozialgericht>

<sup>4</sup>"Stigma" and "social jealousy" are two sides of the same coin. "Stigma" is felt by those who receive SAP (takers) and "social jealousy" by those who finance SAP (non takers).

the preferences for more or less spending on the social state and quantify the potential social jealousy felt by non-transfer recipients towards the receivers of transfers and potential externality losses (i.e. stigma or shame) experienced by the recipients.

Our analysis will focus on SAP as opposed to unemployment insurance or other benefits because SAP are the long-term minimum security payments someone receives, who is not able to provide for his own subsistence. Hence looking at SAP recipients first of all allows us to look at those who are really in need but also allows us to compare data for a long time period because SAP in Germany date back to the Social Assistance Act of 1962 (*Bundessozialhilfegesetz*, BSGH) and have been implemented since then.

We use data from the German Socio-Economic Panel (SOEP), which is the longest running household panel study in Europe (see Haisken-DeNew and Frick, 2005; Wagner, Burkhauser, and Bheringer, 1993 for more information concerning the SOEP). According to the administrative rules for determining levels of SAP, we calculate a potential or counterfactual SAP entitlement for every household over the period 1995-2004, regardless of whether these persons actually receive SAP. This "outside option" SAP is very well defined (almost deterministically), varies by federal state, year, and household composition (numbers and ages of household members present). Since 1962 there have been many exogenous changes in the SAP structure over time as well as between federal states. We examine the role of the potential SAP in determining the utility that is gained from it by takers and non-takers which we approximate using questions regarding subjective self-evaluated life satisfaction which builds on a strand of literature that has recently become very popular and well-acknowledged in welfare economics. To illustrate the robustness of the results, we additionally control for a common non-stigmatizing transfer, namely child benefits (*Kindergeld*) and demonstrate that while SAP remains negative and significant for life satisfaction, child benefits transfers for households with children are seen to be positive and significant.

The outline of the paper is as follows: Section 2 provides background information on the literature with respect to subjective wellbeing, SAP and child benefit receipt.



Section 3 describes the data used and the econometric analysis and discussion. Section 4 draws conclusions.

## 2 Background

Previous studies have tried to investigate why there seems to be a high non-take up behaviour in Germany and have attributed this at least partly to stigma effects<sup>5</sup>. Similar to Riphahn (2001) who uses EVS data<sup>6</sup>, Frick and Groh-Samberg (2007) using SOEP data for example, regress SAP take-up on several proxies for utility derived from SAP<sup>7</sup>(in the sense of "degree of needs" and "duration of needs") and proxies for claiming costs. They assert that education, gender, migration status and level of urbanisation are proxies for claiming costs<sup>8</sup>. In this sense, they postulate for example that social norms for males are different than for females which should be reflected in higher non-take up rates for males if stigma plays a role. The estimated coefficients for the needs proxies perform as expected: the coefficients are in general positive indicating that higher need result in higher take-up rates. Controlling for selection results in negative (significant) coefficients for low education and living in a rural area indicating that stigma might play a role in explaining the puzzle of high non-take up rates.

There are also other international studies trying to explain take-up behaviour mainly in the UK and USA. While there are several theoretical papers (such as Yaniv, 1997), other papers present empirical tests of their theoretical models (such as Moffitt, 1983 and Blundell, Fry, and Walker, 1988). All of these papers argue that stigma might play a significant role in take-up behaviour. While these international studies try to explain international take-up behaviour, many of the German studies examine the

---

<sup>5</sup>Frick and Groh-Samberg (2007) argue that a substantial portion of non-take up behaviour can be explained by "rational poverty", meaning that for households who are just below the eligibility threshold, the costs of claiming often exceed the utility from claiming.

<sup>6</sup>A federal consumer expenditure survey.

<sup>7</sup>Families with children are assumed to have a higher utility because of the responsibility of providing good care for the children.

<sup>8</sup>Other characteristics that are used for proxies are household structure (single parents, families or pensioner household), region (East or West Germany), attitudes towards social security and degree of regional concentration of SAP recipients.

topic only in a descriptive manner (for an overview see Riphahn, 2001).

The advantage of our study is that we do not have to derive potential stigma effects from the impacts of certain characteristics (which might or might not be related to stigma) on take-up behaviour because the presence of questions on individual life satisfaction in the SOEP data allows us to investigate the direct impact of SAP payments on people's well-being, regardless of take-up or non-take up, using fixed effects regression and controlling for an extensive set of relevant characteristics. Our model allows us to address several interesting questions: We can not only investigate how SAP payments are actually valued by the people, but also if one Euro earned is valued the same as one Euro transferred and how those are effected who do not receive payments.

The literature that uses life satisfaction questions to approximate individual well-being has grown in recent years and has become very well acknowledged in economic research. Researchers usually use responses to questions based on an ordinal scale (ranging, for example from 0 to 10 as in the German SOEP), asking for a person's own evaluation of his/her life satisfaction level. The given life satisfaction level is seen to reflect circumstances, aspirations, comparisons with others, one's own baseline of happiness, past experiences and dispositional outlook (Frey and Stutzer, 2002; Blanchflower and Oswald, 2004). There has been a high level of empirical support (not only by applied economists, but also by psychologists, especially in the early stages of this strand of literature) for the validity of these life satisfaction questions as measuring utility which has made the economic concept of happiness so popular, notwithstanding the critique of Bertrand and Mullainathan (2001). The potential for new insights of this research has been demonstrated by a large empirical literature (for income effects of wellbeing see Clark, Frijters, and Shields, 2006; Frijters, Haisken-DeNew, and Shields, 2004a,b and for unemployment Winkelmann and Winkelmann, 1998, Clark and Oswald, 1994 and Kassenboehmer and Haisken-DeNew, 2009).

Here we use this line of research by investigating the effect of SAP payments on well-being, using life satisfaction as a measure for well-being, which has not been

done before in connection with SAP. This allows us to gain new insights about the value of SAP payments but also about potential negative externalities.

Until 2004 in Germany, short-term unemployed persons received unemployment insurance (*Arbeitslosengeld* later to be called *Arbeitslosengeld I*), whereas long-term unemployed persons could only receive unemployment assistance payments (*Arbeitslosenhilfe*) at a substantially lower rate. Even lower were the payments made to those receiving SAP, i.e. those not having worked long enough or never having worked to be entitled to employment related benefits. Since 2005, those employable persons previously having received unemployment assistance have been put at the same levels of payments of those receiving SAP. Accordingly those previously receiving unemployment assistance and currently able-bodied, receive "*Arbeitslosengeld II*" or "*Hartz IV*" at effectively the same rate as those who are not able-bodied (not able to work due to some impairment), i.e. the SAP recipients (the former standard rate of SAP had been lower than *Arbeitslosengeld II* but had the possibility of one-off payments for special needs).

Figure 1 shows the increase in the rates of social assistance payments recipients with the federal state of Hamburg having the highest rates and Bavaria having the lowest rates. Similar to the rising rate of recipients, did the expenditures on SAP rise as can be seen in Frick and Groh-Samberg (2007). Because the number of people receiving SAP increased, due to the prevalence of mass (long-term) unemployment, the state made several attempts to reduce the number in the 1990s. These included sanctions for rejections of reasonable job offers Adamy and Steffen (1998), workfare programs and not raising the basic rates in line with the increasing living standards Frick and Groh-Samberg (2007); Hauser and Hübinger (1993). The federal government also tried to exclude certain groups of people from claiming benefits, such as asylum seekers in 1993 Adamy and Steffen (1998); Frick and Groh-Samberg (2007). Furthermore, the composition of the SAP recipients changed: while the share of elderly claiming benefits declined, the number for households with children increased as well as the share of single-parent households and foreigners (see Hauser and Hübinger, 1993 and Frick and Groh-Samberg, 2007).

Now we briefly examine child benefits (*Kindergeld*) as another kind of social transfer,

but with substantially less stigma attached as compared to SAP. It will be useful to compare the externality effects on life satisfaction of SAP while controlling for child benefits. Since 1980, there have been several exogenous changes made to the structure of child benefits in Germany. Benefits are non-linear and depend on whether the family consists of 1, 2, 3, or 4 and more children. Child benefit payment changes occurred in 1982, 1991, 1996, 1997, 1999, 2000, and 2002. In 1996, the regular maximum age of benefit receipt was raised from 16 to 18 years of age. Benefits were also allowed if the child was older than 16, unemployed and looking for work until the age of 18. This was later extended to 18-21 in 1996. Potentially, parents of a child in full time post-secondary learning could receive benefits until the child turned 27. This was later scaled back to 26 and 25 depending on birth year in 2007. In 1980, approximately €25 was paid for the first child, €39 for the second, €75 for the third and over whereas in 2004, €154 was paid for each of the first three children and €179 for the fourth or more. For more information on child benefits and their impacts, see Blundell, Duncan, McCrae, and Meghir (2000), Fertig, Tamm, and Corak (2005), Haan and Wrohlich (2007), Kornstad and Thoresen (2004). In our analysis, we will offer evidence for the robustness of our results in that we compare the effects of child benefit payments to the effects of simple SAP transfers.

### 3 Empirical Application

We use data from the German Socio-Economic Panel (SOEP), the longest running European household panel. Started in 1984 it examined persons in German and non-German households in West Germany. It expanded in 1990 to include the former East Germany. Since then there have been several expansions of the data set, such that in 2000 the data set was effectively doubled. See Haisken-DeNew and Frick (2005) and Wagner, Burkhauser, and Bheringer (1993) for more information<sup>9</sup>.

---

<sup>9</sup>The data used in this paper were extracted using the Add-On package PanelWhiz v2.0 (Sep 2007) for Stata. PanelWhiz was written by Dr. John P. Haisken-DeNew (john@panelwhiz.eu). The following authors supplied PanelWhiz SOEP Plugins used to ensure longitudinal consistency, John P. Haisken-DeNew (29), Markus Hahn and John P. Haisken-DeNew (18). The PanelWhiz generated DO file to retrieve the SOEP data used here and any Panelwhiz Plugins are available upon request. Any data or computational errors in this paper are my own. Haisken-DeNew and

The SOEP asks respondents to give on a 0 (low) to 10 (high) scale the level of their life satisfaction or general wellbeing. The question is particularly good, as it is always asked at the end of the survey and this repeatedly over all years. It also has consistently a particularly low item non-response. Following Ferrer-i-Carbonell and Frijters (2004) we will ultimately use fixed effects panel regression (linear and *binary* logit) without substantial loss of ordinal interpretability (allowing us to avoid using the conditional *ordered* logit model as in Chamberlain (1980) to estimate the following life satisfaction (LS) regression:

$$\begin{aligned}
LS_{it} = & a_0 + a_i + \\
& b * (\text{Standard Control Variables } X_{it}) + \\
& c * (\text{Net HH Income}_{ht}) + \\
& d * (\text{SAP Entitlement}_{ht}) + \\
& e * (\text{SAP Entitlement}_{ht}) \times (\text{SAP Takeup}_{ht}) + \\
& f * (\text{Federal State SAP Takeup}_{st}) + \\
& g * (\text{Federal State Unemployment Rate}_{st}) + \\
& \varepsilon_{it}
\end{aligned} \tag{1}$$

where  $X_{it}$  is a vector of usual time-varying control variables (unemployment dummy, out-of-labour force dummy, married dummy, impact dummies for separation, divorce, spouse dying and child being born last year), degree of physical disability, quadratic in age, years of education, and household composition. All income and SAP variables are logged, equalized (divided by the square root of the household size), monthly and deflated real (in 2000 EUR) measures.

Coefficient ( $c$ ) refers to the household specific real log net income. The coefficient ( $d$ ) refers to the administrative value entitlement for SAP, given the household structure, the year and federal state, i.e. the potential "outside option" of how much persons

---

Hahn (2006) describes PanelWhiz in detail.

in a particular household would receive if they had no other means of income<sup>10</sup>. Here we control for the direct effect of the outside option on life satisfaction, i.e. keeping one's own income constant, what is the effect of raising SAP benefits? The reader should keep in mind that SAP entitlement level is largely out of the control of the respondent, defined by state-specific policies. The SAP recipient can only influence it by moving to a different federal state or by changing his own household composition (having more children). Coefficient (*e*) refers to the interaction of the outside option SAP entitlement with actually having received some amount of SAP. This can be interpreted as previously described, but this time conditioning on actually having received the benefits.

Coefficient (*f*) refers to the share of SAP recipients by population for the year and federal state in which a person lives. As the share of SAP recipients increases in the federal state that a person lives in, does this effect directly the life satisfaction of the individual? We expect (*c*) to be positive and significant, as in Frijters, Haisken-DeNew, and Shields (2004a,b). As we control for income (*c*) directly, we expect (*d*) to be negative as this effectively increases the relative incomes of others compared to the individual. The sign of coefficient (*e*) is an empirical question and so cannot a priori be signed. Coefficient (*f*) should be negative as an increasing share of SAP recipients locally keeping one's own income constant implies a degrading of the social fabric and thus reduces life satisfaction. Additionally, we control for the state unemployment rate (*g*) and expect it to be correlated with the state share of welfare recipients.

In a second model, we control additionally for a non-stigmatizing transfer, namely child benefits (*Kindergeld*) with coefficient (*h*). If SAP transfers are indeed especially stigmatizing, then SAP should remain negative and significant, while the coefficient on child benefits should be at least zero/insignificant or positive and significant, given that all indications suggest the "social acceptability" of child benefits. We calculate the household-specific child benefit, taking into account ages and number

---

<sup>10</sup>Actually there are other additional benefits, such as housing benefits (Wohngeld), heating benefits etc, however these are always separate from social assistance and very difficult to assess administratively.

of the children, own income of the children and region.

$$\begin{aligned}
 LS_{it} = & a_0 + a_i + \\
 & [\text{all explanatory variables from (1)}] + \\
 & h * (\text{Child Benefit Entitlement}_{ht}) + \\
 & \varepsilon_{it}
 \end{aligned}
 \tag{2}$$

The SOEP asks respondents of SAP receipt for two time periods: case (I) since 1995 in the current interview month about the current interview month in the household questionnaire and case (II) since 1984 in the current interview month *about the previous completed calendar year*, i.e. the so-called "income calendar". Thus there are two distinct sources of information, which may not be directly compatible with each other in a given year. The household composition may obviously change from one year to the next, changing the administrative possibilities of receiving SAP. Further, there may be some additional recall error in (II), as the information is asked in the current year *about the previous year*. Thus recall error is expected to be much less in (I) as it is asked of the *month previous to the interview*.

Table 1: Dealing with the Time Dimension of Income and SAP Receipt in the SOEP

Variables	Case (I)	Case (II)
Dependent Variable	t [asked in t]	t [asked in t]
Standard Explanatory Variables	t [asked in t]	t [asked in t]
(c) HH Net Income	t [asked in t]	t-1 [asked in t]
(d) SAP Entitlement	generated for t	generated for t
(e) TakeUp x SAP Entitlement	t [asked in t]	t-1 [asked in t]
(f) State SAP Take-Up	t	t
(g) State Unemployment Rate	t	t
(g) State Unemployment Rate	t	t
(h) Child Benefit Entitlement	generated for t	generated for t

The dependent variable and all standard explanatory variables are available in time  $t$ . In addition, information about the current time  $t$  (case I) includes whether the household receives SAP in that particular month and also the monthly net household income answered for the entire household only by the household head. Information collected at time  $t$  but concerning the time period  $t-1$  (case II) includes real household net income (derived from all individual income sources, and at times, imputed) and similarly an income source derived from SAP receipt which is coded as a 0-1 dummy. This implies running the regression (1) and (2) with all information in time  $t$  except for the variables associated with the coefficients  $c$  and  $e$  which are at time  $t-1$ . This introduces an obvious error for which there is no obvious easy correction. Table 1 summarizes the information sources, displaying the time period for which the information corresponds and the year in which it was actually collected. To be clear, the variables for household income and SAP take up are completely different measurement concepts from case (I) to case (II).

Again, to test the stability of the results, we present results for the years from a linear fixed effects regression (FEP) model treating the dependent variable as continuous and a non-linear conditional binary logit (FECL) with individual thresholds/fixed effects. Due to the structural change in January 2005 to move the new system of "*Arbeitslosengeld II*" or "*Hartz IV*", and the fact that the SAP recipients systematically after this point are different, we limit our analysis to 1995-2004, the time period in which we have full information for cases (I) and (II). Tables 2a-d show descriptive statistics of the variables used in the analysis.

### **Model (1), Case (I) – Most recent income and SAP take up information**

In Table 3, we examine case (I) for the years 1995-2004. All of the standard explanatory variables have the expected sign, magnitude and significance. Looking first at the estimation using fixed-effects panel (FEP) seen in column 1 (all available households), we see that the log monthly income coefficient ( $c$ ) is positive and significant. However, the log SAP entitlement coefficient ( $d$ ) is about half as large, but having the opposite sign (-0.218 for SAP as compared to 0.399 for income). We can interpret  $c=0.399$  as the effect of a log point (quite large) increase in income



on life satisfaction. For a log point increase in the SAP entitlement, regardless of whether the households receive SAP, we see life satisfaction being *reduced* by 0.218 life satisfaction points. All households actually receive their net income, however only a tiny fraction (roughly 3% of persons by 2004) actually receives the SAP entitlement, indicating substantial negative social jealousy effects. We interpret the coefficient ( $d$ ) as, given that one's own income remains constant, what is the effect of increasing the SAP entitlement?

We test further to examine the potential added sensitivity of actually receiving SAP, namely coefficient ( $e$ ). Given that one's own income remains constant and that one actually receives SAP, what is the effect on life satisfaction of an increase in SAP? This is significantly negative at -0.025. Thus SAP delivers clear negative life satisfaction impacts in general (recipients and non-recipients), however SAP recipients are even more adversely affected by increases in SAP, given that their income remains constant, indicating an even higher level of social jealousy and/or stigma for SAP recipients. We control also for the share of SAP recipients in the federal state and the state unemployment rate in which the person currently lives. We see the effect of increasing the unemployment rate by one percentage point to be 0.020 points lower on the life satisfaction scale. The share of SAP recipients is itself not significant.

We compare the coefficients ( $c$ ), ( $d$ ) and ( $e$ ) for interpretation. If a person's income increases (substantially) one log point, he gains 0.399 additional units of life satisfaction. In a more intuitive manner, the income elasticity (a 1% increase in income produces a certain % increase in life satisfaction) is defined by  $[(dY/dX) * (X/Y)] = (c/Y_{Mean}) = (0.399/6.92) = 0.0584$ . Thus a 1% increase in income produces a 0.0584% increase in life satisfaction. Comparatively, if the SAP entitlement increases by 1%, the elasticity here is -0.028 (if the person does not actually take up SAP) and -0.032 (if the person indeed takes up SAP). The difference between these two elasticities is the effect of the take-up interaction term ( $e$ ).

Assume that we increase SAP payments in general. For those who actually take up, the increase shows up as increased income ( $c$ ) *as well as* an increased SAP entitlement in general ( $d$ ) and actually taking up ( $e$ ). The empirical question is

simply, is the linear combination of  $(c)$ ,  $(d)$ , and  $(e)$  equal to zero? If it is zero, then increasing SAP payments would have the positive effect of increasing actual income, but have the offsetting negative effect of stigma. Indeed by zero, these two effects would cancel each other. We perform an F-Test to see whether this is true. The linear combination of  $(c)$ ,  $(d)$ , and  $(e)$  is indeed greater than zero, and the null hypothesis is clearly rejected at the 0.003 level. Clearly there is a net positive effect of providing additional SAP payments to the recipients. However this effect is not simply 100% of the  $c$  effect, but indeed substantially lower. We interpret this effect as the negative externality of stigma or shame.

Alternatively, we can increase SAP payments, and for the vast majority of persons who do not take up, this has the immediate negative impact on life satisfaction of -0.218, the coefficient  $(d)$ . The corresponding elasticity of  $(d)$  is simply  $(-0.218 / 6.92) = -0.028$ . Thus a general 1% increase in SAP payments for other people (but not the respondent himself), reduces non-takers' life satisfaction by 0.028%. Again, we interpret this effect as "social jealousy", as the persons not receiving the extra SAP payments observe that others do, and this degrades their own relative income position, causing the negative effect on life satisfaction. This effect does not appear to be very large; however the absolute size is more than 50%  $(0.028/0.058)$  of the positive effect of increasing income by the same amount. Coefficients  $(c)$  and  $(d)$  are statistically different from each other, even using 2 full standard deviations for the confidence interval.

Next we examine for case (I) the same model specification using the conditional (binary) logit estimator with person-specific fixed-effects (FECL). We find very similar results, with all focus variables having similar magnitudes, identical signs and almost identical standard errors. We lose some observations as compared to the FEP, as the FECL estimator removes all observations in which the dependent does not vary (i.e. all persons in which they have never deviated from the person-specific mean).

Because FECL is a non-linear model, we use a non-linear combination<sup>11</sup> of  $(c)$ ,  $(d)$

---

<sup>11</sup>In Stata, this command is nlcom, which is equivalent to the "Delta" method.

and ( $e$ ) and test whether the sum of these coefficients equals zero. For takers and non-takers, the combination is positive and significant (t-value = 2.3 and 2.0 respectively). Thus even in the FECL model, increasing SAP (and also income at the same time) has a net positive effect on life satisfaction, but not 100% the level of the direct income effect (compare 0.542 for just income with  $0.542 - 0.218 - 0.025 = 0.206$  on take up).

**Model (1), Case (II) – Imputed income and SAP take up information  
from  $t-1$**

Here we use the income and SAP take up information from the time  $t-1$  covering the same time period as in case (I), namely 1995-2004. Further the total income measure is derived from imputed components of income, from persons who may or may not still be in the household in time  $t$ . It is not clear whether the income measures in case (II) are better or worse than case (I), but there are some direct implications for this analysis. We examine now column 3 of Table 3 using linear FEP. The coefficient ( $c$ ) in income is now substantially smaller at 0.177 (than in column 1) but still highly significant. The linear combination of ( $c$ ), ( $d$ ) and ( $e$ ) can however no longer be differentiated from zero and the null hypothesis cannot be rejected. This implies, that although there is a positive elasticity of income on life satisfaction of  $(0.177 / 6.92) = 0.0263$ , the linear combination of ( $d$ ) and ( $e$ ) at  $(-0.163 - 0.020) / 6.92 = -0.0264$  completely offsets this, producing a zero net effect (taking into account standard errors of the coefficients). Thus by using this measure of income and SAP receipt, the stigma effect is 100%! To explain this idea, we increase SAP. For those takers, this increases their income by the same amount that SAP entitlement increases. However, as seen by the coefficients in column 3, the positive effect of ( $c$ ) is completely offset by the sum of the negative effects of ( $d$ ) and ( $e$ ). For those non takers, there is a social jealousy effect of ( $d$ ).

Using data from case (II), only when own earned income increases over and above the subsistence level as provided by the SAP, does a person experience an increase in life satisfaction. This has serious policy implications, as it makes it clear that

the general European policy of smoothing income by providing assistance or benefit payments as opposed to the general Anglo-Saxon method of creating strong incentives for re-entry into the labor market by such schemes as the American Earned Income Tax Credit (EITC) etc, has dire negative externalities, that have otherwise been overlooked. Simply increasing SAP for takers leaves their life satisfaction completely unchanged, due to offsetting *stigma* or *shame effects*. The situation is even more critical for non-takers. Their relative income position is eroded compared to those receiving SAP and receive a strong negative effect, which we interpret as *social jealousy*. For the non takers, the social jealousy effect is so large, that it is effectively as if the additional SAP amount were taken from their income, euro for euro.

Examining column 4 of Table 3, we compare the coefficients for case (II) using the FECL estimation method. Here we see a very similar picture to that of the linear FEP results. The positive coefficient ( $c$ ) is completely offset by the negative effects of coefficients ( $d$ ) and ( $e$ ). A non-linear combination of the coefficients is not statistically different from zero, regardless of whether one takes up.

One explanation for the much smaller income effects using these income indicators in case (II) may be the time dimension. It could be that the income from the previous year has a much smaller (but not zero) effect as compared to income from the current time period income. However the negative effects of the SAP receipt interaction are almost identical, comparing columns 1 through 4 for coefficient ( $e$ ).

### **Model (2) Controlling for non-stigmatizing transfers, Child Benefits**

A potential criticism of the method used is that the SAP Entitlement may be capturing other phenomena than what we originally had intended. We expand our analysis to Model 2, in which we additionally control for child benefits (*Kindergeld*). In a similar manner, we control for log equivalized real child benefit transfers in addition to the SAP transfers. As such, for these controls, we lose about half of the sample, as we can only include observations in which some child benefit is actually paid (due to the log form of the variable as is standard in the literature). Thus necessarily we

have only households in which at least one child is present and would receive benefits (some "adult" children themselves earn a sufficiently high amount that child benefits are no longer paid to their parents). We then are forced to remove one variable in a dummy set controlling for number of children in the household to make the (omitted) reference category "one child in household".

At no time would we expect the coefficient ( $h$ ) to be significantly negative, as there have been no previous indications that child benefits are received with any amount of stigma or social jealousy. On the contrary, we see that coefficient ( $h$ ) in column 5 (Case I) is positive and significant at 0.142, whilst the coefficient for income ( $c$ ) has increased slightly to 0.497 and the SAP coefficient ( $d$ ) has remained relatively stable at -0.343. The linear combination of ( $c$ ) and ( $d$ ), or ( $c$ ), ( $d$ ) and ( $e$ ) can no longer be differentiated from zero. In column 6, we find almost identical results using the FECL model such that the linear combination of ( $c$ ) and ( $d$ ), or ( $c$ ), ( $d$ ) and ( $e$ ) cannot be differentiated from zero. For Case II in columns 7 and 8, we see almost identical results to that of Case I (columns 5 and 6). We conclude that increasing SAP payments simply increases stigma and social jealousy negative externalities to the exact same extent that a person experiences positive utility from additional income. The two equal and opposite effects effectively cancel each other out. *As such, only own-earned income, over and above the SAP level adds a positive contribution to life satisfaction.* On the contrary, child benefit payments are clearly welcomed by recipients (no stigma), adding utility benefits in terms of life satisfaction over and above a pure income effect.

## 4 Conclusions

Over the past 25 years, Germany has more than doubled the share of social assistance recipients, currently at some 3.5% on average. Although this share is not particularly large, it has constantly been the subject of public concern. The city states of Bremen, Berlin and Hamburg have had traditionally high levels, even as much as 10% over this period. During this time there have been several exogenous reforms in benefit levels for SAP. This paper calculates the counterfactual administrative amount that a household would receive if it were a SAP recipient without

any outside resources. The level of benefits varies not only predominantly by changing definitions of household composition, but also by federal state and year and is largely exogenous to the household.

This paper analyzed the effect of SAP levels on personal life satisfaction, using two different concepts of household net income and SAP take up within the German SOEP. Keeping one's own income constant, increases in the SAP Entitlement reduce significantly life satisfaction. In fact, the absolute level of the negative effect of SAP (whether one receives it or not) is around 50%-100% of the positive effect of one's own income. We call this phenomenon "social jealousy". For those actually receiving SAP, their levels of "stigma" or "shame" are significantly even higher and are affected even more negatively by increases in SAP. Thus the potential monetary welfare gain to those receiving SAP must in some way be discounted by the substantial loss due to social jealousy experienced by SAP recipient and non-recipients alike. Clearly it is in the best interest of policy makers to reduce welfare leakage due to negative externalities like social jealousy and stigma.

We tested the stability of the SAP transfer results by examining another largely used program, namely child benefits (*Kindergeld*). Here we see that the results for the SAP if anything are strengthened by the additional control variable. SAP transfers are seen to be *decreasing* life satisfaction in the form of social jealousy and stigma, whereas child benefits exhibit clear *positive externalities* over and above a pure income effect, just as one would expect from a *stigma-free* social program.

These findings have large implications for social policy, as clearly the focus of German social policy should be towards increasing employability, (re-)integrating or (re-)introducing adults to employment, such that they are able to provide more for themselves. Programs such as the EITC in the United States, which provide benefits only for those who work, are a step in the right direction. The reliance on SAP has clear negative externalities for those who receive it (in the form of "stigma") and those who finance it (in the form of "social jealousy"). Depending on the model used, *only* income earned *over and above* the subsistence level actually increases life satisfaction. This would imply that simply relying on policies geared

toward marginal employment, producing subsistence level incomes provide little or no welfare enhancement as measured by life satisfaction. While this study makes no specific recommendation for a "correct" or "optimal" minimum existence, it does shed light on the dramatic negative externalities of social policy, borne by recipients and non-recipients alike, which must be taken into consideration when examining the "true costs" for such a policy.

## References

- ADAMY, W., AND J. STEFFEN (1998): *Abseits des Wohlstands. Arbeitslosigkeit und neue Armut*. Wissenschaftliche Buchgesellschaft, Darmstadt.
- BECKER, I., AND R. HAUSER (2003): *Anatomie der Einkommensverteilung. Ergebnisse der Einkommens- und Verbrauchsstichproben*. Edition Sigma, Berlin.
- BERTRAND, M., AND S. MULLAINATHAN (2001): “Do People Mean What They Say? Implications for Subjective Survey Data,” *American Economic Review*, 91(2), 67–72.
- BLANCHFLOWER, D., AND A. OSWALD (2004): “Well-Being Over Time in Britain and the USA,” *Journal of Public Economics*, 88(7-8), 1359–1386.
- BLUNDELL, R., A. DUNCAN, J. MCCRAE, AND C. MEGHIR (2000): “The Labour Market Impact of the Working Families’ Tax Credit,” *Fiscal Studies*, 21(1), 75–103.
- BLUNDELL, R., V. FRY, AND I. WALKER (1988): “Modelling the Take-Up of Means-Tested Benefits: The Case of Housing Benefits in the United Kingdom,” *Economic Journal*, 98(390), 58–74.
- CHAMBERLAIN, G. (1980): “Analysis of Covariance with Qualitative Data,” *The Review of Economic Studies*, 47(1), 255–38.
- CLARK, A. E., P. FRIJTERS, AND M. A. SHIELDS (2006): “Income and Happiness: Evidence, Explanations and Economic Implications,” Paris-Jourdan Sciences Economiques Working Paper 24.
- CLARK, A. E., AND A. L. OSWALD (1994): “Unhappiness and Unemployment,” *Economic Journal*, 104(424), 648–59.
- FERRER-I-CARBONELL, A., AND P. FRIJTERS (2004): “How Important is the Methodology for the Determinants of Happiness?,” *Economic Journal*, 114(497), 641–59.
- FERTIG, M., M. TAMM, AND M. CORAK (2005): “A Portrait of Child Poverty in Germany,” RWI Discussion Paper 26.



- FREY, B. S., AND A. STUTZER (2002): "Can Economists learn from Happiness Research?," *Journal of Economic Literature*, 40(2), 402–35.
- FRICK, J. R., AND O. GROH-SAMBERG (2007): "To Claim or Not to Claim: Estimating Non-Take-Up of Social Assistance in Germany and the Role of Measurement Error," SOEP Discussion Paper 53.
- FRIJTERS, P., J. P. HAIKEN-DENEW, AND M. A. SHIELDS (2004a): "Money does matter! Evidence from Increasing Real Incomes in East Germany Following Reunification," *American Economic Review*, 94(3), 730–741.
- (2004b): "Investigating the Patterns and Determinants of Life Satisfaction in Germany Following Reunification," *The Journal of Human Resources*, 39(3), 649–674.
- HAAN, P., AND K. WROHLICH (2007): "Optimal Taxation: The Design of Child Related Cash- and In-Kind-Benefits," IZA Discussion Papers 3128.
- HAIKEN-DENEW, J. P., AND J. FRICK (2005): "Desktop Companion to the German Socio-Economic Panel Study (GSOEP)," Discussion paper, German Institute for Economic Research, Berlin.
- HAIKEN-DENEW, J. P., AND M. HAHN (2006): "PanelWhiz: A Flexible Modularized Stata Interface for Accessing Large Scale Panel Data Sets," Discussion paper, <http://www.PanelWhiz.EU>.
- HAUSER, R., AND W. HÜBINGER (1993): *Arme unter uns. Teil 1: Ergebnisse und Konsequenzen der Caritas-Armutsuntersuchung*. Lambertus, Freiburg im Breisgau.
- ISG (2006): "Der Abstand zwischen dem Leistungsniveau der Hilfe zum Lebensunterhalt und anderen Arbeitnehmereinkommen," Forschungsbericht beim BMA 276, Köln.
- KASSENBOEHMER, S. C., AND J. P. HAIKEN-DENEW (2009): "You're Fired: The Causal Negative Effect of Unemployment on Life Satisfaction," *Economic Journal*, 119(536), 448–462.

- KORNSTAD, T., AND T. O. THORESEN (2004): "Means-Testing the Child Benefit," *Review of Income and Wealth*, 03, 50(1), 29–49.
- MOFFITT, R. (1983): "An Economic Model of Welfare Stigma," *American Economic Review*, 73(5).
- RIPHAHN, R. (2001): "Rational Poverty or poor rationality? The take-up of Social Assistance Benefits," *Review of Income and Wealth*, 47(3), 379–98.
- SEMRAU, P. (1990): "Entwicklung der Einkommensarmut," in *Armut im Wohlstand*, ed. by W. H. D. Doering, and E.-U. Huster, pp. 111–128. Suhrkamp, Frankfurt.
- THIESSEN, F., AND C. FISCHER (2008): "Die Hoehe der sozialen Mindestsicherung: Eine Neuberechnung "bottom up"," *Zeitschrift fuer Wirtschaftspolitik*, 57(2).
- WAGNER, G., R. V. BURKHAUSER, AND F. BHERINGER (1993): "The English Language Public Use File of the German Socio-Economic Panel," *Journal of Human Resources*, 28(2).
- WINKELMANN, L., AND R. WINKELMANN (1998): "Why Are the Unemployed So Unhappy? Evidence from Panel Data," *Economica*, 65(257), 1–15.
- YANIV, G. (1997): "Welfare Fraud and Welfare Stigma," *Journal of Economic Psychology*, 18(4), 435–451.

## Appendix

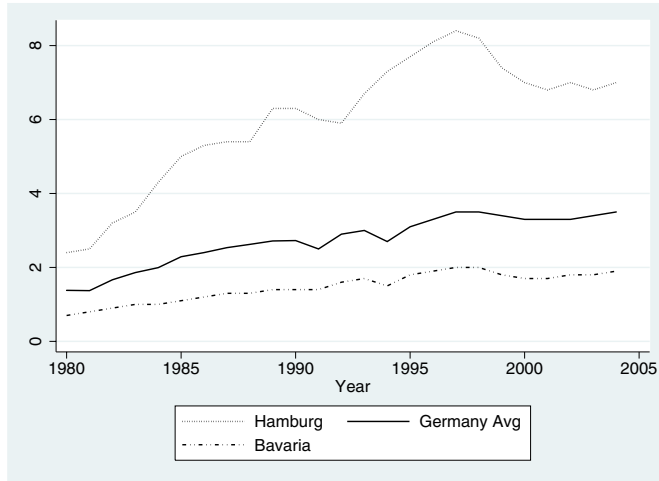


Figure 1: Share of Social Assistance Payment Recipients (1980-2004)

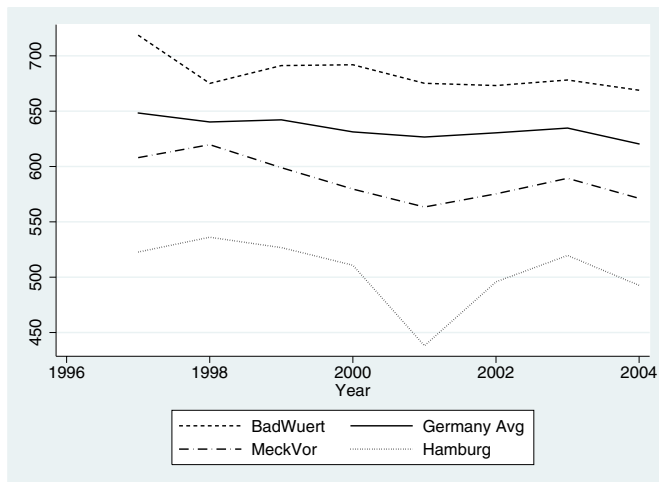


Figure 2: Average Potential Household SAP Entitlement: Variation by State and Time

Tabel 2a: Model (1), Case (I): Descriptive Statistics (N=117878)

Variable	mean	sd	min	max
Satisfaction With Life At Today	6.9188	1.7401	0	10
Unemployed	0.0778	0.2678	0	1
Out of Labor Force (OLF)	0.1713	0.3768	0	1
Married	0.7037	0.4566	0	1
Shock: Separated	0.0160	0.1254	0	1
Shock: Divorced	0.0055	0.0741	0	1
Shock: Spouse Died	0.0021	0.0461	0	1
Shock: Child born	0.0383	0.1918	0	1
Work Disability	0.0410	0.1984	0	1
Age	41.8485	12.2668	20	64
Age Squared / 10	109.1769	104.9364	40	409.6
Years of Education	11.8949	2.5883	7	18
Number of Children in HH: 1	0.2390	0.4265	0	1
Number of Children in HH: 2	0.2000	0.4000	0	1
Number of Children in HH: 3+	0.0764	0.2657	0	1
Log Equivalized Real HH Net Income	7.1922	0.4681	1.648	11.11
Log Equivalized Real SAP Entitlement	5.9625	0.1776	4.898	6.633
Takeup x L-E-R SAP Entitlement	0.1134	0.8166	0	6.512
Share of Welfare Recipients	3.2195	1.4080	1.4	10.6
State Specific Unemployment Rate	12.1287	4.7674	5.493	22.12

Tabel 2b: Model (1), Case (II): Descriptive Statistics (N=126794)

Variable	mean	sd	min	max
Satisfaction With Life At Today	6.9224	1.7466	0	10
Unemployed	0.0771	0.2667	0	1
Out of Labor Force (OLF)	0.1710	0.3765	0	1
Married	0.7060	0.4556	0	1
Shock: Separated	0.0159	0.1253	0	1
Shock: Divorced	0.0055	0.0738	0	1
Shock: Spouse Died	0.0022	0.0464	0	1
Shock: Child born	0.0386	0.1926	0	1
Work Disability	0.0407	0.1976	0	1
Age	41.8438	12.2451	20	64
Age Squared / 10	190.0847	104.7269	40	409.6
Years of Education	11.8917	2.5818	7	18
Number of Children in HH: 1	0.2416	0.4281	0	1
Number of Children in HH: 2	0.2024	0.4018	0	1
Number of Children in HH: 3+	0.0762	0.2653	0	1
Log Equivalized Real HH Net Income	7.3008	0.5329	0	11.56
Log Equivalized Real SAP Entitlement	5.9637	0.1778	4.898	6.633
Takeup x L-E-R SAP Entitlement	0.1310	0.8763	0	6.471
Share of Welfare Recipients	3.2122	1.4051	1.4	10.6
State Specific Unemployment Rate	12.1168	4.7495	5.493	22.12

Tabel 2c: Model (2), Case (I): Descriptive Statistics (N=60766)

Variable	Mean	sd	min	max
Satisfaction With Life At Today	6.9751	1.6939	0	10
Unemployed	0.0693	0.2540	0	1
Out of Labor Force (OLF)	0.1298	0.3360	0	1
Married	0.7961	0.4029	0	1
Shock: Separated	0.0113	0.1056	0	1
Shock: Divorced	0.0054	0.0733	0	1
Shock: Spouse Died	0.0011	0.0337	0	1
Shock: Child born	0.0734	0.2607	0	1
Work Disability	0.0381	0.1914	0	1
Age	38.4197	9.5912	20	64
Age Squared / 10	156.8060	75.3769	40	409.6
Years of Education	11.9315	2.5884	7	18
Number of Children in HH: 2	0.3881	0.4873	0	1
Number of Children in HH: 3+	0.1482	0.3553	0	1
Log Equivalized Real HH Net Income	7.1268	0.4335	1.648	10.31
Log Equivalized Real SAP Entitlement	6.0666	0.1295	5.189	6.633
Takeup x L-E-R SAP Entitlement	0.1607	0.9723	0	6.512
Share of Welfare Recipients	3.1842	1.3612	1.4	10.6
State Specific Unemployment Rate	12.0453	4.7440	5.493	22.12
Log Equivalized Real Child Benefit	4.6131	0.4960	2.665	6.246

Tabel 2d: Model (2), Case (II): Descriptive Statistics (N=65964)

Variable	mean	sd	min	max
Satisfaction With Life At Today	6.9760	1.7002	0	10
Unemployed	0.0682	0.2521	0	1
Out of Labor Force (OLF)	0.1298	0.3361	0	1
Married	0.7975	0.4019	0	1
Shock: Separated	0.0112	0.1054	0	1
Shock: Divorced	0.0054	0.0730	0	1
Shock: Spouse Died	0.0011	0.0337	0	1
Shock: Child born	0.0733	0.2606	0	1
Work Disability	0.0375	0.1900	0	1
Age	38.4112	9.5782	20	64
Age Squared / 10	156.7159	75.2406	40	409.6
Years of Education	11.9313	2.5789	7	18
Number of Children in HH: 2	0.3891	0.4875	0	1
Number of Children in HH: 3+	0.1465	0.3536	0	1
Log Equivalized Real HH Net Income	7.2599	0.4845	.6293	10.16
Log Equivalized Real SAP Entitlement	6.0665	0.1293	5.189	6.633
Takeup x L-E-R SAP Entitlement	0.1828	1.0347	0	6.471
Share of Welfare Recipients	3.1710	1.3557	1.4	10.6
State Specific Unemployment Rate	12.0559	4.7287	5.493	22.12
Log Equivalized Real Child Benefit	4.6003	0.5060	2.665	6.25

Table 3: Life Satisfaction and Social Assistance Payments: 1995-2004

	Model 1: All Households				Model 2: Household with Child Benefits			
	Case I		Case II		Case I		Case II	
	FEP	FECL	FEP	FECL	FEP	FECL	FEP	FECL
Unemployed	-0.629** (0.026)	-0.758** (0.038)	-0.689** (0.025)	-0.837** (0.036)	-0.584** (0.039)	-0.721** (0.055)	-0.636** (0.038)	-0.792** (0.052)
Out of Labor Force (OLF)	-0.139** (0.023)	-0.095** (0.036)	-0.147** (0.022)	-0.114** (0.034)	-0.101** (0.032)	-0.071 (0.051)	-0.114** (0.030)	-0.097** (0.048)
Married	0.012 (0.030)	0.013 (0.048)	0.02 (0.030)	0.013 (0.046)	0.054 (0.051)	0.064 (0.075)	0.053 (0.050)	0.058 (0.071)
Shock: Separated	-0.406** (0.044)	-0.469** (0.059)	-0.421** (0.043)	-0.475** (0.057)	-0.433** (0.081)	-0.417** (0.105)	-0.479** (0.078)	-0.476** (0.099)
Shock: Divorced	-0.077 (0.066)	-0.158 (0.096)	-0.135** (0.065)	-0.211** (0.093)	-0.077 (0.094)	-0.169 (0.138)	-0.125 (0.091)	-0.204 (0.132)
Shock: Spouse Died	-1.159** (0.135)	-1.075** (0.177)	-1.148** (0.129)	-1.067** (0.170)	-1.132** (0.234)	-1.016** (0.322)	-1.180** (0.226)	-1.026** (0.315)
Shock: Child born	0.198** (0.022)	0.314** (0.039)	0.177** (0.021)	0.296** (0.037)	0.200** (0.024)	0.330** (0.043)	0.184** (0.023)	0.321** (0.041)
Work Disability	-0.290** (0.026)	-0.373** (0.038)	-0.290** (0.025)	-0.376** (0.037)	-0.260** (0.038)	-0.383** (0.056)	-0.276** (0.036)	-0.391** (0.054)
Age	-0.083** (0.009)	-0.121** (0.014)	-0.077** (0.008)	-0.115** (0.014)	-0.062** (0.015)	-0.094** (0.025)	-0.058** (0.015)	-0.098** (0.024)
Age Squared / 10	0.004** (0.001)	0.005** (0.002)	0.003** (0.001)	0.004** (0.002)	-0.001 (0.002)	-0.003 (0.003)	-0.002 (0.002)	-0.002 (0.003)
Years of Education	0.013* (0.007)	0.021* (0.012)	0.017** (0.007)	0.029** (0.012)	0.012 (0.011)	0.015 (0.018)	0.013 (0.010)	0.019 (0.017)
Number Children in HH: 1	0.069** (0.020)	0.097** (0.035)	0.03 (0.020)	0.059* (0.034)	-	-	-	-
Number Children in HH: 2	0.111** (0.028)	0.135** (0.048)	0.052* (0.027)	0.078* (0.046)	-0.056* (0.031)	-0.133** (0.053)	-0.090** (0.029)	-0.182** (0.050)
Number Children in HH: 3+	0.123** (0.043)	0.144** (0.072)	0.057 (0.042)	0.074 (0.069)	-0.111** (0.055)	-0.235** (0.092)	-0.163** (0.052)	-0.326** (0.087)
(c) Log Equalized Real HH Net Income	0.399** (0.020)	0.539** (0.033)	0.177** (0.017)	0.242** (0.027)	0.497** (0.031)	0.678** (0.051)	0.234** (0.028)	0.285** (0.043)
(d) Log Equalized Real SAP Entitlement	-0.218** (0.065)	-0.347** (0.109)	-0.163** (0.065)	-0.309** (0.106)	-0.343** (0.128)	-0.489** (0.208)	-0.263** (0.126)	-0.355* (0.201)
(e) Takeup x L-E-R SAP Entitlement	-0.025** (0.009)	-0.030** (0.012)	-0.020** (0.008)	-0.018 (0.011)	-0.028** (0.010)	-0.043** (0.015)	-0.027** (0.010)	-0.029** (0.013)
(f) Share of Welfare Recipients	0.018 (0.014)	0.039* (0.022)	0.019 (0.013)	0.036* (0.021)	0.009 (0.024)	0.037 (0.036)	0.01 (0.024)	0.033 (0.035)
(g) State Specific Unemployment Rate	-0.020** (0.003)	-0.030** (0.005)	-0.020** (0.003)	-0.029** (0.005)	-0.022** (0.004)	-0.036** (0.007)	-0.023** (0.004)	-0.037** (0.007)
(h) Log Equalized Real Child Benefit	-	-	-	-	0.142** (0.028)	0.250** (0.049)	0.157** (0.026)	0.285** (0.045)
Constant	8.148** (0.444)	-	9.220** (0.425)	-	7.604** (0.839)	-	8.817** (0.803)	-
R <sup>2</sup> / Pseudo R <sup>2</sup>	0.037	0.023	0.032	0.02	0.039	0.027	0.034	0.024
N	117878	99614	126794	108510	60766	48769	65964	53809

\*p&lt;0.1, \*\*p&lt;0.05