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JEL Review
by
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Marian Radetzki. 2008. *A Handbook of Primary Commodities in the Global Economy*. Cambridge: Cambridge University Press. 233 pages.

Marian Radetzki has produced a very timely and wide-ranging book on various aspects primary commodity markets (or raw materials) and policies towards them. It is a sequel to his 1990 book on the same topic. Not much in the way of books has been written on commodity markets in the interim, although some aspects of commodities, especially long-term price trends and cycles, have received considerable attention in the academic journals.

The timing for the book's publication could not be better. After a period of high commodity prices in the 1970s, there were two decades of the doldrums. As a result, general interest in commodity markets waned. Since the turn of the 21st century, however, commodity prices (not only oil, but also primary metals and food products) have exploded, bringing tough questions about the sources of the underlying boom and more than just idle curiosity about how long it will last. The investment community has glommed onto the idea of 'commodities' as an asset class, which yields potentially large diversification gains when added to traditional portfolios of stocks, bonds and (sometimes) real estate. Some industry observers and academics are arguing that commodity prices are in the early stages of a 'super cycle,' which could last several decades, driven by industrialization and urbanization in China and, to a lesser extent, India and other emerging economies. Others, including Radetzki, are more skeptical and expect the boom to be shorter lived.

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Radetzki's opening chapter entitled "The Historical Framework" develops three broad themes that help to link the other chapters. The first theme is the declining relative significance of primary commodities as economies go through the typical development process. This assessment is based on an analysis of broad GDP production shares using national income accounting data for the primary sector (agriculture, mining, and utilities), the secondary sector (manufacturing), and the tertiary sector (public and private service activities). Both time series and cross section evidence is presented. Radetzki shows convincingly that the primary sector's share tends to decline sharply as per capita GDP rises. "In rich market economies the primary sector seldom exceeds 5% of GDP. Even in sparsely populated Australia and Canada, with an abundant export-oriented agriculture and a rich mineral endowment, the primary sector contributes less than 10% of overall national value added." (p.10) Norway, where the traditional fishing industry was later eclipsed by offshore oil and gas developments, is a notable exception.

It is often argued that the 'materials intensity' of GDP first rises and then later falls with the level of development. The text amply documents that the primary sector's share shrinks with rising per capita GDP, as the manufacturing and then the tertiary sector expand. Interestingly, however, no mention is made of the typical inverted U shape relating intensity of use to per capita GDP that is often encountered in discussions of, say, metals demand. It is unclear whether Radetzki disagrees with this hypothesis or believes that it pertains to some but not all commodities.

The second theme in Chapter 1 is that dramatic reductions in bulk transport costs have created increasingly global markets for many commodities that heretofore had been regionally segmented. Radetzki focuses on two important changes in transport technology that have had

profound effects on commodity markets. The first took place in the late 19th Century and involved the advent of steam power for both sea and land-based transport. The second jump in transport technology was triggered by the Suez crisis in the mid-1950s, and involved the development of huge specialized bulk container ships. These carriers, "along with the concomitant loading and unloading facilities in the harbors…[permitted] economic transport of low-value products like iron ore, steam coal, bauxite and oil across vastly extended distances." (p.13)

The third broad historical theme developed in Chapter 1 involves the role of governments in commodity markets. The author observes that 'the fifty-year period between 1930 and 1980 was one characterized by deep nationalist state intervention in the resource sector. This period was preceded and followed by periods of highly liberal government attitudes.' He then goes on to speculate that 'recent efforts in some countries to increase the government's grip over natural resources may be a harbinger of a new wave of state involvement, but currently one cannot be sure.' (p. 21)

There is a fourth broad historical theme that probably deserved inclusion in opening 'Historical Framework' Chapter, namely historical evidence on the negative long-term trends in most real commodity prices – for both renewable and non-renewable resources. The presentation of this evidence would then have led naturally to a systematic discussion of supply and demand trends that this reader would like to have seen at the outset. Later in the book, Chapter 4 (Price Formation and Price Trends in Commodities) does contain a review of long-term price trends, although it overlooks many of the econometric subtleties in addressing this question. The interested reader should also see Chapter 6 on "The Economics of Exhaustible

Resource Depletion" which includes a very useful section on "The Evolution of Long-Run Prices." Radetzki's discussion follows the existing empirical literature in reporting constant trend rates over the longest available data span, rather than looking for broad periods where real prices were generally falling or rising as supply-demand balances change. Presumably when one is trying to understand long-term trends in nonrenewable resource costs, for example, there is the inevitable tug-of-war between increasing scarcity (driving costs and prices up as readily accessible reserves are exploited) and the ongoing march of technological change (which pushes nonrenewable resource costs down). Empirical work seldom allows for evolution in the relative importance of these opposing factors by considering evolving rather than constant long-term trends.

Chapter 2 (Geography of Commodity Production and Trade) discusses the evolving geographic location of production for various commodities as well as the implications for trade in these products when regions with high commodities demands are increasingly far flung relative to supply sources. The chapter accomplishes four tasks. It begins by defining primary commodities and various sub-groups by utilizing the Standard International Trade Classification (SITC), which allows for a much more disaggregated analysis than the NIA data used in Chapter 1.[2] Second, the chapter summarizes the importance of various commodities in international trade over time. Petroleum products dominate the lists in terms of both shares of total commodity exports and dollar values. Third, the current geography of commodity production and

[2] In this chapter and those that follow, the Radetzki relies on a more disaggregated definition of various commodity groups from the Standard International Trade Classification (SITC). While emphasis varies from chapter to chapter, the book's coverage includes live animals and all unprocessed and processed food products (SITC 0), beverages and tobacco (SITC 1), inedible crude materials except fuels, lubricants, and related materials (SITC 2), edible oil raw materials (SITC 22), mineral fuels, lubricants and related materials (SITC 3), animal and vegetable oil and fats (SITC 4), iron and steel (SITC 67), non-ferrous metals (SITC 68). (p. 23).

consumption is discussed. Finally, the increasing dependence of Japan, Western Europe and the U.S. (in that order) on imports of commodities over the twentieth century is highlighted.

Separate chapters pursue in more depth issues that arise in Chapter 2's overview of global concentration of production and consumption of various commodities. Chapter 3 addresses the topic of shifting comparative advantage and distortionary trade policies. We learn that while agricultural markets are riddled with welfare reducing trade restrictions and production subsidies, trade interventions in metals markets have been much more limited. An exception that receives brief mention is increasing Chinese use of export taxes and value-added tax rebate schemes for a number of metals. It is unclear how Chinese export restraints in the metal markets squares with the WTO's generally negative stance on export as opposed to import interventions.

Chapter 7, entitled "Fears of, and Measures to Assure, Supply Security," summarizes current thinking on a number of questions that are at the top of many international policymakers' lists at the moment: (1)When will supply disruptions be particularly serious for import dependent economies? (2) What measures can be taken to alleviate the consequences of (actual or threatened) supply disruptions? (3) When does stockpiling of oil and various strategic metals make sense? The author concludes his analysis with the observation that "Looked at in retrospect, the concerns and the costs incurred to overcome the vagaries of supply security may appear as somewhat exaggerated." Whether this claim will hold true for current U.S. national security concern over dependence on OPEC oil supplies remains to be seen!

Chapter 8 turns to the related topic of producer cartels in international commodity markets. Formal preconditions for successful cartel action are reviewed. Then actual experiences with commodity cartels in the 1970s are explored. Regarding the highly successful and long-

lived OPEC cartel that emerged during this period, Radetzki observes: “the long-run tool that has [kept] the cartel alive is a remarkable constraint on capacity expansion, whether by conscious policy or by default.” (pp.162-3). The chapter contains a thought-provoking discussion of other shorter-lived cartelization episodes involving bauxite, phosphate rock, uranium, copper and iron ore to consider and contrast.

Chapter 9 (Public Ownership in International Commodity Markets) naturally follows the discussion in Chapter 8, probing into the role that governments have had in promoting and sustaining cartels. The relevance of public ownership, the author notes, is limited to the mineral and energy sectors, not other commodities. “Many countries, especially developing ones, have a large proportion of their mineral and energy sector activities owned and operated by state corporations. In agricultural production, in contrast, public enterprises are regularly of minor importance.” (p.166) On the other hand, as Chapter 3 highlights, trade interventions are much more common for agricultural products than for minerals.

In distinguishing among different subsets of commodities in Chapter 2, Radetzki makes the provocative observation that “A distinction is often made between exhaustible and renewable materials, but in my view, an exaggerated importance has been attributed to this distinction. For example, contrary to the claims of exhaustible resource theory, there is little empirical evidence of a difference in the determination of prices between the two commodity groups (chapter 6).” (p.26) As mentioned above, Chapter 4 provides a selective discussion of the long-term trends in primary commodities. Using the Grilli-Yang dataset covering the period 1900-86, with the manufacturing unit value index as deflator, there have been long-run declines in metals (-0.84% p.a.), agricultural non-food products (-0.82% pa), food excluding tropical beverages (-0.54% pa).

Only coffee, tea and cocoa have had a positive trend (+0.63% pa). Thus, the evidence suggests Radetzki's claim that there is no fundamental distinction in price behavior of renewable and nonrenewable resources.

Chapter 6 on "The Economics of Exhaustible Resource Depletion" considers the physical, price and cost evidence on the issue of whether exhaustible resources are indeed becoming more scarce. At the outset, Radetzki observes: "In the course of my studies of the economics of natural resources over four decades, I have not come across a clear-cut case of economic depletion of an exhaustible resource. But I can quote examples of formerly sought-after exhaustible resources whose production has declined not due to depletion, but because they have lost much of their value in consequence of new technology or change in demand." (p. 111-112) Needless to say, these observations will provide much cannon fodder for those who are currently ringing the alarm bells over rising energy and metals prices. Are these price surges speculative bubbles (a theme taken up in Chapter 4 on price formation and trends) or are they indicative of major global shifts in commodity demands and supplies? Although Radetzki's analysis hardly resolves this complicated issue, his detailed review of the distinction between physical and economic scarcity of nonrenewable resources, and various (imperfect) measures of economic scarcity will be an invaluable read for non-resource economists, especially those wedded to the Hotelling doctrine. As resource economists often stress, there is nothing wrong with the Hotelling theory and its price predictions, only the plausibility of its assumptions!

The final chapter in Radetzki's *Handbook* pursues a rather different aspect of commodity market concentration. It discusses the difficult macroeconomic management issues that confront policymakers in 'monoeconomies' – economies that are heavily dependent on the production and

export of one or two primary commodity exports for a large fraction of their GDP, employment and foreign exchange earnings. Here the extensive literatures on the so-called 'Dutch Disease' and the 'recourse curse' are reviewed. At the beginning of the 21st century with the prospect for high and rising real commodity prices for several years – or perhaps even decades, if the super cyclists are right – this is a disease or a curse that many countries are begging to contract! Resource-based economies are currently riding high. Radetzki sides with many resource economists who argue that it is just a matter of time (perhaps five years) before commodity prices return to the (relatively unchanged) levels dictated by long-run marginal costs. The issue is: how long will it take for inevitable capacity expansions to come on stream? Will over expansion again lead to a long work out period of malaise, as it did in the 1980s and 1990s? Clearly, commodity-producing companies and commodity-exporting countries that wisely manage the current resource boom -- treating it as 'temporary' rather than 'permanent' -- should prosper, but past experience suggests the downside risks from mismanagement are large.