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Siebert, Horst

Book Review

[Book Review of] Natural resources and the macroeconomy : [proceedings of the Conference "Natural Resources and the Macroeconomy", held in London on 10 - 11 June, 1985], J. Peter Neary ... (eds.), Oxford, 1986, Blackwell

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Neary, J. Peter, Sweder van Wijnbergen (Eds.), *Natural Resources and the Macroeconomy*. Oxford 1986. Basil Blackwell Ltd. XVI, 352 pp.

The book contains nine papers on the “Dutch Disease” that were presented at a conference organized by the Centre for Economic Policy Research in London. The introductory paper gives a theoretical survey of the problem; the other eight papers represent empirical studies of resource-exporting countries. Each paper is followed by an invited comment, and a round-table discussion addresses the problem which new insights the conference has brought and which questions still remain to be answered.

In the survey paper, Neary and Wijnbergen develop the theoretical framework for the analysis of the Dutch Disease by partly drawing upon their earlier publications. The problem is how the allocation of resources and sectorial structure are affected when a resource-exporting country experiences a resource boom. More specifically: will de-industrialization occur, that is, will the industrial sector (or agriculture) shrink in a resource boom? As a rule, the resource country is modeled to consist of three sectors, namely the resource sector, another exporting sector (industry) and a non-tradable sector. If the resource sector can be interpreted as an export enclave and if we restrict ourselves to a static analysis, only the spending effect is operating. The resource boom raises national income, and demand for the non-tradable increases. This drives up the price of the non-tradable. Assuming the small country case with a constant price of the tradable, the relative price of the non-tradable rises (that is, we have an appreciation of the real exchange rate); production of non-tradables increases whereas output of manufacturing falls. The spending effect implies de-industrialization and a real appreciation. The second effect operating is the resource-moving effect: the resource sector and eventually the non-tradable sector attract resources which are withdrawn from manufacturing. In the “specific factor” model it is assumed that one factor (capital) is specific to each sector in the shortrun whereas the other factor (labor) is mobile. The wage rate is flexible. The resource movement effect reinforces de-industrialization and a real appreciation. Since both the relative price between non-traded and traded goods and the wage rate rise, output in the non-traded sector may rise or fall. The static analysis then is extended to develop a Malinvaud-type classification of different regimes in the case of wage and price rigidities.

The authors develop a two-period model of the resource-exporting country where the intertemporal property relates to capital accumulation (and not to the depletion of the natural resource). Assuming a perfect capital market, consumption and investment decisions are separated. The spending effect leads to excess demand for the non-traded good in both periods. Thus, in a two-period-analysis the result of the static analysis continues to hold: we have de-industrialization and a real appreciation in both periods. In this intertemporal context, investment in the first period allows more output flexibility of the non-traded sector in the second period. Consequently, the price of the non-tradable does not have to change as much in the second period as in the first; the real appreciation is stronger in the first than in the second period. The real exchange rate overshoots. The analysis is also extended to imperfect capital markets when the capital account cannot be used to smooth expenditure over time and to learning by doing.

Moreover, monetary consequences of a resource boom are studied in a macroeconomic context with nominal exchange rates, money supply and price level. In a fixed

exchange rate system, the real effects of the boom are delayed. With a floating exchange rate, an appreciation of the nominal exchange rate reduces the domestic price of traded goods thus bringing about the necessary change in the relative price between non-traded and traded goods. With sticky prices, the nominal exchange rate overshoots its new long-run equilibrium as a result of the boom. The survey paper by Neary and Wijnbergen is an interesting study of the allocation problems associated with a resource boom, and it brings together different concepts of international economics, from trade theory, intertemporal balance-of-payments problems and exchange rates. The paper represents an interesting application of theoretical concepts to the specific problems of the resource-exporting country.

The empirical papers of the volume relate to developing and industrial countries. The impact of oil revenues for some high absorbers (Algeria, Ecuador, Indonesia, Nigeria, Trinidad and Tobago, and Venezuela) is studied by Gelb. Oil windfalls for these countries amounted to roughly one fourth of non-mining income. About four fifths of these oil revenues accrued to the producer governments. These funds were used for domestic investment, and predominantly for public capital accumulation. These expenditures are rigid in downward direction, both politically; and technically; moreover, the projects have been large-scale and complex. These countries could have fared better had government spending been divided into a permanent and transitory component (depending on oil revenues). More flexibility in spending could have been obtained by (portfolio) investment abroad.

In an applied intertemporal maximization model of Egypt, Martin and Wijnbergen analyze the time profile of the real exchange rate and the discount rate as shadow prices under different oil price scenarios. With oil revenues (and remittances of Egyptian workers abroad) falling off in the future, Egypt's real exchange rate must depreciate gradually in the nineties. This implies that it becomes more difficult to repay foreign debt in the future; the user costs of foreign debt increase. Thus, the optimal level of initial foreign debt is reduced by the intertemporal calculus.

In a macro model for Algeria by Taylor, Yurukoglu and Chaudhry, an empirical framework for policy analysis is developed. The approach used is a price-sensitive Keynesian model including price-elastic exports and a combination of CES and Cobb-Douglas functions on the supply side. The model is used to evaluate the impact of some policy options such as devaluation, input or final goods tariffs, fiscal stringency and higher internal oil prices.

Edwards develops a model in which the short-run monetary effects of a resource boom are analyzed. At a given nominal exchange rate, a resource boom leads to a balance-of-payments surplus and to the accumulation of international reserves; the money supply increases and inflation will result. The increase in the general price level is the mechanism through which the real exchange rate will appreciate. The rate of inflation and of the real exchange rate may both overshoot. The model which relates price changes of the export good to the money supply, inflation and the real exchange rate is applied to Colombia with coffee as the export commodity.

Warr analyzes Indonesia's second Dutch Disease (the first relating to the colonial experience). As was expected, the relative price of tradables to non-tradables has fallen, and agriculture has declined relatively. The rupiah was devalued by 33 percent in 1978 to protect the non-oil exporting tradables. Devaluation did not completely offset the change in the real exchange rate, and the impact was dissipated over time.

The other empirical papers refer to industrial countries as resource exporters. In his analysis of the Dutch Disease in the Netherlands Kremers argues that a different spending pattern of gas revenues would have smoothed the benefits over time. Again, the spending effect operates mainly through the government, absorbing more than three quarters of the revenue.

Uncertainty with respect to the oil price and the rate of return is included in an intertemporal maximization model by Aslaksen and Bjerkholt and then is applied to Norway. In this Hotelling approach, the extraction of resources is a portfolio problem with oil in the ground being an asset. Risk aversion is explicitly taken into account in an exponential utility function.

The adjustment problems to a resource boom are compared for Great Britain and Australia by Forsyth, the basic difference being that the rental aspect was more important in the British case. Consequently, the spending effect was larger in Great Britain, whereas the resource withdrawal effect played a larger role in Australia. Differences relate to the extent of sectorial shift (larger demand for non-tradables in Britain), the impact on consumption versus production and the time pattern of adjustments.

What are the policy recommendations? Neary and Wijnbergen stress that de-industrialization and real appreciation “represent general equilibrium adjustments which are *necessary* if the economy is to enjoy the fruits of its increased wealth” (p.41/42). However, in their theoretical analysis they derive an optimal subsidy when learning by doing prevails in the manufacturing industry (re-entry problem). Also, subsidies are recommended in the case of imperfect capital markets. I am rather sceptical in this respect because the model used does not take into account the political economy of subsidization and therefore is rather “*naïve*”. Moreover, other mechanisms not studied explicitly alleviate the Dutch Disease problem: bringing in foreign capital, thus reducing the impact of the spending effect (interest or dividend payment abroad) and the resource withdrawal effect (international labor mobility), and investing abroad, thus reducing excess demand for the non-tradable goods and stretching the real appreciation over time. On the whole, the different contributions in the book are rather cautious with too hasty policy recommendations.

An important policy aspect carved out in some of the papers (Gelb, Kremers, comment by Corden) is that the spending effect involves mainly the government because windfall profits accrue to producer governments. Spending in this area is specifically rigid, and this rigidity has caused severe problems of adjustment. In that interpretation, the Dutch Disease is a problem of policy failure, and not of market failure.

On the critical side, except for the two papers by Martin/Wijnbergen and Aslaksen/Bjerkholt, the book does not analyze the resource boom in the context of the intertemporal resource restraint. The time profile of extraction and the impact of boom phenomena on intertemporal extraction and on intertemporal trade are not studied. In my evaluation, the intertemporal aspect of allocation problems including uncertainty still is an open and promising field of international economics. Moreover, the book contains some repetition in the exposition of the Dutch Disease. This also relates to the comments where quite a few discussants “warm up” by their own description of the Dutch Disease.

To sum up, this is an interesting volume integrating theoretical analysis of the

allocation problems of a resource boom with empirical studies. Some of the open questions pointed out in the round table discussion such as the intertemporal issue and uncertainty suggest that “it would be premature for the theoretical study of the Dutch Disease to come to a halt” (p. 330). Moreover, the model with a non-tradable sector begs some interesting applications for a world economy with growing service sectors partly confined to national boundaries and thus producing non-tradables. Corden’s suggestion that “the study of the booming sector and Dutch Disease economics ought itself be a booming sector for many years” (p. 326) may, however, be overshooting.

Horst Siebert

Parker, William N. (Ed.), *Economic History and the Modern Economist.* Oxford, New York 1986. Basil Blackwell Ltd. XI, 105 pp.

This slender book is an intellectual delicacy. Under the intriguing title “Economic History: A Necessary though not Sufficient Condition for an Economist”, the 1984 meeting of the American Economic Association held a session on a neglected methodological issue: the relationship between economic theory and economic history. The book contains the papers and comments of this very session, supplemented only by some editor’s notes and two further comments written after the event.

The list of authors and their subjects speaks for itself: Kenneth Arrow and Robert Solow expound the theorists’ view, Paul A. David and Peter Temin report two examples of the fruitful interaction of economic theory and history in historical case studies. Donald McCloskey, Walt Rostow, Gavin Wright and Charles Kindleberger provide comments, and the editor, William Parker, sets the frame by supplying the reader with an introduction and an afterword. Virtually all the contributions prove exciting reading – provocative, witty, right to the point, with many personal remarks enriching the line of abstract reasoning, and with no academic wordiness clouding the message.

What is the message? All authors – be they theorists or historians – agree that the crude positivist time of regarding economic history as a mere testing ground for economic theory has definitely run out; history does contribute more to the growth of knowledge than another bunch of facts and – mostly bad – data. But what is it precisely that it has to contribute? At this point, the opinions still cover a significant range, stretching from a kind of enlightened positivism as represented by theorists such as Arrow and (to a lesser extent) Solow to a kind of methodological anarchism as put forward by the economic historian McCloskey, with the remaining authors of the book – mostly economic historians by research choice – falling somewhere in between.

In Arrow’s view, the study of (economic) history has three main purposes. Firstly, by its very nature, it aims at explaining individual events rather than discovering regularities in social phenomena; hence, by analogy, economic history is to economic theory what geology is to physics and chemistry, namely an application of theory to explain a presumably unique sequence of events which is by itself fascinating enough to warrant its own field of research. Secondly, the study of economic history helps to correct an inherent bias in theory towards flattening out particularities of the past; more specifically, it helps to focus on systematic differences between nations and/or cultures which are all too easily defined away by theoretical abstraction. Thirdly, only the study of