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Book Review

[Book Review of] Socially relevant policy analysis : structuralist computable general equilibrium models for the developing world, Taylor, Lance (ed.), Cambridge, Mass., MIT Press, 1990

Weltwirtschaftliches Archiv

allows the conclusion that high-deficit countries *in their own interest* should not join the monetary union, for the irrevocable fixing of exchange rates would deprive them of the only shock-absorber which is left.

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Taylor, Lance (Ed.), Socially Relevant Policy Analysis. Structuralist Computable General Equilibrium Models for the Developing World. Cambridge, Mass., London 1990. The MIT Press. 379 pp.

The use of Computable General Equilibrium (CGE) models has gained much popularity among policy analysts in developing countries (LDCs). This phenomenon is consistent with the overall observation that policy-makers are increasingly relying on the working of market forces and incentives rather than putting their faith in the outcome of centrally-planned allocation procedures. Given their theoretical framework, CGE models are indeed better suited to simulate decentralized economic policies than alternative forms of modelling, such as input-output or linear programming models, which have traditionally constituted the mathematical underpinnings of central economic planning.

In its purest form, a CGE model provides a numerical implementation of Walras' model of the competitive economy. However, in their attempt to simulate the workings of LDCs' economies, modelers have moved far from the Walrasian ideal and have incorporated a variety of "structuralist" features that explicitly recognize the existence of institutions, interest group activities, rigidities and imperfections in these countries. This is essentially what the book under review is about. It presents a sample of work from the "structuralist" (as opposed to "neoclassical") tradition in formulating and applying CGE models for LDCs. The book consists of a comprehensive overview essay by *Lance Taylor* on "Structuralist CGE Models", followed by twelve chapters consisting of applications to individual countries by various authors. The overview essay provides a useful description of the structuralist perspective, and step by step, shows how macro structuralist models work and how they contrast with neoclassical models.

Taylor identifies structuralism with a variety of hypotheses that lead to adjustment problems and links between changes in nominal macro aggregates and real aggregate output and employment. These include: (*i*) markup pricing instead of profit maximization in some sectors, resulting in rationing in product markets; (*ii*) fixed nominal wages, leading to unemployment; (*iii*) non-competitive imports of intermediate and capital goods, with foreign exchange becoming a binding constraint; (*iv*) macro-causality runs from demand "injections", such as investment, exports, and government spending, to "leakages", such as imports and saving under conditions of passive money supply; (*v*) the structure of the financial system may affect macroeconomic results; and (*vi*) private investment may be "crowded in" or "crowded out" by public investment. Although developing country economists would agree on many of these hypotheses, empirical support for some of these specifications is weak. For example, assuming that aggregate real investment is fixed is convenient when tracing out the implications of some structuralist specifications. In an applied model, however, it is empirically untenable to assume that real investment does not change as part of a process of macro-structural adjustment. Similarly, the assumption of non-competitive intermediate imports is useful to focus attention on the effect of devaluation on costs. In applied models, this assumption is empirically inappropriate.

The macroeconomic story of structuralist models is straightforward. Total investment is exogenous, and the general equilibrium adjustment mechanism that guarantees no excess demand in any of the commodity markets yields the level of saving required to finance the given investment. Shifts at the micro level in response to policy changes involve changes in net exports (and foreign savings if there is no binding foreign-exchange constraint), outputs (in fix-price sectors), and nominal prices (in flex-price sectors) that generate new levels of public and private incomes and savings flows in turn. Macro-balance is brought about by changes in activity levels, the trade gap, and income distribution that generate an amount of savings equal to nominal investment demand. The country-specific applications, which comprise the rest of the book, embody many of these structural features. The CGE methodology is applied consistently in these chapters, though the structures of the models differ in major ways depending on the policy questions being addressed.

Chapter 2, by *Nora Lustig* and *Lance Taylor* ("Mexican Food Consumption Policies in a Structuralist CGE Model") and chapter 7, by *Anne Maasland* ("Continuing the Tradition of Equity in Sri Lanka: Policy Options in a CGE Model") use more detailed models of the type just described to analyze food policy issues in Mexico and Sri Lanka. The policies investigated in the Mexico model are a general price subsidy, an income transfer, and a targeted price subsidy. For a given increase in food consumption by deficit families (peasants and agricultural workers), Lustig and Taylor calculate the effects of these policies on income distribution and the fiscal and external deficit. The simulation results show that the former two policies are too costly both in fiscal and foreign exchange terms, suggesting that measures to alleviate undernutrition in Mexico should concentrate on targeted subsidies.

Maasland's study on Sri Lanka demonstrates that the growth rates of the early 1980s could have been achieved with policies that would have been less harmful to the poor. An illustrative counterfactual simulation maintains a food price subsidy to the poor and lowers public investment. This leads to lower prices, higher exports, and increased national consumption – especially of food by the poor. The author then argues that increased tariffs on nonfood consumer goods imports can be used to pay for the subsidy thereby removing the subsidy-financing problems and improving the current account which otherwise is adversely affected by consumer imports.

Chapter 3, by *Juan Luis Londoño* ("IS-FM Macroeconomics: General Equilibrium Linkages of the Food Market in Colombia") and chapter 4, by *Bill Gibson* ("A CGE for Nicaragua") are dealing with stabilization problems. The simulations by Londoño provide useful insights, for example, how the contractionary effects of devaluation in Colombia in 1984–1985 may have been partially offset by rationing of imports and a pass-through of the local currency price increase for coffee to the growers. The simulations also show that fiscal contraction is not a very effective means for reducing the external deficit in Colombia, while higher taxes may be the best tool for cutting fiscal deficits.

Gibson uses a foreign-exchange-constrained model to demonstrate that the macro policies of the Sandinistas are coherent and conform to the goal of reducing the rent to scarce foreign exchange appropriated by the informal sector so as to reallocate labor to more productive sectors in Nicaragua. Other conclusions that emerge from the model simulations are that (*i*) price controls may not be distributionally progressive, depending on their general equilibrium impacts; (*ii*) devaluation is far more progressive and expansionary than is typically assumed in Nicaragua, given the binding foreign exchange constraint; and (*iii*) a smaller trade deficit is contractionary and regressive, but attempts to protect the population groups from these effects through nominal wage increases and higher government spending can make the situation worse.

The problem of raising administered prices by public sector enterprises and the related discussion of energy-pricing are the topics of the following chapters 5 and 6 ("Resource Mobilization through Administered Prices in an Indian CGE" by *Manoj*

Panda and *Hiren Sarkar* and "Short-Run Energy-Economy Interactions in Egypt" by *Nazli Choucri* and *Supriya Lahiri*). In India, these enterprises account for about a quarter of the country's GDP. The model results first show that raising administered prices is stagflationary in both countries. However, when the additional revenues are used to finance higher public investment, the outcomes are faster growth and inflation. On both counts, petroleum and coal price increases are more effective instruments for financing investment in India than are higher electricity or railroad rates. However, indirect taxes are shown to be better fund-raisers than administered prices.

Choucri and Lahiri also explore the sensitivity of their results by permitting substitution between refined oil products and gas as intermediate industrial inputs and considering various supply elasticities for natural gas. In all cases when GDP is held constant by fiscal intervention, the elasticities of refined oil and of gas output are pretty low. This implies that even when price-elastic substitution responses are built into the CGE model for Egypt, its solution suggests that the practical possibilities for shifting between energy resources by altering their relative prices in the short run are relatively weak.

Chapter 8, by *Lance Taylor* ("Macro Constraints on India's Economic Growth") and chapter 9, by *Jørn Rattsø* ("Conflicting Claims and Dynamic Inflationary Mechanisms in India") use dynamic CGE models to analyze issues of growth and inflation in India. Taylor uses simple macro models to isolate the potential constraints on the rate of growth of the economy: savings limit, the external constraint, agricultural supply, inflation, and internal finance. In comparative dynamic analysis, he shows that 6 instead of 5 percent growth would involve widening the current account deficit or increasing the export share by 0.5 percent, a 1 percent annual trend in the domestic terms of trade toward agriculture, 2 or 3 percent faster inflation, and additional buildups of both external and internal debt. These costs seem low and Taylor argues that Indian policy has been conservative in the sense of keeping the economy demand constrained.

Rattsø goes into more detail in Indian inflation. Recent experience suggests that agricultural droughts and external terms-of-trade shocks are important sources of inflation but that conflicting claims among income groups stimulate the inflationary process. Five inflationary processes – each benefitting a particular group of the society – are investigated: higher growth of nominal wages, higher markup rates, lower growth of agricultural supply, higher growth of international prices, and higher growth of public investments. The agricultural market emerges as the main ground on which macro-economic disturbances play. Government regulation of agricultural prices becomes a key anti-inflationary policy in the short run, while investment in the sector will be essential for price stability over time.

The next two chapters, by *William Easterly* ("Portfolio Effects in a CGE Model: Devaluation in a Dollarized Economy") and by *Jeffrey Rosenzweig* and *Lance Taylor* ("Devaluation, Capital Flows, and Crowding-out: A CGE Model with Portfolio Choice for Thailand") introduce CGE models for Mexico and Thailand which include portfolio balances. These permit the analysis of important financial channels usually ignored in applied CGE work. Topics treated by Easterly include (*i*) capital flight, which has been a major contributor to the Latin American debt crisis; (*ii*) "dollarization" of the local banking system; and (*iii*) capital gains and losses on existing stocks of assets and liabilities due to devaluation. The macro-financial CGE model is used to simulate the effect of a 50 percent devaluation on the Mexican economy, as it was structured in 1981. The resulting contraction is in line with the outcome of other models in the book. Here, however, the emphasis is on the contraction of investment, which means that the impact of the devaluation extends to the medium term. Of course, this does not suggest that devaluation is an ill-advised policy in a situation of external imbalance. The lesson from this model is the inadvisability of postponing devaluation. As the model results show, devaluation will induce a portfolio shift away from dollar-denominated assets, which will make it possible to reduce dollar external debt as well.

Rosenzweig and Taylor use a model for Thailand with financial markets and portfolio choice to investigate (*i*) potential crowding-out or crowding-in of private investment by expansionary fiscal and monetary policies, (*ii*) how capital movements may offset monetary policy initiatives, and (*iii*) the real and financial effects of devaluation. One policy query that arises is the extent to which different sorts of interventions are offset by reserve changes. If the government finances a fiscal expansion by borrowing from the central bank, the ultimate outcome in the Thai economy is an almost equal reserve loss because of the high marginal propensity to import of the Thai economy. Changes in the volume of rediscount or reserve requirements are also at least partly offset by foreign reserve changes, reducing their impact on the interest rate and investment demand. Finally, devaluation has expansionary effects on the real side of the economy by stimulating exports. But when capital losses on external liabilities are taken into account, the expansion may well be canceled by increased interest rates and reduced investment demand.

In chapter 12, *Motaz Khorshid* ("Medium-Term Growth Projections for Kuwait from a Dynamic CGE") develops a dynamic CGE model to evaluate the medium-term performance of the Kuwaiti economy under different development strategies. Since achieving a more balanced population structure is a major target of Kuwait's development plan, an important indicator is the percentage share of Kuwaitis in the total population size. Two main strategies are considered: The first is a reduction of government investment and current expenditures to slow output growth and thereby employment of non-Kuwaitis, and the second is targeted public investment to enhance productivity of employed Kuwaitis. Productivity growth, if attained, would enhance the GDP growth rate and household income and expenditure, while reducing activity improves the Kuwaiti population ratio and reduces the rate of loss (per Kuwaiti) of public reserve funds held abroad. The author suggests a strategy combining aspects of both these approaches, with emphasis on micro-level diversification of the non-oil productive base.

In the final chapter, *Lance Taylor* ("Plan Austral and Heterodox Shocks – Phase II") uses a one-sector CGE model with detailed financial and inflation accounting to explore options for price stabilization in Argentina. It is assumed that (*i*) consumption demand responds negatively to the inflation tax; (*ii*) markup inflation responds strongly to foreign exchange shortages, while wages are fully indexed; (*iii*) there is cost-push on working capital finance due to higher interest rates; (*iv*) exports tend to be crowded out by increases in domestic demand. The model simulations suggest there is no need for extremely tight monetary and fiscal policy after a "heterodox shock" price freeze aimed at braking inflation; however, a surge in consumer demand from reducing the inflation tax requires attention. More fundamentally, markup inflation is likely to continue unless the country's need to make a large external transfer to service debt is somehow reduced.

Overall, this book brings together a series of interesting papers making important and well-based research contributions to policy issues that repeatedly confront developing country policy-makers. Its great strength is the prominence of theory not only in the introduction but also in the country studies. Most authors of the applied chapters start with a diagrammatical and/or formal and verbal description of their core model thereby making the workings of the country models fairly transparent to practicing economists and policy-makers. The analysis is indeed focused on "socially relevant" questions as promised by the title of the book and provides valuable insights that cannot be gained from small mainstream macro-economic models or partial equilibrium analysis.

Personally, I agree with most of the findings, and believe that many of the qualifications made by structuralists appropriately reflect the complexity of the world. They remind us that complex issues seldom offer themselves to simple solutions and that a look at the facts is the best guard against oversimplified, ideologically tainted and therefore wrong recipes. It is in this sense that the book adds to the literature and is of interest to both scholars and practitioners.

Manfred Wiebelt

Theurl, Theresia, Eine gemeinsame Währung für Europa. 12 Lehren aus der Geschichte. Innsbruck 1992. Österreichischer Studien-Verlag. 351 S.

Der Gedanke, währungspolitische Reformkonzepte vor dem Hintergrund wirtschaftshistorischer Präzedenzfälle zu diskutieren, hat nunmehr schon eine längere Tradition. So wurde etwa durch den Chicago-Plan und den Radcliffe-Report das Interesse für die Bullion-Kontroverse sowie den Currency-Banking-Streit wiedererweckt, und Hayeks Vorschlag, das Emissions-Monopol der Zentralbanken durch eine privatwirtschaftlich orientierte Währungskonkurrenz zu ersetzen, hat mittlerweile zu einer Fülle von Neuveröffentlichungen über die Erfahrungen mit bankenfreiheitlichen Geldordnungen in Ländern wie China, Kolumbien, Schottland, den USA oder der Schweiz geführt. Daß die währungspolitischen Integrationsbestrebungen in der EG schließlich irgendwann auch zu einer Wiederbeschäftigung mit den im 19. Jahrhundert ins Leben gerufenen Währungsunionen führen würden, war daher nicht sonderlich schwer vorherzusehen. Die hier schon seit längerem vakante Vorreiterrolle hat jetzt Theresia Theurl eingenommen, deren umfangreiche Schrift sicher noch weitere Untersuchungen ähnlicher Art anregen wird.

Als methodischen Ausgangspunkt hat sich die Verfasserin die Hypothese gewählt, daß die von ihr betrachteten Währungsunionen „... keine singulären Erscheinungen waren und ‚that those who ignore history are condemned to repeat it'“ (S. 20). Zugleich zeigt sie sich fest davon überzeugt, daß die historischen Fallbeispiele eine Fülle von Anschauungsmaterialien mit einem „enormen Informationsgehalt“ bieten, dessen „Nutzbarkeit“ für die Probleme der Gegenwart sie mit der vorliegenden Monographie „demonstrieren“ will (S. 22). Aber ebensowenig, wie die Bankenfreiheit den Reformvorstellungen von Hayek entspricht, gleichen die Währungsvereinheitlichungsbestrebungen des vorigen Jahrhunderts einer Währungsunion nach dem Muster der Verträge von Maastricht, so daß die im Untertitel angekündigten „12 Lehren aus der Geschichte“ letztlich wenig mehr als nur einige recht allgemein gehaltene Hinweise auf eine Reihe potentieller Problemfelder bieten.

Behandelt werden zwei Typen von Währungsunionen mit jeweils drei Beispielen: erstens „überregionale“ Unionen als Folge politischer Einigungsprozesse (Schweiz, Italien, Deutsches Reich) und zweitens „übernationale“ Unionen zwischen völkerrechtlich souverän bleibenden Staaten (Deutsch-Österreichische, Lateinische und Skandinavische Münzunion). In allen diesen Fällen (mit Ausnahme des Deutschen Reichs) konzentrierten sich die Vereinheitlichungsbemühungen in der Hauptsache oder ausschließlich auf das Münzwesen, wobei es vor allem um die Wahl der Metallbasis, der Recheneinheits-Systematik, des Münzfußes und der Münz-Nominalwerte sowie um die Kontrolle der Emission unterwertiger Scheidemünzen und die Festsetzung wechselseitiger Münzannahme-Verpflichtungen ging. Reine Papiergeldwährungen, eine an nationalen makroökonomischen Zielsetzungen ausgerichtete Geldpolitik, flexible oder durch offizielle Devisenmarktinterventionen fixierte Wechselkurse, Euro-Märkte, spekulative internationale Kapitalbewegungen, wechselseitige Zahlungsbilanzhilfen, De-Industrialisierungsängste und ähnliches waren hingegen (unter den unmittelbar Beteiligten) sei-