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CHAPTER 1

Editor's summary

*John B. Shoven***1 Introduction**

The United States and Japan are the two largest economies in the world. Both countries experienced the inflationary consequences of the oil price shocks of the 1970s, both national governments have large deficits, and both have been considering or enacting major tax reforms. The growth rate of the Japanese economy continues to be the envy of the rest of the developed world, despite the fact that Japan has suffered many of the same external economic shocks as the other countries.

There are numerous important economic issues that involve the United States and Japan and their interaction. Considerable trade friction has developed between the two countries as a consequence of the large current-account deficit of the United States, the trade surplus of Japan, and, most directly, the bilateral trade surplus of Japan. A widely debated issue is whether the trade imbalance is due to Japanese trade restrictions or due to the imbalance of U.S. fiscal policy.

The trade frictions between the United States and Japan have perhaps been most severe in the microelectronics industry. One issue regarding that industry is whether Japan has been dumping integrated circuits on world markets or is simply more cost-efficient in producing them. Certainly, Japan has proved to be a tough competitor in that market, as in so many others.

There are many important economic issues that concern government policies toward industry in the United States and Japan. For instance, how have the two countries handled their declining industries, such as steel? These industries exist in both countries, and the number of such situations probably has grown because of the rapid increase in the relative price of energy. Whereas considerable attention has been paid to the

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Japanese success stories (as in their microelectronics industry), little notice has been taken of how resources have been redeployed away from shrinking industries in Japan.

Japan, of course, has very limited domestic energy supplies, and it is remarkable that the economy weathered the oil price shocks as well as it did. An issue worth examining is the government policy that accompanied that success. Another factor alleged to be important in Japan's rapid growth rate is its low cost of capital. The issue is whether or not the cost of capital in Japan is really lower than in the United States and, if so, what government policies have accomplished this. In particular, does the Japanese tax system create a smaller wedge between the earnings of Japanese investments and the return to investors than the American system imposes between U.S. investments and investors? Has the use of targeted tax incentives in Japan been a major aspect of industrial policy, and how extensive is the practice? How are Japanese firms and banks, with their traditional close working relationship, reacting to the deregulation of world and domestic capital markets?

With these sorts of issues framing the agenda, Stanford University's Center for Economic Policy Research and the Suntory Foundation of Japan jointly funded a conference held on the Stanford campus in May of 1985. The conference was co-organized by Chikashi Moriguchi and myself. Our goal was to facilitate an exchange of economic research on the effects of government policy toward industry in Japan and the United States. The conference provided lively discussion, and 11 of those presentations have been revised to form the chapters of this volume. They represent state-of-the-art thinking on many important issues relating to government policy in the Japanese and American economies.

The chapters in this book have been grouped into three broad topic areas. Chapters 2–5 concern the cost of capital, capital-income taxation, and saving/investment in the two economies. Saving and capital formation are widely regarded as primary determinants of economic growth, and tax policy clearly affects saving and investment in both countries. Chapters 6 and 7 concern bilateral and international trade and the effects of tax policy on the persistent current-account imbalance between the two countries. The international trade issue is one of great current interest, and the link between that issue and taxation has previously not been carefully examined in the literature. Finally, Chapters 8–12 deal with industrial organization and bureaucratic structure in Japan and the United States. Separate studies are presented concerning declining industries, energy conservation, the finance industry, and policies affecting semiconductor companies in the two countries.

The chapters are quickly summarized in the next three sections of this introductory chapter.

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2 Taxation of income from capital

The first section of this book contains four chapters that examine the taxation of income from capital in Japan and the United States. In Chapter 2, Albert Ando and Alan Auerbach investigate a proposition that is frequently made in business and policy circles: that Japan's economic success over the past two decades has been a consequence of Japanese firms' ability to raise funds in capital markets at a lower cost than American firms. Ando and Auerbach empirically examine this proposition using a sample of 19 American firms and 21 Japanese firms, including major companies in 10 different industries in each country.

Ando and Auerbach start their analysis by examining earnings-price ratios and total return to debt plus equity averaged over the 1966–81 period for both the Japanese and American companies. When the data are aggregated over time in this manner, there is no evidence that Japanese firms have had a lower rate of return to capital than American firms; in fact, the median values for all firms in the Japanese and American samples are identical when a correction is made for Japanese pension accounting.

Ando and Auerbach recognize the difficulties posed by drawing conclusions from using book-value earnings data to measure the cost of capital. They spend the next section of their chapter modifying the aggregate earnings-price ratios and figures on total return to capital to account for the different inflationary experiences of Japan and the United States. They first estimate the difference between the book measure of depreciation and economic depreciation for each company in each year of the sample. This difference is added to earnings.

Inflation will also undervalue inventories and exaggerate earnings under all inventory accounting systems other than an indexed first-in, first-out (FIFO) system. Thus, Ando and Auerbach estimate the fraction of inventories carried under each accounting method for each year. They then reduce measured returns to capital accordingly. It is well known that the nominal interest cost (without indexed liabilities) exceeds the real debt burden in an inflationary environment. Thus, it is important to add the "capital gains" (reduced cost of debt due to inflation) on nominal liabilities to book earnings. One would expect firms with higher debt-to-equity ratios to have larger gains on nominal liabilities – these gains increase as inflation increases.

These adjustments lower the overall return to capital in both countries, as measured by inflation-corrected earnings and interest payments divided by the sum of equity and the book value of financial liabilities. The reduction in Japanese value is larger, however, so that the corrected median average before-tax return to capital in the United States is 9.4%.

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In Japan it is 7.5%. These differences are more evident in some industries than in others, but this suggests that the return to capital (and hence the cost of capital) may in fact be systematically lower in Japan than in the United States.

The final section of the Ando–Auerbach chapter considers potential sources of differences in returns to capital and raises some cautionary issues concerning interpretation of the results they present. They first ask whether or not business taxation forces the before-tax return to capital to be higher in the United States than in Japan. After calculating the effects taxes have on the corrected before-tax earnings–price ratios and return to capital, Ando and Auerbach find that it is Japanese firms, not American firms, that are taxed more heavily on their real equity income at the corporate level. More than 75% of the Japanese firms have their average before-tax return to capital cut in half after taxes, whereas that is the case for fewer than half of the American firms. These authors point out that this conclusion would be strengthened even further if the government business tax provisions of the U.S. 1981 tax act were incorporated into their analysis. Ando and Auerbach also provide upper-bound estimates of the tax advantage to leveraging firms (the corporate deductibility of interest payments). Even adopting the extreme assumption implicit in their upper-bound calculations, these authors conclude that features of the corporate tax system would not lower the cost of capital to Japanese firms.

Ando and Auerbach raise and dismiss the possibility that Japanese firms take fewer risks (and consequently have lower earnings), and they entertain the possibility that Japanese firms possess greater “exceptional growth opportunities,” and thus the price appreciation of equity exceeds corporate retained earnings. These authors calculate a market rate of return on equity that is defined as the sum of capital gains and dividends divided by the market value of the shares outstanding at the beginning of each year. These authors find an enormous difference in the experienced rate of return on equity between 1971 and 1981 (and, by assumption, the required real rate of return on equity). The difference is on the order of 6 to 1 (the median Japanese value is 13.6%, and the median U.S. value is 2.2%). These authors again urge great care in interpreting these results. However, the results indicate a higher rather than lower cost of equity capital in Japan. Overall, these authors conclude that there is not much evidence to suggest that the cost of capital in Japan is significantly lower than that in the United States.

Chapter 3 is written by John Shoven and Toshiaki Tachibanaki. This chapter fits nicely with the Ando–Auerbach chapter as it examines in considerable detail one of the conclusions of the Ando–Auerbach work. Ando

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and Auerbach state that they are able to rule out business taxation as a reason for the lower Japanese cost of capital. They find, in fact, that Japanese real investment is more, rather than less, heavily taxed than real investment undertaken in the United States. The Shoven–Tachibanaki chapter computes effective marginal tax rates on capital income in Japan, including personal as well as business-level taxes, and compares the results with those found for the United States.

The analysis found in the Shoven–Tachibanaki chapter follows that of King (1977) and King and Fullerton (1984). In this chapter they compute the wedge between the gross earnings of a marginal new investment and the net return that the investor earns. The result is then compared to the gross earnings of the investment to yield an effective rate of taxation. Two features of this calculation are critical for reconciling the Shoven–Tachibanaki results with those presented in the Ando–Auerbach chapter. First, Shoven and Tachibanaki calculate a marginal tax rate on an incremental new investment. Ando and Auerbach compute average tax rates on existing capital. Second, Shoven and Tachibanaki examine other taxes besides the corporate income tax that contribute to the taxation of income from corporate capital. These taxes include the personal income tax and wealth taxes. That is, they look at all taxes levied on capital income, rather than just the corporate-level tax.

The methodology adopted in this chapter allows Shoven and Tachibanaki to calculate marginal tax rates for 81 classes of investments. The classes include three industries, three assets, three types of investors, and three types of financing. By using the King–Fullerton approach, the results presented in this chapter can be compared directly with those found earlier for the United States, the United Kingdom, Sweden, and West Germany. The final sections of the chapter present a brief summary of the approach used and the results of the authors' analysis.

Shoven and Tachibanaki find that the marginal tax rate on capital falls as inflation rises in Japan. This is because of the advantage of being able to deduct high nominal interest payments from the corporation tax base, while paying relatively low rates on the same income at the level of individual income taxes. Because Japan had higher inflation rates than the United States over the 1970s, inflation has led to lower tax rates on capital in Japan than in the United States, all other things being equal. Of course, other features of the U.S. and Japanese tax systems are not the same. Japanese firms have a greater likelihood of financing their new projects with debt finance than do their U.S. counterparts. Debt finance is heavily subsidized in Japan. This subsidy arises because nominal interest rates are deductible from the corporation tax, there is a low rate of taxation of interest at the personal level, and depreciation and special

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tax incentives apply to debt-financed as well as equity-financed investments. Because inflation provides its greatest subsidy to projects financed with debt finance, this enhances the tendency for Japanese firms to have lower marginal tax rates on capital income.

An interesting result emerges when Japanese average marginal tax rates are compared with those found in the United States, the United Kingdom, Sweden, and West Germany. In their study of these four countries, King and Fullerton found that the ranking of these countries from highest to lowest in regard to growth rate is exactly the same as their ranking on the basis of effective tax rate on capital income. That is, the higher-growth-rate countries had higher capital tax rates. Addition of Japan to the group alters this result. Japan has the highest growth rate of the five countries, but it has a relatively low rate of taxation on corporate investment. This result differs from that found by Ando and Auerbach and other earlier authors. There is indeed a high rate of taxation on corporate income, as Ando and Auerbach point out. However, the financing of an investment project is also influenced by the personal taxes faced by the saver who supplies the project's finance. Because Japan has a light burden of interest and dividend taxation at the personal level, the effective tax rate on corporate investment income is accordingly low.

The first portion of the Shoven–Tachibanaki chapter presents a detailed description of the institutional characteristics of the Japanese tax system. In their discussion of the personal income tax system, these authors describe the mechanism through which dividend and interest income is lightly taxed. There is a dual rate structure that allows high-income taxpayers to pay a lower tax rate on interest and dividend income. Furthermore, a large amount of this income is simply exempted from tax. Shoven and Tachibanaki also provide details on the corporation income tax, the tax allowances for inventory and depreciation, investment grants and incentives, local taxes, wealth taxes, tax-exempt institutions, and the taxation of insurance companies.

Chapter 4, by Hiromitsu Ishi, describes the evolution of special tax-incentive measures in Japan since the 1950s. After describing what comprises a special tax-incentive measure in the Japanese tax law, Ishi presents tables and graphs to demonstrate that there has been a declining trend in the use of tax-incentive measures over the last 30 years. This decline has primarily been due to reductions in incentive measures aimed at the corporate sector. Ishi also documents a shift in the type of tax-incentive measures employed, from exemptions and credits, in the 1950s and early 1960s, to tax deferrals, such as accelerated depreciation and tax-free reserves. Ishi provides a great deal of interesting historical and current detail about these incentive measures.

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In order to more fully understand the objectives of tax-incentive policy, Ishi classifies Japanese tax incentives into five categories. He then outlines the historical evolution of those five categories. The largest category of special tax incentives since 1958 has included those going toward the promotion of individual saving and housing. Interestingly, the share of special tax incentives directed at the protection of export and foreign investment has fallen from 18% of all special tax incentives in 1958 to 2.2% in 1985.

In the third section of Chapter 4, Ishi reviews earlier studies of the corporate tax burden in Japan. He draws out the distinction between the statutory structure of the corporate income tax that the Ministry of Finance commonly uses to assess tax burdens and the effective tax rate calculated by the *Keidanren* that takes into account special tax-incentive measures. Making the distinction between these two approaches barely alters the results of measuring the corporate tax burden in Japan. It does, however, dramatically alter international comparisons of Japanese corporate tax rates. Under the statutory-rate approach, Japanese corporate tax rates are about the average of those for the United States, the United Kingdom, West Germany, and France. Using the measure of effective tax rate, Japanese corporations face the highest tax rate. This is essentially the basis of the debate surrounding corporate taxation in Japan. Over time, the trend has been for both statutory and effective tax rates to rise. Also, medium-size corporations (defined as those having 0.1–10 billion yen of paid-in capital) face the highest rate of tax (measured statutorily or as an effective rate).

The final section of Chapter 4 presents a new set of calculations of the corporate tax burden that Ishi calls the ultimate tax rate calculations. This measure of tax burden amends the *Keidanren* measure of effective tax rates to include the effects of special tax-incentive instruments of tax-free reserves and accelerated depreciation. Ishi presents calculations disaggregated by 18 industries over the time series 1970–82 that show the effective tax rate in each industry and thus the change in effective tax rate due to the availability of tax-free reserves and due to accelerated-depreciation provisions. The benefits from tax-free reserves have appeared to decline over the time series covered. However, for public transportation and utilities, the financial sector, and the textile industry, the benefits remain reasonably high (on the order of 5%). The benefits from accelerated-depreciation provisions have also declined over the time series, and the highest rates are only 40% of the levels of tax-free reserves.

A tremendous amount of attention has been paid to the savings rates in the United States and Japan. The conventional view holds that the Japanese savings rate is several times that of the United States. Recently,

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a somewhat different view has appeared. Advocates of this view argue that several important components of savings, including consumer durables and education, are treated as consumption in the national accounts. When these items are treated as savings, the gap between Japanese and U.S. savings rates narrows. Chapter 5, by Michael Boskin and John Roberts, examines the measurement and policy issues that arise when discussing savings behavior in the United States and Japan.

The first major section of Chapter 5 examines the methodology involved in measuring savings. For example, should stock data or flow data be used to measure savings? Should net or gross savings figures be computed, and if the answer is net, how should depreciation be measured? Are individual savers affected by whether a corporation or the government is saving on their behalf? These authors discuss these and a variety of other issues before surveying previous empirical studies of U.S. and Japanese savings.

The estimates of Boskin and Roberts adjust national savings rates to include consumer-durables expenditures and government investment as savings. These items, in contrast to education and research and development, have more easily estimable rates of depreciation and greater differences in levels between the United States and Japan. In their estimates, these authors choose to use flow-based net measures of savings. They take the position that the distinction between household savings and corporate savings does not matter, but that the distinction between public savings and private savings does matter.

These authors' estimates of U.S. and Japanese savings rates are presented in a series of tables. The first table highlights measurement differences in gross savings between U.S. national income and product accounts (NIPA), OECD definitions, and a definition of savings that includes government investment and expenditures on consumer durables. The final measure, when computed on a gross savings basis, suggests that U.S. savings are only 30% less than those of Japan.

These authors then present a table containing net savings rates and a variety of adjustments to these rates. The table begins with a standard NIPA definition of net savings. Adjustments are first made to include government nonmilitary investment. Similar adjustments are then made to include net expenditures on consumer durables. The net result of the first adjustment is to widen the U.S.–Japanese savings differential; the second narrows the differential. The final two adjustments incorporate government net expenditures on military capital as investment and then add the rental flow from the nonmilitary government capital stock to national product.

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The third of the Boskin–Roberts tables separates savings into the public and private components. A striking feature of this table is the high rate of Japanese government savings. When compared with government savings, the disparity in private savings between the two countries is much smaller. The final table of the series shows various consumption and investment rates. The chapter concludes with a summary of findings and a suggestive discussion of factors that might combine to generate higher Japanese savings rates. Assessing the relative importance of these factors undoubtedly will be a promising area for future research.

3 The Japanese current account

The two chapters that compose the second section of this volume focus on the economic policies in Japan and the United States that have contributed to the Japanese current-account surplus. Chapter 6, by Kazuo Ueda, focuses on the role played by U.S. fiscal policy in causing the large Japanese current-account surplus. Ueda constructs a two-country model in which two endogenous variables, the real interest rate and the real exchange rate, determine savings and investment. The model is static and thus does not consider economic growth and feedback effects, such as the effect of the capital stock on investment, the effect of a change in wealth on savings, and the effect of a change in net foreign assets on the exchange rate. Because of this, Ueda frames his study as a short- or medium-term analysis.

In the Ueda model, net savings in each country are determined by the interest rate, which is equalized across countries, and by an exogenous component. The current account is also described by an exogenous component and a real-exchange-rate term. Including a goods market equilibrium condition, the system can be solved for the interest rate, real exchange rate, and current account in terms of autonomous levels of private and net government savings. In the model, an increase in private or government savings in either country will lower the equilibrium interest rate. This will disequilibrate the balance of domestic savings and domestic investment, which in turn will lead to a capital inflow or outflow. The exchange rate is determined such that the current-account deficit is equal to the negative of the capital-account surplus.

To implement the model, Ueda estimates private-sector savings and investment functions and equations for the full-employment government budget deficit. After doing this, regressions are run on the current account using the previously estimated variables to decompose the evolution of the current account into structural and cyclical components.

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The proposed fixed-investment equations are Jorgensonian in that investment depends on production, the capital stock, and the user cost of capital. Housing investment is thought to depend on the interest rate and income relative to housing prices. The savings functions depend on the current year's net national product [real gross national product (GNP) less government expenditures], last year's net national product, budget deficits, and, for the Japanese case, bonus payments. Series are also constructed to represent full-employment GNP for both the United States and Japan. These variables are then used to calculate what Ueda considers the autonomous or exogenous parts of private and government net savings. Ueda suggests that large parts of the movements in U.S. net savings are cyclical, that U.S. savings are not explained by his exogenous factors. For Japan, the author suggests that the exogenous or structural determinants of savings also do not explain the variations in national savings rates over the past few years.

The final estimation presented in Chapter 6 is for the current account. These equations are used to decompose movements in the current account into structural and cyclical components. The structural components are considered to be the exogenous determinants of the savings-less-government-deficits variable. The cyclical components include the constant term and the real GNP divided by full-employment GNP for the United States and Japan. Ueda finds that a major part of the Japanese surplus is structural. Of this structural surplus, Ueda finds that the increase in the U.S. budget deficit and the decrease in the Japanese budget deficit have been the major causes of the increase in the Japanese current-account surplus. Although differences in the country's net savings base also played a role, Ueda suggests that this effect is smaller than that of fiscal policy.

Based on the coefficient estimates of his empirical work, Ueda presents some simulations of policy actions that may lead to a decrease in the structural component of the Japanese current-account surplus. Here he finds that complete elimination of the U.S. budget deficit would eliminate the structural component of the Japanese current-account deficit. Alternatively, raising the Japanese deficit to 6% or 7% of GNP would eliminate the surplus. Ueda also discusses the implications of his analysis for exchange-rate policies. The final section focuses on the sustainability of the budget deficits modeled in Chapter 6. The most relevant conclusion of the chapter for current trade-policy debate, however, remains that a primary determinant of the trade deficit faced by the United States is its own federal-government budget deficit.

Chapter 7, by Iwao Nakatani, focuses on the roles of the Japanese and U.S. tax systems in exacerbating the large and growing current-account imbalance. The chapter begins by presenting figures documenting the large