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Vierteljahrshefte zur Wirtschaftsforschung

Provided in Cooperation with:

German Institute for Economic Research (DIW Berlin)

Suggested Citation: DiPrete, Thomas A.; McManus, Patricia A. (1997) : Income Components and the Stability of Family Income in Western Germany and the United States, Vierteljahrshefte zur Wirtschaftsforschung, ISSN 0340-1707, Duncker & Humblot, Berlin, Vol. 66, Iss. 1, pp. 102-110

This Version is available at:

<https://hdl.handle.net/10419/141167>

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Income Components and the Stability of Family Income in Western Germany and the United States

By Thomas A. DiPrete and Patricia A. McManus*

Summary

Fluctuations in family income, as measured by the coefficient of variation (CV), tend to be higher in the United States than in Germany. We find that labor earnings of other family members and nonlabor private income stabilize the mean CV in the United States, but not in Germany. However, a more stable labor market and a more effective public social insurance system in Germany more than offset the more effective private social insurance system of the United States. As a consequence, net family income is more stable in Germany than in the United States.

1. Introduction

Clearly, the level of turbulence in the financial circumstances of workers and their families depends in complex ways on labor market institutions, family dynamics, and the structure of the welfare state. Many scholars have examined the impact of these institutions on the structure of opportunity and the distribution of income (e.g., Danziger and Gottschalk 1993). Many recent studies have also focused on the relationship between macro structure or trends and career, occupational, and class dynamics (DiPrete and Grusky 1990); the dynamics of family income around the poverty line, including rates of entry and exit into various social welfare programs such as AFDC or unemployment compensation (Gottschalk, McLanahan, and Sandefur 1994); labor earnings instability (Gottschalk and Moffit 1993); and job displacement and the process of worker adjustment via retraining, reemployment, or early retirement (e.g., Seitchik and Zornitsky 1989).

However, while scholars have begun the systematic study of cross-national differences in the private and public components of family income (e.g., Rainwater, Rein, and Schwarz 1986), relatively little is known about the role of labor market institutions, welfare state policies, and changes in family composition in the dynamics of family income, as opposed to individual earnings. This paper attempts to provide answers to the following questions for western Germany and the United States: (1) What is the pattern of cross-national variation in the stability in family income? (2) How do intertemporal fluctuations in family income compare with intertemporal fluctuations in individual labor earnings? (3) What differences exist across the two countries in the roles various components play in stabilizing or destabilizing family income?

Germany differs from the United States in several respects that could affect the relative stability of family

incomes. While the United States has a relatively unregulated labor market, Germany has a highly structured labor market, including strong school-training-work links, legal protections that make layoffs relatively difficult, low job mobility, and a moderately corporatist system of wage determination with strong linkages between wage settlements in different industries.

Germany and the United States also differ in the dynamics of family formation and dissolution. The United States has 9 marriages per 1,000 per year, compared with 5.5 marriages per 1,000 per year in Germany. The United States has 4.6 divorces per 1,000 per year, compared with 1.7 divorces per 1,000 per year in Germany. Furthermore, 65 percent of United States families with children are headed by couples, compared with 81 percent of German families.

The German welfare state, while quite extensive, has not been designed to redistribute income (Esping-Andersen 1994). However, it clearly has been designed to provide high levels of "insurance-based protection against risks incurred during working life" (Markovits and Halfmann 1988, page 110). Its social insurance role appears to be stronger than comparable programs in the United States.

Perhaps in response to the weak United States welfare state, American families have developed more extensive private sources of income stabilization than are found in Germany. One potential major source of income stabilization is the labor income of second earners. In 1984, wives contributed 15 percent of income overall in Germany (Zimmerman 1993). In contrast, wives contributed 30 percent of family income in the United States in 1992 (Bianchi 1995). Along with their greater average contribution, American wives may play a greater income stabilizing role than do German wives by more easily or more actively altering their labor supply. Another source of stabilization may come from nonlabor income. For example, there is evidence that low-income workers in the United States rely to a large extent on transfers from relatives and friends (Edin 1995).

2. Methods and Data

The strategy we employ in this paper is to compare the stability of incomes in the two countries for three population subgroups. We use the following income concepts: (1) individual labor earnings, (2) household labor earnings, (3) household pregovernment (or gross private) income, and (4) household postgovernment (or net) income. Data for this paper come from the Panel Study of Income Dynamics

* This paper is a revised version of a paper presented January 1996 at the Max Planck Institut für Bildungsforschung, Berlin, and in March 1996 at the Winter Meeting of the IRP Working Group on Poverty, University of Wisconsin, Madison. The authors would like to thank Karl Ulrich Mayer and Robert Moffitt for helpful comments on earlier drafts of this paper. The authors are affiliated with Duke University and Indiana University, respectively.

(PSID), the German Socio-Economic Panel (GSOEP), and the Syracuse University PSID-GSOEP Equivalent Data File¹.

Our unit of analysis is the individual, and our measures are computed based on the family unit to that individual in each year. We define three distinct subgroups for this paper. The first group consists of men who were heads of household in the first year they appear in the Equivalent Data File. The second group consists of women heads of household in the first year in the file. The third group consists of individuals who were female partners in their first year. These statuses, of course, can change over time in the text that follows we refer to these subgroups by their first status; in a later analysis we model the impact of family composition changes on household income. Because we are primarily interested in income stability in the working-age population we limit the sample to individuals living in households in which the head was aged 25 to 50 in the first year they were observed.

Our measure of income stability is the coefficient of variation (CV), defined as the standard deviation divided by the mean, of inflation-adjusted annual income streams. We compute these coefficients for each income measure over

all years for which the individual was present in the Equivalent Data File. Because we need individual-level time series to compute our measures, we further limit the samples to individuals who were respondents in at least four surveys during the period covered by the Equivalent Data File (1983 to 1989 for the PSID and 1984 to 1990 for the GSOEP).

3. Results

Table 1 compares the CV's for each of the income measures for Germany and the United States for the three population subgroups². The distribution of the CV is highly skewed to the right. Therefore, we report both median and mean values of the individual-level CV's for the two countries. In columns 3, 4, 7, and 8, we report the percent reduction in the CV for each of the income subtotals relative to the

¹ See Daly and Butrica (1994) for a description of this data set.

² We also computed measures of equivalent household income using the weighting scheme developed by Merz et al. (1993). This adjusts family income for household size and composition. Generally speaking, the pattern of results for all three population groups is very similar to what is shown in Table 1 and so the results are not shown here.

Table 1

Comparison of Income Stability in the United States and Germany¹⁾

Income Subtotals	Germany				United States				German/	German/
	Mean CV ²⁾	Median CV	Percent Reduction (Mean)	Percent Reduction (Median)	Mean CV	Median CV	Percent Reduction (Mean)	Percent Reduction (Median)	United States (Mean in Percent)	United States (Median in Percent)
Male Heads, Aged 25 to 50 in the First Year ³⁾										
Individual Labor Earnings	0.263	0.136			0.320	0.213			82	64
Household Labor Earnings	0.272	0.184	-3.4	-35.3	0.305	0.226	4.7	-6.1	89	81
Household Pregovernment Income	0.275	0.192	-4.6	-41.2	0.285	0.220	10.9	-3.3	96	87
House Postgovernment Income	0.217	0.180	17.5	-32.4	0.248	0.202	22.5	5.2	88	89
Female Heads, Aged 25 to 50 in the First Year ⁴⁾										
Individual Labor Earnings	0.478	0.208			0.504	0.298			95	70
(Individual Labor CV > 0)	0.504	0.223	(N = 256)		0.532	0.323	(N = 781)			
Household Labor Earnings	0.450	0.356	5.9	-71.2	0.555	0.404	-10.1	-35.6	81	88
Household Pregovernment Income	0.436	0.327	8.8	-57.2	0.500	0.384	0.8	-28.9	87	85
Household Postgovernment Income	0.299	0.273	37.4	-31.3	0.326	0.301	35.3	-1.0	92	91
Female Partners, Aged 25 to 50 in the First Year ⁵⁾										
Individual Labor Earnings	0.657	0.288			0.671	0.441			98	65
(Individual Labor CV > 0)	0.869	0.580	(N = 1,337)		0.729	0.525	(N = 1,308)			
Household Labor Earnings	0.284	0.195	56.8	32.3	0.303	0.230	54.8	47.8	94	85
Household Pregovernment Income	0.276	0.195	58.0	32.3	0.275	0.215	59.0	51.2	100	91
Household Postgovernment Income	0.219	0.177	66.7	38.5	0.238	0.196	64.5	55.6	92	90

¹⁾ Household status is defined by the individual's first appearance in Equivalent Data File. Individual must appear in at least four survey years. — ²⁾ CV = coefficient of variation. — ³⁾ Germany, N = 1,977; United States, N = 1,779. — ⁴⁾ Germany, N = 273; United States, N = 856. — ⁵⁾ Germany, N = 1,770; United States, N = 1,421.

Source: Authors' calculations using PSID-GSOEP Equivalent Data File. Survey years are 1983-89 for PSID, 1984-1990 for GSOEP.

CV for individual labor earnings. In columns 9 and 10, we report the German CV as a percent of the American CV.

Table 1 shows that the CV of individual labor earnings are considerably more stable for German than for American male household heads: 0.136 at the median for Germans versus 0.213 for Americans. The countries also differ in the stabilizing effects of other private sources of income. For German male household heads, there is considerably more fluctuation at the median in household labor earnings (0.184) and in household pregovernment income (0.192) than there is for individual labor earnings. In the United States, in contrast, the median CV's are roughly equal for all of these income measures, at around 0.22. Furthermore, in the United States, the mean CV's for household labor earnings and for household pregovernment income are smaller than the mean CV for individual labor earnings. In other words, the additional income components in the United States act to stabilize family income for male heads. Additional private income streams have no such stabilizing effect in the German sample. As a consequence, much of the cross-national difference in income stability observed at the level of individual labor earnings is eliminated when income is measured at the household level.

The fourth row in the panel shows the impact of tax and welfare policies in the two countries. In both countries, tax and welfare policies stabilize income both at the median and at the mean. This stabilizing effect is greater in Germany, reducing the mean CV from 0.275 for pregovernment income to 0.217 for postgovernment income, than in the United States (from 0.285 to 0.248). In summary, American families with relatively more unstable labor earnings achieve income stabilization through both private and public mechanisms, while German families achieve stability primarily through public sources.

The second panel of Table 1 shows corresponding statistics for families initially headed by females. In both countries, mean and median instability for each income measure is much greater than for male-headed households. Furthermore, in contrast to the results for male-headed households, median household labor earnings are more unstable than individual labor earnings in Germany (0.356 versus 0.708) and the United States (0.404 versus 0.298). In both countries, the addition of nonlabor private income stabilizes family income, as does accounting for state taxes and transfers. Overall, German female-headed families have more stable household incomes both at the mean and at the median than such American families, and in both countries income is more unstable than in male-headed households.

The final panel of Table 1 shows comparable results for individuals who were female partners in the first year of observation. Female partners' labor earnings are much less stable than male heads' and female heads' labor earnings. The stability of their household income is, not surprisingly, comparable in magnitude to that for male household heads. The cross-national gap in income stability is smaller

for female partners than for male heads, but across the different measures female partners' income shows the same patterns of stability as that of male heads. Individual labor earnings are more stable for female partners in Germany than in the United States (0.288 versus 0.441 at the median). The cross-national gap in income instability is diminished or erased with the addition of other private income streams; the median CV for Germany is 0.195 and 0.215 for the United States. The gap reappears when public transfers are added to the total, resulting in greater household income stability in Germany (0.177 versus 0.196 at the median).

4. Income Stability and the Direction of Change

Income fluctuation is usually only considered a bad thing when the change is in the downward direction. The analysis so far has treated income growth and decline symmetrically: households with rapidly growth or decline have large CV's and households with slow growth or decline have small CV's. In this section, we investigate the stabilizing effects of the various components of household income in two unfortunate groups of households: those with slow earnings growth and those with the largest income declines³. Table 2 shows how the CV's for these subgroups change as the income measure expands to include additional income sources.

As before, in both the United States and Germany, private and public income sources mitigate fluctuations in labor earnings. For example, in the case of German male-headed households experiencing large declines in earnings, the mean CV decreases from 0.615 to 0.462 (or by 25 percent) when other household members' labor earnings and other private sources of income are added, then to 0.314 (another 32 percent reduction) when government taxes and transfers are counted. A similar pattern is exhibited in the subsample with slow earnings growth.

The second finding confirms another earlier result. The stabilizing effect of other private income sources is greater in American male-headed households, reducing the CV (for the large earnings decline subsample) from 0.689 to 0.480 (or 30 percent). But government plays less of a role than in Germany, lowering the CV from 0.480 to 0.395, or 18 percent. Similarly, other private income stabilizes labor earnings in households with female heads or partners. The effect is larger in the United States (lowering the CV by

³ The "slow growth" subsample is defined as the quartile of households with the smallest average year-to-year change in labor earnings. The "large decline" subsample is the quartile of households experiencing the largest one-year earnings decrease. For male-headed households, individual labor earnings are used to identify these two subsamples, and for households with female heads or female partners, total labor earnings are used. Because the sample of female-headed households is relatively small, the slow growth and large decline subsamples are the lower 50 percent of the respective rankings, rather than the lowest quartile.

Table 2

Mean Coefficient of Variation for Households with Slow Earnings Growth or Large Earnings Declines¹⁾

Income Subtotals	Germany		United States		Germany as Percent of the United States	
	Slow Earnings Growth Subsample	Large Earnings Decline Subsample	Slow Earnings Growth Subsample	Large Earnings Decline Subsample	Slow Earnings Growth Subsample	Large Earnings Decline Subsample
Individual Labor Earnings: Male Heads ²⁾						
Individual Labor Earnings	0.415	0.615	0.479	0.689	87.0	89.0
Household Pregovernment Income	0.392	0.462	0.355	0.480	110.0	96.0
Household Postgovernment Income	0.251	0.314	0.284	0.395	88.0	79.0
Individual Labor Earnings: Female Heads ³⁾						
Individual Labor Earnings	0.524	0.775	0.489	0.797	107.0	97.0
Household Pregovernment Income	0.481	0.569	0.515	0.603	93.0	94.0
Household Postgovernment Income	0.308	0.377	0.318	0.401	97.0	94.0
Individual Labor Earnings: Female Partners ⁴⁾						
Individual Labor Earnings	0.601	1.520	0.873	1.363	69.0	112.0
Household Pregovernment Income	0.309	0.328	0.311	0.328	99.0	100.0
Household Postgovernment Income	0.222	0.251	0.256	0.281	87.0	89.0
Total Labor Earnings: Female Heads ⁵⁾						
Total Labor Earnings	0.409	0.639	0.462	0.771	89.0	83.0
Household Pregovernment Income	0.400	0.595	0.434	0.641	92.0	93.0
Household Postgovernment Income	0.267	0.375	0.271	0.394	99.0	95.0
Total Labor Earnings: Female Partners ⁶⁾						
Total Labor Earnings	0.442	0.584	0.429	0.575	103.0	102.0
Household Pregovernment Income	0.416	0.544	0.371	0.482	112.0	113.0
Household Postgovernment Income	0.294	0.336	0.300	0.387	98.0	87.0

1) Sample is restricted as in Table 1. „Slow Earnings Growth” subsample is defined as the 25 percent (50 percent in the case of female-headed households) of households with the smallest yearly change in labor earnings. „Large Earnings Decline” subsample is defined as the 25 percent (50 percent) of households with the largest one year drop in labor earnings. Coefficient of Variation is defined as the standard deviation divided by the mean of inflation-adjusted annual income streams. For male-headed households, earnings are the head’s individual labor earnings. For households with female heads or partners, earnings refer to total household labor earnings. — 2) Germany, N = 509; United States, N = 516. — 3) Germany, N = 136; United States, N = 439. — 4) Germany, N = 412; United States, N = 362. — 5) Germany, N = 136; United States, N = 441. — 6) Germany, N = 419; United States, N = 392.
Source: Authors’ calculations using PSID-GSOEP Equivalent Data File.

17 percent from 0.771 to 0.641, for female-headed households with large earnings declines) than in Germany (a 7 percent reduction).

In these “disadvantaged” subsamples, the stability of pregovernment household income is as great or greater in the United States than in Germany: the ratio of the CV’s is near or greater than 100 percent for all three groups of households. However, the more pervasive system of taxes and transfers stabilizes postgovernment income to a greater degree in Germany, at least for households with male heads or female partners. Somewhat surprisingly, the cross-national difference in the CV’s of postgovernment income is smallest (or the ratio of CV’s closest to unity) among female-headed households.

5. Individual-Level Determinants of Income Instability

Next, we present regressions of the CV for individual labor earnings and for household postgovernment income on a set of variables that measure labor market and family attributes, as well as changes in these attributes. To facilitate presentation of the results, we used CV*100 as the dependent variable in this analysis. The independent variables are from the Equivalent Data File, with the addition of measures we obtained from the full PSID and GSOEP files. The variables are: the age of the household head; the average household size; the fraction of years in which a partner was present and the square of this variable; whether the first job in the 1983 to 1990 period was a manual job; whether the individual had less than second-

dary education, secondary education, or more than secondary education; the standard deviation of annual work hours; whether the individual changed firms during the 1983 to 1990 period; whether the individual changed class, using EGP class positions (Erikson, Goldthorpe, and Portocarero 1979) as modified by Ganzeboom, Luijkx and Treiman (1989); and the individual's average labor earnings centered over the sample and squared. We view these regression results as somewhat tentative because we are using a preliminary measure of change in the annual hours of work that is not fully comparable across the datasets⁴. Because the distribution of the CV is highly skewed, we used Huber's (1967) formula along with the longitudinal sampling weights in our calculation of the regression coefficients and standard errors.

First, we focus on male household heads. Table 3 shows that hours variability is an important component of earnings instability. Postsecondary education (the omitted education category) and manual work are associated with income stability. The principal differences between the individual

labor earnings models for German and American male head is in the size of the coefficients for manual work (where the coefficient is larger in Germany) and for average household size (where the coefficient is larger in the United States). The regression for household postgovernment income shows similar results, except that head's labor market variables become less important, while the fraction of years in which a partner was present in the household becomes more important. The effect of having a partner present has an inverse U-shape, with the greatest CV

⁴ We measure hours changes using the individual's standard deviation in (lagged) annual hours. Annual work hours for the previous year are reported in the PSID. For the GSOEP, we constructed a measure of annual hours for the previous year using information on the respondent's month-by-month participation in full-time work, part-time work, unemployment, education and training, and retirement. We assign a number of hours per week to each state (e.g., 40 for full-time, 20 for part-time, etc.), multiply by 4.35 weeks per month, and sum over all twelve months.

Table 3

Regressions of Coefficient of Variation on Labor Market and Family Characteristics¹⁾

	Male Household Heads, Aged 25 to 50			
	Germany		United States	
	Individual Labor Earnings ²⁾			
Age of household head	-0.153	(-1.7)	0.047	(0.4)
Average household size	-0.103	(-0.1)	-1.706	(-2.7)
Fraction of years partner present, YPP	31.317	(1.2)	-22.530	(-1.1)
YPP squared	-32.526	(-1.3)	15.674	(1.0)
Manual work	-4.996	(-3.0)	-3.330	(-2.0)
Less than secondary education	10.589	(4.5)	10.642	(3.9)
Secondary education	8.992	(5.0)	5.081	(3.0)
Standard deviation of annual work hours	0.075	(11.7)	0.049	(14.2)
Changed firm	4.615	(1.6)	1.522	(1.0)
Changed class	2.886	(1.0)	0.809	(0.5)
R's labor earnings squared	0.0021	(4.9)	0.0003	(4.5)
Intercept	13.571	(2.8)	18.216	(2.4)
R squared	.50		.29	
Sample size	1,940		1,715	
	Household Postgovernment Income			
Age of household head	-0.148	(-2.4)	0.051	(0.8)
Average household size	0.481	(1.2)	0.491	(1.3)
Fraction of years partner present, YPP	54.954	(4.5)	18.215	(1.8)
YPP squared	-59.428	(-5.3)	-27.191	(-3.4)
Manual work	-1.668	(-1.6)	-2.594	(-2.6)
Less than secondary education	4.433	(3.2)	4.761	(2.8)
Secondary education	4.555	(3.4)	0.587	(0.6)
Standard deviation of annual work hours	0.014	(4.8)	0.018	(10.8)
Changed firm	0.363	(0.3)	2.119	(2.4)
Changed class	3.567	(2.1)	3.166	(3.1)
R's labor earnings squared	0.0013	(4.3)	0.0004	(7.5)
Intercept	21.913	(6.2)	17.559	(4.8)
R squared	.28		.26	
Sample size	1,941		1,716	

Table 3

Continued

	Female Household Heads, Aged 25 to 50			
	Germany		United States	
	Individual Labor Earnings ²⁾			
Age of household head	-0.991	(-2.2)	-0.417	(-1.3)
Average household size	7.702	(2.6)	7.430	(3.6)
Fraction of years partner present, YPP	-2.123	(-0.1)	-68.713	(-1.4)
YPP squared	-12.049	(-0.4)	93.007	(1.5)
Manual work	1.239	(0.3)	8.808	(1.6)
Less than secondary education	23.241	(3.2)	21.012	(3.3)
Secondary education	26.120	(3.4)	5.546	(1.3)
Standard deviation of annual work hours	0.064	(7.5)	0.052	(7.9)
Changed firm	-5.693	(-0.7)	-9.583	(-2.7)
Changed class	15.139	(1.7)	-0.797	(-0.2)
R's labor earnings squared	0.0179	(2.6)	0.0087	(1.8)
Intercept	16.693	(1.0)	21.258	(1.5)
R squared	.47		.29	
Sample size	235		728	
	Household Postgovernment Income			
Age of household head	-0.432	(-2.0)	-0.115	(-1.0)
Average household size	1.061	(0.7)	-1.593	(-2.3)
Fraction of years partner present, YPP	58.224	(4.5)	79.327	(5.3)
YPP squared	-66.391	(-4.5)	-68.404	(-4.2)
Manual work	6.506	(2.5)	1.324	(0.7)
Less than secondary education	4.533	(0.9)	4.505	(1.8)
Secondary education	8.930	(1.6)	1.121	(0.6)
Standard deviation of annual work hours	0.012	(3.3)	0.017	(6.1)
Changed firm	-0.221	(-0.1)	0.856	(0.5)
Changed class	3.196	(0.8)	2.922	(1.5)
R's labor earnings squared	0.0097	(1.9)	0.0010	(0.4)
Intercept	25.593	(3.3)	15.049	(2.8)
R squared	.34		.25	
Sample size	235		731	

1) Coefficient of variation has been multiplied by 100 for easier reading. The omitted education category is „post-secondary.” Sample restrictions as in Table 1. — 2) Labor earnings are measured in thousands around the sample mean.

Source: Authors' calculations from data drawn from PSID-GSOEP Equivalent Data File and PSID and GSOEP main files.

occurring when the fraction of years the partner was present is 0.5. While the shape of the relationship is similar for Germany and the United States, the size of the effect is considerably stronger in Germany. Another difference between United States and Germany is in the form of the relationship between education and earnings stability. In Germany, the major difference is whether or not the head had postsecondary education; there is no significant difference between holding a secondary degree or not. In the United States, there are significant differences associated with all levels of education. Furthermore, only the difference between high school and less than high school is significant for net family income. Next, we turn to the sample of female household heads. The regression results for individual labor earnings are broadly similar to those for male household heads, with stable work hours and postsecond-

ary education contributing to income stability. The most striking difference between the models for male and female heads is the strong effect of increased household size on individual labor earnings instability for female heads in both Germany and the United States. The regression results for household postgovernment income for female heads are also similar to those for male heads, except that the "years partner present" variable has larger effects for female heads than for male heads. Regressions for the sample of female partners (not shown to save space) reveal that the stability of individual labor earnings increases with age and decreases with household size in both countries, with stronger effects for these family and life-course factors for female partners in Germany than in the United States. These effects weaken substantially when household postgovernment income is the dependent variable. The

Table 4

Decomposition of National Differences in Income Stability

	Own Labor Earnings	Household Pregovernment Income	Household Postgovernment Income
Male Heads of Households			
German estimated CV ¹⁾	0.248	0.258	0.216
United States estimated CV	0.315	0.278	0.245
Difference (Germany — United States)	-0.067	-0.020	-0.029
Percent difference due to covariates (United States) ²⁾	-32	15	49
Percent difference due to covariates (Germany) ²⁾	8	87	68
Percent of difference due to:			
Mean inequality	-27	-71	-33
Job changing (United States)	8	43	38
Job changing (Germany)	24	60	25
Hours changes	170	328	202
Family stability (United States)	-7	35	34
Family stability (Germany)	16	84	69
Female Heads of Households			
German estimated CV	0.404	0.371	0.291
United States estimated CV	0.489	0.439	0.320
Difference (Germany — United States)	-0.085	-0.068	-0.029
Percent difference due to covariates (United States)	-77	65	240
Percent difference due to covariates (Germany)	11	4	211
Percent of difference due to:			
Mean inequality	-91	-83	-167
Job changing (United States)	-24	-5	19
Job changing (Germany)	10	2	13
Hours changes	84	23	163
Family stability (United States)	-86	60	244
Family stability (Germany)	3	33	198
Female Partners			
German estimated CV	0.540	0.255	0.211
United States estimated CV	0.656	0.262	0.232
Difference (Germany — United States)	-0.115	-0.006	-0.021
Percent difference due to covariates (United States)	-32	-101	-11
Percent difference due to covariates (Germany)	-1	-15	41
Percent of difference due to:			
Mean inequality	-12	-98	-22
Job changing (United States)	-31	-8	-2
Job changing (Germany)	-14	-145	-7
Hours changes	6	407	141
Family stability (United States)	-6	153	36
Family stability (Germany)	2	345	76

¹⁾CV = Coefficient of variation. — ²⁾ The country indicated in the parentheses refer to the coefficients used in the decomposition: (United States) refers to the effect of differences in mean covariate values weighted by the United States coefficients (see decomposition (1) in text), while (Germany) refers to the effect of differences in mean covariate values weighted by the German coefficients (see decomposition (2) in text). In both cases, we removed all differences due to aggregate inequality and due to hours fluctuations from the covariate totals. (See text for fuller explanation.) Sample restrictions and coefficient estimates as in Table 2.

Source: Authors' calculations based on regressions in Table 2.

fraction of years that the partner was present has a strong inverse-U shaped effect on the CV for household postgovernment income in Germany, but, surprisingly, the effect is not present in the United States.

6. Decompositions

These regressions results form the basis for a decomposition analysis of the differences in income stability in the two countries. We use standard methods to decompose the mean difference in CV's for the two countries (e.g., Jones and Kelley 1984). If \bar{y}_2 is the mean German CV and \bar{y}_1 is the mean American CV, then

$$\begin{aligned}\bar{y}_2 - \bar{y}_1 &= (\alpha_2 - \alpha_1) + \bar{X}_2\beta_2 - \bar{X}_1\beta_1 \\ &= (\bar{X}_2 - \bar{X}_1)\beta_1 + (\alpha_2 - \alpha_1) + \bar{X}_2(\beta_2 - \beta_1) \quad (1) \\ &= (\bar{X}_2 - \bar{X}_1)\beta_2 + (\alpha_2 - \alpha_1) + \bar{X}_1(\beta_2 - \beta_1), \quad (2)\end{aligned}$$

where α is an intercept. Expression (1) decomposes the mean difference into the effect of differences in the covariate means evaluated with the American coefficients plus the difference in the coefficients evaluated at the German covariate means, while expression (2) decomposes the mean CV difference into the difference in covariate means evaluated at the German coefficients plus the difference in the coefficients evaluated at the American means. We present both results in Table 4 as bounds on the role of cross-national differences in covariate means in generating mean differences in income stability. Because we lack a fully comparable measure of variation in annual work hours, we view these decompositions as somewhat tentative. For two of our variables — aggregate inequality and annual work hours variability — we cannot separately identify the effects of covariate differences from the effects of coefficient differences, because the coefficients contain a scaling factor to make the measures comparable for the two countries. Hence, we only report the combined effects of covariate differences and coefficient differences for these two variables.

For the case of male heads, cross-national differences in the means of the covariates (other than aggregate inequality and annual work hours) explain very little of the German advantage in the stability of own labor earnings. However, between 49 percent and 68 percent of the German advantage in the stability of household postgovernment income can be attributed to country differences in the covariate means.

We next examine the individual components of this difference. The mean of the square of sample-centered individual labor earnings equals the national variance in mean individual labor earnings, which is a measure of inequality for each country. While this variance measure cannot be directly compared across countries because of the

differences in the currency, the necessary scale factor will have the effect of shifting the coefficient for this variable. Thus, the sum of the terms for mean differences and for coefficient differences provides a control for differences in mean inequality in the two countries.

Clearly, cross-national differences in aggregate earnings inequality do not entirely account for cross-national differences in mean stability. However, cross-national differences in the size and the effect of hours variability alone can account for more than 100 percent of the cross-national difference in the stability of individual labor earnings. The difference between the decomposition for household postgovernment income and for own labor earnings is found principally in the increased importance of changes in family composition. In fact, using the German coefficients, family stability has more of an impact on cross-national differences in household postgovernment income stability than does job changing (net of the impact of job changing on hours variability).

For female heads, as for male heads, cross-national differences in work hours variability and their coefficients account for most of the cross-national difference in labor earnings stability. Cross-national differences in job changing play a weaker role for female than for male heads, while differences in the stability of family composition play a very important role in accounting for cross-national differences in the stability of household pre- and postgovernment income for female heads.

Our model for female partners is less successful in accounting for cross-national differences in the stability of individual labor earnings. As in the case of male heads, cross-national differences in family composition change and in work hours can account for the cross-national difference in stability of net family income. Differences in rates of job changing (net of their impact on hours), however, are less important for female partners than for male heads.

7. Summary

This paper establishes that fluctuations in family income tend to be higher in the United States than in Germany. This difference, first of all, is due to the greater turbulence in individual labor earnings in the United States than in Germany. We find evidence that a private, family-based insurance system is more developed in the United States than in Germany. The labor earnings of other family members stabilize the mean CV in the United States, but not in Germany. Nonlabor private income further stabilizes the mean CV in the United States more than in Germany. However, the combination of a more stable labor market and a more effective public social insurance system in Germany more than offsets the more effective private insurance system of the United States. As a consequence, net family income is more stable in Germany than the United States.

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