secondary social benefits resulting that involve the civilizing effects of commerce and the encouragement of individual savings (frugality). Individual self-interest, combined with virtue, are viewed as powerful forces for promoting the common good.

The eighth chapter focuses on the functions of the public sector and how, unlike the unintended consequences of the invisible hand, good law can result only from an explicit desire to promote the public good. Since, in the political sphere, self-interest is more likely to be a corrupting force, morality must serve as a guide for public servants. Young shows two possible sequences in the legislative process. The "corrupting sequence" is explained and the example is given of how the granting of exclusive trading privileges at the macro level led to corruption at the micro level. On the other hand, if a parliament is led by those genuinely committed to the public good, the "virtuous sequence" can be achieved in which society is more likely to flourish and grow "for many succeeding generations" (p. 184). Smith held that promoting the public good was the only purpose of government, but Young shows that Smith placed specific obligations on private individuals for promoting the general welfare as well.

In a brief, final chapter, Young posits that the true Smithian model of exchange rested on the assumption of equality. This, for Young, is what lies at the heart of much of modern economics, and he maintains that scientific economics ultimately does have a moral base, as Smith demonstrated.

In concluding, let me note that I am not a big fan of books that bring together an author's journal publications. My reasoning behind this position is similar to the reasoning that does not lead me to purchase "greatest hits" compact discs by musical groups: If I have all the songs already on a number of LPs, why buy them again? This position is attenuated some, in the case of Young's book, by the fact that he has included some previously unpublished materials and by the fact that, with some exceptions, he ties the works together so that it reads more like a unified undertaking. (To finish the metaphor, we might, therefore, consider it as akin to a medley.) What results is a thoughtful volume on the work of Smith, with special attention being given to the role that morals play in his economic system. Although Young asserts that "old Adam Smith problems neither die nor fade away" (p. 203), it is my opinion that Young actually makes the case that there was never much of an Adam Smith problem in the first place.

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Understanding Saving: Evidence from the United States and Japan.

By Fumio Hayashi.
Cambridge, MA: MIT Press, 1997. *Pp. x, 510. $50.00.*

In this book, Hayashi collects his work of consumption and saving over the past 15 years. In this respect, this is a unique testimony of the work and debate on consumption and saving during the 1980s and 1990s. This book is an important resource for several reasons. First, it focuses on useful extensions and modifications of the simple life cycle model. For example, it takes into account imperfections in the financial markets and the effects they can have on consumption/saving decisions. Second, it goes beyond the finite horizon framework and considers how generations are linked together. Third, it proposes new ways to estimate the predictions of theoretical models and provides a very careful and thorough empirical work. Fourth, it studies and compares the experience of the United States and Japan. Japan is a country of special interest; it has one of the highest saving rates, and its institutions and structure make it an ideal case study to analyze saving models. Overall, this book is an invaluable source for researchers working in both macro- and microeconomics.

One common feature of many chapters in this book is the use of micro data. Even when looking at issues relevant at the macro level, Hayashi uses mostly household data. This has many advantages: He can not only look into the reasons for the failure of the life cycle–permanent income model but, most important, can directly test the theoretical predictions of the model since they pertain to the individual level. Another common feature is the use of rich and extensive data sets, in particular, some of the Japanese ones that report very detailed and sometimes unique information about consumption.

In many of the chapters of this book, Hayashi proposes an innovative and thorough empirical work from which many other researchers have learned and borrowed. Just as an additional indication of the care put into the empirical work, he often updates the estimation of the papers that were published some years ago and adds the new estimates and revisions in an appendix. Although results hardly change, the reader should praise the precision, care, and rigor used by the author.

The book is divided into three main sections: the first on liquidity constraints, the second on risk sharing and altruism, and the third on Japanese saving behavior. In the first section, Hayashi investigates the predictions of the rational expectations–permanent income hypothesis (PIH) and whether liquidity constraints can explain the empirical refutation of the model. The fact that financial markets are imperfect and that most households cannot borrow in the ways assumed by the theory is almost palpable. This adds some realism to an otherwise restrictive framework. It is not easy, however, to test this implication in the data. He estimates the predictions of the PIH by looking at the Euler equations, that is, the first-order conditions of the maximization problem. He makes use of the theoretical predictions of the model, which state that no past information should be able to predict consumption changes. The instrumental variables approach that he develops is a precursor of many other works in the 1980s. It is not an exaggeration to say that some of Hayashi's early work set the stage for much of the future work on this topic.

Many of the problems in estimating the Euler equations that have affected much of the research during the past 10 years were already documented and discussed in these initial papers. Among these many problems are: The consumption measure (i.e., consumption versus expenditure), the durability of the consumption goods, the small sample period, and the problem of measurement error in micro data. Hayashi gets around many of these problems in clever ways. For example, he does not assume that consumption is nondurable but tests for it using a unique data set of Japanese households. His empirical findings are important since he reports substantial evidence of durability. He also uses consumption data from diaries. The way in which diaries are collected soften the measurement error problems present in many micro data sets. In addition, he overcomes the problems of the small sample size and the weakness of the test of the Euler equations by exploiting simple predictions of the model and testing them at the cross-sectional level.

In a work that had a big impact in the profession (chap. 3), he looks at the households with small amounts of wealth and examines whether the consumption of this group is lower than that of households that have a lot of assets and are therefore less likely to be constrained.

The idea is simple and intuitive but very powerful, and it provides a rather strong test for the presence and importance of liquidity constraints.

In his works, using both U.S. and Japanese data, Hayashi rejects the predictions of the PIH and finds evidence in favor of liquidity constraints. The empirical evidence on liquidity constraints is well discussed and summarized in chapter 6, which represents an excellent survey of the earlier work on Euler equations.

A second important topic that Hayashi examines in great detail is whether generations are linked together and care about each other. This topic is of paramount importance. Although many studies have been undertaken on this issue, we still do not know much about the strength and importance of the bequest motive. The problem is that we do not know whether the existence of transfers across generations necessarily indicates altruism, as many of the original models have assumed. Transfers could originate simply from exchanges across generations or could be the result of short, unexpected longevity.

Hayashi, together with a group of coauthors, looks at this issue from a novel angle: If generations are altruistically linked, the distribution of consumption should be independent of the distribution of resources of a single generation and should depend only on the resources of the dynasty. So, for example, the distribution of resources between parents and children should depend only on their collective resources and not on the distribution of the children and parents' income. They estimate this prediction using data from the Panel Study of Income Dynamics (PSID), which follows families and their split-offs over time. The PSID is a very rich data set, although it suffers from the fact that only data on food consumption is provided and some restrictive assumptions have to be made when modeling household consumption.

In all the tests performed using different estimation methods, Hayashi and his co-authors reject the altruistic model and find that the distribution of consumption of parents and children is highly dependent on their incomes. However, they also find that the resources of the single generations are not the only resources that matter, as would be predicted by the simple life cycle model (even though the evidence against the life cycle model is somewhat weak). In this sense, although the study is very powerful, it does not settle whether it is the simple life cycle or the altruistic model that governs the behavior of households. Additionally, it could be the case that the evidence shows what is already reported in the first part of the book, that is, that liquidity constraints or other market imperfections are present and that they prevent generations from smoothing their consumption.

If altruism does not explain the behavior of many American households, could it explain the behavior of other countries? Japan is, in this respect, an ideal country to study, given the tight family connections and the different cultural framework that seems more favorable to family interactions. Hayashi exploits the same intuition as above, this time using Japanese data. In this context, he can only rely on cross-sectional data, and he basically tests whether consumption is dependent on the division of resources within the extended family. Even in the Japanese framework, this hypothesis is not supported.

It should be noted that the evidence from these two studies does not mean that generations are not altruistic *at all* but that they are not altruistic *enough* to behave as a single decision unit. Although very original and innovative, this test pursues a very strict theoretical prediction, and, at the end, it is perhaps not surprising that it is rejected by the data.

As mentioned above, the fact that the distribution of resources of single generations matters may simply indicate that markets are not complete and that generations cannot pool resources in the way the model assumed them to do. In a world with uncertainty, the significance of the resources of each individual generation may be an indication that there is not complete risk sharing across generations. Hayashi and his coauthors look at this issue in chapter 9, in which they perform a very general test that also takes into account that food may not be separable from leisure and that leisure is a choice variable. Consistent with the evidence from the previous papers, they reject the hypothesis of complete insurance. Again this does not mean that there is no risk sharing *at all* among families but only that the extent to which risk sharing happens is imperfect.

In the third section of the book, Hayashi examines an often-asked question: What explains the high saving rate in Japan? He examines three important reasons: the measurement of saving, the bequest motive, and the imperfections in the financial markets. When making international comparisons of saving, it is important to be careful about data comparability. Hayashi notices that there are important differences in the national accounts between the United States and Japan. The two most important ones are the treatment of depreciation and durable goods. Depreciation is valued at historical costs in Japan, whereas in the United States durable goods are counted as consumption. After he makes many of the adjustments necessary to make figures comparable, he reports some striking findings: The level of saving in Japan remains well above that of the United States but is not as high as commonly thought. Most important, the adjustments reveal that the patterns of saving are different than commonly reported. For example, as in many other developed countries, in Japan too the saving rate has been declining since the 1970s.

Japanese families are very tightly connected, and empirically one sees many elderly living with their children as well as many transfers. This represents an ideal situation to study the importance of intergenerational transfers. Using two large cross-sections of households, Hayashi and coauthors investigate whether the elderly dissave at the end of the life cycle. The analysis here is limited by the availability of only cross-sectional data, and studying this question would require using panel data. On the other hand, they have very rich and large data sets of more than 50,000 households. The presence of extended families can substantially blur the analysis in cross-sectional data since it is usually the poorer parents that move in with the children and therefore tend to disappear as independent families, leaving a sample of relatively rich old households. Hayashi and co-authors are very careful in the treatment of extended families. They perform a separate analysis for family types and find that, contrary to the theoretical predictions, the elderly do not dissave. In fact, many of them continue to save and often leave behind a substantial amount of wealth. They also find that one of the assets that many families bequeath to the next generation is the house.

In the last chapter, Hayashi, with a group of coauthors, concentrates on the issue of housing. They note not only that houses are very expensive in Japan but also that the down payment required to buy a house is quite substantial. They simulate a model that incorporates a severe down payment constraint and evaluate whether this alone can explain the difference in saving between the United States and Japan. Although important, this is not enough to explain the much higher saving rate in Japan. They then allow for a bequest motive, as some of Hayashi's studies seem to suggest that this is relevant. Households save to accumulate for the down payment to buy a house and at the end of their life cycle do not sell off the house but leave it to their children. This model can now better replicate some of the features of the Japanese economy and the high saving rate that it experienced with respect to the United States, particularly when it is assumed that the economy is growing and is not yet in a steady state. Again, this is a very interesting idea, and other authors have borrowed it to try to explain differences across countries as well as to argue that the development in financial markets can explain the recent decline in saving rates.

To summarize, this is an outstanding book on consumption and saving. It provides a very thorough and rigorous analysis of some of the most important issues in this literature. In particular, it reports some of the most innovative and original works of the past 15 years. Anyone, however expert in the field, has a lot to learn by reading this book.

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