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Foreword

Progress Foundation's Sixth International Economic Conference brought together two distinguished economists, Professor Horst Siebert of the Kiel Institute for World Economics and Professor Benjamin M. Friedman of Harvard University, to consider a subject that many economists regard as central to the vitality of capitalist economies everywhere: namely, the availability of financial capital. Under any circumstances, an abundance or scarcity of financial capital has far-reaching implications for the behavior of the international financial markets.

In today's situation, wherein historical suppliers of financial capital to world markets such as the United States and Germany could become consumers of capital, the implications may be even greater. At stake are matters of obvious concern to investors seeking the most favorable real returns on capital. Perhaps more important in the long run, the effects of today's saving (or dissaving) behavior in countries such as the United States and Germany may shape the outlook for economic growth in emerging market economies worldwide, where demand for capital may be expected to accelerate if the liberalization of regimes continues to proceed. Indeed, the greatest tragedy of the global economy today is the flow of capital from the less-developed countries (where, by definition, the returns to capital should be greatest) to countries such as the United States and Germany.

Despite the increased demand for capital that German reunification has occasioned, in Professor Siebert's view the eventual productivity gains that will be achieved will provide enhanced returns — which implies the long-term appreciation of the Deutsche mark. However, this outcome will be achieved only if "post-wall" German economic policy is favorable. He warns: "If subsidies to firms in eastern Germany dominate the adjustment process, old inefficiencies will be perpetuated, limiting the rise in capital efficiency in eastern Germany. Another aspect is that policy may not succeed in scaling down social transfers. Subsidies and social transfers burden the budget deficit and increase debt, or taxes have to be raised. The expectation of depreciation may dominate...." Thus, Professor Siebert concludes that "Economic policy will decide which scenario will eventually materialize. If German economic policy does not make serious mistakes, the long-run positive effects [of reunification] will dominate."

Professor Friedman's analysis of private saving and Government dissaving in the United States is rather less equivocal — and less reassuring. In his view, over the next 5 to 10 years "the United States will continue to drain large quantities of saving from world markets" and
there will be upward pressure on real interest rates worldwide, with negative consequences for worldwide investment and hence for worldwide economic development.” He warns that “borrowing has created within the United States the illusion of prosperity ... maintained on the basis of borrowed money and therefore borrowed time” and that eventually Americans may pay the price in, among other possibilities, higher taxes and a depreciated dollar.

As in all Progress Foundation economic conferences, the views expressed by the participants are their own and do not necessarily represent the views of the sponsoring institutions. As with previous such events, however, we believe that the discussions in the pages that follow are both timely and pertinent — and will engage the reader’s interest whatever his or her particular views.

About the Participants

Horst Siebert is President of the Institut für Weltwirtschaft (Institute for World Economics) at Kiel University, Kiel, Germany. Mr. Siebert was born in Neuwied, Germany, and was educated in economics at the University of Cologne and Wesleyan University. He has served on the faculties of a number of German universities, and has held a variety of teaching and research posts abroad, including appointments in Washington, D.C., Budapest, Grenoble, and Canberra. In 1983, Mr. Siebert was a Visiting Professor in the Department of Economics at Harvard, and since 1988 has lectured occasionally at the Massachusetts Institute of Technology.

Among his numerous publications are several books in English, including Economics of the Environment: Theory & Policy, The Resource Sector in an Open Economy, The Completion of the Internal Market, and Reforming Capital Income Taxation.

He currently serves on the Advisory Board of the German Ministry of Economic Affairs and the Steering Committee of the G7 Council.

Benjamin M. Friedman is William Joseph Mayer Professor of Political Economy and Chairman of the Department of Economics at Harvard University. Mr. Friedman received the A.B., A.M., and Ph.D. degrees in economics from Harvard and the M.Sc. degree in economics and politics from King’s College, Cambridge, where he studied as a Marshall Scholar.

His most recent book, Day of Reckoning: The Consequences of American Economic Policy Under Reagan and After, received the George S. Eccles prize awarded annually by Columbia University for excellence in writing on economics. In addition to Day of Reckoning, Mr. Friedman is the author of numerous other books, including Economic Stabilization Policy, Monetary Policy in the United States, New Challenges to the Role

Before joining the Harvard faculty in 1972, Mr. Friedman was with Morgan Stanley & Co., investment bankers in New York, and worked in consulting or other capacities with the Board of Governors of the Federal Reserve System, the Federal Reserve Bank of New York, and the Federal Reserve Bank of Boston. Among other activities, he serves currently as director of financial markets and monetary economics research at the National Bureau of Economic Research, as a director of the Private Export Funding Corporation, and as an associate editor of the Journal of Monetary Economics.

Conference Coordinators

Dr. Marcel Studer is Chairman of the Board of Trustees of Progress Foundation, Carona, Switzerland.

Professor Peter Forstmoser is Professor of Economics at the University of Zürich and Chairman of the Board of Trustees of the Liberal Institute, Zürich, Switzerland.

Dr. Robert Gilmour is President and Chief Executive Officer of American Institute for Economic Research, Great Barrington, Massachusetts, and a Member of the Board of Trustees of Progress Foundation.
Proceedings

Dr. Studer: Ladies and gentlemen, this year's Economic Conference for the first time is being convened at the joint invitation of the Liberal Institute of Zürich, and the Progress Foundation, which is seated in Carona. I bid you a hearty welcome in the name of both organizations.

This cooperative venture has not required the services of a mergers and acquisition firm — the less so as a merger is neither intended nor desirable. Indeed, that institutional diversity fosters the explication of the widest possible variety of individual opinions is part of the liberal philosophy (that is, liberal in the European sense). It is, however, desirable in times when financial means may be scarce that like-minded institutions get together in order to disseminate their message to a broader public — "to join forces" as it were — and I do hope that further joint ventures will follow.

In particular I welcome among our guests: Hon. Sheldon J. Krebe, the recently appointed Consul General of the United States of America in Zürich; Mr. Theodor Schmitz, departing Consul General of the Federal Republic of Germany in Zürich; General Blumer, Commander Of Mech Division 11; and General Ostertag, Commander of Ter-Zone 4. I am particularly pleased to welcome Mr. Hans Wehrli, Member of the City Council of Zürich. I do not know in which capacity you are here tonight. We would, however, be pleased to welcome you, Mr. Councilman, in about one year's time at our next Economic Conference as representative of the majority of the City Council.

We consider it as a sign of the pertinence of today's subject that the academic community is particularly well represented. I welcome from the Federal Polytechnical University of Zürich Professors Georg Erdmann, Bruno Fritsch, and Martin Lendi; from the Hochschule St. Gallen für Wirtschaftsrecht und Sozialwissenschaften Messrs. Professors Jörg Baumberger, Klaus Durrer, and Tilman Slembeck; from the University of Zürich Frau Professor Heidi Schelbert, Frau Professor Regina Ogorek and the Professors Büsset, Bruno Frey, Ruloff, and Willy Linder, as well as Professors Jürg Brunner and Albert Stahel. Of course, we are pleased also to note a wide representation of the media.

Today's topic, "International Savings Flows," at first glance may seem to be mainly of academic interest. In fact, as today's presentations will make clear, it is of paramount importance for the political economy.

We are pleased that once again we succeeded in engaging two internationally renowned speakers: Professor Horst Siebert, President of the Institut für Weltwirtschaft at the University of Kiel, and Professor Ben-
jamin Friedman, Professor of Political Economy and Chairman of the Department of Economics at Harvard University.

Professor Peter Forstmoser, Chairman of the Board of Trustees of the Liberal Institute, has agreed to introduce Professor Siebert. Dr. Robert Gilmour, Trustee of Progress Foundation and President of the American Institute for Economic Research, Great Barrington, Massachusetts, will present to you Professor Friedman.

Following Professor Friedman's speech you will have the opportunity to ask questions and I hope that you will make use of it. I now invite Professor Forstmoser to the podium.

**Professor Forstmoser:** Ladies and gentlemen, I am pleased to welcome you on behalf of the Liberal Institute and in my capacity as its President. You are already familiar with the topic of this evening: "International Savings Flows," dealing with savings behavior and how it is affected by general political conditions. The United States and Germany have been chosen as sample cases to illustrate this theme.

It is hardly necessary for me to stress the fact that Switzerland and especially the finance center, Zürich, show a keen interest in the subject of savings behavior, both in its practical and theoretical aspects.

Savings — and its encouragement or obstruction by political, juridical, economic, and sociocultural conditions — is a specifically "Swiss topic" and a "Zürich topic" par excellence. That's why I might say that this place at Zürich's Paradeplatz — right in the heart of the banking community — is obviously the perfect choice for a discussion in this context.

But this topic is also closely related to the basic problems we are dealing with at the Liberal Institute. "Private Saving" plays a key role in a liberal market economy. On the other hand, the term "Government Dissaving" is an appropriate figure of speech of topical interest describing public spending policy, although there is hardly any equivalent term in other languages. Today, we are thus dealing with two important aspects of necessary actions and measures from the liberal point of view.

That's why I particularly enjoy the opportunity to discuss such a key problem of topical interest together with the U.S.-affiliated Progress Foundation, though its legal domicile is in Switzerland. In addition, I very much hope that this evening will initiate a continued cooperation between our two institutions pursuing identical objectives.

Please allow me to give now a brief outline of our Institute in English for our guests from the United States. As regards the German-speaking
participants, we hope that they know us. Should this assumption be too optimistic, explanatory literature is available for interested parties.

Ladies and Gentlemen, the Liberal Institute is a small — I should say very small — “think tank.” It was founded in 1979 as a foundation under private law. Its main purpose is to promote the ideas of a free society, a free market, and free enterprise. It wants to foster the development and dissemination of liberal ideas — and I should stress that I mean “liberal” in the classical European meaning. That is, as a way of thinking based upon the ideas of personal freedom, of competition, and of limited government.

Our Institute provides a platform where — away from the daily political life’s struggles — the basic concepts of our political culture can be discussed and questioned. The Institute offers a meeting place for practitioners and theoreticians of different professions, life-styles, and opinions. The goal is to examine issues in an open atmosphere.

A group of sponsors support the Institute through contributions and donations, but a substantial part of our financial needs is derived from services offered by the Institute, in particular a publication whose subscription rate is left to the discretion of subscribers. In order to preserve the character of an open forum, membership is not contemplated. Any interested person can participate in all activities free of charge and without any obligations and commitments.

And now I have the pleasure of introducing the first lecturer at our conference, Professor Dr. Horst Siebert. Since April 1989, Dr. Siebert has acted as President of the Institute for World Economy at Kiel University in Germany. This institute has acquired renown beyond the borders of Germany, which is not least due to the personality of its President. Out of the personal record of our first lecturer, I would like to mention a few salient facts:

Born 1938 in Neuwied, Germany, Mr. Siebert studied economics in Cologne and Middletown (USA), taught in residence at Munster University and has held subsequent teaching posts at various German universities. Since 1972, he has had several stays abroad connected with teaching and research tasks, among other places in Washington, D.C., Budapest, Grenoble, and Canberra (Australia).

In 1983, Mr. Siebert lectured as Visiting Professor in the Department of Economics at Harvard, and since 1988 there have been several lecturing terms at MIT.

Dr. Siebert’s accomplishments include extensive and fruitful teaching and research activities, and his publications cover a wide range, extending
from “International Commodity Market Modeling” to “Environmental and Resource Economics.” Although there are many institutions enjoying the active participation of Dr. Siebert, I would like to mention a few only: the Advisory Board of the German Ministry of Economic Affairs, the Board of Experts Evaluating the Overall Development of Society, and the Steering Committee of the G7 Council.

And now, we are looking forward with keen interest to Professor Siebert’s expositions regarding the significance of the “craving for capital” and the resulting consequences for net savings in reunified Germany. I now invite Professor Siebert to begin his address.
German Unification and its Impact on Net Savings*

Professor Horst Siebert

1. German unification can be interpreted as an economic shock to post-wall Germany. In the long run, the factor endowment has changed. Qualified labor and land were added to the west German economy, but at the same time eastern Germany brought into the marriage an obsolete capital stock. Thus, the east German capital stock has to be rebuilt. This will take time. In the short run, the change in the relative factor endowment implies an excess demand for capital being derived from the investment opportunities in eastern Germany. There also is an excess supply of labor which amounts to 5.6 million unemployed people in mid-1993 if those who are supported by labor market policies are included. In addition, transfers to eastern Germany are needed not only for investment purposes, but for creating a new organizational and administrative structure in eastern Germany and for social purposes (Siebert 1993a). The short-run and medium-run change in relative factor supplies and the reallocation of public spending in favor of eastern Germany have an impact on net savings that Germany can supply to or withdraw from the world market.

I. Capital Demand

2. Obsolete capital stock. In any transformation process with a rapid change of the price vector, a large part of the existing capital becomes obsolete. In the case of eastern Germany, the appreciation of the East German mark and the wage shock aggravated the destruction of the existing capital. Like dinosaurs, the huge "Kombinate" were exposed to a cosmic change in their economic conditions (Long and Siebert, 1991). The transition problem can be analyzed as a change in the firms' constraints: a sudden drop in the producer's price, a shift from monopoly to competition, the emergence of product quality as a key factor, a modification in the system of subsidies and of external protection, and competition for new capital in place of the former "soft budget constraint." As demand fell abruptly, the existing capital stock became largely obsolete. In some respects the transition can be compared to a huge oil shock, one that affects not just the price of one input but changes the most important constraints. Besides these economic aspects, the capital stock of eastern Germany was old. According to estimates, 76 percent of the equipment in industry was older than 5 years and 54.9 percent older than 10 years.

3. Capital requirements to rebuild the capital stock in eastern Germany.


I appreciate comments from Michael Heise and Alfred Boss who prepared Tables 2, 3 and 4.
Assuming that eastern Germany will have the same capital stock per capita as western Germany after the transformation process has ended, the capital stock of the enterprise sector would be 1,300 billion DM\(^1\) (Table 1). This is a back-of-the-envelope calculation for accumulated investment assuming that the existing capital stock is completely obsolete. Infrastructure capital in western Germany amounted to 2,179 billion DM in 1991. This figure includes public buildings and equipment, roads, rail, postal and communication infrastructure and waterways. Using the infrastructure of western Germany as a frame of reference, infrastructure capital in eastern Germany should amount to 545 billion DM. Assuming that one-third of the capital stock is usable, and considering a 10-year period of adjustment, a rough calculation shows that private investment of 90 billion DM and public investment of 40 billion DM per year, \(i.e.,\) 130 billion DM.

\(^1\) The total west German capital stock was 12,687 billion DM in 1991, that of the enterprise sector 5,201 billion DM.

**Table 1**

**Capital Stock and Investment in eastern and western Germany**

<table>
<thead>
<tr>
<th></th>
<th>Western Germany</th>
<th>Eastern Germany</th>
<th>Eastern German capital stock after adjustment(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1991</td>
<td>1988</td>
<td></td>
</tr>
<tr>
<td>1. Gross domestic product — Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises (without housing)</td>
<td>2,599</td>
<td>346</td>
<td></td>
</tr>
<tr>
<td>Goods-producing sectors (mining, manufacturing, construction, electricity, gas and water)</td>
<td>1,974</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>999.78</td>
<td>200(^b)</td>
<td></td>
</tr>
<tr>
<td>2. Gross investment — Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises (without housing)</td>
<td>570</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Goods-producing sectors</td>
<td>367</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>142</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>137</td>
<td>12(^c)</td>
<td></td>
</tr>
<tr>
<td>3. Gross capital stock — Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises (without housing)</td>
<td>12,687(^d)</td>
<td>1,635(^d)</td>
<td>3,172</td>
</tr>
<tr>
<td>Goods-producing sectors</td>
<td>5,201(^d)</td>
<td>1,300(^e)</td>
<td>1,300</td>
</tr>
<tr>
<td>Housing</td>
<td>2,205(^d)</td>
<td>780(^d)</td>
<td>551</td>
</tr>
<tr>
<td>Public infrastructure (not included in total)</td>
<td>5,067(^d)</td>
<td>–</td>
<td>1,267</td>
</tr>
<tr>
<td></td>
<td>2,179(^f)</td>
<td>–</td>
<td>545</td>
</tr>
<tr>
<td>4. Capital-output ratio — Total</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises (without housing)</td>
<td>5.0</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Goods-producing sectors</td>
<td>2.5</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2</td>
<td>3.9</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Calculated as 25 percent of the West German capital stock in 1991. \(^b\) Including goods-producing crafts. \(^c\) New construction and modernization. \(^d\) Evaluated at replacement costs, yearly averages, excluding roads, waterways and civil engineering, including rail and postal service. \(^e\) Capital stock at 1986 prices. \(^f\) Including roads, waterways, sewage systems, as well as rail and telecommunications systems; for 1988.

DM per year, would be needed.\textsuperscript{2} In contrast to this rough calculation it can be expected that investment will follow a bell-shaped curve over time with investment cumulating in the years 1993-1995 or 1996 and falling afterwards. Capital demand will increase at first, and then be lower.

4. Relocation of investment. Part of the investment being undertaken in eastern Germany might have taken place in western Germany if Germany were not yet united. Thus, part of the eastern German investment may just have been shifted from western Germany. Such a reallocation of the capital stock should be expected as a normal process, but so far we do not have any indication of the magnitude of the effect. Eventually, investment in western Germany may also be stimulated once a growth process in eastern Germany comes about.

5. Governmental transfers and inherited debt. In addition to the increased demand for private capital, there is the need to finance governmental transfers to eastern Germany which are running at 150 billion DM per year. Moreover, German fiscal policy has to finance the interest payments on the additional debt burden which can be calculated as roughly 30 billion DM (Siebert 1993).\textsuperscript{3} All in all, Germany will have to finance 180 billion DM per year (6 percent of GNP).

It is estimated that the Treuhand* will accumulate a debt of 270 billion DM by 1994. The Credit Processing Fund (Kreditabwicklungsfonds), which manages the liabilities of the former GDR and covers the differential conversion rates for the debt of socialist firms and for individual savings, will have to be taken over by the federal government. It is estimated that a debt of 140 billion DM will have been accumulated by the fund. The German Unity Fund, financed by the federal government and the Länder, will have accumulated 100 billion DM at the end of 1994. The debt of the public housing sector in eastern Germany is 50 billion DM.

6. Budget deficit. The debt of the public sector, which amounted to 929 billion DM in 1989, will have reached 1.95 trillion DM by 1994. Thus, public debt will have doubled within 5 years. In relative terms, the ratio of public debt to GNP will rise from 41 percent in 1989 to 58 percent in 1994. Public expenditures relative to GNP will rise from 45 percent in 1989 to over 52 percent in 1994.

The overall German government budget deficit, including the federal,

\textsuperscript{2} Calculations for public investment do not include environmental protection.

\textsuperscript{3} Note that part of the interest payment on the so-called “inherited debt” is already included in the calculation of the transfers.

* Refers to the Treuhandanstalt, the government trustee agency to which the rights to publicly owned East German firms were transferred under the terms of the MESU of 1990. The Treuhand’s primary task is to privatize East German firms. – Ed.
state and municipal levels as well as the social security system, amounted to 140 billion DM in 1992; this is 4.7 percent of GNP. These data include the Treuhand deficit of 30 billion DM for 1992. If the governmental telecommunication and mail services and the railroads are included, the public sector capital demand will amount to roughly 170 billion DM in 1992. Figure 1 shows the development of public debt and the budget deficit up to 1994.

7. One potential issue is whether unification has had an impact on savings behavior of households. With respect to net household savings, this is not the case. The savings ratio, i.e., net household savings as a percentage of disposable income has remained relatively stable reaching the same values as in the eighties. East Germans have a similar savings ratio as west Germans.

II. The swing in the current account

8. The accounting identity. The impact of Germany’s increased demand for capital can be seen by the change in Germany’s net capital export as measured by the balance in the current account. Let X denote exports, M imports, Tr international transfers, S savings of the private sector, I investment of the private sector and T – G the budget surplus with T taxes and other government revenues and G expenditures. Then the macroeconomic accounting identity

\[(S - I) + (T - G) = X - M + Tr\]

indicates that the balance in the current account corresponds to an excess supply of or an excess demand for savings. A positive current account is equivalent to an excess supply of savings. The country does not completely absorb its production and exports capital abroad. A negative current account implies an excess demand for savings. A country’s savings are not sufficient to finance private investment and the budget deficit of the government. A country absorbs more than its production. It imports capital.

9. Different concepts of the budget deficit. Some conceptual and statistical difficulties arise in calculating the different components of the accounting identity for post-wall Germany. The issue is to what extent a narrow concept of the governmental budget including the federal, regional and local government and the social security system can be used or whether the shadow budget of Treuhand, the Kreditabwicklungsfonds and the mortgages on housing must be included. In an economic interpretation the wider concept must be applied. One reason is that the wider concept is relevant for capital market implications. The other reason is that any debt outside the

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4 The net household savings ratio with 12.6 in 1991 and 1992 for total Germany was similar to the average of 12.3 in 1980-89 (OECD 1993a, Table R12).
Figure 1 — Public Debt and Budget Deficit

1 In percent of Gross National Product.
official budget eventually must become part of the official budget. Thus, a long-run view requires the integration of debt into the budget.

10. Statistical problems. One possible approach is to integrate debt into the budget right away. Such an approach, however, meets severe data problems. With respect to the shadow budgets, debt taken over as of July 1, 1990 and the increase in debt since that date should be distinguished. In 1990 eastern Germans exchanged their East-mark against the D-mark at the rate 1:1. This conversion rate represented a wealth transfer and affected east German savings positively. Debt of firms was converted at a rate of 2:1. In order to reach consistency between both sides of the account of the east German banking sector, i.e., of the previous Staatsbank, a credit processing fund took over the difference between the converted old savings and the converted old debt (30 billion DM). Note, however, that the exact figure for old debt only became known when the opening balance for GDR-firms was eventually established. In addition, the credit processing fund took over the debt of the previous eastern German government (27.6 billion DM). This increase in debt of roughly 58 billion DM has to be added to the overall budget deficit of the government in the year 1990. If it were not added, the increased savings of eastern Germans due to the wealth transfer would represent a distorted picture of German savings.

The old debt of firms as of July 1, 1990 can be interpreted as negative savings in the period when debt is taken over, i.e., in 1990. But again, it only became known later with the opening balance for all Treuhand firms how high debt was and to what extent debt was officially taken over by Treuhand and by government.

In addition to the stock variable of debt taken over, there was an increase in debt after July 1, 1990. Thus, Treuhand made an annual deficit of 4 billion DM in 1990, 20 billion DM in 1991, and 30 billion DM in 1992. The deficit of Treuhand per period means that investment in Treuhand firms was financed or that Treuhand firms made a loss, i.e., they had negative savings. Similarly, debt increased in the Credit Processing Fund and in the public housing sector.

11. Ignoring debt temporarily. The alternative procedure is to neglect the debt in the shadow budget, both the level and the annual increase, temporarily and to integrate in one way or another the level of debt at some future date into the overall budget. This procedure is followed in practice. The level of debt (consisting of debt taken over as of July 1, 1990 and accumulated debt up to December 31, 1994) will be made explicit in the “burden inherited fund” (Erblastentilgungsfond), from January 1995 on.

5 Formally, 20 billion DM for the housing sector will have been integrated into the federal budget before 1994, 45 billion DM for Treuhand will be integrated in 1994.
The level of debt is estimated at 466 billion DM. It is realistic to expect a larger figure. The annuity of debt of roughly 40 billion DM will increase the annual budget deficit.

12. Narrow concept of budget deficit. Official statistics follow the narrow concept of the state budget deficit excluding Treuhand and other shadow budgets. Thus, it is difficult to establish the real budget deficit per period. In Table 2 this narrow concept of the budget deficit is followed. In this approach, the share of the state budget deficit is -3.3 for 1991 and -2.8 for 1992, which is not overwhelming. Note, however, that S - I only accounts for 1-2 percent of GNP. This is not surprising. In this approach, the deficit of Treuhand is part of private sector savings and reduces S - I.

13. Broad concept of budget deficit. Table 2 shows the development of debt in the shadow budgets taking into account the date in which year the debt materializes. We use this information to establish the broader concept
of government debt in which shadow budgets of Treuhand (including annual operating deficits and debt taken over in the privatization process, debt of the Credit Processing Fund and debt of the state housing sector) are included (Table 4). Note that the data on debt based on Bundesbank calculations are on the low end.

It is interesting to see that the inclusion of the shadow budget implies that the overall state budget deficit increases (219.3 billion DM in 1992 instead of 83.7 billion DM) to 7.3 percent of GNP. While the data for investment remain unchanged, data for savings of the private sector increase considerably (428.9 billion DM instead of 293.3 billion DM). This is due to the fact that savings of the private sector include savings of the business sector. Thus, capital transfers to the firms, for instance the reduction of debt or the infusion of new capital by Treuhand, are part of savings. The difference of 135.6 billion DM between the larger concept of savings in Tables 4 and 2 is explained by the increase of debt in 1992 of Treuhand (67.4 billion DM), the Credit Processing Fund (64.2 billion DM) and public housing (4 billion DM). Thus, the figure for savings is blown up artificially.

14. Graphical illustration. Figure 2 shows how Germany’s external balance has changed after unification. Most impressive is the swing in the current account between 1989 and 1992, from a surplus of roughly 110 billion DM to 40 billion DM or from 4.8 percent of GNP to −1.5 percent of GNP (1992). The narrow concept of the budget deficit illustrates the impact of German unification in the low net saving of roughly 1-2 percent (curve n in Figure 2). In the narrow concept of the budget deficit, the

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Table 3

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<tbody>
<tr>
<td>Treuhand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Debt</td>
<td>14,1</td>
<td>25,3</td>
<td>67,4</td>
<td>83</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td>Debt*</td>
<td>14,1</td>
<td>39,4</td>
<td>106,8</td>
<td>190</td>
<td>245†</td>
<td>230</td>
</tr>
<tr>
<td>Credit Processing Fund</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Debt</td>
<td>27,6</td>
<td>−0,1</td>
<td>64,2</td>
<td>46,3</td>
<td>2</td>
<td>—</td>
</tr>
<tr>
<td>Debt*</td>
<td>27,6</td>
<td>27,5</td>
<td>91,7</td>
<td>138</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td>Public Housing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Debt</td>
<td>38</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Debt*</td>
<td>38</td>
<td>42</td>
<td>46</td>
<td>51</td>
<td>51</td>
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<tr>
<td>Total Change in Debt</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>29,2</td>
<td>135,6</td>
<td></td>
</tr>
</tbody>
</table>

* End of year. † 45 billion DM will be taken over by the Federal Government in 1994.
Table 4
Savings, Investment and External Balance — Including Treuhandanstalt, Credit Processing Fund and formerly state-owned housing sector
(in billion DM and percent of GNP)

<table>
<thead>
<tr>
<th>Year</th>
<th>S (billion DM) without shadow budgets</th>
<th>Impact of shadow budgets on savings (billion DM)</th>
<th>I (billion DM)</th>
<th>S - I (billion DM) percent of GNP</th>
<th>T - G (billion DM) percent of GNP</th>
<th>Current Account (billion DM) percent of GNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>256.6</td>
<td></td>
<td>155.7</td>
<td>100.9</td>
<td>4.5</td>
<td>4.3</td>
</tr>
<tr>
<td>1990</td>
<td>370.8</td>
<td>318.8</td>
<td>188.6</td>
<td>182.2</td>
<td>8.3</td>
<td>-112.5</td>
</tr>
<tr>
<td>1991</td>
<td>316.0</td>
<td>286.6</td>
<td>234.4</td>
<td>81.6</td>
<td>2.9</td>
<td>-123.0</td>
</tr>
<tr>
<td>1992</td>
<td>428.9</td>
<td>293.3</td>
<td>255.3</td>
<td>173.6</td>
<td>5.7</td>
<td>-219.3</td>
</tr>
<tr>
<td>1993</td>
<td>444.0</td>
<td>310.0</td>
<td>240.0</td>
<td>204.0</td>
<td>6.6</td>
<td>-259.0</td>
</tr>
<tr>
<td>1994</td>
<td>376.0</td>
<td>334.0</td>
<td>274.0</td>
<td>102.0</td>
<td>3.1</td>
<td>-157.0</td>
</tr>
<tr>
<td>1995</td>
<td>355.0</td>
<td>355.0</td>
<td>300.0</td>
<td>55.0</td>
<td>1.6</td>
<td>-100.0</td>
</tr>
</tbody>
</table>

S = savings of private households and firms; I = private investment; T - G = budget deficit (-) or surplus.
For 1989: West Germany; from 1990: United Germany (intra-German transactions eliminated).

Figure 2 — Germany’s External Balances

1 1960-1989 Western Germany.
governmental budget deficit is not disturbing. In the broader concept, net savings are artificially blown up, and the budget deficit reaches 7-8 percent of GNP in the years 1992 and 1993 (curve b in Figure 2).

III. Interest rate and exchange rate effects

15. Shift in the factor-price frontier. The long-run effect of integration, new investment opportunities and the incentives of the market system make German unification look like a “new frontier” in the sense of Alvin Hansen (1955), as creative destruction in the interpretation of Schumpeter (1934) or as a positive supply shock. Clearly, the potential marginal efficiency of capital in eastern Germany has increased, and the real interest rate will be driven up from the supply side. A similar effect comes from infrastructure capital which can be expected to have a high marginal productivity in eastern Germany. The effect on the real interest rate of this supply shock can be viewed as an increase in the marginal productivity of capital or as a shift in the factor price frontier. This schedule describes the combination of maximum rewards to the factors of production, say capital

Figure 3 — The Factor Price Frontier
and labor, given the state of technology (Figure 3). The transition to the market economy makes the existing capital stock obsolete, because the price vector of the economy is changed. This shifts the factor price frontier inward. Building up a new capital stock, and incorporating new technical knowledge in more recent vintages of the capital stock shifts the factor price frontier outward. Note that the initial inward move corresponds to the J-curve effect (Siebert 1991a).  

16. Capital demand for social consumption. The supply side effect on the marginal efficiency of capital or on the real interest rate is not the whole story. In addition there is an increased capital demand of the government. Part of this governmental capital demand arises for investive purposes, for instance for building up the physical infrastructure in eastern Germany. These capital outlays will improve productivity, and insofar as governmental capital demand has to be interpreted similarly as private investment. The factor price frontier shifts outward. But a large part of the budget deficit — according to some estimates 70 percent — is linked to a social easing of the transformation process (labor market policies, unemployment benefits, subsidies to Treuhand firms). These policies increase the demand for capital without a rise in the marginal productivity.

17. Supply of savings. The interest rate effect will be influenced by the availability of capital. In an open economy, capital inflows reduce the tendency of the interest rate to rise. If foreign savings were available at a constant price there would be no interest rate effect. (Supply curves SS in diagram Figure 4.)

With gross savings in the world capital market being estimated to be larger than 3000 billion US-$ and the swing in the German account of less than 100 billion US-$ (150 billion DM) representing less than 3 percent of the total supply of gross world savings, one would only expect minor changes in the German interest rate. Empirical studies, however, point out that there is a strong relationship of 0.8 and higher between the investment share and saving share in national income 1991. This indicates that international capital mobility is far from perfect and that national investment is strongly linked to national savings. If capital mobility were perfect, the coefficient would be zero (see also Eichengreen 1991).

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7 As an aside: In the 80s we were looking for investment opportunities in the world economy since productivity in the industrialized countries was falling. Germany is an investment scenario. One should not complain about high long-term interest rates when we have an investment opportunity.

8 Gross domestic capital formation in the OECD countries amounted to 2.7 billion dollars in 1991 being financed by consumption of fixed capital (1.7 billion dollars) and (1.0 billion dollars) of net savings (OECD 1993, pp.16-17).

9 Compare for instance for the sixties and the seventies Feldstein (1983).
There are some arguments pointing to a differentiation in the long-term interest rates between countries in case of a major asymmetric shock. One explanation is that sizable real capital flows need large changes in the current account representing shifts in the trade of goods and services. Such large shifts do not occur abruptly. Moreover, sustained net capital inflows between 2-4 percent of GDP are rather unusual (Bosworth 1993, p. 26). Net real capital flows are different from portfolio flows. Another explanation is that capital markets are segmented. In addition, the interest rate may reflect a risk premium that is required by the international capital market. This risk premium depends on expectations relating to the success of economic policy and the country’s ability to pay back the loan. Last not least the interest rate effect will also depend on such aspects as the way of financing the infrastructure, for instance whether it is financed privately, by bonds or by taxation. Thus, it seems realistic to consider a supply curve SS' for new capital.

18. Increase in the German interest rate. The nominal long-term German interest rate (on Government bonds) has increased in Germany from below 7 percent in the middle of 1989 to around 9 percent after the announcement of the monetary union on 7 February 1990. It has come down in 1993 to
Figure 5 — Long-Term Interest Rates

- **United States**
- **Germany**
- **Japan**
- **France**

Key Events:
- Treaty on German currency union
- Kohl proposes German currency union
- Opening of the Hungarian Border
- Opening of the Berlin wall

Figure 6 — Long-Term Real Interest Rates

1 Long-term interest rates, nominal adjusted for changes in consumer prices.
below 6.5 percent (Figure 5, p. 21). There is also a temporary increase in the real long-term interest rate defined as the nominal interest rate adjusted for the consumer price level to above 5 percent; in mid-1993, the real interest rate is down to 2 percent (Figure 6, p. 22).

19. Impact on the world interest rate. One should expect that the impact of the reduced supply of German savings on the world interest rate should be negligible. Reduced net German excess savings of less than 100 billion US-$ in a world capital market of gross savings with more than 3,000 billion US-$ should not have a major impact on the world interest rate.

20. Appreciation of the D-mark. From the supply side, an appreciation of the D-mark of post-wall Germany was to be expected. This appreciation can be motivated both from the capital account and the current account. From the capital account, the appreciation of the D-mark is due to a higher marginal efficiency of capital, i.e., higher rates of return in eastern Germany prompting a larger capital inflow (reduced capital outflow out of the D-mark area) and consequently raising demand for the D-mark. From the trade

Figure 7
account, the appreciation is a vehicle to bring about a reduction in the overall
German trade surplus. This reduction was necessary because eastern Ger-
much has a trade deficit thus reducing the overall German trade surplus.

21. Asset market equilibrium and appreciation. Consider an asset market
equilibrium with interest rate parity where $i^{us}$ represents the international
interest rate and $i^g$ the German interest rate, $w : $/DM is the actual exchange
rate and $w^e$ the expected exchange rate. Asset market equilibrium requires

$$i^{us} = i^g + \hat{w}$$

with $\hat{w} = (w^e - w)/w$. An increase in the exchange rate, i.e., $\hat{w} > 0$, is an
appreciation of the D-mark and $\hat{w} < 0$ represents a depreciation. Let the
initial equilibrium be given at M with $i_0^{us}$ and $i_0^g$ being equal for simplicity.
The curve RR denotes the rate of return of investing in Germany (Figure 7).

A positive supply shock in Germany means that the rate of return increases
(movement from M to N). If the U.S. interest rate $i^{us}$ remains fixed, the D-
mark will appreciate (point N'). If in addition an appreciation of the D-
mark is expected, i.e., $w^e$ instead of $w^e$, there is another upward shift of the
RR-curve (point P). A new equilibrium will be at point P' for a given U.S.
interest rate.

22. Intertemporal mechanics of debt. A somewhat different story on ex-
change rate expectations is told by the intertemporal mechanics of debt.
According to this scenario, investment in eastern Germany will be fi-
nanced through capital inflows, and Germany will accumulate foreign debt
as stressed by Wyplosz (1991); in the long run, a current account surplus is
required to repay the debt; this necessitates a real exchange rate deprecia-
tion. According to this scenario, Germany would repeat the story of the
United States in the 1980s, with an investment boom financed by foreign
debt, and a transitional appreciation which is corrected later on. The
intertemporal mechanism of stocks is operating even if no foreign debt is
accumulated: a reduced current account means a smaller stock of direct
and of portfolio investment abroad which weakens the tendency toward
appreciation. In such a context, a depreciation of the DM is expected in the
long run ($w^e$ instead of $w^e$ in Figure 7); this is a counterforce to the interest
rate effect pulling the RR-curve towards point S for given $i^g$ or to the new
equilibrium-point S'. If the expectation of a depreciation is large enough,
the new equilibrium can be located below point M.

23. Positive productivity effects from integration. The prediction of a
depreciation of the D-mark, however, crucially depends on the assumption
that western German productivity will simply be extended to a united
Germany. It neglects the integration gains and the effect of new technology
through investment in eastern Germany. This might well change Germany's
productivity (see Baldwin, 1989; Romer, 1986). Indeed, eastern Germany
Figure 8 — Exchange-Rates

1 Against 17 industrial countries (United States, Canada, Japan, France, Italy, United Kingdom, Spain, Netherlands, Belgium, Denmark, Portugal, Ireland, Switzerland, Sweden, Austria, Finland, Norway), weighted with West Germany export shares (1984-1986).
has a chance to incorporate more modern technology than western Germany and can thus enjoy the advantage of a late comer. Moreover, economic integration can increase product variety and quality and thus stimulate exports, preventing a worsening in the terms of trade. Such a dynamic supply-side effect could, over time, counterbalance the effect of reduced German capital accumulation abroad and prevent a long-run depreciation.

24. Negative exchange rate expectations due to policy failure. Policy may change the outcome. If subsidies to firms in eastern Germany dominate the adjustment process, old inefficiencies will be perpetuated, limiting the rise in capital efficiency in eastern Germany. Another aspect is that policy may not succeed in scaling down social transfers. Subsidies and social transfers burden the budget deficit and increase debt, or taxes have to be raised. Then the expectation of depreciation may dominate, and a depreciation of the D-mark or a higher German interest rate may be required.

25. The actual picture. The D-mark has appreciated against the US-$ since 1989; the D-mark has appreciated against the Yen only in 1989, depreciating afterwards. Against 17 currencies of other industrial countries, the D-mark has appreciated.\(^\text{10}\)

26. The asymmetric shock to the EMS. German unification has represented a country-specific shock to the EMS mechanism. There is no doubt that higher interest rates in Germany negatively affect investment elsewhere. An asymmetric shock is the typical case where flexible exchange rates are desirable, or where a realignment is necessary. Thus, a long-run tendency for the D-mark to appreciate has put the EMS under pressure. Without realignment, the other EMS countries have experienced an increase in their interest rate, \(i.e.,\) they moved in the direction of MN in Figure 7. The appreciation of DM has pulled up other European currencies against the U.S. dollar and the Yen, thereby reducing the competitiveness of the ECU-area vis-à-vis the rest of the world. The problem must be solved by a realignment as has been shown by the turbulence in September 1992 and by the widening of the band in 1993.

Mezzogiorno or New Frontier?

27. The impact of German unification on net savings will depend decisively on whether a process of economic growth will come about in eastern Germany. In the worst case, the inefficiency of the eastern German economy carries on and production in the tradeable sector does not pick up. Then, subsidies will be required and will represent a severe drain on Germany’s resources affecting the maneuvering space of fiscal policy in the future.

\(^{10}\) Of course, the appreciation of the D-Mark is not explained only by German unification. Other factors, for instance in the United States, might also imply an appreciation of the DM, and political instability in the CIS a depreciation.
This is the scenario of the Mezzogiornio. In the alternative scenario the positive effects of German unification prevail after the bottlenecks have been overcome. Unification then represents a New Frontier, an investment opportunity or in Schumpeter's (1934) terms a case of "creative destruction." Integration gains, the new economic system and capital accumulation will all play their role. Economic policy will decide which scenario will eventually materialize. If German economic policy does not make serious mistakes, the long-run positive effects will dominate. It is like in the Hicksian theory of the business cycle where the lower turning point will come about by "autonomous investment hammering in the basement." Capital accumulation in eastern Germany is likely to play a similar role.

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Dr. Gilmour: I’m delighted tonight to be able to introduce our next speaker, who is one of America’s most distinguished economists. Benjamin M. Friedman is the William Joseph Mayer Professor of Political Economy and Chairman of the Department of Economics at Harvard University.

Mr. Friedman’s research and writing have focused primarily on economic policy, in particular on the role of the financial markets in shaping how monetary and fiscal policies affect overall economic activity — a topic that is familiar to those who have followed the work of the organization I represent, American Institute for Economic Research. Specific subjects of his most recent work include the effects of government deficits on interest rates, exchange rates, and investment, appropriate guidelines for the conduct of U.S. monetary policy, risks of crisis in the U.S. banking or financial system as a result of high-leverage corporate borrowing, and the origins and implications of large movements in stock prices.

Mr. Friedman’s most recent book, _Day of Reckoning: The Consequences of American Economic Policy Under Reagan and After_, received the George S. Eckles’ prize awarded annually by Columbia University for excellence in writing on economics. In addition to _Day of Reckoning_, Mr. Friedman is the author of numerous other books including _Economic Stabilization Policy_, _Monetary Policy in the United States, New Challenges to the Role of Profit, The Changing Roles of Debt and Equity in Financing U.S. Capital Formation, Corporate Capital Structures in the United States, Financing Corporate Capital Formation_, and a _Handbook of Monetary Economics._

In short, Professor Friedman is highly qualified to speak on the topic that he addresses this evening, which is “The Role of Private Savings and Government Dissaving in Financing American Economic Development in the 1990s,” and I am confident that he will provide us with a stimulating analysis. Without further pause, may I present Professor Benjamin Friedman.
The Role of Private Saving and Government Dissaving in Financing American Economic Development in the 1990s

Professor Benjamin M. Friedman

Thank you, Bob, for your warm introduction. I am honored to address this very distinguished audience, and I am especially grateful to my friend Alan Tice, a member of the Board of Trustees of the Progress Foundation, for his role in arranging for me to be here.

Dr. Studer, Trustees of the Progress Foundation, members of the Liberal Foundation, ladies and gentlemen:

The subject of my remarks this evening is a quite remarkable transformation that has taken place in the United States within just the last dozen years. I speak in particular of the transformation of the United States from the largest creditor country in the world to what it is today, the largest debtor country. I believe that this transformation not only has important implications for our own economic prospects in the United States, but also profound implications for world economic affairs more generally.

We should begin with some historical perspective. Like most developing countries, the United States in the 19th century relied heavily on foreign capital to finance our early stages of industrialization and economic growth more generally. In particular, there were four specific periods during the 19th century when our country relied especially heavily on foreign capital inflows.

In the 1830s, foreign capital financed the system of canals that initially fostered economic development in the eastern United States, and also the very beginnings of the American railroad system. Twenty years later, in the 1850s, foreign capital financed the great extension of the American railroad system. In the period immediately following our Civil War, from 1867 to 1873, foreign capital financed a combination of important developments including the transcontinental extension of the railroad system, the initial beginnings of America's manufacturing industries, and the creation of extensive social capital such as running water, gas lines, initial urban transportation and the like in America's cities. Finally, in the late 1880s and early 1890s foreign capital financed the great expansion of America's manufacturing industries.

By the mid 1890s, however, this period of reliance on foreign capital to finance U.S. economic development had ended. From then until the beginning of World War I, the United States exported enough financial capital that by 1914 the country was, on net, neither a debtor nor a creditor. We had accumulated foreign holdings equal to all the debts accumulated throughout the 19th century.
From the beginning of World War I until the early 1980s, the United States was an ever-larger creditor country, consistently supplying our saving to deploy for purposes of economic development in countries around the world. By the end of 1982, the United States had built up a positive net international investment balance — that is, an excess of assets that Americans owned abroad and debts owed to Americans by foreign borrowers, over and above assets owned in the United States by foreigners and debts owed to foreigners by Americans — of $379 billion, or in excess of 10 percent of a year’s U.S. national income.

Beginning in 1983, however, the U.S. international investment situation massively turned around. From 1983 onward, we not only did not lend on net into international markets, we borrowed from those markets. Indeed, we borrowed in such huge volume that it took only five years to dissipate the entire positive net international investment position built up over the previous seven decades. By the end of 1987, the U.S. net international investment position was down to approximately zero. Because we have continued since then to borrow even more, however, as each year has passed since 1987 the United States has become ever more heavily indebted to foreigners.

By the end of 1992, the U.S. net international investment position (calculated with as many investments as is possible evaluated at market prices) came to a negative $611 billion. In other words, what we own abroad plus what foreigners owe to us is $611 billion short of what foreigners own in the United States and what we owe to foreigners. This negative $611 billion net international investment position again represents in excess of 10 percent of a year’s income for the United States.

How did all this come about? There are two principal factors to which one can point. First, in the 1980s and continuing on into the 1990s, the private saving rate in the United States has fallen sharply. To be sure, the United States has always been a low saving country compared to our international trading partners and competitors. But in the 1960s and 1970s, at least the saving done by U.S. businesses and individuals was larger than it is now. On average in the 1960s and 1970s, the net saving done by the American economy’s private sector was slightly in excess of 8 percent of U.S. gross domestic product (GDP). In the 1980s, the net private saving rate fell to just over 6 percent of U.S. GDP, and in the last two years net saving by the private sector has fallen yet further to only 5 percent of GDP. Just why our private saving rate has declined so abruptly is not well understood, but the mere fact that we do not understand it immediately dashes any thought that we might readily use policy devices to turn this situation around any time soon.

Second, and even more importantly, at the same time that private saving
in the United States was declining rapidly as a share of U.S. national income, government saving was turning ever more to dissaving as a result of the radical new fiscal policy put in place by the federal government in the 1980s.

That new fiscal policy contained three elements: First, there was a large-scale defense buildup. From a low of about 4.8 percent of GDP devoted to military spending at the end of the Nixon and beginning of the Carter administrations, the U.S. defense commitment gradually rose to a peak of about 6.5 percent of GDP toward the end of the Reagan period. Second, the domestic policies of the federal government during the 1980s also protected most large-dollar nondefense programs like Social Security, Medicare and Medicaid. And, third, the new fiscal policy put in place large, across-the-board cuts in personal income tax rates in 1981, 1982, and 1983.

Any one of these three elements of the 1980s' U.S. fiscal policy would easily have been affordable in the American economic context. We could have afforded a defense buildup. We could have afforded to sustain Social Security and Medicare at their previous levels. We could have afforded an across-the-board cut in income tax rates. It is even conceivable that, under optimistic conditions, we could have afforded any two of the three. What we could not afford was all three together. The result was the first — and, to date, the only — period of large-scale, sustained government deficits in U.S. peacetime history.

To recall, the United States has traditionally been a low saving country by the standards of our international competitors. But before the 1980s, at least what little we did save was available to invest in factories and machinery to make our economy more productive, to invest in housing for a growing population, or to invest abroad in our role as a net creditor country. During 1981 to 1992, however, the federal government's budget deficit averaged 3.8 percent of U.S. GDP, compared to a net private saving rate that averaged barely 6 percent. In short, the federal government's borrowing has systematically absorbed approximately two-thirds of all of the net saving done by American businesses and American households combined during this period.

What were the consequences of these forces? First, we have suffered sharply reduced investment in factories and machinery within the United States. On average during the 1960s and the 1970s, American businesses' net investment in plant and equipment (net in the sense of investment in excess of what is necessary merely to replace factories and machines as they become obsolete or worn out) amounted to 3.7 percent of U.S. national income. Since 1981, however, our net investment in factories and
machines has fallen by a third — to only 2.6 percent of national income. Last year, 1992, under the combined force of this secular decline and a cyclically weak economy, what we invested in the United States in new factories and machines was not even 1 percent of our national income.

Although for most purposes what matters in economics is net investment — again, investment over and above depreciation and obsolescence — there are some purposes for which what matters is gross investment. Here too, however, the story has been one of steady decline. U.S. gross investment in plant and equipment peaked in 1981, at 13.5 percent of the GDP. By 1989, the last year before the most recent economic downturn began, U.S. gross investment for this purpose had declined to just 10.8 percent of GDP. Last year, 1992, gross investment in factories and machines was down to barely 9 percent of GDP.

If the United States had merely invested during the 1980s at the same average pace that we maintained throughout the 1950s, 1960s, and 1970s, by the end of the decade in 1990 the average American worker outside government and agriculture would have had a capital stock of $65,700 behind him. Instead, because we so badly underinvested in the 1980s, the average worker in the U.S. business sector had only $57,500 of capital behind him. That is a shortfall in capital per worker of 12 percent.

Given the importance of factories and machines in the productivity of workers, it is therefore not surprising that American workers’ productivity performance throughout the past decade has continued to be disappointing, despite the turnaround of several factors that had previously been responsible for our low productivity growth rate. For example, during the 1980s energy prices were steadily falling, instead of rising. Similarly, during the 1980s demographic changes — in particular, the maturation of the postwar baby-boom generation — meant that the average age and average experience level of the U.S. workforce was rising, instead of falling as it had in the previous two decades. Yet, instead of improving, the U.S. economy managed to achieve over the last decade no more than the same dismal rate of productivity growth that it had in the 1970s. And not surprisingly, with no substantial productivity growth there has been no increase in the real wage of the average American worker.

This disappointing productivity performance that has resulted from our reduced investment in factories and machines at home, however, is only one result of the decline in our private saving and increase in government dissaving during the 1980s. The other major consequence of those changes — and the one to which I would like to devote most of my remarks this evening — is in our foreign economic position. In particular, in order to maintain even the meager amount of investment that we were able to
achieve in the 1980s, the United States has had to supplement the shrunken amount of saving available at home by importing the saving done by foreigners. In the latter half of the 1980s in particular, net imports of financial capital from abroad averaged 2.5 percent of U.S. GDP. Interestingly, that compares to only 2.2 percent of U.S. GDP for capital imports during the greatest of those four periods of reliance on foreign capital in the 19th century — in particular, 1867 to 1873. We are relying now on foreign capital to about the same extent, indeed slightly greater, than we did just after the Civil War. Unfortunately, however, the comparison ends there.

The period just after the Civil War was, by some distance, the peak period in American history for investment in productivity-enhancing capital. The year 1869, for example, marked the completion of the first transcontinental railroad, when the Central Pacific and Union Pacific Railroads met in Utah. The late 1860s and early 1870s were also the period when Andrew Carnegie was changing what had been the Pittsburgh Iron Works into what ultimately became U.S. Steel. This was also a period in which one American city after another put in place water systems, sewer systems, gas lines and urban transportation.

Where is today's equivalent of a new transcontinental railroad? It isn't there. Where is today's equivalent of a new steel industry? We don't have one. Where is today's equivalent of new social capital in America's major cities? Anybody who visits our cities today is painfully aware that the social capital is not increasing but deteriorating. The crucial point is that in the last ten years the United States has borrowed — and continues to borrow today — not for the purpose of achieving a greater investment rate, but rather to inflate consumption to artificially high levels.

What are the likely consequences of this inflated foreign borrowing? To begin, the United States is no longer a creditor country. I believe this change has very important implications for the American position in global affairs, and perhaps for the conduct of global affairs more generally. Historically, whichever country has been the world's leading creditor country, exporting its financial capital for deployment in support of economic development abroad, has always played a unique leadership role in world affairs. And I do not just mean economically. I mean also politically, diplomatically, culturally, socially, and militarily. Whether we think of the Spanish experience in the 16th century, or the Dutch in the 17th century, or the British for a very long period from the middle of the 18th century up until World War I, it has always been the case that the leading creditor country has played a special leadership role in world affairs. I do not think it is an accident that the United States took over this leadership role from the British during the interwar period, simultaneously with our taking over the position of the world's leading creditor.
Today the United States not only is not the world's leading creditor country, we are the world's leading debtor country. The U.S. net debt owed abroad, in excess of $600 billion, is greater today than the combined gross indebtedness of Argentina, Brazil, Mexico and Venezuela together. Moreover, and perhaps more troubling, our net indebtedness is continuing to rise, not just in dollars but also compared to U.S. national income. As of year-end 1992, the U.S. net debt owed abroad was in excess of 10 percent of a year's GDP. As of the end of 1993, it will be in excess of 12 percent of GDP. On the current trajectory, the ratio will rise indefinitely — except, of course, that that is clearly not a sustainable situation.

At the same time that we are, through this excessive borrowing, forfeiting the economic foundation of our leadership role in world affairs, we are also draining saving away from world markets. In the latter half of the 1980s, the United States on average drained $126 billion of saving from world markets each year. The annual amount of savings supplied into world markets by all other industrialized countries combined was only $59 billion on average. As a result, the industrialized world as a whole had a net saving deficit of $67 billion per year, and even that was as small as it was only because of the extraordinary amount of saving done in those years by Germany and Japan.

The anomalous situation of the industrialized world in total being a net capital importer is also likely to continue into the indefinite future. For next year, 1994, for example, the International Monetary Fund has forecast that absorption of saving out of world markets by the United States will be $131 billion, compared to a total of only $59 billion of saving supplied by all other industrialized countries, so that next year the net saving deficit for the industrialized world as a whole will be $72 billion. Hence the industrialized world as a whole — and, even more anomalous, the largest and most advanced industrialized country in particular — is draining saving away from world markets, rather than supplying it for the purposes of world development. I leave to others the moral implications of this situation.

While these annual flows may seem small compared to the total size of world saving as a whole, nevertheless they are, as Horst Siebert has correctly pointed out in his paper this evening, very large compared to the financial markets' ability to transfer savings from one country to another. As is well known, very few countries run current account imbalances that are extremely large compared to their national income over a sustained period of time. What this means is that, while the saving done in the world as a whole is quite large, for reasons of capital market imperfections to which Professor Siebert has already referred, much of that saving stays at home. The United States and hence the industrialized world as a whole are therefore draining from the world's capital markets amounts that are very
large compared to the potential ability of those markets to finance investment around the world.

What are we in the United States doing about all this? We have only just this summer enacted a new five-year budget plan, mostly following lines proposed by the Clinton administration. It will, for the first time in some years, amount to a serious effort at deficit reduction. The Clinton administration estimates that in total, for the five fiscal years 1994 through 1998, the amount of deficit reduction will be $496 billion. The Congressional Budget Office, usually a more reliable source, estimates either $477 billion or $433 billion of deficit reduction depending upon the baseline from which one starts. I myself am moderately less optimistic on this score than the Congressional Budget Office.

More importantly, however, even if we take the official estimates at face value, the budget reduction that the United States has just legislated is still not enough to alleviate the problems we have been discussing. It is essential to realize that this deficit reduction will take place against the background of a deficit trajectory that otherwise would have been dramatically rising. Consider, for example, the prospect for 1998, the last year covered by the budget package, as it compares to this year. In the 1993 fiscal year (American fiscal years end on September 30 and are designated by the year in which they end), the federal government’s deficit will probably be about $266 billion. The Congressional Budget Office has estimated that the amount of deficit reduction just legislated for the year 1998 is $143 billion. If we subtract the $143 billion of deficit reduction from this year’s deficit of $266 billion, the difference is $123 billion. A deficit of $123 billion would be the smallest we have had since 1981.

But the official forecast for the 1998 budget deficit is not $123 billion but $200 billion. Why? Because in the absence of the deficit reduction legislation, the deficit would have risen from this year’s $266 billion to $343 billion. More than half of the deficit reduction just legislated, therefore, will merely offset the increase in the chronic imbalance between federal spending and revenues that would have taken place anyway. As a result, even with the new budget package in place, and even with that package evaluated at the official estimates (which I regard as too optimistic), the federal deficit will still be 2.5 percent of U.S. national income, compared to a likely private saving rate of 5 to 6 percent of national income. That is simply too big a share of saving going to finance government borrowing — and, correspondingly, too little left over to finance productive investment — to solve the problems we have been discussing.

Taking another, more fundamental, assessment leads to the same conclusion. The budget package just legislated in the United States is not
From a fundamental perspective, the distinguishing hallmark of the 1980s' fiscal policy in the United States was that it delivered the first sustained peacetime increase in the outstanding government debt, compared to the national income, in the entire 200-year history of the republic. From 1789, the beginning of the country, onward until 1980, the prior experience was that during wartime the U.S. Government borrowed enough that its outstanding debt would rise compared to the national income, but during peacetime the government would either repay that debt or at least keep its new borrowing small enough that its debt grew less rapidly than the national income, and so the outstanding debt would shrink compared to national income. In 1980 the U.S. Government owed 26 cents of debt for every dollar of the U.S. national income. In 1993 the government's outstanding debt is 53 cents for every dollar of U.S. national income. In only 12 years, we have exactly doubled our government's debt-to-income ratio. Even on the official estimates, by 1998 the government will owe 59 cents of debt for every dollar of national income, and the ratio will keep rising thereafter. Clearly, just like our international indebtedness, this is an explosive situation, one that cannot go on forever.

What, then, are the longer-term prospects? For the intermediate-term future, by which I mean the next five to perhaps ten years, I see five logical implications: (1) The United States will continue to underinvest in factories and machinery at home. (2) As a consequence of that underinvestment, the domestic performance of the U.S. economy will continue to be disappointing. (3) The United States will continue to drain large quantities of saving from world markets. (4) As Professor Siebert's paper has already indicated for the case of Germany, however — and as many analysts have also concluded independently for the case of Japan — this continuing demand for saving from world markets on the part of the United States will take place against the background of a much-reduced prospect for the supply of saving to world markets from the other industrialized countries. (5) As a result of this ongoing demand for saving in the United States, together with the reduced prospect for the supply of saving by other industrialized countries, there will be upward pressure on real interest rates worldwide, with negative consequences for worldwide investment and hence for worldwide economic development.

What about the even longer-run future, going beyond the five- to perhaps ten-year period for which these specific conclusions hold? In the long run the U.S. economy's external deficit, just like the U.S. Government's domestic budget deficit, is not sustainable on the current trajectory. This borrowing has created within the United States the illusion of prosperity,
but it is just that — an illusion, maintained on the basis of borrowed money and therefore borrowed time.

What, then, will be the ultimate resolution? I see three possible solutions, which are not mutually exclusive and which are therefore likely to represent the ultimate outcome in combination. One is that we will somehow manage to increase our private saving in the United States, something we have certainly not been able to do within the last half century. A second possibility is political; we will either cut government spending or raise taxes, or do both in some combination sufficient to render the government's budget deficit sustainable. The third possibility is financial — namely, that at some stage world markets will so depreciate the dollar that we in the United States can simply no longer afford the external deficit we have been running.

Which among these three solutions is the most likely? I honestly do not know, but in any case that is a story for another day.

Thank you very much.