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## Savings behavior of private households in the United States and West Germany

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Working Paper No. 367

Savings Behavior of Private Households in  
the United States and West Germany

by

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Institut für Weltwirtschaft an der Universität Kiel  
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SAVINGS BEHAVIOR OF PRIVATE HOUSEHOLDS  
IN THE UNITED STATES AND WEST GERMANY

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## I. Introduction

In the eighties, the relatively low ratio of U.S. national saving has been increasingly criticized. Many observers were concerned about its continued decline and the widening gap between the U.S. savings ratio and that of many other industrial countries. The savings rate decreased from an average of 7.9 p.c. in the period from 1973 to 1980 to an average of 3.2 p.c. between 1981 and 1987 (Table 1). In particular, the relatively low and declining U.S. propensity to save has at least partly been made responsible for the United States becoming a net importer of capital since 1982, and for their running a large current account deficit at the same time. This is viewed as violating the "general rule" that a relatively rich country should export capital rather than compete with developing countries for internationally mobile capital and thereby driving up borrowing costs for those countries. The behavior of countries like West Germany - having a relatively high propensity to save, exporting more capital than importing, and thus running large current account surpluses - is therefore considered more appropriate.

Very often the gap between U.S., German, as well as many other countries' net national saving is overstated due to the fact that, in the United States, government expenditures are always counted as (government) consumption, whereas other countries generally distinguish between government consumption and government investment, the latter being included in national saving. But even taking this conceptual difference into account by eliminating government investment from the German savings figure, U.S. net national saving remains low relative to that of Germany (Table 1).

Apart from the large federal budget deficit which has contributed considerably to the low rate of saving in the United States during the eighties, the relatively low and declining savings rate of U.S. private households has attracted much

Table 1 - National Savings Ratios in the United States and Germany<sup>1</sup>

Period	United States		Germany		
	national savings ratio	personal savings ratio	national savings ratio total	savings ratio excluding government investment	personal savings ratio
1973-1980	7.9	6.2	13.6	10.1	10.9
1981-1987	3.2	4.4	10.9	8.9	10.1

<sup>1</sup>Net national and personal saving, respectively, as percentage of net national product at market prices minus net transfer payments to the rest of the world.- <sup>2</sup>Excluding government investment.

Source: Council of Economic Advisers, Economic Report of the President. Washington 1988.- U.S. Department of Commerce, Survey of Current Business, Vol. 68, Washington 1988, No. 8.- Statistisches Bundesamt, Fachserie 18: Volkswirtschaftliche Gesamtrechnungen, Reihe 1.3: Konten und Standardtabellen. Wiesbaden 1987.- Own estimates.

attention in recent years.<sup>1</sup> Personal saving amounted on average to more than 95 p.c. of net national saving from 1973 to 1987 both in the United States and Germany. Hence the decline in the personal savings ratio, as has happened in the United States in the fifteen years up to 1987 had a quite strong impact on national saving. Unfortunately, the criticism of the low savings activity of private households in the United States often gives the impression that U.S. households behave irrationally, while, for example, German households are wise enough to save for the future. In reality, the different savings behavior can be attributed to various factors determining it which vary across countries, such as the structure of the population and the tax system, and specific savings incentives.

<sup>1</sup> Cf. Alan Greenspan, "The most important issues of U.S. economic policy". In: Deutsche Bundesbank, Auszüge aus Presseartikeln. Frankfurt a.M., June 28, 1988, p. 10.

In this paper the problems involved in comparing the U.S. and German personal savings ratios are discussed and an attempt is made to calculate the U.S. savings ratio using the German concept. Subsequently, various factors are examined that have contributed to the difference in the savings activity of private households in the United States and Germany.

## II. Comparing U.S. and German Personal Savings Ratios

Private households' saving, which is that part of disposable personal income that is not used for consumption but for the accumulation of wealth, can only be obtained indirectly. One way of doing so is to calculate saving as the difference between disposable personal income and consumption of private households based on the National Income and Product Accounts (NIPA). This calculation method guarantees that the accumulation of financial as well as physical wealth is taken into account. However, inaccuracies involved in measuring personal income and private consumption, which are not uncommon, can lead to considerable errors in the calculation of the personal savings ratio. If, for example, given an underlying savings rate of 5 p.c., the disposable personal income were measured 5 p.c. higher than its true value, this would lead to a calculated savings ratio of almost 10 p.c., nearly doubling the true ratio.<sup>1</sup> Another method of obtaining the savings rate indirectly is to calculate the difference between private households' wealth accumulation and additional borrowing from the Flow of Funds Accounts.<sup>2</sup> Here, inaccuracies are also likely to occur, as the data on the sector of private households are generally obtained indirectly from the data on the government and business sectors. In addition, the measurement of expenditures on housing is often incomplete.

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<sup>1</sup> For a discussion on this subject cf. Deutsche Bundesbank "Die Sparquote der privaten Haushalte in der Bundesrepublik Deutschland im internationalen Vergleich". Monatsberichte, Vol. 36, Frankfurt a.M., 1984, No. 1, pp. 30-35.

<sup>2</sup> Cf. Board of Governors of the Federal Reserve System, Flow of Funds Accounts. Washington, various issues.

In Germany, personal saving is generally calculated from the German Flow of Funds Accounts (gesamtwirtschaftliche Finanzierungsrechnung).<sup>1</sup> Since the information contained in these tables is used to construct the German NIPA (VGR<sup>2</sup>), the difference between disposable personal income and consumption as shown in the NIPA is identical with the saving computed directly from the Flow of Funds Accounts.<sup>3</sup> In general, the German personal savings figure does not account for the accumulation of physical wealth. The only exception are funds which are used in connection with building loan contracts; when building and loan associations return accumulated funds to households so that they can acquire real estate or when credits are paid back by the households, these actions are considered as saving, or, to be exact, this shift from financial to physical wealth does not lower the personal savings ratio.

In the United States, the Department of Commerce uses the NIPA to calculate the official personal savings figure. The amount of saving that can be computed on the basis of the Flow of Funds Accounts differs from it quite considerably. Even after differences in definition are accounted for, for the period from 1973 to 1987, the Flow of Funds measure is still an average \$18 billion or roughly 15 p.c. higher than the NIPA measure.<sup>4</sup>

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<sup>1</sup> Cf. Zahlenübersichten und methodische Erläuterungen zur gesamtwirtschaftlichen Finanzierungsrechnung der Deutschen Bundesbank 1960-1987, Deutsche Bundesbank, Sonderdrucke No. 4. Frankfurt a.M., July 1988, and Renate Hornung-Draus, "Das Vermögen der privaten Haushalte in der Bundesrepublik Deutschland: Bestand, Entwicklung und Verteilung". Jahrbücher für Nationalökonomie und Statistik, Vol. 206, No. 1, 1989, pp. 18-47.

<sup>2</sup> Volkswirtschaftliche Gesamtrechnungen.

<sup>3</sup> There are nevertheless two different official measures for the German savings ratio, namely that of the Deutsche Bundesbank and that of the Statistisches Bundesamt, the difference being that only the latter includes claims against firm-owned pension funds in personal saving and is therefore slightly higher than the former.

<sup>4</sup> Before the Flow of Funds Accounts were revised recently, the discrepancy even amounted to \$31 billion on average. For the new estimates see Board of Governors of the Federal Reserve System: Flow of Funds Accounts, Second Quarter 1988, Annual Revisions. Washington 1988.

There are several reasons why the official U.S. personal savings ratio is not comparable to the official German ratios. One reason is that in the United States all funds that are either accumulated or immediately used to finance residential construction or to purchase real estate are included in the measure of personal saving. In Germany, on the other hand, this is only true for funds used in connection with a building loan contract. In addition, consumption expenditures financed by mortgage credits lower personal saving according to the U.S. measure. This is not the case according to the German measure since by definition mortgage credits are not attributed to the household sector; instead, they are ascribed to residential construction which is included in the German business sector.<sup>1</sup> Finally, the treatment of noncorporate firms differs between the two countries. In the United States, these firms are counted completely as private households, whereas in Germany only the funds extracted for private purposes, be it consumption or saving, are considered in the household sector. However, the importance of such noncorporate firms is much greater in Germany than in the United States.<sup>2</sup>

Attempts to make the U.S. and German personal savings ratios comparable have been only partly successful so far since some of the underlying data are gathered and structured differently in the two countries. Figure 1 shows a modified U.S. savings ratio computed according to a method developed by the Deutsche Bundesbank in 1984.<sup>3</sup> Here the U.S. Flow of Funds data are used to compute the difference between the households' net financial

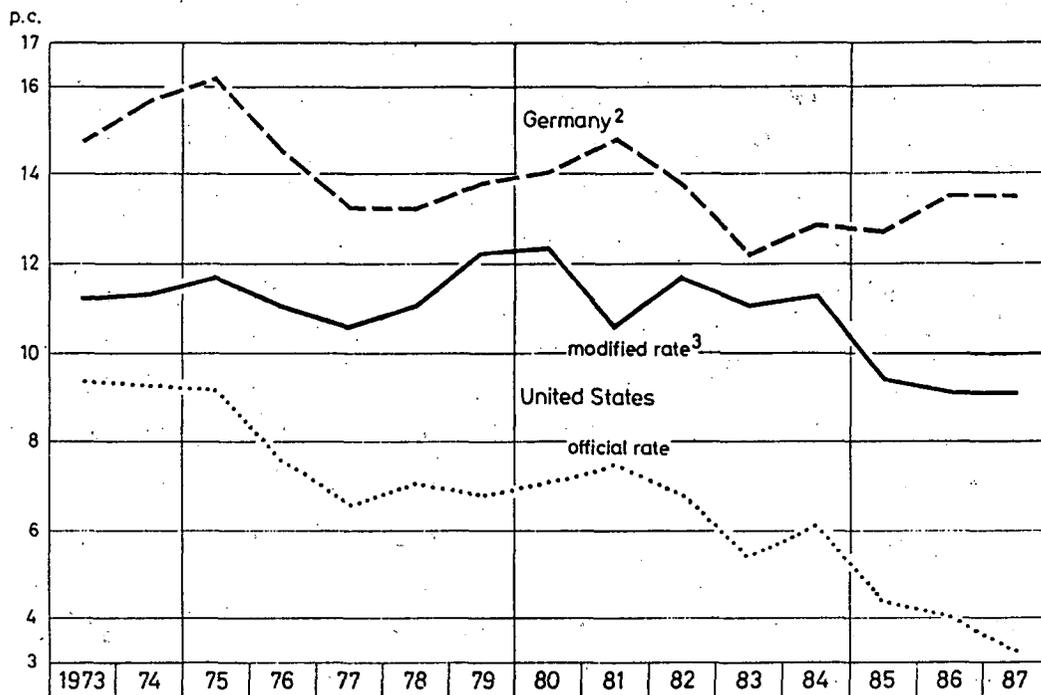
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<sup>1</sup> Nevertheless, the savings ratio of German private households does decline slightly since consumption and thereby personal income - the sum of consumption and saving - is raised.

<sup>2</sup> In Germany, the ratio between gross income of noncorporate firms and the compensation of employees amounts to roughly 30 p.c. which more than doubles the corresponding U.S. ratio. Cf. Council of Economic Advisers, Economic Report of the President. Washington 1988, and Statistisches Bundesamt, Fachserie 18: Volkswirtschaftliche Gesamtrechnungen, Reihe 1: Konten und Standardtabellen. Wiesbaden 1987.

<sup>3</sup> Cf. op. cit., Deutsche Bundesbank, Monatsberichte.

Figure 1 - Personal Savings Rates in the United States and Germany<sup>1</sup>



<sup>1</sup>Based on disposable income of private households. -<sup>2</sup>According to the Deutsche Bundesbank. -<sup>3</sup>Method of calculation described in the text.

Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts. Washington, var. issues.- Council of Economic Advisers, Economic Report of the President. Washington 1988.- Deutsche Bundesbank, Zahlenübersichten und methodische Erläuterungen zur gesamtwirtschaftlichen Finanzierungsrechnung der Deutschen Bundesbank 1960-1987, Sonderdrucke, No. 4, Frankfurt a.M., July 1988.- Own calculations.

investment and their increase in credit (excluding mortgage credit since this is not included in the German measure either). This figure is diminished by the households' net investment in noncorporate business,<sup>1</sup> and by credits from government insurance which are neither included in the German nor the NIPA savings measure. Finally, half the discrepancy between the adjusted NIPA and the Flow of Funds savings measure, averaging \$18 billion for the period from 1973 to 1987 as mentioned above, is added to each year's calculated figure.

<sup>1</sup> Since this position has always been negative, its exclusion leads to an increase in saving.

However, this method also has major problems. In particular, it does not include funds used by households for construction in connection with building loan contracts which are included in the German savings measure; this would raise the U.S. savings ratio. Not deducting the mortgage loans implies, on the other hand, that all the consumption expenditures which are financed by such loans (which are quite considerable in the United States)<sup>1</sup> do not lower the computed savings ratio as would be desirable. Nevertheless, it is probably safe to conclude from this exercise that the true gap between the savings ratios of private households in the United States and in Germany is not as high as implied by the official figures, but that it is nevertheless substantial. How this gap can be explained will be discussed in the remainder of this paper.

### III. Influences on the Savings Behavior of U.S. and German Households

Apart from the business cycle causing temporary changes in the personal savings ratios which will not be discussed here, there are various factors that affect the savings behavior of private households independently of such short-run fluctuations. These include the population structure, the participation in the labor force, tax incentives, and changes in financial and stock markets.

#### 1. Population Structure

One important determinant of the personal savings ratio in a country is the age structure of its population.<sup>2</sup> This is an

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<sup>1</sup> Cf. OECD, Economic Surveys, 1987/88 United States. Paris, May 1988.

<sup>2</sup> Cf. Peter Sturm, Determinants of Saving: Theory and evidence. OECD Economic Studies, No. 1, Paris, August 1983, and John W. Graham, "International Differences in Saving Rates and the Life Cycle Hypothesis". European Economic Review, Vol. 31, 1987, pp. 1509-1529.

implication of the life cycle hypothesis, which states that the savings ratio of a household is low when the head of the household enters working life, rises subsequently, and becomes negative after retirement.<sup>1</sup> By and large, this hypothesis is confirmed by empirical evidence.<sup>2</sup>

In the United States, the birth rate was quite high from the end of the World War II until the beginning of the sixties.<sup>3</sup> As a consequence, the population share of the age group from 20 to 34 years (which predominantly consists of those people who have not yet finished education or who have not been working for long) started to increase remarkably at the beginning of the seventies. In accordance with the life cycle hypothesis, this age group has a relatively low savings ratio. Since 1981, it has stagnated at a high level (Table 2). In Germany, on the other hand, the babyboom did not start until late in the fifties. Therefore the corresponding population share has increased only since the late seventies. Hence, in the United States, the population share of the 20- to 34-year olds has been an average 4 percentage points higher than in Germany for the past fifteen years. Although it is also correct that the share of the older population (65 years old and over) which has a relatively low savings ratio averaged 3 percentage points more in Germany than in the United States for the same period, this effect on the aggregate savings ratio was probably more than compensated by the (6 percentage points) higher German share of the 35- to 64-year olds which have a relatively high savings ratio. On the whole, the different age structure of the

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<sup>1</sup> Cf. Franco Modigliani, Albert Ando, "The Life Cycle Hypothesis of Saving". American Economic Review, Vol. 53, 1963, pp. 55-84.

<sup>2</sup> Empirical studies do not generally confirm that wealth declines after retirement; nevertheless, the savings ratio declines. Two major arguments for the still positive savings ratio are that the time of death is uncertain and the wish exists to leave a bequest. Cf. Thad Mirer, "The Wealth-Age Relationship Among the Aged". American Economic Review, Vol. 69, 1979, pp. 435-443.

<sup>3</sup> Cf. OECD, Economic Surveys, United States, Paris, November 1979, p. 39.

Table 2 - Age Structure and Female Labor Force Participation in the United States and Germany from 1973 to 1987 - Population Shares.

Year	United States					Germany <sup>1</sup>				
	0-19	20-34	35-64	65 years and older	female labor force participation <sup>2</sup>	0-19	20-34	35-64	65 years and older	female labor force participation <sup>2</sup>
1973	36.3	22.3	31.2	10.2	44.7	29.3	21.2	35.6	13.9	39.9
1975	35.1	23.5	30.9	10.5	46.3	28.8	20.5	36.3	14.5	39.4
1980	32.0	25.8	31.0	11.3	51.5	26.7	21.0	36.9	15.5	40.0
1981	31.3	26.4	30.9	11.4	52.1	26.1	21.6	36.9	15.3	40.5
1982	30.8	26.4	31.3	11.6	52.6	25.5	22.1	37.4	15.1	41.0
1983	30.3	26.4	31.6	11.7	52.9	24.8	22.5	38.0	14.8	41.5
1984	29.9	26.5	31.9	11.8	53.6	23.9	22.9	38.4	14.7	42.0
1985	29.5	26.4	32.1	12.0	54.5	23.2	23.4	38.6	14.8	42.5
1986 <sup>3</sup>	29.3	26.2	32.4	12.1	55.3	22.5	23.8	38.7	15.1	42.7
1987 <sup>3</sup>	29.1	26.0	32.7	12.2	56.0	21.8	24.2	38.7	15.3	43.0

<sup>1</sup>Not taking into account the results of the census in May 1987.- <sup>2</sup>Share of female labor force (in Germany: using the microcensus data) in the total female population with the age of at least 16 years.- <sup>3</sup>Partly estimated.

Source: U.S. Department of Commerce, Current Population Reports and Statistical Abstract of the United States. Washington var. issues.- Statistisches Bundesamt, Statistisches Jahrbuch für die Bundesrepublik Deutschland. Wiesbaden, var.issues.- Own calculations.

population seems to explain to a considerable extent why in Germany the households' savings ratio has been higher in the fifteen years up to 1987 than in the United States. Furthermore, the change in the age structure partly helps to explain the long-run downward trend of the savings ratios in both countries.

## 2. Female Labor Force Participation

Apart from the age structure, the labor force participation, particularly that of women, influences the savings behavior of households.<sup>1</sup> When women enter the labor force, the household income increases. This does increase the household's ability to save. However, there are several reasons in favor of an increase of the household's consumption propensity as a second household member (generally the woman) enters the labor force.<sup>2</sup> First, the risk of a total income loss<sup>3</sup> through unemployment is generally lower in a two-earner household as compared to one where only one person earns the household income.<sup>4</sup> Therefore, it is unlikely that savings as a precaution against income loss will increase at the same rate as income. Furthermore, the reduced income uncertainty should cause the banks to increase the household's credit line by more than its rise in income. In addition, precautionary savings for unexpected expenditures, e.g., as a consequence of an accident, are not likely to increase by much, because the corresponding risk should only rise slightly if at all with the woman's entrance into working life. Finally, with two people working, additional expenditures become necessary as, for example, for durable consumer goods such as freezers and microwave ovens and expenditures for child care. Generally, services which had previously been produced at home, thus not being included in the NIPA, are now increasingly demanded and paid for. This also increases the base of the sa-

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<sup>1</sup> While the age structure of the population is by and large exogenous, especially the female labor force participation can be influenced considerably by economic policy. For example, a relatively high progressivity of tax rates may especially discourage the job search of (married) women, because their second-earner income would be taxed at an effective tax rate that might exceed the maximum tax rate by far.

<sup>2</sup> Cf. op. cit., OECD, 1979, p. 42.

<sup>3</sup> Referring to the loss of income minus payments from the unemployment insurance.

<sup>4</sup> For a proof cf. Edward M. Montgomery, Test of Alternate Explanations of the Decline in the Personal Saving Rate. Diss., Cambridge, Mass., 1982.

vings ratio, which declines as a consequence.<sup>1</sup>

In the United States, the female labor force participation is much higher than in Germany. For the period from 1973 to 1987, the average U.S. participation ratio of women was over 10 percentage points higher than the German one; in 1987, the difference even amounted to 13 percentage points. Thus it seems reasonable that the higher level and the stronger increase in the U.S. female labor force participation added to the personal savings gap between the United States and Germany.

### 3. The Influence of Tax Policy on Consumption and Saving of Private Households

Government policy which changes the return on savings or the cost of consumption plays an important role in determining the personal savings ratio. Therefore, it has to be examined whether a part of the U.S.-German savings gap can be explained by differences in economic policy. This question is difficult to answer, because economic policy affects the household's propensity to save through various channels and not always in the same direction.

One aspect which should be looked at is the share of direct taxes in total taxes. A general income tax (direct tax) is likely to dampen a household's propensity to save, because it also taxes interest income on savings, thereby discriminating future consumption against current consumption.<sup>2</sup> On the other hand, a general consumption tax (indirect tax) does not affect the household's decision of whether to consume a commodity

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<sup>1</sup> Cf. Victor R. Fuchs, "Economic Growth and the Rise of Service Employment". In: Herbert Giersch (Ed.), *Towards an Explanation of Economic Growth*, Kiel 1980, pp. 221-247.

<sup>2</sup> This "substitution effect" is most likely only partly counteracted by the "income effect" which makes it necessary for the household to save more in order to be able to afford the same consumption in the future.

today or tomorrow, saving today less or more. Under these conditions it is to be expected that the personal savings ratio in a country tends to decline with an increase in the share of direct taxes in total taxes.<sup>1</sup>

According to the statistics of government finance, this share of direct taxes was on average 6 percentage points higher in Germany than in the United States for the period from 1973 to 1987.<sup>2</sup> According to the NIPA, the difference even amounted to roughly 15 percentage points.<sup>3</sup> Of course, these numbers have to be considered with caution due to the difficulty of categorizing some taxes as direct or indirect. But it is likely that the higher share of direct taxes in the United States as compared to Germany contributed to the lower savings propensity of U.S. private households between 1973 and 1987.

A comparison of the effective rate at which income on capital is taxed in each country should similarly indicate in which country saving is more discouraged. Although there is no exact number available, there is good reason to believe that a considerable part of such income is not reported and consequently not properly taxed in Germany.<sup>4</sup> In the United States, on the other hand, savings institutions have to report interest and other income on capital to the fiscus. This is one reason why in the seventies the effective tax on capital income most likely was higher in the United States than in Germany. Whether

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<sup>1</sup> Cf. Laurence J. Kotlikoff, "Taxation and Savings: A Neoclassical Perspective". *Journal of Economic Literature*, Vol. 22, 1984, No. 4, pp. 1576-1629.

<sup>2</sup> Cf. Tax Foundation, *Facts and Figures on Government Finance*. Washington 1986, and Bundesministerium der Finanzen, *Finanzbericht 1989*. Bonn 1988.

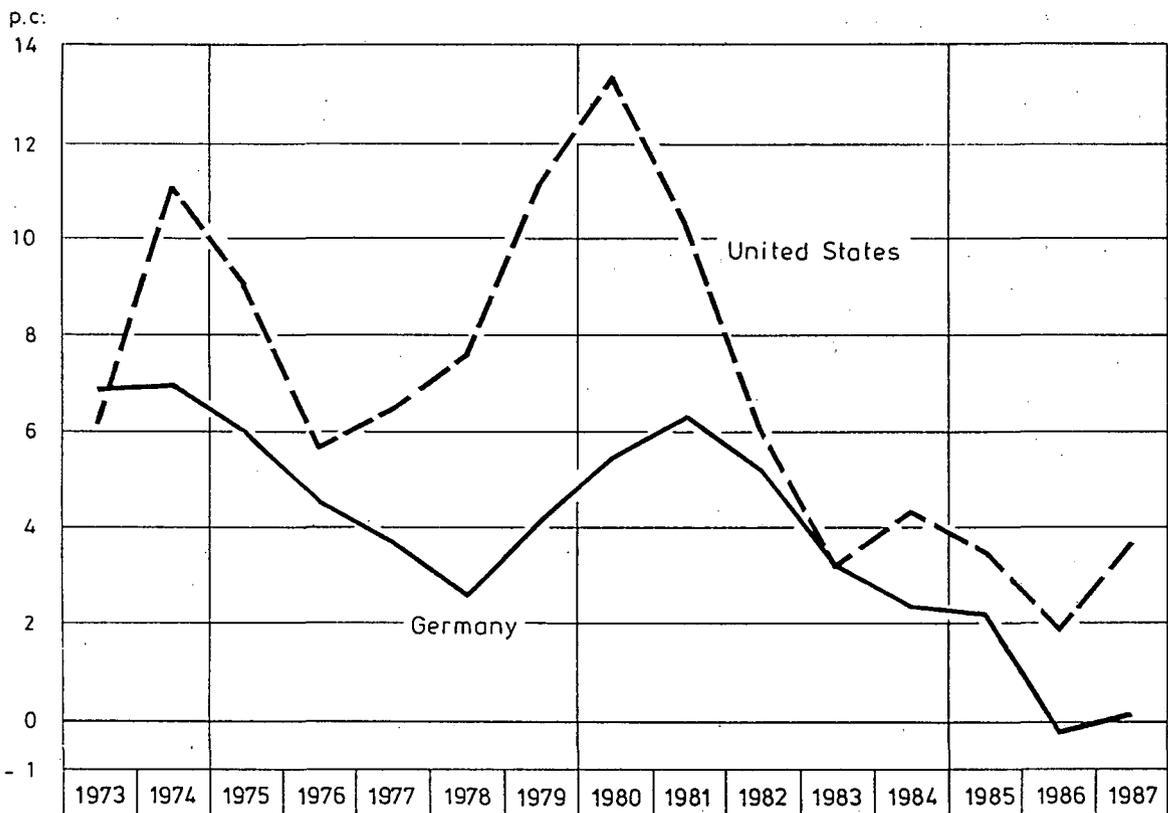
<sup>3</sup> Cf. op. cit., Council of Economic Advisers, and Statistisches Bundesamt, *Der Staat in den Volkswirtschaftlichen Gesamtrechnungen 1950-1987*. Wiesbaden 1988.

<sup>4</sup> The recent capital export from Germany in response to the introduction of a 10 p.c. tax of interest income at the source on January 1, 1989 seems to confirm this presumption.

this still holds true for the eighties is less certain in view of the various income tax reductions in the United States since 1981, only partly matched by the recent German tax reductions.

In addition, during the 15 years up to 1987, the inflation rate in the United States was almost persistently higher than in Germany (Figure 2). Therefore, nominal U.S. interest rates also tended to exceed the corresponding German rates. Since taxes are charged on nominal and not on real interest income, which would be more appropriate, a higher inflation rate generally leads to a lower real after-tax return on savings. This effect is exacerbated by the fact that, with higher nominal income, both the marginal and average tax rates rise due to the progressivity of the income tax system. Hence the interaction

Figure 2 - Inflation Rates in the United States and Germany<sup>1</sup>



<sup>1</sup>Percentage change of consumer prices from previous year.

of taxation and inflation most likely discouraged the households' propensity to save to a greater extent in the United States than in Germany in the seventies and to a lesser extent in the eighties.<sup>1</sup>

Another important difference between the two countries was until recently that the U.S. consumers were able to deduct interest payments on consumer loans from their taxable income (until 1986), whereas German households could not. Reinforced by the high inflation rates and the progressivity of the tax system in the United States particularly in the seventies, this lowered the effective cost of consumption and most certainly dampened saving. Since interest payments on mortgage loans are still deductible (as they are in Germany), there has been an increased incentive in recent years to finance consumption expenditures through such loans.

Finally, in general there has been a much wider array of explicit measures designed to stimulate household saving in Germany than in the United States. These include bonuses paid by the government under the so-called Savings Premium Law (Spar-Prämiengesetz) and the Law on the Payment of Premiums for Financing the Construction of Residential Properties (Wohnungsbau-Prämiengesetz), as well as special bonuses paid by employers. They are all paid on the condition that the funds be tied for a couple of years.

However, these measures which had been started after World War II have been reduced over the years beginning in the mid-seventies since the goal of these laws, to stimulate the accu-

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<sup>1</sup> Contrary to this view it is sometimes argued that higher inflation implies higher real income uncertainty inducing the households to increase their savings activity. However, the observation that the savings rate tends to rise with the inflation rate at the end of a cyclical upswing is not sufficient to confirm this argument since the recessionary fears which emerge at the end of the upswing could be reason enough for the households to increase their savings.

mulation of household wealth in Germany, has been considered achieved.<sup>1</sup> In addition, there is the possibility of deducting a certain amount of contributions to private old-age insurance from taxable income. This is similar to the so-called IRAs (Individual Retirement Accounts) in the United States. Funds deposited in these accounts are not taxed until the holder withdraws them at the age of 59 or later. This saving incentive, which has been widely discussed, was extended in 1981 and restricted again in 1986.<sup>2</sup>

On the whole, the evidence seems convincing that economic policy during the 15 years up to 1987 was much more conducive to personal saving in Germany than in the United States. This is particularly true for the seventies, to a lesser extent for the eighties.

#### 4. Increase in Wealth

An increase in household wealth, e.g., through the rise in stock prices, relative to disposable income can lower the savings rate in two ways. First, the household may feel richer and consume more out of his (unchanged) current income. Second, if households consider the purchase of durable goods - contrary to the usual definition - as wealth accumulation, then a sudden increase in financial wealth would induce the households to spend a larger share of their current income on consumer durables to restore their optimal balance of physical and financial wealth, thereby "saving" at a lower rate.

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<sup>1</sup> In 1975, all government premiums were restricted to medium- and low-income earners. In November 1980, the possibility to start new saving contracts under the Savings Premium Law was abolished altogether. Hence, payments on such contracts have been phased out in recent years. Cf. Bundesministerium der Finanzen, 11. Subventionsbericht. Bonn 1987.

<sup>2</sup> See, for example, Martin Feldstein, Daniel Feenberg, "Alternative Tax Rules and Saving Incentives: Microeconomic Data and Behavioral Simulations". In: Martin Feldstein (Ed.), Behavioral Simulation Methods in Tax Policy Analysis. Chicago 1983, pp. 173-210, and Michael J. Boskin, Reagan and the U.S. Economy. San Francisco 1987.

Between 1973 and 1987, the increase in U.S. stock prices barely exceeded that of German share prices. However, the development was quite different over the course of time.<sup>1</sup> In Germany, the upward movement of stock prices stopped at the end of 1985, more or less stagnating at the achieved level until the end of 1987. In the United States, on the other hand, share prices increased from the beginning of 1986 to the end of 1987 by more than one third. This partly explains why the U.S. personal savings rate has declined so strongly during recent years, while the German savings rate has not.<sup>2</sup>

## 5. Changes in Financial Markets

Another factor which seems to be important for the determination of the personal savings rate is the extent to which households can borrow funds from the credit markets, and what costs they incur in doing so.<sup>3</sup> In the United States, contrary to Germany, it is quite difficult to overdraw accounts. Since the beginning of the seventies, this difficulty of financing current expenditures which exceed current financial wealth has more and more disappeared through the rapidly growing use of credit cards. In addition, in connection with the deregulation of financial markets there has been a trend towards backing consumer credits through the issuing of bonds (securitization). Together with increased competition, this has contributed to a decline in interest rates. As a consequence, the credit rates, e.g., for car loans, which roughly matched those of a personal

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<sup>1</sup> Even if it had not been the effect of changes in stock prices on personal saving should have been less dramatic in Germany, since the share of households owning stocks is below 10 p.c., whereas it exceeds 20 p.c. in the United States.

<sup>2</sup> The OECD calculated that the increase in U.S. stock wealth relative to income from 1982 to mid-1987 explains 2.5 percentage points of the decline in the U.S. personal savings rate. Cf. op. cit., OECD, 1987/1988, p. 130.

<sup>3</sup> Cf. James Tobin, Walter Dolde, "Wealth, Liquidity and Consumption". In: Consumer Spending and Monetary Policy: The Linkages. Federal Reserve Board of Boston, Conference Series No. 5, Boston, June 1971, pp. 99-146.

2-year loan in the seventies, have been much lower than the latter during the eighties. Furthermore, the abolition of a maximum level on mortgage rates has extended the mortgage credits available considerably; previously, every cyclical upswing with rising interest rates had dried out the mortgage loan market.<sup>1</sup> Recalling that during the period considered here there was an increasing number of people in the younger age group with a high demand for durable consumer goods, this recent development in the U.S. financial markets - imitated only very slowly in Germany - should have dampened the savings rate of U.S. private households particularly in the eighties.

#### IV. Summary and Conclusion

During the fifteen years up to 1987, the savings activity of private households was lower in the United States than in Germany. This savings gap even has increased towards the end of this period. It might be somewhat overstated by the official rates due to differences in definition, but there still remains a noticeable difference in the savings behavior of the two countries' households.

There is a considerable number of reasons why from 1973 to 1987 U.S. households had a lower savings propensity than German households. One important factor is the different age structure of the population in the two countries. Another is the higher and strongly increasing labor force participation of women in the United States as compared to Germany. Furthermore, the larger U.S. share of direct taxes in total tax revenue, as well as a higher inflation rate and the possibility (until 1986) of deducting interest payments on consumer loans from taxable income has discouraged saving in the United States more than in Germany. In addition, the German government took more measures to stimulate saving explicitly, although these programs have

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<sup>1</sup> Cf. op. cit., OECD, 1987/1988, p. 113.

been reduced over time. Finally, the changes in U.S. financial markets and the comparatively high rise in stock prices have contributed to the decline in the U.S. savings ratio during the eighties.

In view of the changes of important determinants of the savings ratios in both countries, it should be expected that, over time, the U.S.-German gap in household saving will narrow again. One reason for this conjecture is the future development of the population in both countries. The U.S. babyboom generation is reaching the age at which the savings propensity is relatively high, whereas the German babyboom generation is still growing into the age group which saves comparatively little. In addition, the influence of government policy on saving is not as different in the two countries as it used to be. The effective taxation of capital income has most likely converged somewhat. Tax rates have been reduced more in the United States than in Germany, and the difference between the two countries' inflation rates has declined. Finally, in Germany, the introduction of a 10 p.c. source tax on interest income on January 1, 1989 and the phasing out of various programs designed to stimulate saving should slightly dampen the savings activity of German households.

Household saving is influenced by many variables and in many directions at the same time. Not all of them could be discussed here. In particular, due to their complexity, the possible influence of the countries' social security systems and their governments' debt on household saving have not been addressed in this paper. They deserve further study. In addition, it seems worthwhile trying to quantify effects the different variables discussed here had on household saving. Finally, it should be analyzed to what extent the propensity of households and of different nations to save actually matters for the long-run development of their economies, given the possibility of importing capital from abroad.