

Edith Penrose and the Theory of the Multinational Enterprise (MNE)

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Abstract

Edith Penrose had a unique view of the multinational enterprise (MNE). She analyzed the MNE as a multi-plant firm. Just like domestic (uninational) firms, the size of the MNE is a function of the rate of growth of the firm and time elapsed. For a multinational firm, growth is therefore explicable by the same factors as a uninational firm. In essence, the size of the firm is a less interesting question, both theoretically and empirically for Penrose than is the growth of the firm. A firm's size is merely a snapshot at a given point of time in its growth trajectory because it is a static frozen picture of a dynamic process. Penrose had a singular take on international management, arguing that foreign subsidiaries require less administrative coordination than domestic equivalents. Similarly, her view of "foreignness" does not require a special theory of the MNE since it treats MNEs as a simple extension of the multiplant domestic firm. Penrose introduced innovations into the theory of the MNE based on "speed of entry" into foreign markets.

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Edith Penrose had a unique view of the multinational enterprise (MNE). She analysed the MNE as a multi-plant firm. Just like domestic (uninational) firms, the size of the MNE is a function of the rate of growth of the firm and time elapsed, as size may be expressed as the product of $ds/dt \times t$. For a multinational firm growth is therefore explicable by the same factors as a uninational firm. In essence, the size of the firm is a less interesting question, both theoretically and empirically for Penrose than is the growth of the firm. A firm's size is merely a snapshot at a given point of time in its growth trajectory because it is a static frozen picture of a dynamic process. Penrose had a singular take on international management, arguing that foreign subsidiaries require less administrative coordination than domestic equivalents as discussed below. Similarly her view of the notion of "foreignness" does not require a special theory of the MNE since it treats MNEs as a simple extension of the multiplant domestic firm. Nonetheless, Penrose did introduce innovations into the theory of the MNE based on "speed of entry" into foreign markets.

In the sections below I first discuss the basic Penrosean model of the firm and then the importance within that model of the rate of growth, there follows a discussion of the differences and similarities between Penrosean "integration" and internalization (the basis for the contrasting theory of Buckley and Casson 1976). Penrose's analysis of the MNE then follows, with an emphasis on the growth of the MNE. I then discuss Penrose's approach to international management and the place of "foreignness" in this view of the MNE. Finally I conclude with observations of potentially profitable extensions of Penrose's model of the MNE, in particular her insistence on the inclusion of the competitive dynamics in global competition between MNEs.

The Basic Penrose Model

The key to formalizing Penrose's ideas is the recognition that she reformulated the familiar cost functions used in the theory of the firm. She argued that the average cost of output is independent of the scale of production, but increases with respect to the rate of growth. Thus in so far as the average cost curve is U-shaped, it is U-shaped with respect, not to the scale of production, as commonly assumed, but to the rate of growth.

As Buckley and Casson (2007) point out, the simplest way to understand Penrose's argument is to recognize that average costs are increased by *adjustments* in the rate of output. Changing the rate of output has a bigger impact on average cost than setting *steady state* output at a higher or lower level. Changes in the rate of output dislocate the allocation of resources. This is particularly true of human resources. Employees are usually most productive when they repeat the same routines; furthermore, when their work is repetitive, productivity may improve as a result of learning on the job. As a firm grows, the internal division of labour has to change, and this forces people to change their roles. Their

previous learning of job-specific skills becomes obsolete, as they return to the start of the 'learning curve' in their new job.

Change is expensive in other ways too. Plant and machinery have to be reallocated to different uses, and this process needs to be managed, creating additional demands on the management team. As the management team grows, new recruits need to be trained. Through leaving their previous employment with another firm, and joining the expanding firm, these recruits incur the same costs of retraining as those who have changed their jobs within the firm. Indeed their training costs are greater because they know little about the institutional context of their job. To train recruits, experienced managers have to be diverted from their usual work, adding to the dislocation described above.

Thus, costs of change may be related either to the absolute amount of change or to the proportional amount of change. A case can be made for both, but in the Penrose thesis it is the proportional not the absolute amount of change that matters. In alternative models of growth, however, the absolute amount of change is key. Penrose's model analyses a firm that grows through diversification at a steady rate. The central point of the model is that the firm faces 'costs of growth' that increase, not with the size of the firm, but with the rate of growth. The key to the model is the specification of these costs of growth.

Penrose viewed the firm as a "bundle of resources" because she saw resources – in particular human resources- as both the key to the firm's success and the principal constraint on its growth. According to her theory, the tacitness of information- on which modern resource-based theory places so much emphasis- not only protects the secrets of the firm's entrepreneurial success, but also inhibits the assimilation of the additional human resources required to sustain its growth. The growth rate of the firm reflects a balance between the entrepreneurial dynamism that drives its diversification, and the difficulty of enlarging the firm's management team to exploit the resultant opportunities (the "Penrose constraint").

Internal resources are crucial. "The 'productive opportunity' which invites expansion is not exclusively an external one. It is largely determined by the internal resources of the firm: the products that the firm can successfully produce, the new areas in which it can successfully set up plants, the innovations it can successfully launch, the very ideas of its executives and the opportunities they see, depend as much on the kind of experience, managerial ability and technological know-how already existing within the firm as they do upon external opportunities open to all" (Penrose 1956 p250). This internal perspective lead to the resource based view (RBV) of the firm (Barney 1986) whereas the Buckley and Casson (1976) theory emphasizes external (and imperfect) markets. Both Penrosean and RBV approaches fundamentally rely on market imperfections. For Penrose, markets are structurally

imperfect, rather than as a response to ‘naturally occurring’ transaction costs. In the RBV differentiation between markets (e.g. foreign markets) is ignored.

In Penrose’s basic model, the profitability of the firm is independent of its size and depends only on its rate of growth. This leads to a simple formula for the value of a growing firm, as determined by the present value of its future profit stream. Managers serving shareholder interests will maximize this value, whilst managers pursuing their own objectives – such as status – may maximize growth instead. Penrose considered both objectives; the difference are small, however, because maximizing profits not only maximizes shareholder value but also facilitates the internal financing of growth (under fairly restrictive assumptions) (see also Baumol 1967, Marris 1964).

A purer Penrosean view of growth is simply that the firm grows by duplicating its current operations. New plants are simply a carbon copy or clone of the previous ones and workers are distributed among them and made responsible for training similar new workers. Learning curves therefore are fairly flat. The cost of time and training are a pure function of the rate of growth – simply the number of duplicate plants required in a given time period. Such organic, cell division growth thus needs not be very costly or management time intensive. Penrose’s central point is that there is, in principle, no limit to the size to which a firm can grow. “...for the successful firms over the long haul – and there always are such firms – there seems to be no reason to assume that the progress cannot continue indefinitely or at least for any relevant future” (Penrose 1956 p 250).

The Growth of the Firm

There are limits to the extent to which a firm can grow within a single market, which are set by the overall size of the market and the existence of competitors within it. But a firm can evade any such market size constraint by diversifying into other markets. “In the absence of markedly unfavorable environmental conditions, there’s a strong tendency for a business enterprise possessing extensive and versatile internal managerial resources continually to expand, not only in its existing field but also into new products and new markets as opportunity offers” (Penrose 1956, p250).

It is often said that because of U-shaped average cost curves, there is a unique optimal size of firm at which average cost is a minimum. However, the logic of the U-shaped average cost curve applies to physical plant and equipment rather than to a managerial unit such as a firm. A firm that cannot expand beyond optimum plant size can expand by increasing the number of plants it operates, either through replicating plants in the same market (horizontal integration), moving into other stages of production in the same market (vertical integration) or diversifying into different markets.

Managerial diseconomies of scale are often adduced to limit the size of firms, but such limiting factors are more properly regarded as diseconomies of growth. Therefore, the costs that limit the size of a firm at any time are costs that limit its continued growth, rather than costs associated with the size to which it has already grown. It is therefore more appropriate to use the concept of an optimum rate of growth of a firm than an optimum size of a firm. For Penrose, as costs rise with the rate of growth, then the rapidly growing firm will become less competitive and less profitable. It is unlikely, even given Penrosean assumptions, that such a firm can endure indefinitely contra Penrose (1956 p250) quoted above.

Integration versus Internalization

For Penrose, the MNE is a multiplant firm. Multiplant firms are integrated in the sense that related activities are joined together implicitly under the same ownership. Firms are vertically integrated because of technical complementarities. Vertical integration occurs because there are technical and engineering improvements in process internalization giving an economic (profit) improvement for the firm.

Integration can be contrasted with internalization (Coase 1937, Buckley & Casson 1976) where the firm replaces the market organizational processes (management fiat) replaces market contract based exchange (“outsourcing”). Thus the external sale of semi-finished goods and services is replaced by intra-firm transfer. The welfare (and profit) gains are achieved by the replacement of an imperfect external market by an internal market within the firm. This results in a profit gain for the internalizing entity in substituting for the monopoly rent appropriated in an imperfect external market.

The difference between integration (a technical and managerial act) and internalization (firm versus market) is the basis for the difference of Penrose’s theory of the MNE from that of Buckley and Casson (Buckley and Casson 1976).

Vertical integration is the combination within one firm of distinct processes of production. Horizontal integration is increasing production of goods or services within one firm at the same stage of production. Internalization theory explains this, not only by technical efficiencies but also by the superiority of internal co-ownership of potentially distinct activities operated in two or more firms when combined into a single firm. For internal organization to be superior to the market solution, market failures, bargaining issues and dynamic aspects including entry deterrence, are key factors (Buckley 2011). Rather than the comparison of two firms, internalization theory compares the firm with the market as alternative institutional solutions.

For Penrose, the key concept defining a firm is administrative coordination. A connected smaller firm or even a subsidiary should not be considered part “of the larger firm if it appears to operate

independently of the managerial plans and administrative arrangements of the larger firm” because it is not “an extension of the coordinated planning of productive activity” (Penrose 1959 p 21). The true nature of the firm is not as a legal entity but as a planning unit (Blois 1972)

The Penrosean approach does not contract firm and market, but considers the optimum range of managerial plans and administrative arrangements of a firm. This determines the boundaries of “the firm” and separates one firm from the others, For Buckley and Casson (1976) firms are islands of coordination in seas of markets. The two approaches are distinct but overlapping.

Penrose and the MNE

As previously stated, for Penrose, the MNE is a multiplant firm. The establishment of foreign entities is not essentially different from domestic subsidiaries (Penrose 1956). Penrose’s 1968 book on the MNE The Large International Firm in Developing Countries did not consider the then extant theories of the MNE or international business. For instance, there are no references to Hymer (1960), Kindleberger (1969), Dunning (1958) or Vernon (1966) in her book.¹ However, Marris’s (1964) study of “managerial capitalism” is used for its focus on revenue maximization. Additionally, Bye’s (1958) study of “self-financed multi-territorial units” is quoted approvingly. “Maurice Bye’s comment that ‘The mutual relations of large firms within one and the same industry...have an impact on the world economy which is at least as important as that which the theory of the market assigns to factor proportions” (Penrose 1968 p19 footnote 1). This is significant because Bye’s piece refers to multi-territorial (not multinational) entities and is concerned with firms in one industry – analogous to Penrose’s sole focus in the book on the vertically integrated petroleum industry. Industry barriers, and trajectories and multiplant (multiterritory) firms are at the core of Penrose’s approach to the MNE.

Penrose in the 1968 book does not attempt to build a theory of the MNE but focuses on a single industry study (as she did before in her 1956 article on General Motors Holden in Australia) (Penrose 1956). In the oil industry, vertical integration explained MNEs – reserves were in one country, the market in another. In the car industry markets were separated by tariffs (and distance) so multiplant operation was forced on the manufacturers such as pharmaceuticals and automobiles.

It is doubtful that Edith Penrose ever believed that a theory of the MNE was needed.²

¹ Except Vernon’s study of Mexican development (1963).

² When the author met Professor Penrose for the first time over dinner in Fontainebleau, when Edith was at INSEAD, in January 1979, her first sentence was:-“How do you justify the first sentence of chapter 2 of your book?” That opening sentence is “It is little exaggeration to say that at present there is no established theory of the multinational enterprise”. (Buckley & Casson, 1976, p32).

This concurs with the views of Pitelis (2004 p528). “Penrose did not deal with the (special) nature of the MNE or the issue of entry modes. She claimed that once a subsidiary was up and running it could, in effect, be seen as a separate firm and could be analyzed in terms of the theory of the growth of the firm. What made MNEs ‘different’ from other (multiplant) firms, for Penrose, was the existence of different nation states, and (thus) international borders”.

Penrose’s model of the MNE is therefore built on a ‘multidomestic’ template (Bartlett and Ghoshal 1989). The multiplant firm qua MNE has to contend with national boundaries and national cultures. Multi-domestic operations, more loosely coordinated at the global level are an important means of managing a world economy divided by national cultural differences and by tariff and non-tariff barriers. Local multidomestic units are better placed to deal with variations in demand and supply conditions in their ‘home’ economies than are global governance headquarters. Such an organization exhibits low global integration but high responsiveness to local conditions (Bartlett and Ghoshal 1989).

Penrose and the Growth of the MNE

As explained above, for Penrose, costs of growth increase, not with firm size, but with the rate of growth. Foreign direct investment is the result of the process of growth and is explicable by learning, diversification and the utilization of “excess” (human) resources.

In considering not simply the growth of the firm but also its internationalization, it is important to note that Penrose discusses three main dimensions along which a firm can expand. While the main focus of her discussion is on product diversification, she also considers vertical integration along the supply chain, and geographical diversification which can turn the firm in to an MNE. Geographical diversification can be either horizontal – the typical case where technology transfer is involved – or vertical, as exemplified by “resource seeking” investments.

A potential weakness of the Penrose approach to multinationals is that in her view the growth of the firm is driven by product diversification rather than by technological innovation. Empirical evidence however points to the crucial role of technology in stimulating the growth of multinational enterprises (Buckley and Casson 1976, Kafouros 2008). Early post-war US foreign direct investment, for example, was heavily concentrated in technology-intensive industries such as pharmaceuticals and automobiles.

Although Penrose recognized that large firms invested significantly in R&D, she regarded their entrepreneurial capabilities as the main driver of their growth. She argued that there were abundant opportunities for discovering new markets, irrespective of whether R&D was undertaken or not. The

main constraint on the growth of the firm was not the need to finance expensive R&D, but the difficulty of expanding the firm at a sufficient rate to exploit all of the opportunities available.

In fact, decreasing returns to R&D provides a simple explanation of how the growth of technology-intensive firm is constrained. When market opportunities drive firm growth, as in Penrose, then decreasing returns to entrepreneurship and management will constrain growth, while if technological opportunities drive the firm's growth then decreasing returns to R&D will constrain growth instead. There is, therefore a logical parallel between the limits of growth identified by Penrose, and the limits to growth associated with R&D.

An emphasis on R&D also helps to explain why related diversifications are generally more successful than unrelated diversifications in sustaining the growth of firms. If new products are generated sequentially from a single integrated programme of research, then the cost of generating any one product can be reduced by using knowledge spill-overs from other products. Furthermore, products generated in this way may also be related in terms of the materials or components from which they are produced, thereby generating supply chain economies once they are in production. Although other forms of relatedness such as those characterized by "bundling" products for sale, or by marketing different products to the same group of customers, can be found to have an impact on performance there is little doubt that the technological relatedness of different products has been a significant factor in boosting the profits and growth of modern firms and particularly multinational enterprises.

Penrose's explanation for the growth of foreign subsidiaries is threefold (Penrose 1956). First, the existence of a foreign subsidiary removes the "cost of investigation, together with the cost of planning, organizing and actually establishing the new firm" (Penrose 1956 p255). Thus, MNEs will be locationally distorted towards existing ventures, versus potentially new ventures. This is reinforced by in-firm (managerial) vested interests, presenting a case for further investment in their own subsidiary. Second, the operations of the subsidiary, its knowledge of the host market and its experience will create new expansionary opportunities. Third, "it is often easier not to go into an activity than it is to abandon it once it has been firmly established" (Penrose 1956 p255). The organization itself creates its own dynamic. All this is reinforced by the ability of the subsidiary to self-finance from retained earnings. Success breeds its own success.

These arguments are perfectly consistent with the core Penrose growth of the firm argument. Foreign subsidiaries are governed by "local success" dynamic.

Penrose and International Management

Remarkably, Penrose argues that foreign subsidiaries required LESS administrative coordination than domestic equivalents. Indeed foreign subsidiaries grow like autonomous firms.” Once established, however, a new subsidiary has a life of its own and its growth will continue in response to the development of its own internal resources and the opportunities presented in its new environment” (Penrose 1956 p251).

In terms of international expansion, Penrose can be interpreted as considering foreign subsidiaries as autonomous companies. As such, they are beyond the reach of the firm’s administrative coordination. The absence of authoritative communication would thus put them beyond the boundary of the firm. There is a potential modification of our formalization in which the rate of growth of firms of different sizes is the same up to the extent of the reach of coordination and then zero beyond it. This is not a realistic interpretation of modern multinational firms, especially given managerial learning and technological breakthroughs in communication and control of international expansion.

The argument, used in the General Motors Holden case is equivalent to ‘ The Gamblers Earnings Hypothesis’ of Barlow and Wender (1955) that MNEs, like compulsive gamblers, reinvest their earnings in the foreign subsidiaries in which they were earned, and then remit their “winnings” (accumulated profits) when a large tranche has been earned. This can have destabilizing effects on the host country balance of payments (Penrose 1956).

Penrose did make a key innovation in international management theorizing - “the Penrose constraint” that posits, entirely in line with her view on the growth of the firm that “limits on the capacity of internal decision-makers to assimilate knowledge, plan, coordinate and supervise are a central constraint on growth” (Garnsey 1998 p.543). This can be directly translated into the international arena by the argument that the management of multinational firms need a management team with the capacity to manage a multi-territorial, multi-currency, multi-cultural organization and needs therefore a multinational and multicultural management team (Buckley and Casson 1976).

“Foreignness” in Penrose’s approach to International Firms

Penrose saw no need for a special theory of the MNE but “foreignness” did play a role in her analysis when she returned to the phenomenon of MNEs and “dumping” in a later (1990) paper. In this paper, first, national borders affect (product) diversification. Products may be multiplied in markets protected by tariffs. Tariffs segment markets and encourage free - standing multinational subsidiaries to reinvest earnings in new product diversification. Second, tariffs result in “dumping” and “infant industry firms” (Penrose 1990).

The core factor in Penrose's approach to 'dumping' is that she sees the MNE as multiplant firm operating in separate international markets differentiated by tariffs and non-tariff barriers. "In general terms, dumping in international trade is simply charging the different prices in different markets that are not justified by differences in costs" (Penrose 1990, p.181). In discussing MNEs, Penrose is clear about the complex network and range of vision of "global" corporations. "Such firms are 'networks' of subsidiary companies, of differing size, complexity and importance, often operating in accordance with an overall 'strategic plan' and competing in individual markets with each other but over a diversified range of products and groups of products, exploiting every opportunity to attack each others' markets, often using for the purpose their investments in their 'core' technologies, and treating individual products as part of an 'extended family' in which one 'member' can at times be used to help others in distribution and marketing" (Penrose 1990 p183). This long and complex sentence encapsulates Penrose's thinking on multinational management. A multiplant firm is driven by an overall strategic plan in which a network of subsidiaries draw on core technologies and the product range is tailored to individual (national) markets, supported by shared distribution and marketing facilities. This is a development from the approach in Penrose's (1956) article but is the same fundamental model. It echoes the point made above of the firm as a planning unit.

Penrose's work on the MNE always had the virtue of factoring competition into the model. "Competition is intense among such "networks" and it seems to be a major driving force of modern technological processes in all its forms" (Penrose 1990 p183). Here Penrose comes closest to the Buckley and Casson (1976) theory of the MNE where internalization of technology, and of marketing and distribution linked to the production of goods and services derived from innovation, drives MNEs. Her emphasis on the competitive element of technological progress is an additional (and welcome) element.

Penrose's Innovations

As Buckley and Casson (2007) show, Penrose's 1959 Theory of the Growth of the Firm provides a tractable formal model that has important implications for the strategy of MNEs.

Its analysis of the appropriate modes of internationalization can be integrated with a satisfying account of the tradeoff between (product) diversification and foreign market penetration. The account of speed of entry is an advance on current theories of internationalization including "stages" and product cycle based models. There is much profitable work to be done in extending Penrose's implicit model of multinational enterprise, not least because of her insistence of the inclusion of the competitive dynamics between MNEs.

Penrose's multiplant, multidomestic model of MNE organization is likely to become increasingly relevant as a viable managerial response to the increasingly fractured world economy and world

trading system. Multidomestic strategies enable MNEs to respond differently to their host locations and to exercise corporate diplomacy in managing national trade and investment disputes (Henisz 2014). As MNEs have increasingly to revisit their international strategy to allow a long - term accommodation with nationalist aspirations, the rebalancing of operations may well bring many of them to resemble Penrose's multiplant, multidomestic type of organization.

A further forward-looking element of Penrose's approach is the emphasis on competition between MNEs. The integration of competition is a much needed extension in the current theory of the MNE.

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