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Abstract:

Despite its important contributions to economic thought, namely in the field of spatial economics and economics of development, François Perroux, one of the most important French economists of the 20st century, remains today poorly appreciated and frequently unrecognized.

This paper tends to show how unfair is this deficit of recognition. We underline Perroux's illuminating views on asymmetry, domination and power which can be considered as a prefiguration and – to some extent – as a generalization of works made in this field half a century later, for example the American realist and neo-realist approaches of power (namely the concepts of hard and soft power) or by Susan Strange (with her concept of structural power).

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1. Introduction

Unquestionably, François Perroux is one of the most original European economists of the 20st century. His innovations are many, ranging from spatial economics in which he analyzed the economics of location, the forces of agglomeration and dispersion (Perroux, 1949), to the analysis of economic development, including an interesting attempt to develop an alternative approach of the general equilibrium, based on recognition of the active role of agents (Perroux, 1975 and 1976). However, among the various topics to which he made decisive contributions, the most insightful one is his "domination effect" and his analysis of power. Despite its numerous enlightening contributions to economic thought, nowadays the work of François Perroux is not really appreciated to its true value.

This paper aims at underlining Perroux's illuminating views on asymmetry, domination and power that one can consider as a prefiguration and – to some extent – as an extension of works made in this field half a century later.

When, in 1948, François Perroux wrote his famous article "Esquisse d'une théorie de l'économie dominante" (Perroux, 1948, 1950), he was obviously influenced by the economic and political context of the times. In 1945, the United States had become the dominant economy in the world, and it seemed destined to remain so for many years to come (Perroux, 1953). A superficial reading of this seminal article might lead one to believe that Perroux had restricted himself to constructing a theoretical architecture, based on this single concrete example. But Perroux's range of interest was considerably broader.

In the present as in the past, an analysis of the effect of domination on international relations tightly conditions our knowledge of current affairs. After the Second World War, lopsided power relations induced trade imbalances and generated an irreversible orientation of trade and financial flows that was apparently incompatible with the creation of a new international economic

multilateralism. At the same time, the chronic shortage in international liquidities raised formidable threats to the viability of the Bretton Woods arrangement. Creditors seemed perpetually to remain creditors; debtors became more and more indebted.

The domination effect and the concept of the internationally dominant economy offer particularly penetrating views of the new world that was being built on the threshold of the second half of the twentieth century. The scope of Perroux's analysis, however, is of a completely different nature. It is much larger and more ambitious.

In this paper, I want to stress the potentially operational character of Perroux's concepts of asymmetry, domination (and dominance), and power. All of his theoretical concepts were based on attentive observation of the facts, especially those bearing on the future. His entire body of work bore witness to the imperative upon which he unremittingly insisted: a symbiosis between the "theoretician's discourse" and the "observer's discourse" (section 2). Then I describe more thoroughly the relations between structures and power (section 3) and the difference introduced in Perroux's later publications between domination and dominance (section 4).

The most interesting aspect of Perroux's thinking is that the domination effect represents a common denominator and a key to interpreting a multiplicity of apparently heterogeneous phenomena (section 5). This concept is probably what confers upon Perroux's work its overarching character and its pioneering feature (section 6). The components of power relations called asymmetries, inequalities, and irreversibilities therefore constitute central themes and structural elements. They are the main building blocks of a possible reconstruction of the general equilibrium along with a new way to look at human beings and society (section 7).

2. The Concept of Power and the Domination Effect

Starting with Max Weber, Perroux defines power as "*the probability that an agent within a social relation will be in a situation to make his own will effective, in spite of resistances (…) The essence of power, sought after, used, expected, or predicted, is an asymmetric relationship that stems from unequal actions and reactions*" (Perroux, 1973: 30). This asymmetry of influence, which he calls the *domination effect*, can exist between various units: individuals, firms, social groups, nations, and others.

It is useful at the outset to quote Perroux's own definition: "*To consider just two economic units, we would say that A exercises a domination effect over B, when, in the absence of any particular intention, A exerts a certain influence on B without the inverse being true or true to the same degree. A dissymmetry or irreversibility of principle or degree is constitutive of this effect*" (1948: 248). As an imperfect form of reciprocity and interdependence, the domination effect is therefore not necessarily the expression of a desire for power. It may also be the consequence of an existing situation – the result of differences in size and disparities in structure.

According to F. Perroux, the domination effect has three essential components. The first is the *relative sizes of the units*, including factor components, assets, respective contributions to supply and demand, information at their disposal, and so on. The second is *bargaining power* – the units' respective abilities to negotiate conditions and exchange rates, or even to set the rules of the game. Third, a unit's domination effect results from its *belonging to an active zone*, the position that it occupies in that zone, and the nature of the activity that it exercises. Of the three above components, this last is the least intuitive. It is, however, fundamental. The implication is that the strength or domination of one unit is not reduced exclusively to its individual features, but results from synergies and externalities – from the connection between the unit and its "environment."

2.1. Unintentional Domination

Independent of all desire to act on other decision-making centres, unit A exerts a dissymmetrical influence on them, for example, by increasing or decreasing its production or changing its prices. The other units must adjust to A's decision by changing, in their turn, their level of activity and/or their prices, without these reactions affecting or influencing A to the same degree.

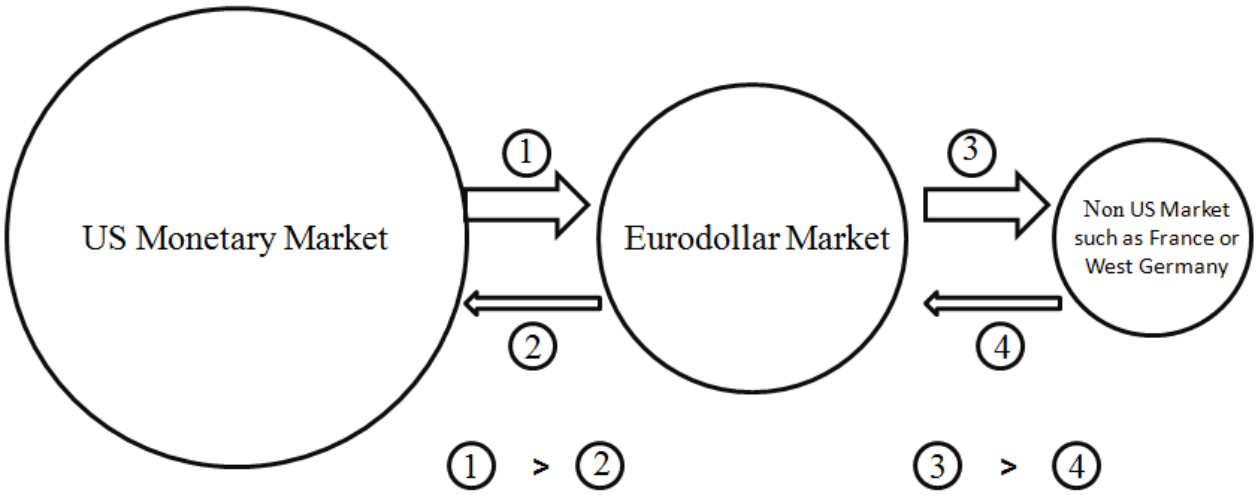
This effect can be clearly observed when we examine, for example, how changes to the monetary or budgetary policy of the United States affect the circumstances of its partners. The domination effect may take the form of a cumulative sequence of asymmetrical influences in concentric rings. For instance, a restrictive monetary policy instituted in the United States to smother domestic inflationary pressures forces other industrialized countries to align themselves by raising their interest rates. Attempts at disconnection almost always prove to be impractical, except through rigorous control of the exchange rate (this is the first circle of asymmetry). The corresponding rise in international interest rates then induces a more strongly asymmetrical influence on developing countries, which are indebted at a floating rate, by increasing the service of their debt (this is the second circle of asymmetry).

An internationally dominant economy thus appears to be a "relatively autonomous" conjunctural centre of momentum, which, independent of any hegemonic intentions, influences the situations of its partners. In a world that is de facto more and more tightly interlinked, the interplay of irreversible and dissymmetrical influences develops both directly and indirectly along more or less complex chains (or sequences) of domination effects.

The market for Eurodollars is a cogent example. During the critical period of dislocation of the international currency system (late 1960s and early 1970s), the Eurodollar market undeniably served as a communication channel for an indirect domination effect. Unintentional at first, it relayed the influence of the American monetary market to other national monetary markets,

especially with regard to determination of interest rates and pressures on exchange rates. This asymmetry in the constraints exerted on (or exerted by) foreign monetary markets was determined, to some extent by the comparative sizes (masses) of the respective markets at that time (see figure 1).

Figure 1. Relative masses of monetary markets[2]



The unintentional asymmetrical relations of A and B not only are evident in terms of quantitative magnitudes of flows and prices, but may result from asymmetrical structural changes. A structural change made by unit A, even with no desire to affect unit B, imposes structural transformations on the latter with little or no reciprocity.

Analogous linkage, distribution, attraction, and polarization effects – or, on the contrary, inhibition, braking, or blockage effects – are easily observable between a variety of units: first, between competing firms through innovations, industrial or financial concentration, choice of production diversification, and so on; second, between industries, for which interdependencies are never symmetrical. Some industries exert asymmetrical induction effects on costs, prices,

[2] In 1974, the size of the American monetary market was around 20 as big as the the Eurodollar market. At that time, we could consider the Eurodollar as some kind of second Federal reserve System. Since then, the situation has completely changed: the Eurodollar grew much more rapidely than the American monetary market and the respective masses reversed in 1981 (Sandretto, 1993)

complex relations between “structures” and “power”. Two examples can illustrate these relations.

- *Trade in raw materials.* Industrialized countries and raw material producing countries have unequal capacity to influence trade and international markets. Indisputably, raw material producers would be less vulnerable and their negotiating power would be stronger if: (i) they were not so hyper-specialized (sometimes mono-specialized), as opposed to the *diffused* specialization of industrial countries. (ii) If industrialized countries were not so dangerous competitors in the export of raw materials. Contrary to a received idea, the most important exporters in raw materials (agricultural and mineral) are developed countries. (iii) If they were not sometimes forced to sell at any price, and were less dependent on markets in industrialized countries and on foreign firms. Transnational firms also intentionally structure relationships.

- *Location strategy of transnational firms.* In some particular industrial sectors, transnational groups sometimes apply what may be called a strategy of “specialization/diversification,” in which each of their subsidiaries is made into an ultra-specialized plant. In this strategy, the transnational firm spreads the geographic distribution of its subsidiary plants in different countries for each stage of the production process. For example, one subsidiary of a car manufacturer will produce only brake pads, and this part will be manufactured simultaneously in Mexico, Brazil, and Asia.

This particular strategy is obviously a case of intentional implementation of structural power relations. It leads, among other things, to a productive and spatial structure that generates domination effects between the firm’s management and the government and social groups in the host country. It minimizes the effects on the firm of potential technical, political, or social incidents. It dissuades host countries from nationalizing foreign firms established on their soil, since each “plant” is viable only within the industrial group upon which it is totally dependent. It

also protects the industrial group against the consequences of strikes, which are not internationally coordinated. On the other hand, this structure makes the group's threat or counter-threat of lock-out or closure credible to both unions and local governments, since a local production stoppage does not disrupt the group's activity (Sandretto, 1995).

These two examples illustrate clearly that power relations do not 'fall from the sky', but that they may be structurally determined.

4. Domination and Dominance

In his later writings, Perroux has refined his analysis of the domination effect with the distinction between 'domination' and 'dominance' depending on the intensity and extent of asymmetrical relations (Perroux, 1975):

- *Dominance* is a degree of asymmetry that cannot be evaded over a given period, resulting from the asymmetry in the respective influences, which is such that Unit A exerts an influence on B, while B exerts an influence on A but not at the same degree.

- At the opposite, *domination* (strictly speaking) is corresponding to an intrinsic dissymmetry of principle (total irreversibility, always within a given period). In other words, domination would correspond to total dominance. Perroux also sometimes used the term *domination* to designate crystallized dominance in structures and institutions.

Analytically, dominance is more interesting than domination, as it has a greater range. As F. Perroux wrote in a personal correspondence with the author (in 1975), "*Total* dominance of A over B destroys (economically) *duality*," because it suppresses B's quality as an actor – its decision-making capacity, individuality, and integrity. This may be why Perroux abandoned the expression of domination (and "domination effect") for the more general one of "dominance" in his later writings.

The main problem resides in the difficulty of measuring the intensity and effectiveness of the dominance effect. Expressing it in the most general terms, Perroux characterized the search for the most useful result possible in the behaviour of two units, A and B, in a relationship of pure trade. This point is reached when A and B equalize the marginal return obtained and the marginal return ceded:

$$\frac{\text{Marginal return obtained}}{\text{Marginal return ceded}} = 1$$

The impact of the dominance effect, according to Perroux, is evaluated by the *external advantage of pure trade* – by the proportion within which the respective performances of A and B may deviate from the above standard of optimality and equity. The breadth of the dominance effect may thus be quantified by the price supplement that A imposes on B above the marginal cost of the good that it is selling or by the difference between the remuneration to the holder of a production factor and that factor's maximum marginal productivity.

Following a similar approach, the international neo-classical equilibrium model described by Heckscher, Ohlin, and Samuelson (the HOS model) can be interpreted as the standard of *equal trade*, conflictually neutral, from which all dominance relations are axiomatically excluded (Sandretto, 1976). Measurement of economic power by deviation from the model of pure trade (or the ideal model of perfect competition) is both simple and attractive on the conceptual level. But is it the most operative and significant in practice? According to Perroux, the answer is no, because it refers not to a particular concrete situation, but to an unrealistic model – a fiction.

5. Power, keystone of the Perrouxian analysis

In *L'Économie du XXe Siècle* (Perroux, 1961), Perroux shows the importance of the dominance effect within his work. The structure itself of this book reflects this prominence.

This major work begins, in fact, with a section devoted to the dominant economy (Part 1). It is

followed by a study of spatial, linkage, and agglomeration asymmetries – in other words, the formalization of the *growth poles* that are a direct application of the dominance theory (Part 2). Then comes the concept of *macro-decisions,* a clear example of the structural decision-making power of a dominant actor: with the help of the irreversible and asymmetrical influence that it is capable of exerting, the macro-decision imposes the rules of the game on and shapes the environment of the other units (Part 3). The analysis then turns to the process of development and underdevelopment, which is dependent on the coupling mechanisms that link the various parties in the global economy and the asymmetries that it supports (Part 4). This process leads to identification of the forces of dynamism and progress, the main one of which is the search for power (a motivation "as powerful as the search for well-being or monetary gain" [Part 5]). Economic movements are accomplished by human beings, innovation, and power. They result from the intersection of the behaviours of "diversely and unequally active" units (Part 6). We can thus see that dissymmetries and irreversibilities of power relations, far from being dispersed instruments in an analytic toolbox, are essential aspects of an overall interpretation.

In this work – no doubt Perroux's most important synthesis – the dominance effect appears to be the common denominator in most of his key concepts. Later, it became the bedrock of an overall theoretical reformulation and of his last project: the construction of a theory of general equilibration (Perroux, 1975).

The concept of economic power elaborated by Perroux is deduced from his analysis of asymmetries, irreversibilities, and constraint "in a universe of actors." It is no exaggeration to state that this concept of dominance is the cement that gives his complex body of work its coherence.

6. A prefiguration of the most recent analyses of power

Perroux's concept of power can be compared to more recent concepts of power. In the American neo-realist approach, power is relational. First, in a context of strong asymmetries, power can be applied through constraints. In the contemporary American neo-realist analysis, power is defined as the capacity of unit A (state, firm) to directly force unit B to do what it would not have done spontaneously, in order to better satisfy the interests of unit A. This is called *hard power*, because it relies on the comparative strengths of units A and B: military power, natural resources, demography, capacity to inflict damage on another or to avoid such damage. The "hard power" is one of the key concepts of the American neo-realist school of thought, whose one of the most prominent representative is Kenneth Walz (1979). In contrast to this, the American liberal institutional approach has emphasized the quite different concept of *soft power* based on cultural ideological and political attraction, and on the attractiveness of the way of life of the leading country(ies) (Nye 1990: 167). Actually, in the globalized multipolar and complex world in which we are living, the reinforcement of global interdependences creates a situation such that hegemonic (hard) power is increasingly difficult to exert. Force cannot always easily impose power. Power then tends to change in nature. Leading states attempt more and more frequently to exert influence through other instruments than military force or economic constraint, using state's capacity to seduce, convince, or yet induce through cultural and/or ideological attraction. More than traditional means, *soft power* is based on intangible assets (culture, way of life).

Another important recent contribution to power analysis has been achieved by Susan Strange. Similarly to François Perroux, Susan Strange suggested a structural approach of power, that is a concept of power basically linked to structures and, more generally, to the environment in which agents' actions take place. She defines power as the capacity of an individual or a group to influence a situation in such a way that the preferences of the individual or group have priority

over others' preferences (Strange, 1996). In other words, power is the capacity to conceive, legitimize, implement, and control rules for individual and collective action. This amounts to the capacity to shape structures within which other actors will have to evolve. The strangeian concept of power is also structural in so far as it relies on structural components.

Strange suggests four basic power structures:

1. Security structures, the way in which each society organizes and manages its protection against various risks (wars, terrorists threats, natural catastrophes, epidemics, food and environmental security)

2. Production structures (e.g., multinationals, innovation)

3. Financial structures (with financial globalization)

4. Knowledge structure, a domain in which asymmetries of acquisition and holding of knowledge have increased dramatically with recent changes in communication technology

On the basis of these concepts, Strange puts forward two major theses: first, she contests the thesis of a U.S. decline. Second, all states (including the United States) see their capacity to act on society and the economy decline in comparison with private actors. Therefore, zones of *ungovernance* – spheres in which neither state nor non-state actors can master events (in particular in the field of finance and the environment) – evolve. Consequently, S. Strange considered that if the most important global risk in the long run is related to environment, the closest risk of global crisis will have to do with the world financial system.

The above brief contextualization of approaches to power shows the extent to which Perroux's own approach was seminal. Half a century earlier, Perroux had framed an approach that incorporates American neo-realism, liberal institutionalism and the Strangeian approaches, each of them appears as specific cases of this Perrouxian unified theoretical framework, since this last one includes both relational and structural powers. Perroux' point of view suggests that hard

power, soft power and structural powers can be regarded as different aspects of a more general conceptualization.

Indeed, it is easy to recognize the hard power as a modern expression of imposition or coercion, while the soft power is quite similar to influence in the Perrouxian typology. Similarly, structural power, as described by Strange, is reminiscent of unintentional dominance along with the Perrouxian suggestion that intentional dominance can rely on unintentional dominance. In both Perroux and Strange we can also find the idea that power relationships are structurally conditioned.

7. Conclusion

Perroux's acceptance at the outset of asymmetrical and irreversible actions explains why his analysis was so strongly distinct from the major traditional currents of economic analysis. It may also explain why his analysis tends now to sink into oblivion. In several publications, Perroux criticized the various processes whereby the mainstream economic analysis eludes the power relationship, namely:

- the waterproof partitioning between *economics* (often considered as science of means) and *politics* (as science of ends), which lead to a tendency to associate power only with state power and extract it from the economic sphere (belonging to the private sector) ;
- the rudimentary separation of *economic* relations (superficially conceived as merchant relations governed by private profitability) and *social* relations (often trivially considered as an obstacle or a corrective to economic activities) ;
- the separation of economic *variables* (prices and quantities) from extra-economic *data* (rules of the game, institutions, ownership regimes, power relations, and so forth).

Finally, Perroux was fundamentally opposed to reductionist simplifications – the neo-classicists' irenicism (total absence of conflicts) and the Marxists' polemicism (unavoidable confrontation

between two inherently antagonistic classes) (Perroux, 1970: 2271). For Perroux, *all* exchanges are of a hybrid nature: they mix free and reciprocal transfers and power relations (Perroux, 1973). Economic relations, as any social relations, intimately blend conflict and co-operation.

One of the main questionings that we find in several publications of Perroux was: can the neo-classical model be amended? François Perroux believes that the very foundations of the model are defective. In his opinion, the neo-classical theory would not be improved by the introduction of power, for it would certainly then be ruined. Thus, he considers that a complete reconstruction on other foundations is necessary.

Perroux tried to perform this reconstruction by replacing equilibrium with equilibration of active units' energy for change: "Equilibration is a chain of decisions and acts over a period of time. The state that we call *equilibrium* is the more or less durable persistence of sequences conveying, under explicit structural constraints, the cross-compatibility of actors' projects and activities" (Perroux, 1975: 148). Thus reformulated, the general equilibration of an economic set is attained when the sum of the actors' energies for change is close to zero.

Even though the theoretical reconstruction begun by Perroux was not completed, it remains an original attempt. His last book published in 1975 is full of intuitions and suggestions aimed at transforming the concept of general economic equilibrium from its initial description as a balance of forces applying to objects to the topological representation of a process which tends to make compatible agents' plans as well as the change energies that they develop individually and collectively.

The fact that this project has not been completely brought to a successful conclusion is assuredly a limitation. However, in one sense, it remains also a potential: an invitation to present and future generations not to give in to mental laziness but to follow the rocky path that Perroux opened up.

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