GOVERNMENT AND FIRM DUOPOLY IN ECONOMIC GROWTH

Carol M Connell, Brooklyn College

ABSTRACT

The Theory of the Growth of the Firm proposed a process theory of growth based on the pursuit of knowledge and unconstrained by government, hence applicable only to an economy where the corporation is the dominant form of industrial organization. In her subsequent studies of foreign direct investment by large firms in developing countries, Penrose considers government as an input to the growth process. This paper explores Penrose's process theory of firm growth when government decision-making is an input to the process. The findings are based on content analysis of Penrose's Theory of the Growth of the Firm, Large International Firm in Developing Countries, petroleum industry studies, and other writings from 1956 to 1973.

JEL: A1, O11, O12

KEYWORDS: Economic Growth, Government, Firm Duopoly

INTRODUCTION

While at Johns Hopkins University, Edith Penrose was assigned to work on a project funded by the Merrill Foundation. She chose as her topic not the interpretation or testing of an existing theory, but the creation of a new theory of the growth of firms. From January 1955 to November of that year, while on sabbatical at Australian National University, she developed "one long, logical construct, a single argument no step of which could be omitted without the risk of misunderstanding later conclusions" that became *The Theory of the Growth of the Firm* (Penrose, 1995 ed., p. xxxii). Thereafter in her long career, as she became more interested in developing countries, Edith Penrose began to consider the ways and reasons why government might be an actor in the growth process. As Penrose acknowledged in the foreword to the third edition of *The Theory of the Growth of the Firm*, her work on multinational enterprises (1956-1959, 1968, 1973) is an extension of her work on the growth of the firm. What *is* different is the presence of a second actor, government, in the growth process.

Why might governments of developing countries encourage foreign direct investment (FDI) to bring investment capital into their economies, but impose tariffs, taxes and other non-trade barriers if the incoming investment is insignificant in comparison with the repatriation of profits via dividends? The goal of this paper is to identify through the Penrose writings the steps governments of underdeveloped countries might take to direct, encourage or constrain foreign direct investment ---and why. To date, Penrose's post-*Theory* work has been analyzed far less thoroughly than her *Theory of the Growth of the Firm.* Never has this work and its contribution been explored in the context of economic growth theory.

After a review of the contemporary literature, we first examine the problem of growth by FDI for host countries; profit sharing bargaining between producing countries and oil companies in the Middle East, and national/international patent protection in developing countries. We then return to the goal of this paper, identify the limitations of content analysis and draw conclusions about the potential impact of government action on growth.

LITERATURE REVIEW

Government as an economic actor in the theory of the growth distinguishes Penrose's work on MNEs from the international business theory of Buckley and Casson, 1976; Rugman, 1981; Rugman and Verbeke, 1998; and Hennart, 1982, 1989. According to Pitelis (2002), Penrose was among the first theorists to discuss transfer pricing and repatriation of profits (Penrose, 1962). She is the first to introduce the notion of infant firms as a reason for protectionism (Penrose,
Considering Penrose an economic growth theorist (rather than a firm theorist), I examine the broader economic literature that emerged before and as she was writing. With few earlier exceptions, the literature reviewed here was published between 1950-1973.

One of the first economists to develop a theory of economic growth was Joseph Schumpeter, an acknowledged influence cited by Penrose in *The Theory of the Growth of the Firm*. Schumpeter (1934) argued that innovation was the key to growth, and that the entrepreneur was central to the process of innovation. Schumpeter recognized that innovation goes beyond invention. Invention creates new technology, but innovation applied it to the production and distribution of goods and services. Invention alone, according to Schumpeter, is not sufficient to spur economic growth. Citing Schumpeter's student Robert Triffin (1940, pp. 169-171), Penrose argues that the innovating firm is, for theoretical purposes, a new creation. "Each innovation modifies the level of profit opportunities attached to a firm or rather creates a new firm, provided with profit opportunities of its own." Nevertheless, "economists writing about the firm as an institution have often insisted on putting some of their own discussion in terms relevant only to a theory uninterested in institutional factors but asking and answering entirely different questions. For this reason, I have always looked askance at references to 'efficient markets' or even 'market failure' in relation to the behavior of firms as organizations in real markets and in relation to the firm/market dichotomy" (Penrose 1994, p. 1123).

It is important to note that Penrose's interest in government and firms as a duopoly in the growth process occurred when the world's economists were engaged in a struggle to reform the world financial system. G10 balance of payments deficits, particularly US deficits (largely caused by US foreign direct investment in Europe, NATO expenses and the war in Vietnam) were creating concern in Europe from 1959 through the decade of the 1960s. Penrose's teacher and mentor Fritz Machlup was organizing a group of non-governmental economists and officials of the G10 industrial countries to address solutions to US balance of payments deficits and world monetary system problems. A member of Machlup's group, economist Robert Triffin was arguing that G10 deficits (and restrictions on raw materials purchases) had their ultimate impact on underdeveloped countries (1960). Penrose would take the Triffin view herself arguing that the growth of foreign indebtedness, like the growth of domestic indebtedness, need not be of particular concern in a growing economy, if the net income out of which the indebtedness can be serviced also grows accordingly. The contribution of FDI to net domestic income must exceed the amount of profits repatriated by foreign firms. If not, Penrose argues, government would be wise to find an alternative route to new technology, skills improvement and overall productivity growth without the 'costs' of lost autonomy and control.

Charles Kindleberger, another member of Machlup's group and a frequent critic of Penrose, maintained that it is not the size of the profits or the issue of reinvestment versus new investment that raises difficulties for developing economies, but the fact that foreign investment encourages excessive spending and gives rise to an imbalance in the balance-of-payments (1965, pp. 270-271). Penrose and Kindleberger viewed the large international firm and host country government as engaged in a bilateral monopoly. However, Kindleberger took issue with Penrose's use of the term 'exploitation' in an assessment of the relation between oil companies and the countries in which they operate. It is significant that Penrose, who seldom deflected criticism in her published writings, rose to Kindleberger's challenge. Responding to Kindleberger's objection to her use of the word 'exploitation' in a discussion of FDI,

Penrose argues that the perception of 'exploitation' as 'disproportionate gain' ought 'to be treated as one aspect of a political attitude toward foreign investment in general, for the feeling of being exploited increases an existing resentment against foreigners, and the psychological disutility of having to put up with extensive foreign influence is intensified if it is felt that the bargain is not fair or, conversely, is reduced if it is felt that the foreigner is going out of his way to be fair' (Penrose 1970, p. 119).

Penrose was also influenced by the dynamic economics of Roy Harrod, another member of Machlup's group of non-governmental economists seeking reform of the world monetary system. She had read and cited Harrod's (1952 *Economic Essays* in *The Theory of the Growth of the Firm*, specifically in her discussion of the receding managerial limit, where the capacities of the firm's existing managerial personnel necessarily set a limit to the expansion of the firm in any given period. Like Penrose, Harrod was interested in the impact of entrepreneurs on growth—and in the limits to growth imposed by available entrepreneurial/managerial services (Harrod 1952, pp. 184-185). One implication of the growth model developed by Harrod is that the key problem for developing countries was to increase the share of resources devoted to investment.

During the 1940s and 1950s, economic theory focused on using foreign aid to top up savings with the "necessary" investment to promote growth. This focus arose from the Harrod-Domar model, based on the idea that GDP growth is proportional to the share of investment spending on buildings and machines. Evsey Domar, a friend of Penrose at Johns Hopkins, would later disavow his theory as inaccurate. Another friend of Penrose from Johns Hopkins, often cited in her work, was Simon Kuznets whose interest in economic growth focuses on the connection between socio-cultural conditions and modern economic growth. In his analysis, Kuznets emphasizes "the dominance of a single historical and cultural complex in the background of modern economic growth" (all G10 are European or European-originated, except Japan). Kuznets notes, "Even if it is assumed that economic growth itself, once initiated, would produce the necessary modifications in the social and cultural framework and thus clear the way for the next economic step forward, such an automatic sequence cannot be relied on. The identity and relative importance of the non-economic factors, especially those susceptible to direct policy action, must be established" (Kuznets 1968, p. 98). Similarly, Kenneth Boulding, Penrose's source for entrepreneurial "image" (1956). reflected on economic growth among the G10: "Growth in this case originates with that group at the top of the hierarchy which has control of the budgets of the whole society. In such a society the "success" of an organization depends, in part at any rate, on its ability to conform to the plan sent down from the central agency" (Boulding, 1959, p. 33).

Among Penrose's influences at the time was the French structural economist, Maurice Bye, who investigated the impact on the world economy of the interplay of flows and forces depending neither entirely on government nor on firms. Focusing on wasting assets (oil and mines), Byé warned that, given the differential planning horizons of foreign investing firms and national governments, the latter cannot delay public welfare for long-term growth gains which might materialize only after the resource had been depleted, but must fund social programs in the short term via taxes, tariffs and other action directed at what he called the 'large multi-territorial unit' (Byé, 1958, p. 178).

Penrose read Kaldor (1934, p. 69) whom she cites approvingly in her 1994 retrospective article "Strategy/Organization and the Metamorphosis of the Large Firm." Kaldor's growth model is based, by his own admission, on Keynesian techniques of analysis and follows the well-known "dynamic" approach originally developed by Harrod. Kaldor's model differs from Harrod's in that it is assumed here that in a growing economy the general level of output at any one time is limited by available resources, and not by effective demand. It does not distinguish between changes in techniques (and in productivity) which are induced by changes in the supply of capital relative to labor and those induced by technical invention or innovation-i.e. the introduction of new knowledge. The use of more capital per worker (whether measured in terms of the value of capital at constant prices, in terms of tons of weight of the equipment,

mechanical power, etc.) inevitably entails the introduction of superior techniques which require " inventiveness " of some kind, though these need not necessarily represent the application of basically new principles or ideas. Finally, the prime mover in the process of economic growth is the readiness to absorb technical change combined with the willingness to invest capital in business ventures (Kaldor 1957, pp. 593-599).

Ragnar Nurske (1957) argued that poor nations remained poor because of a "vicious circle of poverty." Poor nations often have a malnourished workforce and insufficient saving to invest in modern technology. The lack of human and physical capital results in low labor productivity, preventing the economic growth that could bring these nations out of poverty. Two others known for their work on growth in developing nations shared a Novel prize. Arthur Lewis (1965) developed the two-sector model, which divided the economy into a rural subsistence sector and an urban industrial sector. Lewis argued that surplus labor from the rural sector could be moved to the urban sector to fuel the development of industry and economic growth. Theodore Schultz (1965) focused on investment in human capital to promote development and growth in poorer nations.
Raymond Vernon argued:

> As the governments of less developed countries sense a weakening in their need for the foreign investor, they can be counted on to press foreign investors for an increased share of the profits and an increased measure of control over the exploitation of raw materials…. If the [foreign]companies' share were to be reduced from 30 to 20 percent, for instance, sales would have to increase by as much as one-half in order to offset the effects of the declining share. Nevertheless, governments have a compelling political need to demonstrate to a domestic constituency their resoluteness and their independence in negotiations with foreign investors. For this reason, governments will find it necessary to push their demands from time to time, even if the consequences seem threatening to their national well-being (Vernon 1970, p. 125).

Penrose’s viewpoint differed from that of her frequent source Vernon. Penrose would demonstrate that government intervention in a profitable market might not have a discouraging effect on investment.

METHODOLOGY

The research relies on content analysis of Penrose’s T*heory of the Growth of the Firm, Large International Firm in Developing Countries*, petroleum industry studies, and other writings from 1956 to 1973.

DISCUSSION

The Problem of Growth by FDI for Host Countries

In 1955, while she was writing *The Theory of the Growth of the Firm*, Edith Penrose was also teaching at Australian National University and working on a study of the growth of General Motors – Holden’s Ltd in Australia. In “Foreign Investment and the Growth of the Firm” (1956), Penrose finds two problems for the governments of underdeveloped countries: foreign control and balance of payments problems. The wholly-owned foreign subsidiary of a large international firm (GM) may make only a small initial dollar investment in the new market (Australia). Nevertheless, dividend remittances to foreign shareholders will be high compared with the original dollar investment (Penrose, 1956, p. 220). If the goal is protection of the local automobile industry, government might impose import tariffs, limit the remittance of dividends abroad, or put a ceiling on dollar export through a heavy progressive tax on foreign firms and their subsidiaries. Finally, government might buy out the foreign firm to avoid a recurrent balance of payments problem (Penrose, 1956, p. 224).

To pay for foreign investments, governments might reduce domestic consumption and investment to limit import demand for consumer and capital goods. To achieve stability, governments try to control inflation, avoid deflation and counteract recessions quickly. Governments limit direct exchange, impose import restrictions or use Central Bank credit to maintain financial liquidity (Penrose, 1959, p. 231).

What impact will these government actions have on business growth? Will they deter foreign firms from entering? What do foreign firms see when government begins to take these actions? Actually high levels of government activity mean the potential for high business profits. High potential profits are a magnet for foreign firms or for established firms looking to expand. So long as foreign firms retain the greater part of their earnings for reinvestment, the effect on the balance of payments is masked. In not exercising the right to export their profits, firms leave foreign exchange available to the country that would otherwise have gone into dividend remittances (Penrose, 1956, pp. 230-31). When the readjustments in the economy required to service foreign investment are difficult to make, they create a balance of payments problem. Government will restrict imports, impose tariffs or alter monetary policy to limit impact on income distribution and domestic investment.

Government will accept foreign investment if domestic income is raised to an extent equal to or greater than the foreign firm's return on investment. Government will limit or restrict foreign investment if the benefits of direct investment (skills, technology) can be achieved at lower cost in the marketplace.

The Role of National Companies and Independents

In "In Profit Sharing Between Producing Countries and Oil Companies in the Middle East (1959), Penrose explores the sharing of oil revenues between the oil companies and the producing countries, two interested parties who stand to gain from bargaining. Here, one of the parties invests capital to start the industry and runs it. The other supplies the raw material, a "wasting asset". Both are interested in promoting the most profitable long run expansion of the industry. However, the producing country governments are concerned with their own oil production. The oil companies are looking for the highest returns. From 1954 to 1966, 40-60% of profits were paid out to foreign investors through dividends. While profits continued to grow, benefiting the oil majors, the loss of income to the producing countries makes the case for government action to ensure profit sharing.

Penrose argues the part of its profit a company is willing to give up depends on its estimate of the cost of meeting the government's final demands compared with the cost of resisting them. Government demands depend on the loss it believes it can inflict on the company by denying or canceling the concession under negotiation. Another consideration is the amount the company is prepared to give up to avert political disturbances and maintain political good will (Penrose, 1956, p. 241). For established oil companies, the cost of acquiescing to government's demands is the additional profit lost. The company is in a strong position to precipitate an economic crisis, which may drive the negotiating government out of office.

Government's position will depend on oil revenues, competition or ability to run the oil industry. If the country is dependent on the continuance of oil revenues and the government cannot run the industry, then an existing oil company is in an extremely strong position vis-à-vis any single government. If there is competition among the oil companies for a concession, then the share of profits offered to the government will increase to the point where the company obtaining the concession retains only "normal" profit. In this case, the government will be able to extract nearly the full value of the concession. If the government can run the industry (nationalize) and obtain revenues not significantly below those previously obtained from the companies, then government would also be in an extremely strong position with respect to established oil companies.

To assess the value of nationalization, the government should consider the alternative product that could have been produced by its resources, had they not been directed into oil production. There are other bargaining chips available to producing country governments, specifically national companies, independents, through which industry concentration can be moderated, and public policy achieved. While a few large sellers dominate the international petroleum industry, they are surrounded by smaller independents and national companies whose activities have a significant influence on the industry, largely through government action. Wherever governments are fearful of losing control to foreign nationals, regulation will favor domestic competitors. While exploration is expensive, government subsidies or regulations make it impossible for foreign firms to operate without a domestic partner.

Patent Protection in Developing Countries

Having written and published her dissertation of the international patent regime in 1951, Penrose returned to patents in 1973, arguing the wisdom of domestic patenting to protect local inventors from having their ideas and inventions taken over by foreign firms without consent and compensation. She also addresses the cost to less-developed economies of awarding patents to foreign companies. Patents may not assist industrialization nor benefit local industry, but may enhance the monopoly position of foreign patentees. Since non-industrial countries may have few inventions worth patenting in developed countries, they cannot expect reciprocal advantages and may even lose from granting patents to foreigners on inventions developed, published and primarily worked abroad (Penrose, 1973, p. 784).

Will government action deter foreign investment and technology diffusion? If we are talking about compulsory licensing of the patent, in most cases, the expertise of the patentee is required to work the patent. The patentee can expect that potential users or collaborators will prefer to negotiate voluntary arrangements to ensure a smooth transfer of know-how. If, a government attempts to go substantially beyond the "customary" limitations and to provide for compulsory licensing on a widespread basis or to adopt unconditional licensing for foreign patents, the disadvantage of the country grows stronger.

CONCLUSIONS

The goal of this paper was to uncover in the writings of Edith Penrose what steps governments of underdeveloped countries might take to direct, encourage or constrain foreign direct investment. The method employed was content analysis of Penrose's published writings from 1956 to 1973.

In the Penrose's original *Theory of the Growth of the Firm*, a change in firm circumstance leads to a change in learning that is reflected in organization structure or growth. In her post-*Theory* work, Penrose devoted much of her research and writing to the role government in the theory of the growth of the firm. With government as an additional actor, the rate and amount of firm growth might be constrained, as firms consider altering their investment decisions.

Drawing on Penrose's writings, I have focused on the implications for firm growth of the actions of these two players. For the large international firm in developing countries, the firm is now large enough, and geographically diversified enough, to have a significant impact on the economy of a developing country. The host government will employ whatever measures necessary to assure that the developing economy benefits from the presence and investment of the large international firm. While some theorists see in Penrose's treatment of government in developing countries a normative approach, Penrose's analysis is largely positivistic: she is calling the plays on a chessboard, anticipating what each player may stand to gain or lose from the action of the other: a competitive options approach.

Nevertheless, an element missing from Penrose's investigation is the assessment of social impact. Penrose's arguments suggest room for a deeper discussion based on marginal costs, marginal social

productivity or marginal growth available given specific government actions. For example, when would the amount of foreign capital invested in a developing country reach a point when the risk of foreign control prompted government action to restrict or prevent FDI? Does foreign direct investment contribute more to increased use of domestic inputs and increased national product than would be gained by the imposition of taxes and other burdens on the foreign investor?

Penrose did not undertake a calculation of social benefit. Given that government and firms are engaged in a multiplayer game, there is room for a competitive options approach. Future research into the government firm duopoly might quantify the marginalist or competitive options impact of government and firms on economic growth.

REFERENCES

Boulding, K. (1956) *The Image: Knowledge in Life and Society*. Ann Arbor, MI: University of Michigan Press.

Boulding, K. (1959) " National Images and International Systems." *Journal of Conflict Resolution, vol. 3, p. 120-131.*

Buckley, P.J., & Casson, M. (1976) The *Future of the Multinational Enterprise.* London, Macmillan.

Bye, M. (1958) "Self-financing Multiterritorial Units and Their Time Horizons," *International Economic Papers*, vol. 18, p.147–178.

Harrod, R. (1939) "An Essay in Dynamic Theory." In *Economic Essays*. London: Macmillan.

Harrod, R. (1952) *Economic Essays*. London: Macmillan.

Hennart, J-F. (1982) *A Theory of Multinational Enterprise.* Ann Arbor: University of Michigan Press.

Kaldor, N. ([1934] 1960) "The Equilibrium of the Firm," p. 34-35. In *Essays on Value and Distribution*. London: Duckworth.

Kaldor, N. (1957) "A Model of Economic Growth." *The Economic Journal,* vol. 67, p.591-624.

Kindleberger, C. (1965) *Economic Development*. New York: McGraw-Hill.

Kindleberger, C. (1969) *American Business Abroad*. New Haven: Yale University Press.

Kuznets, S. (1968) *Toward a Theory of Economic Growth*. New York: W. W. Norton.

Lewis, W.A. (1965) "A Review of Economic Development," *The American Economic Review*, vol. 55, p. 1-16.

Nurkse, R. (1957) "Foreign Aid and the Theory of Economic Development," *The Scientific Monthly*, vol. 85, p. 81-85.

Penrose, E. (1951) *The Economics of the International Patent System.* Baltimore MD: Johns Hopkins Press.

Penrose, E. (1956) "Foreign Investment and the Growth of the Firm," *Economic Journal,* vol. 66, p. 220-35.

Penrose, E. ([1959], 1959) *The Theory of the Growth of the Firm.* Oxford: Basil Blackwell, 3 rd edn.)

Penrose, E. (1968) *The Large International Firm in Developing Countries: The International Petroleum Industry.* London: Allen and Unwin.

Penrose, E. (1971) *The Growth of the Firm, Middle East Oil and Other Essays.* London: Frank Cass.

Penrose, E. (1973) "International patenting and the less developed countries," *Economic Journal,* vol. 83, p.768-86.

Penrose, E. ([1994]. 2008) "Strategy/Organization and the Metamorphosis of the Large Firm," *Organization Studies* 29, p. 1117-1134.

Penrose, E. and Penrose, E.F. (1978) *Iraq: International Relations and National Development.* London: Benn.

Pitelis, C., ed. (2002) *The Growth of the Firm: The Legacy of Edith Penrose.* Oxford and New York: Oxford University Press.

Rugman, A.M. (1981) *Inside the Multinationals.* New York: Columbia University Press.

Schultz, T. (1965) "Investing in Poor People: An Economist's View," *The American Economic Review*, vol. 55, p. 510-520.

Schumpeter, J.A. (1934) *The Theory of Economic Development*. Cambridge, Mass.: Harvard University Press (originally published in German in 1911; reprinted by Transaction Publishers, New Brunswick, New Jersey in 1997.

Triffin, R. (1940) *Monopolistic Competition and General Equilibrium Theory*. Cambridge: Harvard University.

Triffin, R. (1960). *Gold and the Dollar Crisis.* New Haven: Yale University Press.

Verbeke, A. & Rugman, A.M. (1998) "Environmental regulations and multinational enterprise Strategy," *The Academy of Management Review,* vol. 23, p. 653-655.

Vernon, R. (1970) "Foreign Enterprises and Developing Nations in the Raw Materials Industries," *The American Economic Review*, vol. 60, p. 122-126.

BIOGRAPHY

Carol M Connell is associate professor, finance and business management, City University of New York, Brooklyn College, Whitehead Hall, 2900 Bedford Avenue, Brooklyn, NY 11210. CConnell@brooklyn.cuny.edu