Coalition's clumsy confusions of different forms of debt).

In this case, these pressing issues of access have been given a sharper edge by key ideological differences. Johnstone and Marcucci emphasize the importance of ideological opposition to cost-sharing. But in Britain, the key factor has rather been an ideological enthusiasm for diminishing the role of the state and extending the reach of the private sector, increasingly seen as a continuation of the objectives of Margaret Thatcher's governments of the 1980s. This is clearly shown in David Willetts's book *The Pinch*, published shortly before he was appointed minister with direct responsibility for universities, and therefore for the design and introduction of the Coalition's cost-sharing system. Willetts's central proposition is that the role of the family needs to be restored as a mechanism of redistribution between the generations: "you would borrow lots of money when you were young in order to finance your education, repaying your loan in your peak years of earning, and then, after you have done that, setting money aside to pay for your pension and the social care you need. This is increasingly how university education is financed" (Willetts 2010, pp. 159–60).

Given the political context in which new cost-sharing policies were introduced, it is no coincidence that the extent and aggression of the December 2010 protests had been unequalled since the Poll Tax protests in March 1990. The key factor, still unclear, will be the political reaction of the "squeezed middle" of the British population, and how they will offset their interest in the now-lost direct state subsidy of about 50 percent of their children's tuition costs against their broader gains from a reduction in state support for poorer socioeconomic categories through welfare benefits, access to health care, and development subsidies for deprived regions. This is a central political equation in British politics. It is Johnstone and Marcucci's significant contribution to show that, in understanding higher education financing in any country, appreciating the wider significance of such political factors is essential.

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Offshoring in the Global Economy: Microeconomic Structure and Macroeconomic Implications. By Robert C. Feenstra. Cambridge and London: MIT Press, 2010. Pp. ix, 148. $40.00. ISBN 978–0–262–01383–3.

JEL 2010–0595

The annual Ohlin Lectures, sponsored by the Stockholm School of Economics, are among the most prestigious in economics and are especially well-known to international economists. The lecture series was inaugurated by Jagdish Bhagwati in 1987, and his lectures were later published in the form of his beautiful short book, *Protectionism*—a well recognized masterpiece of economic wisdom written in especially accessible language. The scholars that followed Bhagwati amount to a Who's Who of top-flight international economists—the list includes Ronald Findlay, Paul Krugman, Jeffrey Sachs, Robert Mundell, Elhanan Helpman, Maurice Obtsfeld, Edward Leamer, and many others. In a number of cases, the lectures were later published in book form.

Robert C. Feenstra delivered the Ohlin Lectures in 2008, and the lectures have now been published in book form by the MIT Press under the title *Offshoring in the Global Economy: Microeconomic Structure and Macroeconomic Implications*. As we might have expected from the author of the world's leading graduate textbook in international trade, the book is an extremely

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well-written synthesis of recent research on the topic—one that this international economist will be incorporating into his graduate international trade course syllabus. I strongly suspect I will not be the only one doing so.

At the core of this book are the efforts of one of the discipline's leading scholars to deal with one of its most frustrating questions: what has been the role (if any) of expanding international commerce in the rise of U.S. wage inequality since the late 1970s. Feenstra takes his readers back to the beginning of the debate within the international economics profession in the early 1990s and moves it forward to the late 2000s, offering up a hopeful view of the degree to which recent theoretical and empirical work can help advance our understanding, while retaining an honest assessment of the remaining incompleteness of that understanding. Along the way, Feenstra discusses his own very significant contributions to scholarship on this issue but interweaves that with a great deal of focus on the relevant work of others. While some of this ground was covered in his graduate textbook chapters on the subject, this book extends that coverage to the very edges of the current theoretical frontier. It is also less technical in its approach, making it accessible to economists (and economists-in-training) who may not be ready to devote an entire semester to graduate level international economics but would still like to dig deeply into the interplay between expanding trade and expanding wage inequality. Graduate students often find it difficult to see the connection between the technical details of the papers they are struggling to comprehend and the public policy questions they hope to someday answer. I see this book as a perfect antidote for that particular malady—students of international trade can see several of the leading papers in this literature boiled down to their essence and placed into an overarching framework that helps them understand how the thinking of a community of scholars has advanced over time in the face of changing patterns of evidence and expanding modeling technology.

The book is divided into two lectures and a final, concluding chapter. The first lecture, "Microeconomic Structure," provides an in-depth intellectual history of international economists' efforts to understand rising wage inequality in the 1980s, 1990s, and 2000s. The simple two-country, two-good, two-factor Heckscher–Ohlin trade model taught to generations of undergraduates predicts that the advent of trade between high-skill and low-skill abundant countries will raise factor payments for the abundant factor in each country and lower them for the scarce factor. At the end of the 1980s and beginning of the 1990s, the increasingly well-documented surge in U.S. income inequality between more- and less-educated workers, and its temporal coincidence with a rising level of trade between the United States and low-skill abundant countries, led to a rush of papers seeking to quantify the extent to which trade was driving increased wage inequality. These early efforts were largely unsuccessful. Careful documentation of the various dimensions of the expansion of wage inequality in the manufacturing sector by labor economists and others quickly established patterns that were widely viewed as inconsistent with a trade-led explanation. A vocal group of labor economists began championing skill-biased technical change as an alternative explanation—and some within this group suggested that trade was playing little to no role.

Feenstra describes the theoretical and empirical debates that erupted within the international economics community in response to this challenge. As the 1990s wore on, researchers found that data in developing countries with rapidly growing trade-to-GDP ratios also seemed to show strong evidence of rising wage inequality between skilled and unskilled workers. This seemed to run directly contrary to predictions derived from the Heckscher–Ohlin model and pointed even more strongly to a global shift in the technology of production as the primary driver of increased inequality.

Feenstra's own work with Gordon H. Hanson represented an important breakthrough. Their 1996 and 1997 papers introduced a theoretical model of offshoring in which the familiar two good, two factor Heckscher–Ohlin model was replaced by one with three factors and a continuum of goods. Feenstra and Hanson ordered these goods in the relative intensity with which they used highly skilled labor and showed how, with free trade, a skill-abundant country would specialize in the more skill-intensive activities.

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As the country with fewer skilled workers grows in productivity or receives capital flows from the skill-abundant country, it undertakes a broader range of activities. However, the shift in activities that occurs is one that raises the relative demand for skilled labor in both countries because the new activities undertaken in the "poor" country are more skill-intensive than the activities already undertaken there—and the skill-abundant country is left with a range of activities that are all more skill-intensive than the ones that have just been offshored. In this framework, trade expansion leads to a rise in the relative demand for skilled labor in both countries. In their highly cited 1999 paper, these authors used an empirical specification based on their model to try to estimate the degree to which the increase in inequality in U.S. manufacturing wages that could be ascribed to trade versus skill-biased technical change. Their results were sensitive to the way in which they measured skill-biased technical change but generally confirmed that trade did contribute to expanding inequality, although probably less so than skill-biased technical change.

Feenstra also discusses theory and evidence on services offshoring and gives prominent treatment to the "international trade in tasks" model put forward by Gene M. Grossman and Esteban Rossi-Hansberg (2008). Feenstra skillfully relates this new model to important earlier work, illustrating exactly how it enlightens the old debates in the literature and what new conceptual leverage it provides to international economists. By allowing for the possibility of countries like the United States offshoring some relatively skill-intensive activities, the new model helps explain how expanding international commerce could be consistent with important changes in the evolution of inequality in the 1990s. In the 1980s, the relative wages and relative employment shares of skilled workers rose. In the 1990s, the relative wages continued to rise, but employment shares did not—in fact, they modestly declined in manufacturing. Labor economists have appealed to a change in the nature of skill-biased technical change as a candidate explanation, but a more complicated pattern of offshoring, such as what could arise in the model of Grossman and Rossi-Hansberg, is equally consistent with these data.

Feenstra closes the first lecture by pointing to a fundamental measurement challenge facing international economists. We have data on commodity trade at a highly disaggregated level but we lack the data needed to convert these commodity trade flows into the implied factor service flows. Data on the factor intensity of industrial production are generally only available at a much higher level of aggregation, introducing a high degree of measurement error into typical computations of factor service flows. Feenstra tries to address this problem with a creative attempt to "back out" the degree of aggregation bias that might exist. Feenstra persuasively argues that the factor content of trade, especially in recent years, is likely to be more than large enough to have a meaningful impact on factor prices. Establishing this result in a more conclusive way, however, is likely to require more effort and, ultimately, better data.

The second lecture, "Macroeconomic Implications," considers the implications of offshoring for business cycle volatility, price measurement, and productivity measurement. This lecture draws upon recent work to argue that offshoring may have led to decreases in business cycle volatility and inflation, but inflated the usual measures of productivity change. Feenstra presents the basic results of his joint work with Paul R. Bergin and Hanson, which illustrates how rising offshoring could effectively transmit business cycle volatility from the United States to Mexico, reducing it in the United States and increasing it in Mexico. I find it one of the most convincing of the many attempts that have been made to relate rising U.S. reliance on foreign trade with what we used to call the Great Moderation—the decline in U.S. GDP volatility that began to emerge in the 1980s. The recent financial crisis and sharp recession have undermined interest in the "Great Moderation" literature, but even if that phenomenon lies in the past, it still requires explanation and I continue to think that models like Feenstra's are a potentially useful component of that explanation.

Can a rise in offshoring help explain lower inflation in the United States? Feenstra draws on recent work with Paul Bergin to suggest that the answer is yes, at least to some extent. Increased exports by China to the United States have

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played a significant role in the pass-through of exchange rate movements to U.S. import prices. As the dollar has fallen, import prices have not risen by as much as expected. Competition from Chinese producers and the efforts of the Chinese government to stabilize the exchange rate of the renminbi vis-à-vis the dollar have limited pass-through, leading to a moderation of inflationary pressures.

The last part of this second lecture points illustrates the consequences of increased globalization and offshoring for the (mis)measurement of productivity growth in U.S. manufacturing. Drawing upon joint research with Marshall B. Reinsdorf and Matthew J. Slaughter, Feenstra documents important sources of measurement error in the import price indices computed by the BLS. In the late 1990s, tariff reductions and increasing offshoring of the production of goods and components to lower-cost countries generated declines in the prices of imports that are not captured in the official indices. As a consequence, part of what looks like a productivity gain in onshore U.S. manufacturing industry actually reflects unmeasured price declines in imported inputs. After painstakingly correcting the official data, Feenstra and his coauthors conclude that one-fifth of the one percent per year productivity speedup in the United States after 1995 stems from these unmeasured import price declines.

The final, concluding chapter offers a useful recapitulation of the main points and arguments made in the two lectures and an overview of directions for future research. However, this chapter devotes considerable attention to an issue not directly considered in either of the first two lectures: the potential interaction between expansion of trade and worker-level provision of "effort." Feenstra begins with work by Edward E. Leamer (1999), which embeds a model of endogenous choice of effort level by workers in a Heckscher–Ohlin framework. Taking this paper as a starting point, Feenstra then sketches out a "supermodular" microeconomic structure of production in which the number of differentiated goods available to workers can determine whether workers exert a high level of effort, leading to a high level of aggregate productivity, or a low level of effort, leading to a low level of aggregate productivity. Feenstra shows how an expansion of trade could make the high effort equilibrium more likely and relates this result to recent scholarship on the role of international trade in the first industrial revolution.

Taken as a whole, the book provides a useful summary of recent scholarship on the offshoring phenomenon. It is especially useful in providing the reader with an in-depth synthesis of recent research on connection between growth in offshoring and growing wage inequality in trading economies. The book strikes an admirable balance between focus and breadth and between rigor and accessibility. I would strongly recommend it to professional economists and graduate students in economics with an interest in these issues.

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