

François Perroux's corporatist price control theory: the roots of a structuring critique of neoclassical economics

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François Perroux's corporatist price control theory: the roots of a structuring critique of neoclassical economics

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Abstract: This article seeks to highlight a previously overlooked theoretical continuity in François Perroux's trajectory, linking his "corporatist period" to his post-war writings. We demonstrate that a key aspect of François Perroux's critique of neoclassical economics, which persisted through his efforts to revise general equilibrium theory in the 1970s, originates from his corporatist economic model developed in the 1930s. This core idea can be summarized as follows: the concentrated nature of capitalist structures makes the economic equilibrium indeterminate, necessitating and justifying the intervention of the state to regulate both prices and wages. We argue that the convergence of Perroux's critique of neoclassical economics and his corporatist theorization reaches its peak in a text published during the Liberation of France, a time of profound intellectual transformation for the author. The theoretical elements developed on this occasion permeate the whole of his later works, which must therefore be reinterpreted in the light of his early corporatist writings. Finally, by exhuming a significant yet entirely overlooked theory, this article contributes to the development of a historical perspective on microeconomic theories of price control.

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INTRODUCTION

The question of ruptures and continuities between the first and second parts of François Perroux's work constitutes a cardinal line of research in studies on this author. In the first phase, from the 1930s to the Liberation, Perroux developed a corporatist approach to the economy, thoroughly analyzed by Nicolas Brisset and Raphael Fèvre (2020; 2021a; 2021b). This orientation led Perroux to embrace the Vichy regime, where corporatism was the official economic doctrine. After the Liberation, the corporatist model of organization became indefensible, having been thoroughly delegitimized by its association with the collaborationist Vichy regime. Perroux then entered a second phase, focusing on national accounting and its planning implications, while deepening his critique of neoclassical economics. However, several studies reveal that Perroux's corporatist writings from the 1930s continued to shape his postwar work, even though he no longer explicitly referenced the concept.

In a seminal article, Antonin Cohen (2006) documents Perroux's post-war reformulation in Keynesian terms of certain corporatist themes central to his earlier work. This line of research has since been widely pursued and deepened. Alexandre Cunha shows how Perroux's post-war study of national accounting and defense of an "organized market economy" is fully in line with his corporatist work (Cunha, 2020). Katia Caldari concurs (2024a). Another element of continuity can be seen in his apprehension of the European question (Cohen, 2018; Caldari, 2024b). Finally, in a thesis recently defended in French, Pierre Jean (2023) sees the notion of "authority" as a central element linking the first and second parts of Perroux's work.

However, there is one major aspect of Perroux's work that has never been connected to his corporatist writings: his critique of neo-classical economics and the resulting attempt to revise general equilibrium theory. While this aspect of Perroux's thought has given rise to numerous analyses and commentaries (Sandretto, 2009; Chassagnon, 2015; Caldari, 2018; Arena, 2022; Baldin and Ragni, 2022), none seeks to connect it to his corporatist writings. Claire Baldin and Ludovic Ragni certainly identify the roots of his critique of homo oeconomicus within his "Christian ecumenism" and "with reference to the social doctrine of the Church" (2022, p. 105). From this angle, however, corporatism appears as a practical implementation of this conception, not as a starting point. The theoretical implications of corporatism vis-à-vis his critique of Perroux's neoclassical economics remain unknown. We argue that key aspects of Perroux's critique of neoclassical economics trace their origins to the corporatist economic model he had championed earlier in his career. We show that a cardinal theoretical point provides a link between the two parts of Perroux's work: the rejection of the unicity and stability of economic equilibrium as a consequence of the action of asymmetrical forces - of power relations - calling for the intervention of a state acting as an arbitrator on prices and wages. This point lies at the heart of both Perroux's corporatist model of the 1930s (Perroux, 1936; 1938a; 1938b), and his attempt to revise general equilibrium in the 1970s (Perroux, 1973; 1975a; 1975b). Such an analysis of Perroux's theory² of price and wage control is crucial to understanding the author's trajectory, insofar as it enables us to identify certain elements of theoretical continuity within his thinking from his "corporatist period", to his attempt to reformulate the theory of general equilibrium. Hence, the main contribution of this article is to identify the corporatist roots of a significant part of Perroux's work. We propose a key to understanding his writings that connects his corporatist period with some of his later contributions.

We show that the first substantial theoretical formalization of this idea can be found in part of his *Cours d'économie politique* for the 1944-1945 academic year. In this never-before-studied text, published during the Liberation - a pivotal period for Perroux - the author deletes explicit references to corporatism, while deepening the theoretical work behind it. This reconfiguration provides the seeds for a whole later section of his work. Our work is thus fully in line with the aforementioned studies which consider the Liberation period (after August 1944) as central to understanding Perroux's trajectory (Cohen, 2006; Cunha, 2020; Fèvre, 2022; Caldari, 2024a, 2024b; Brisset and Fèvre, 2021a, 2021b).³

While the main purpose of the article is to present a structuring element of continuity within Perroux's work, this contribution is also an opportunity to unearth an original theoretical approach to price control. Although the history of macroeconomic approaches to price control has been extensively explored in numerous studies (Bartels 1983; Colander 1984; Rockoff, 2004; Laguérodie and Vergara, 2008; Paesani and Rosselli, 2017; Weber, 2021; Chirat and Clerc, 2023; Clerc, 2024), the history of microeconomic perspectives on the subject remains largely

² Following in the footsteps of Charles Gide and Charles Rist, by theory we mean « a set of logically related propositions that can be considered true or false » (Cot and Lallement, 2000).

³ In particular, Cunha (2022) notes that "the years following the Liberation of Paris (August 1944)" are "a moment of important redefinition in Perroux's trajectory", "essential to understand the 'ambiguity' in Perroux's work and which helps organize the ideas about his trajectory as a whole" (2022, p. 654).

unwritten. By bringing to light an important yet entirely overlooked theory, this article aims to establish a foundational step in this area of research.

To support our thesis, we employ a two-step approach. First, we examine the place of state intervention on prices and wages within Perroux' corporatist model developed in the 1930s. We demonstrate that Perroux justifies this state intervention within the corporation by highlighting the indeterminacy of economic equilibrium (I). In theoretical terms, however, the demonstration of this point remained embryonic until his 1944-1945 text. We show that this text represents the culmination of a line of research combining a major critique of neo-classical economics and an attempt to theorize corporatism (latent in the context of the Liberation), which fertilized all his subsequent work (II).

In addition to the study of academic works published by Perroux, this paper is based on the study of numerous *Cours d'économie politique* and unpublished manuscript notes consulted in the Perroux collection (PRX) of the Institut des Mémoires de l'Edition Contemporaine (IMEC).⁴ The centrality of Perroux's courses to his intellectual output needs to be considered in order to justify the place given to them in this work. Courses occupied a cardinal place in the intellectual production of economists in France, *at least* until the 1950s, due to the "system of recruiting professors based on the agrégation competitive examination" coupled with the "formulation of requirements that were more pedagogical than scientific" (Arena, 2000, p. 1000). The central role of courses in the work of economists is especially true in the case of Perroux, extending well beyond the 1950s. Indeed, many of the books published by Perroux are in fact partial, or sometimes complete, copies of the content of a course given several years earlier.⁵ A closer examination of Perroux's lectures allows us to trace the evolution of his thinking in greater detail than would be possible through his academic publications alone. The lectures Perroux gave in the immediate post-war period thus appear to be a particularly decisive source, at a time when the author was engaged in an accelerated process of reformulation and

⁴ While some of Perroux's lectures have been published, others can only be consulted in the Perroux collection at IMEC. This is the case for most of the post-1945 courses.

⁵ For example, the book *La valeur*, published in 1943, is a cut-and-paste of volume four of his 1941 course. Similarly, his book *Le néo-marginalisme*, published in 1945, is a cut-and-paste of his 1943 course of the same name. Subsequently, the yearbook of his lectures at the Ecole Pratique des Hautes Etudes (EPHE) at the Sorbonne (see IMEC, 377PRX 60.1) appeared to be a good predictor, a few years ahead of time, of the themes of Perroux's future publications. The book *Technique quantitatives de la planification* (1965) was preceded by two years of lectures, in 1963-1964 on "The theoretical and technical analysis of planning", and in 1964-1965 on "Problems of planning and the firm". His attempt to revise the theory of general equilibrium, which culminated in the publication of two books in 1973 and 1975, was preceded by more than five years of lectures on the question of the "generalization of Walras-Pareto's theory of 'general' equilibrium".

reorientation of his research. The thesis presented here draws extensively on these sources, which remain rarely utilized in existing research.⁶

I) In the 1930s, a corporatist defense of price controls due to the indeterminate nature of economic equilibrium

We demonstrate that Perroux's advocacy for price intervention within a corporatist framework in the 1930s is intrinsically tied to a theoretical analysis of the indeterminacy of economic equilibrium, resulting from power relations within a concentrated capitalist system (a). We then show that the theoretical foundations of this corporatist proposal for price intervention, original for its time, remained underdeveloped until the mid-1940s (b). It was in the context of the war, driven by his desire to deepen his corporatist theory, that Perroux sought to develop this point.

a. Genealogy of Perroux's idea of economic equilibrium indeterminacy and its intrinsic link with price intervention in a corporatist framework

Brisset and Fèvre point out that the "community of labor"⁷ – Perroux's model of corporatist organization - is thought of as a means of overcoming "the chronic indeterminacy of the prices of goods and labour" (2020, p. 12), through a framework that we will present below. However, the origin of this very idea in Perroux's work remains unclear. We argue that Perroux's thinking on the question of instability and unicity⁸ of economic equilibrium was originally influenced by two authors: Henri Ludwell Moore (1869-1958)⁹ and Giovanni Demaria (1899-1998).¹⁰ These two authors can be found in a handwritten lecture note on

⁶ To the best of our knowledge, courses given after 1945 have never really been examined. There is only one reference in the literature to a course given by Perroux at the Institut d'Etude Politique (IEP) in Paris for the year 1946-1947 (Cohen, 2006, p. 588).

⁷ Community of labor refers to "a public or semi-public grouping where employers and workers are equally represented, with the State acting as a arbitrator in the event of conflict" (1938a, p. 18).

⁸ We note that these two terms were not yet used by the author, but that his reasoning and use of the term "indeterminacy" do indeed cover these two ideas. For Perroux, the idea of indeterminacy covers both notions. We also note that the idea of the possible indeterminacy of economic equilibrium is present in several of the founding works of neo-classical economics. For William Jevons, equilibrium is indeterminate due to the indivisibility of goods (Béraud and Faccarello, 1999, p. 403). This idea was taken up by Perroux in 1945, as we shall see, without any explicit reference to Jevons. For Francis Edgeworth, indeterminacy results not only from the indivisibility of goods, but also and mostly from the small number of agents: the smaller the number of agents, the more indeterminate the price (ibid.). While Perroux would later refer to this point in Edgeworth, but also to other italian economists like Janacone and Masci (1943, p. 164), this was not the case in the 1930s. It therefore appears that it was Demaria and Moore who first led him to consider this theoretical question.

⁹ American economist, pioneer of empirical and econometric statistical approaches. On Moore's work, see George Stigler (1962), Mirowski (1990), Morgan (1990, pp. 26-34).

¹⁰ Italian economist, on Demaria's work, see Montesano (2003).

Demaria's Economics of Labor (*Economia del Lavoro*) course for the 1932-1933 academic year.¹¹ To our knowledge, this is the first time that the idea of economic equilibrium' indeterminacy can be find in Perroux.¹²

Indeed the central idea retained here by Perroux in his notes is that the "<u>contractual force</u> of employers and employees"¹³ defined as "the ability of either party to modify conditions of work and wages to its own advantage" gives rise to a "<u>zone of indeterminacy</u>"¹⁴ ("*zone d'indétermination*") or a "mobile equilibrium". On this last point, Demaria refers to Moore, who coined this concept in a 1929 book (Moore, 1929).¹⁵ We will see that the concepts of the "zone of indeterminacy", resulting from the action of "contractual force", will become central to many of Perroux's subsequent works. Hence, Moore and Demaria were subsequently quoted extensively in his introduction to Schumpeter's *Theory of Economic Evolution* in 1935 (Perroux, 1935a). When listing the three different approaches to developing a dynamic analysis, as opposed to the statics of general equilibrium theory¹⁶, Perroux considers that the third group of research "takes shape around Moore's theory of mobile equilibrium" (1935a, p. 58). This approach describes the formation of "economic oscillations" around a "normal equilibrium position", as a consequence of "real, concrete, historical competition" (ibid.).

Some key features of the corporatist model developed by Perroux in the 1930s directly stems from these readings about the indeterminacy of economic equilibrium. Indeed this analysis stems from the first text in which Perroux advocates his corporatist model, published in 1936. In this text, Perroux argues that the growing concentration of capitalism—reflected both in the formation of large production units and major labor unions—has eliminated the equilibrium traditionally produced by the functioning of the market mechanism.¹⁷ As a result, the confrontation between antagonistic entities possessing market power leads to an indeterminacy of equilibrium: "the price is regulated more than it regulates, adapted more than it adapts, without this evolution containing a principle that would allow for predicting its

¹¹ IMEC, 377PRX 178. 11. Perroux read Italian perfectly and frequently referred to Italian authors. As early as 1929, he produced a "study of Italian public finances since the war" (Perroux, 1929).

¹² This idea is nowhere to be found in Perroux major previous writings such as his PhD dissertation about profit (Perroux, 1926) or a 1933 paper entitled « Corporate economy and the capitalist system: ideology and reality » (Perroux, 1933).

¹³ Underlined in the text.

¹⁴Underlined in the text.

¹⁵ The number of notes Perroux took on Moore's work, as reported by Demaria in his course, leads us to believe that Perroux discovered the former's book through the latter's work.

¹⁶ It should be noted that Perroux actually takes the classification of these different approaches from Demaria (Perroux, 1935, p. 57). This author is quoted forty times in Perroux's introduction.

¹⁷ In the end, Perroux sees the increasing concentration of capitalism as an immutable historical law.

slowing down, let alone its reversal" (1936, p. 16). We find later almost verbatim the analysis taken from Demaria's course when Perroux argues that "among the possible wages, the one actually practiced depends largely on the strength and contractual power of the parties involved" (1938b, p. 11).

Building on this analysis, Perroux develops the idea that the determination of prices and wages should not be left to free market forces but should result from decisions made within the "community of labor". The decision-making process takes the form of negotiations between unions and employers, under the guidance of a state acting as an arbitrator on prices and wages. In economic terms¹⁸, Perroux expects two concrete consequences from the community of labor: "on the one hand, the control of monopolistic capitalism and, consequently, the discipline of product prices; on the other hand, the increasing socialization of the product of the economy, i.e., the discipline of that price of labor services which is the wage" (1938a, p. 197). Rather than allowing prices to be established by the free market, the community of labor must set "by authoritarian decision the prices of products and services (income)" (1938a, p. 18). However, should the members of the community fail to reach an agreement, Perroux defends the need for state intervention on prices. This reflects a principle of subsidiarity central to Perroux's corporatist thought: internal arbitration within the corporation should be prioritized before turning to state intervention.¹⁹ In this latter eventuality, "the price is established, on the basis of proposals made by the producers themselves, by an authority emanating from them and controlled by the public power", which Perroux calls the "tiers départageant" (third party arbitrator) (1938a, p. 199). The latter is mainly made up of representatives of the state, but also of some "neutral elements", whose nature Perroux does not specify, but which can certainly be associated with economists (Cohen, 2006, p. 562).²⁰

¹⁸ More generally, the community of labor should lead to the disappearance of class struggle, enabling the proletariat to be reintegrated into the national community (Brisset and Fèvre, 2020).

¹⁹ This idea is already present in the 1936 text, in which Perroux argues that the State becomes 'the constant arbiter of economic life' insofar as it decides 'in the event of disagreements between the parties' on the 'level of incomes and prices' (1936, p. 19).

²⁰ We note that Perroux aligns himself with Ludwig von Mises' arguments in the context of the socialist calculation debate. In this vein, he wrote the preface to the French translation of Mises' book on the impossibility of socialist calculation, published in 1938 (Mises, 1938). If Perroux does not reference these debates in his writings on the instability of equilibrium and price control, the corporatist intervention on prices that he advocates remains entirely compatible with his rejection of comprehensive planning. Indeed, the State's intervention is limited to the zone of indeterminacy created by the clash of opposing interests among actors, stepping in only in cases of irresolvable conflict. In his preface to Mises, Perroux emphasizes that prices "are possible because conflicting interests or at least distinct interests confront each other in the market" (1938, p. 8). The corporatist proposal for intervention on prices does not contradict this interpretation.

To put it in a nutshell, the intervention of the state on prices is justified insofar as "the economic equilibrium achieved by price movements alone no longer forms spontaneously" due to the process of concentration of economic activity (1938a, p. 196).²¹ This idea of a "third party arbitrator" intervening within the limits determined by the stakeholders of the community of labor is thus a nodal point of Perroux's corporatist model, stemming from its theoretical reasoning in terms of equilibrium indeterminacy.

We would like to already address a potential criticism of our thesis, which would call into question the corporatist foundation of the structuring element of Perroux's thought identified in this contribution. We reject the claim that causality could originate from Perroux' examination of the instability of capitalism, as this perspective could be viewed as the foundation for both his works on corporatism and his approach to equilibrium indeterminacy. Indeed, corporatism could be seen as a response to the problem of capitalism instability, while an analysis of the indeterminacy of equilibrium appears in line with the idea of the instability of the productive system. We follow a two-stage reasoning to reject this point.

On the one hand, corporatism in Perroux's work cannot be considered a mere byproduct of an economic analysis of any sort. In fact, Brisset and Fèvre (2020) tend to present economic aspects as secondary to grasp the roots of Perroux's corporatist thinking.²² Furthermore, the idea of capitalism instability – nor equilibrium indeterminacy - was not present in Perroux's writings before his early work on corporatism. ²³ For instance, we were unable to find evidence of this idea in his dissertation entitled *Le problème du profit* (1926), nor in the few articles that predate his first corporatist writings (Perroux, 1928; 1932; 1933).

On the other hand, if the defense of corporatism cannot be definitively derived from an analysis of capitalism's instability, it is way clearer that Perroux's corporatists writings form the conceptual matrix of his theoretical approach to the equilibrium indeterminacy. Hence the associated recommendation for the intervention of an arbitral state in regulating prices and wages. First, as mentioned before, this analysis is never developed prior to his corporatist

²¹ To emphasize, we can add the following quote : It is then necessary to "replace an equilibrium concerted by groups alone and in their own interest by an equilibrium organized and controlled by the groups under the direction of representatives of the general interest" (Perroux, 1938a, p. 196).

²²Brisset and Fèvre (2020) highlight Perroux's anti-rationalism, a form of 'social mysticism', his antiparliamentarianism, a particularly central understanding of the role of the 'political leader' and a critique of the concept of 'antagonistic classes'.

²³ Except for his preface to Schumpeter's book in 1935, but which was published only a few months before *Capitalism and Corporatism*, in 1936.

writings.²⁴ It was in his corporatist writings, from 1936 onwards, that Perroux fully adopted the idea of the indeterminacy of economic equilibrium, which meant putting forward a proposal for economic policy based on this point. Second, this confusion between theoretical research and political advocacy is perfectly consistent with the political epistemology central to Perroux's work in the 1930s (Dufourt, 2009). In this frame, "economic explanation is conceived as a process involving the search for a concept, the discovery of uniformities, and culminating in the formulation of a rule" (ibid., p. 423).²⁵ Positive and normative approaches remain thoroughly intertwined : conceptual and theoretical research cannot be dissociated from policy recommendations. In line with Perroux's distinctive political epistemology, the primary objective of his approach to the instability of equilibrium is *de facto* to serve as the theoretical foundation for a corporatist proposal. Finally, we will see that Perroux explicitly acknowledges the corporatist origins of this theoretical aspect of his work at the end of his life. Taking all these points into account, we must recognize that Perroux's corporatist writings, from the 1930s onwards, formed the crucible for his reasoning on the equilibrium indeterminacy. We show that all future developments on this point abound in this direction.

b. Originality of the corporatist proposal for price intervention and theoretical development in the context of the war

The corporatist approach to price control presented above is all the more remarkable and singular in that it does not appear to be at all widespread among corporatist authors over the period: Perroux remained completely isolated on this point in the 1930s among corporatist authors. Regarding the corporation's right to set its prices - which underpins the possibility of state intervention on prices in the event of disagreement among corporation members - Gaëtan Pirou²⁶ notes that while his "colleague M. F. Perroux admits this and sees it as one of the distinctive features of the system", this is not the case for "most corporatists". Instead, they prefer "to preserve, within the corporatist system, a certain degree of initiative and freedom for each entrepreneur" (Pirou, 1938, p. 82). Indeed, such a perspective is not to be found in

²⁴ Again, Perroux does refer to the work of Moore and Demaria in his introduction to Schumpeter's book in 1935, but without openly adopting their conclusions and without drawing any conclusions in terms of economic policy. Perroux merely presents the literature on the subject (which already underlines its affinity with this type of approach).

²⁵ "The formulation of the rule" thus represents "the culmination of the theoretical investigation into the logics of economic action" (Dufourt, 2009, p. 424).

²⁶ Pirou (1886-1946), a professor at the Faculté de Paris, is one of France's leading economists on corporatism between the wars (Arena, 2023).

other corporatist authors writings of the period, such as Maurice Bouvier-Ajam²⁷ (1935) or Louis Salleron²⁸ (1937). Arena (2023) does not identify this point with other authors in his analysis of corporatist literature of the 1930s.²⁹ More generally, it is worth emphasizing the singularity of the corporatist proposal put forward by Perroux as clearly identified by Brisset and Fèvre (2020). We remind that we only focus here on one specific aspect of his proposal, which is itself singular within the corporatist literature.

This distinctiveness regarding price intervention stems primarily from Perroux's theoretical approach to the indeterminacy of economic equilibrium, as outlined above. Additionally, his observation of fascist economies, which he visited in 1934-1935, must also be considered. Brisset and Fèvre have clearly shown how "Perroux's travels directly influenced his economic thought, in particular the way he conceptualized a corporatist formula specifically designed to the French context" (2021b, p. 747). The theoretical issue of equilibrium indeterminacy, which the community of labor and the state acting as an arbitrator are meant to address, appears quite independent of Perroux's observations of the functioning of fascist economies. However, the specific modalities of price intervention advocated by Perroux seem well influenced by his travels and his familiarity with fascist economies. In fact, it is notable that in 1935 (Perroux, 1935b), the author expresses a particularly favorable view of Salazar's Portugal, a country where he observes that price fixation "was neither purely the outcome of market forces nor purely authoritarian" (Brisset and Fèvre, 2021b, p. 764). Similarly, Perroux speaks highly of the fact that in Italy, the national committee in charge of price control leaves "quite a lot of latitude to the corporative committees" (1939a, pp. 557-558). Indeed from 1937 onwards, any "request for a price increase is examined by the relevant corporation" while, ultimately, control was the responsibility of a "Central Corporate Committee, comprising representatives of the 22 corporations and chaired by the Minister of Corporations" (ibid.). This point clearly resonates with the principle of subsidiarity he defends in his own corporatist model. Thus, Perroux's

²⁷ Bouvier-Ajam is director of the Institut d'études corporatives et sociales (IECS), founded in 1934 (Arena, 2023, p. 237).

²⁸ Salleron seconds Bouvier-Ajam at IECS (Arena, 2023, p. 242).

²⁹ However, we note that a relatively similar idea can be found in Georges Valois, the founder of the first fascist movement in France in the 1920s, when he wrote that 'the prices of all things (...) are regulated by trade union agreements between interested trade unions' (1924, p. 198) and elsewhere that 'if guilds which have not been able to adjust their interests present contradictory proposals, the State settles the dispute in the name of the national interest' (1923, p. 144). Valois did not, however, devote any specific developments to the question of price control, nor did he go into any theoretical depth on this point. To the best of our knowledge, Perroux never referred to the work of Valois. On Valois and the fascist movement in France, see Zeev Sternhell (1976).

observation of the functioning of fascist economies must be considered to fully understand the distinctiveness of his proposal for price intervention.

While the idea of equilibrium indeterminacy is central to Perroux's corporatist model, it remained embryonic in theoretical terms until the Liberation. Indeed, despite the fact that this point underpins a large part of his corporatist economic model, Perroux did not really delve into this aspect on a theoretical level in the 1930s and early 1940s. No specific contribution is dedicated to the issue. There is no mention of the question of the indeterminacy of equilibrium in his handwritten notes in preparation for his lectures at the University of Paris, dated 1939, on "the meaning and limits of marginal utility theory".³⁰ This aspect is neither developed in his 1939 lecture (Perroux, 1939b), nor in the fourth volume of his 1941 lecture on neo-classical theory and its critics (Perroux, 1941), published two years later under the title *La valeur* (1943b).

The question does, however, emerge in his 1943 lecture in Paris Sorbonne³¹, published in 1945 under the title Le néo-marginalisme (Perroux, 1945c). Several pages are devoted to this topic, in which Perroux considers the indeterminacy that results from "price formation under the influence of power" (Perroux, 1943a, p. 160).³² The fact that the question resurfaced in 1943 is significant, since a study of Perroux's correspondence reveals that he was then working to integrate state intervention over prices and wages more explicitly into his theory of corporatism. Indeed, in a letter to corporatist author Louis-Joseph Lebret³³ dated August 1er 1943, Perroux criticizes Lebret for saying nothing about "price control by the modern state", and places price control on the same level as questions of "forms of enterprise" or "the monetary system" in terms of theoretical importance. In the absence of reflection on these various aspects, he asserts that it is not possible to "elaborate a system that is presented as general" (quoted in Jean, 2023, p. 74). In the same year, Perroux defended a corporatist planning model that would "direct prices according to clearly defined political options" (Perroux, 1943c, p. 186-187). The deepening of the theoretical question of economic equilibrium indeterminacy can thus be linked to Perroux's desire to further develop his corporatist theoretical model, a point that will also become evident in the analysis of his 1944-1945 course presented below. This is not surprising insofar as, as we pointed out, this aspect is

³⁰ IMEC, 377PRX 55.5.

³¹ IMEC archives, 377PRX 59.3.

³² This case covers wage formation, price setting by a monopolistic organization or the case of bilateral monopoly, to which we will return.

³³ Lebret (1897-1966) was a French economist, an important figure in social Catholicism, and a leading figure in the journal *Economie et Humanisme*, co-founded in 1942 with several economists, including Perroux. Along with Perroux, he is one of the founders of the "human economy" concept. On Lebret, see Loty *et. al* (2014).

intrinsic to its corporatist model. Once again, the epistemology adopted by Perroux appears deeply political (Dufourt, 2009).

Last but not least, the introduction of massive price controls in 1939 made the subject largely unavoidable for economists in France.³⁴ Thus, while price controls were never discussed in the 1930s³⁵, this was no longer the case in the 1940s (Lhomme, 1942; Cluseau, 1943; Baudin, 1943, 1944, 1945; Nogaro, 1945; Aftalion, 1945; Dubergé, 1947; Rist, 1947), even though developments were often much more limited and also more critical than in Perroux's work.³⁶ The economic context must then also be considered to grasp Perroux's renewed interest in the theoretical question of equilibrium indeterminacy, which he viewed as intrinsically tied to the issue of price control in a corporatiste framework.

We now show that in his 1944-1945 course Perroux based the theoretical integration of price and wage control within his corporatist model on a substantial and decisive deepening of the idea of the indeterminacy of economic equilibrium. However, in the context of the Liberation, Perroux abandoned the explicit corporatist aspect of his text, while retaining its core ideas, foreshadowing later reformulations and the reemergence of latent corporatism in his subsequent works.

II. A junction between the critique of neo-classical economics and the corporatist theory latent throughout Perroux' work

³⁴ The decree-law of September 9, 1939 introduced a price freeze at the level reached on September 1, 1939. On October 21, 1940, the Price Charter harmonized the various legal texts governing prices since 1936, and reiterated the principle of price freeze established by the 1939 law. Price freezes remained the rule for the duration of the war, with increases authorized only in the event of raw material price rises or other special circumstances. A price administration was established in the autumn of 1940 and gradually increased in power throughout the war (Grenard, 2010).

³⁵ Not a single book or article is dedicated to the subject. We might have expected to find developments on this subject in the substantial body of work on the "oriented economy" (*économie dirigée*), which flourished in France in the wake of the 1929 crisis. However, we note that this question is never addressed by the advocates of the oriented economy (Pirou, 1934, 1938; Philip, 1935; Noyelle, 1933; Zahn-Golodetz, 1937). Rather, it seems to be the "neo-liberal" detractors of the oriented economy who associate the notion with generalized price control, in order to better criticize it, through a well-known "straw man" strategy (Lavergne, 1938; Rougier, 1938; Marlio, 1938). A work in its own right could be devoted to reconstructing the debates surrounding the notion of oriented economy in France during the 1930s, which would certainly make it possible to identify this factitious opposition on the question of price control. Finally, we note that no political economy course, not even Perroux's, devotes a section to the subject of price control in the 1930s.

³⁶ Most of these developments correspond to a "liberal" critique of price controls to which we will return. This liberal approach did not, however, preclude circumstantial support for price controls during the exceptional period of war, mainly for social reasons. For these authors, however, price freedom had to be fully re-established once the war was over. Apart from Perroux, only Albert Aftalion - a highly influential economist in the inter-war period, Delmas (2003) - truly distinguished himself from this liberal approach, considering that the experience of direct control measures deployed during the war called into question the general character of "economic laws" (Aftaltion, 1945, p. 155). Aftalion devotes a great deal of time to this issue, regarding the wartime experience of price control as a breakthrough moment, both theoretically and practically, that could broaden the scope of economic policy. The angle taken, however, differs completely from Perroux's, and Aftalion and Perroux never refer to each other on this point.

We show how Perroux develops a theory of price and wage control that lies at the crossroads of his critique of neo-classical economics and his desire to elaborate an economic theory of corporatism, while erasing explicit references to the latter in the context of the Liberation (a). In the light of these developments, it becomes possible to grasp the corporatist roots of certain key concepts in Perroux's theoretical scheme (such as the "domination effect" or "composite exchange"), and more broadly his work aimed at revising neoclassical theory (b). Finally, we examine Perroux's reasons for abandoning the explicit defense of price and wage control after 1945 and document the reception of his theory (c). We demonstrate that Perroux's theory of price control was well known to several influential French economists and, in the 1960s, inspired thinking on an economic policy characteristic of a form of corporatism: incomes policy.

a. The "arbitrated price" made possible by the existence of "zones of indeterminacy"

After the war, Perroux was forced to reformulate his positions in economically acceptable terms, corporatism having been delegitimized under the French state (Cohen, 2006; Brisset and Fèvre, 2021a; Cunha, 2020). Brisset and Fèvre clearly show how Perroux "readapted his vocabulary to the changed political climate" (2021a, p. 51). Thus, the context of the Liberation no longer allowed Perroux to place his approach to price control explicitly within a corporatist framework. Instead, he presents his developments as a critique of the "liberal"³⁷ apprehension of price control (1945a, pp. 203-215), but not explicitly as part of his theory of corporatism.³⁸ The developments of the previous section, however, already allow us to understand that Perroux's production of a theoretical approach to price control must necessarily be linked to the nature of his corporatist project. We show that the corporatist dimension indeed permeates the entire text.

³⁷ We consistently use "liberal" here in the sense of "free-market advocate".

³⁸ The main proposition of this liberal approach presented by Perroux can be summarized as follows: the market price is a selection mechanism, which, if it is suppressed (the price being set by the State at a different level), must necessarily be supplemented by complementary mechanisms: rationing in the case of a maximum price (as an alternative mode of selection to the price, organized by the State) or by the substitution of the State for buyers in the case of a minimum price. In the absence of such mechanisms, price control produces the opposite effect to that desired: a maximum price, to make the good accessible, encourages scarcity, while a minimum price, to help the producer, weakens him by limiting the possibilities of outlets. This thesis is linked to the idea that price control is subject to the empire of universal economic laws, in particular the law of supply and demand. This idea appears to have been widely shared in the 1940s, as it can be found in the writings of Louis Baudin (1943, pp. 172-175; 1945, p. 160), Jean Lhomme (1946, pp. 461-462), Maurice Allais (1946; 1947a; 1947b), Jacques Rueff (1949, p. 24; p. 41) and two treatises dealing entirely with price control (Cluseau, 1943, pp. 128-129; Dubergé, 1947, pp. 20-22).

The core of Perroux's argument is fully in line with his pre-war corporatist thinking: "indeterminacy in the concrete equilibrium price and the general price system makes intervention possible" (1945a, p. 189). If equilibrium does not correspond to a single point but to a "zone", then the state is perfectly legitimate to intervene to determine a price within it. The fundamentally political epistemology of Perroux is again obvious: theoretical inquiry is immediately directed towards political recommendations, in corporatist terms (now latent as we will see). However, unlike his previous writings, Perroux devotes a great deal of time to the theoretical underpinning of the thesis of the indeterminacy of economic equilibrium. While this approach is in line with his corporatist work, it represents a breakthrough in terms of both the scope of the developments and their founding character for the rest of his work, as we shall see. Two types of reasoning must be distinguished, depending on whether power relations are considered.

A first group of arguments disregards power relations. In this framework, Perroux first calls into question the stability of economic equilibrium by introducing adjustment rigidities in supply and demand. The author insists on the fact that "in concrete life, the elasticity of supply and demand (...) varies according to the different goods. There are goods with rigid supply and demand" (1945a, p. 190). These rigidities are linked to the material constraints of production, or to the absence of perfect information.³⁹ Perroux thus considers that the compression of supply due to a price decrease tends to be weaker than the expansion of supply due to a price increase. Thus, in the presence of rigidities on either the supply or demand side, situations of persistent disequilibrium may arise. It is therefore possible that "equilibrium, once reestablished, will not be maintained" (1945a, p. 191). This idea is reinforced by Perroux's recognition of the "dynamic" nature of the "real economic system", as opposed to the "static" nature of the neoclassical models he opposes.40 Another point deals with the unicity of economic equilibrium. To do this, Perroux lifts the assumption of perfect divisibility of goods, which underpins the continuous nature of supply and demand functions, enabling a direct link to be created between continuous variations in prices and simultaneous adjustments in quantities demanded or offered.⁴¹ Considering goods that are not perfectly divisible leads to

³⁹ The entrepreneur must "be aware of the movement of demand that drives the transformation of these decisions, but also have the means to act on them" (1945a, p. 190).

⁴⁰ Perroux's consideration of the time variable has been well noted and studied by Caldari (2018).

⁴¹ As noted above, Perroux is not the only one to have considered the consequences of lifting this assumption on the indeterminacy of equilibrium. Jevons certainly remains the author of reference on the subject. Whether Perroux takes his ideas from Jevons remains unclear, as Perroux does not refer to any particular author. We can only note the closeness of Jevons' reasoning to Perroux's perspective, the former concluding that arbitration in cases of indivisible

consider that small variation in price does not modify production and consumption decisions, and thus supports the idea of rigidities in supply and demand. Such a representation then leads to jumps in demand (or supply) each time the price crosses a threshold, creating discontinuous functions. Insofar as the condition of infinite divisibility of goods "does not exist in reality", then the "real price" is "comparable to a zone rather than a point" (1945a, p. 192).⁴²

Secondly, Perroux integrates power relations, considering that price indeterminacy results from "disturbances due to the structures of the economy and to the exercise of power by large production units" (1945a, p. 190). The preceding reflections are thus articulated with this idea: the market power of oligopolistic firms can be exercised all the more easily if demand curves are not continuous. Concentrated firms can push the price up to the upper threshold that demanders are willing to pay for a non-divisible/low demand elasticity good. Thus, "the large firm or coalitions of firms, are, within precise limits, the arbiters of price" (1945a, p. 194). To illustrate his point, Perroux depicts the "zone of indeterminacy" resulting from an horizontal demand curve over part of its length:

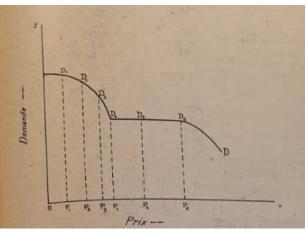


Figure 1, Perroux, 1945a, p. 195

Here we find a "zone of indifference" between P4 and P6, within which any price is possible (1945a, p. 195). Thus, if entrepreneurs can "raise the price from P4 to P6", public authorities can conversely "lower it from P6 to P4 without provoking a demand reaction" (ibid.). Perroux then takes this idea of the indeterminacy of partial equilibrium a step further,

property will depend more on "the strength of character of the parties, their skill and their business experience" (Béraud and Faccarello, 1999, p. 403).

⁴² Another idea concerns the consideration of time. Thus, we read that "the abstract equilibrium price is designed for statics" (1945a, p. 193), or still further that "real economic life is dynamic; it follows that temporary and localized interventions can be compensated for by subsequent market movements" (1945a, p. 214). This type of reasoning, which fits in perfectly with Perroux's criticism of neoclassical theory (Caldari, 2018), seems to be less directly useful in supporting the core of the "zones of indeterminacy" argument, which may explain why Perroux dwells less on it.

by lifting the assumption of completeness of preferences (using a representation in terms of indifference curves, which we present in *appendix,* figure 4), and then extends the indeterminacy of price to general equilibrium.⁴³ Finally, Perroux proposes a representation of demand and supply curves that is "closer to reality", and thus necessarily "thicker":

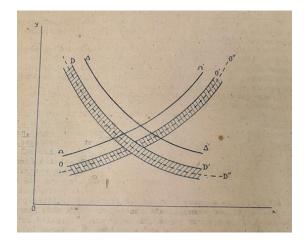


Figure 2, Perroux, 1945a, p. 220

A zone of indeterminacy emerges at the intersection of these two thick curves, within which intervention becomes possible. We shall see that this representation, with thick curves *(courbes fuseaux)* runs through Perroux's work, and influences several important economists.

From this line of reasoning, Perroux derives the idea of the "arbitrated price" (*prix arbitrê*), which is fully in line with the logic of his corporatist model. By "arbitrated price", Perroux means "price setting within the zone of indetermination by a third party not directly interested in the debates, usually the State" (1945a, p. 215).⁴⁴ We note that the control of prices and wages envisaged here by the author is not necessarily strict, but can also involve a conciliatory role, whereby the State encourages the parties "not to abuse their contractual strength" (1945a, p. 219).

⁴³ His questioning of the unicity and stability of partial equilibrium led him to recognize that: "the existence of zones of indeterminacy or indifference in a market where all quantities and prices are interdependent, introduces indeterminacy into the general equilibrium of this market. If there is indeterminacy in the equilibrium of this market, a zone exists within which intervention is possible" (1945a, p. 203).

⁴⁴ Although the idea of the "arbitrated price" appears central (it is presented first in the course, is directly linked to his corporatist work and infuses his later work, as we shall show), it is important to note that Perroux also envisages ways of controlling price through actions on supply and demand. Price can thus be "oriented" by state intervention on supply and demand, using tools as diverse as fiscal intervention, training policy, action on incomes, the use of interest rates, etc. Finally, Perroux envisages the idea of an "enlightened price" (*prix éclaire*), which consists for example in promoting the proper circulation of information and the development of economic forecasting. These two modes of intervention ("orientated price" and "enlightened price") are very consistent with the author's involvement in the development of national accounting and the post-war Plan (Cunha, 2020; Caldari, 2024b).

The originality of Perroux's approach to price controls should be emphasised here, for several reasons. Firstly, although the author envisages price controls as a tool for political and strategic guidance, he does not dwell on the macroeconomic objectives that could or should be pursued. The analysis remains micro-oriented. Macroeconomic issues such as inflation and growth are simply not addressed here.⁴⁵ Perroux confines himself to demonstrating the microeconomic possibility of state intervention in prices. Secondly, such a thorough defence of state intervention on prices on the basis of such microeconomic arguments cannot be found elsewhere to our knowledge (apart from among those who take up Perroux's work, which we shall present below), and all the main contributions on the subject post-date Perroux's work.⁴⁶ This work must therefore be seen as important in the history of the microeconomics of price control.

The corporatist origins of this analysis can be seen first and foremost in the role assigned to the State. In addition to the very idea of a state acting as an arbitrator, already present in his corporatist writings, Perroux uses the expression "*tiers départageants*"⁴⁷ (1945a, p. 216; p. 218), which he already used extensively in his corporatist writings of the 1930s, as described above. The latter was responsible for intervening in conflicts between members of the corporation, in order to set a price within the limits defined by them. We find exactly the same idea here, but without any reference to the idea of the corporation, when he states that:

⁴⁵ For a review of the macroeconomic literature on price controls, see Bartels (1983) Colander (1984), Rockoff (2004), Laguérodie and Vergara (2008), Paesani and Rosselli (2017) Weber, (2021), Chirat and Clerc (2023), Clerc (2024).

⁴⁶ The major contributions in this area include Martin Brofenbrenner (1947), Steven Cheung (1974), Gary Yohe (1978) or Devarajan *et al.* (1989). Before that, we note that Pigou (1924, pp. 359-361) and Robinson (1933, pp. 159-163) also justify price intervention at the microeconomic level, but only in the case of monopoly. Bronfenbrenner (1947) seeks to generalise Pigou's idea and Robinson's demonstration beyond the monopoly situation to situations of imperfect competition. A few words should be said about the nature of this research to give an idea of its diversity. Steven Cheung (1974) analyses the microeconomic consequences of income dissipation induced by the introduction of price controls. Gary Yohe (1978) compares price controls and quantity controls under uncertainty and stresses that « policy choice between price and quantity controls must (...) be made individually on the basis of the expected patterns of output variation associated with the two alternatives » (1978, p. 238). Finally, Devarajan *et al.* (1989) explore the impacts of price controls and parallel markets through both partial and general equilibrium frameworks. They highlight that parallel markets can mitigate some inefficiencies of price controls. We insist on the fact that these perspectives remain very different from the one adopted by Perroux, which leads us to recognise the originality of the latter's contribution and the relevance of the future research perspective consisting of producing a history of the microeconomics of price control.

⁴⁷ Baldin and Ragni note that this notion is latent in Leo XIII's encyclical Rerum Novarum, which may have influenced Perroux (Baldi and Ragni, 2022, p. 133).

"each party knows the price that is most advantageous to him, he does not want to give in to the claims of the opposing party, the contract risks being broken if a third party does not intervene" (1945a, p. 216).

The corporatist imprint finally becomes almost explicit when Perroux sets out to grasp the concrete origin of "zones of indeterminacy" in "modern capitalism". The author insists that they exist in reality "for structural reasons" (1945a, p. 218), due to power relations, of either equal or inequal strenght.⁴⁸ The author emphasizes the "bilateral monopoly" case, that was already discussed at length in Capitalisme et communauté de travail (1938).49 The central example developed by Perroux is that of "a group of producers who alone demand a certain quantity of labor [and] face a group of workers who have a monopoly on this same labor"50 (1945a, p. 217). Although the corporatist connection is obvious here, Perroux limits himself to considering the case of the corporation in passing, as one configuration among others (ibid.).⁵¹ The fact that this point is presented as a simple special case is a clear illustration of a desire to dilute the corporatist aspect of the analysis, in the context of the Liberation. The extension of the reasoning to the duopoly case, in a second step, could be seen as a desire to extend reflections rooted in corporatism to other cases. It should be noted, however, that the community of labor and the intervention of a third party within it were already considered by the author in the 1930s as a means of compensating for the indeterminacy resulting from the confrontation between producers (1938a, p. 200).

The 1944-1945 lecture must be seen as a turning point in Perroux's work. In this writing, the author seeks to integrates extensively for the first time the critique of neoclassical economics within a corporatist economic model, that is now latent. This encounter between two major aspects of his thought laid the foundations for an analysis that permeated all Perroux' subsequent work.

⁴⁸ It is noteworthy that Perroux does not elaborate on the theoretical implications of the equality or inequality of the power dynamics at play concerning the indeterminacy of equilibrium. For now, both situations appear indifferent. However, we will see that the latter case tends to take precedence in Perroux's writings, particularly through his concept of the 'effect of domination,' which we will revisit later.

⁴⁹ Perroux writes that "the situation created by the community of labor comes close to a labor market in a state of bilateral monopoly" (1938a, p. 208).

⁵⁰ Underlined in the text.

⁵¹ This case is presented only after two examples, both of which are also reminiscent of a form of organization that prefigures corporatism: "experiments in the concentration of manpower and production through union forms" and "the case of a monopolist in the manufacture of a product who can only source workers from a single union". He then refers to "the case of the corporation proper, in which a single employers' union and a single labor union are brought together" (1945a, p. 217).

b. Perroux' corporatist theory of price and wage control: a founding element in his attempt to revise general equilibrium theory

It is now possible to identify a key element of continuity between Perroux's defense of a corporatist economic model in the 1930s-1940s and his later attempt to move beyond the theory of general equilibrium that culminated in the 1970s (1973; 1975a; 1975b); the questioning of the unicity and stability of economic equilibrium on the basis of an analysis of power relations, which calls for the intervention of an arbiter from outside the market. To our knowledge, this aspect of Perroux's work has never really been commented on. Our aim here is to demonstrate its centrality in his post-war work, and to link it to his corporatist reflections of the 1930s, through our reading, presented above, of his theory of price and wage control. We argue that his research focus on deepening the theoretical analysis of economic equilibrium indeterminacy through the lens of power relations, as well as the recommendation of a state acting as an arbitrator that follows from it, has its roots in his corporatist writings from the 1930s. To achieve this, we need to retrace, step by step, some of the major conceptual developments in Perroux's work.

The idea of "domination effect" (*effet de domination*) is absolutely central to Perroux's postwar work. Michel Beaud considers it the foundational element of Perroux's "theoretical edifice" (Beaud, 2003). Indeed any attempt to grasp Perroux's thinking will at some point involve an analysis of this concept. However its origins are never really being questioned. We intend to show that it is in fact deeply rooted in corporatists reasonning. Perroux set out this concept in detail for the first time in a seminal 1948 paper (Perroux, 1948a). The effect of domination is understood as a "dissymmetrical or irreversible influence" whose measure "lies in the advantage external to the contract or the *margin of indetermination* introduced by comparison with the equilibrium of pure exchange" and whose "components are *the contractual strength* of the unit, its size and its belonging to an active zone of the economy" (Perroux, 1948a, p. 253).⁵² We find again the idea - expressed in similar terms - that asymmetrical power relations are at the root of the "margins of indeterminacy", which replace the stable and unique economic equilibrium of pure and perfect competition.⁵³ In his 1948 article, Perroux merely notes that in perfect

⁵² We emphasize that the concepts of "margin of indeterminacy" and "contractual force" are taken verbatim from his earlier corporatist work, presented above.

⁵³ As for the idea of the instability of equilibrium: "The asymmetry and irreversibility that are constitutive of the effect of domination are in logical opposition to the reciprocal and universal interdependence on which the theory of general equilibrium is built, and of its re-establishment or automatic correction in the event that it is disturbed" (1948a, pp. 253-254). Concerning the absence of unicity: "if n dominant units fix the price and maintain it from period to period, the other units having to adapt their quantities and prices to it, the general level of price equilibrium and the form of

competition "arbitrage is unthinkable" (1948, p. 250). However, in his 1947-1948 course, from which the 1948 article is taken, the author adds that "as soon as there is no unity of price, no unity of equilibrium position, but plurality, it is excellent to maintain that arbitrage takes place through price" (1948b, p. 8).⁵⁴ When he comes to the case of bilateral monopoly, in the same course, Perroux continues to argue that "the price line can only be found by the intervention of the State or an arbitrator" (1948b, p. 16). He then associated his theory of the domination effect with graphic representations that are a direct continuation of those of his 1944-1945 latent corporatist lecture, notably resulting from the indivisibility of goods or in terms of the kinked⁵⁵ or thick curve (presented in *appendix*, figures 5, 6, 7, 8 and 9). In his 1951-1952 course at Sciences Po, entitled *La dynamique moderne et l'effet de domination*⁵⁶, Perroux continued to develop the same analysis, arguing that arbitration "is conceivable only if several positions of economic equilibrium are equally possible, and if the State (or a *tiers départageant* of some kind) leads the parties to choose one of these points of equilibrium, or imposes on them a point of equilibrium that they would not have chosen" (Perroux, 1952, p. 15).⁵⁷ We find exactly the same idea in his major 1961 book, *L'économie du XXème* siècle (1961, p. 137-141).⁵⁸

This point also lies at the heart of the distinction between "pure exchange" and "composite exchange" that Perroux formalized at the turn of the 1970s, accompanying his attempt to revise the general equilibrium theory. While "pure exchange" corresponds to the abstract conditions of exchange retained by neoclassical theory, "composite exchange" covers relations of "contest-conflict" or "struggle-competition" between "active units", resulting in several equilibriums, possible but always uncertain (Perroux, 1971, p. 345). On the one hand, these notions of "struggle-competition" and "competition-conflict" recall the mode of relations described by Perroux within the "community of labor", structurally characterized by cooperation always imbued with conflictuality between capitalists and workers, mediated if

equilibrium as a whole are determined by the dominant units and not by the relations of general and reciprocal interdependence between all the units" (1948a, p. 254).

⁵⁴ This course has never been published, but can be consulted in the Perroux archives at IMEC, 377PRX 61 2.

⁵⁵ It is noteworthy that the analysis of the kinked demand curve presented in Figure 8 differs from that shown in Perroux's 1944-1945 lectures: the demand curve is no longer horizontal over part of its segment (as in Figure 1) but is distinctly kinked. Figures 8 and 9, along with the related discussions, actually align with the developments outlined by Sweezy in his famous 1939 article *Demand under Conditions of Oligopoly* (Sweezy, 1939) which Perroux, however, does not explicitly cite. It is unsurprising that Perroux adopts Sweezy's insights here, as Sweezy explicitly argues in his article that the first significant corollary of introducing a kinked demand curve is that "the conditions for short-run equilibrium are not at all precise" (Sweezy, 1939, p. 570)

⁵⁶ Unpublished course, available at IMEC, PRX 62. 3.

⁵⁷ We emphasize that Perroux uses the expression "tiers départageant" verbatim in his corporatist analysis of the 1930s.

⁵⁸ We actually find an identical transcription of the quotation from the 1951-1952 course quoted above (1961, p. 139).

necessary, by the state. On the other hand, Perroux is quite clear on the fact that this "composite exchange" implies the introduction of an arbitrator to adjust the equilibrium:

"As conflictual situations are reintroduced into economic activity by every possible means, it becomes inevitable to approach arbitrage not as a phenomenon to be studied exhaustively in specific price regimes, but as an economic phenomenon of universal scope in every organized society" (1973, p. 92).

Finally, the corporatist dimension of his critique of neoclassical economics permeates his entire attempt to revise general equilibrium in his major 1975 book, *Unités actives et mathématiques nouvelles* (Perroux, 1975a). His analysis, obviously much more detailed and advanced than that developed in 1945, is nonetheless very similar in substance. The introduction of asymmetrical power relations gives rise to "margins or zones of equilibrium prices" (1975a, p. 146), which "restrict the domain of spontaneous equilibria and increase that of regulation and control" (1975a, p. 197).⁵⁹ Several graphical representations, presented in the *appendix*, follow-on from those developed in his 1940s lectures (Figures 10 and 11). The book closes with a questioning of the need for a "Great Arbiter" capable of ruling on "serious economic conflicts" (1975a, p. 204). Although Perroux announces that he is asking the question "without undertaking, here, to answer it", he adds immediately afterwards that the answer is "intimately linked to the nature of general equilibrium" (ibid.), i.e indeterminate due to power relations. Here again, we find the same types of theoretical reasoning, linked to a normative response in terms of a "third party arbitrating", which were at the core of his corporatist model in the 1930s.

Despite the proximity of his reasoning to the corporatist analyses presented above, it is clear that we never find any further mention of corporatism or the "community of labor" in Perroux's developments. However, in the twilight of his life, in an article published in January 1987 (Perroux died in June of the same year), the author came to explicitly acknowledge the corporatist filiation of this part of his work. After once again considering the need for state arbitration in the face of the indeterminacy of equilibrium resulting from the domination effect (1987, p. 281), Perroux drew this limpid parallel:

⁵⁹ To give more substance, we can quote Perroux on the absence of unicity: "the existence of a unique equilibrium, originally asserted, weakens when we conclude that there is 'at least one equilibrium'" (1975a, p. 197). Then questioning stability: "Stability, first established by a mechanical reference to convergence, gives way to stabilities" (ibid.).

"The day the parliamentary state recognizes that it is subject to these requirements, it will say, avoiding dangerous language, that corporatism posed unavoidable problems in clumsy terms

and at an unfavorable season in history." (Perroux, 1987, p. 282)

The corporatist roots of his critique of general equilibrium is thus clearly apparent. The idea that considering power relations results in an indeterminacy of equilibrium, which calls for the intervention of an external arbiter, the state, structures Perroux's entire work. This idea has its roots in Perroux's corporatist work of the 1930s-1940s. It is surprising to note, however, that while Perroux incorporated the substance of the analysis developed in 1944-1945 into his later work, there is no open defense of price or wage controls after this date. The content of the state intervention that results from the indetermination of equilibrium remains largely undetailed by Perroux. We now put forward several explanatory hypotheses to help understand the abandonment of the defense of price and wage controls after 1945. We also show that although Perroux no longer explicitly defended price and wage controls, his theory developed in 1945 was taken up by several influential economists and fueled the reflections on a typically corporatist policy at the heart of the debates during the 1960s.

c. A theory that has influenced economists in the incomes policy debate, despite the abandonment of the open reference to price controls by Perroux

The abandonment of the reference to the control of prices and wages by a *tiers départageant* in the immediate post-war period is perfectly in line with a more liberal reorientation of Perroux's position, well documented in the literature. Cunha states that "the second half of the 1940s clearly presents us with a less interventionist version of Perroux" (Cunha, 2020, p. 672). After the war, Perroux "repositions his third-way perspectives, bringing them closer to the idea of liberal interventionism" and "distances himself from issues more directly associated with the discourse of corporatism" (Cunha, 2020, p. 677).⁶⁰ The abandonment of open references to the "arbitrated price" fits perfectly into this reorientation insofar as this idea appears intrinsically linked to his corporatist "dirigiste" model. The fact that, after 1945, Perroux no longer dwells on this notion, nor on the concrete content of "arbitration", is in keeping with this perspective.

⁶⁰ This point must also be linked to the evolution of Perroux's travels. In the 1930s, Perroux "traveled east and south towards authoritarian and corporatist regimes" (Brisset and Fèvre, 2021, p. 776), from which we have seen that he drew some of his inspiration for price intervention (particularly from Fascist Italy). Conversely, in the immediate post-war period, "Perroux traveled north and west towards the Allies' democratic countries" (ibid.), first to the United Kingdom, then to the United States.

It is revealing, for example, that while this point is made relatively clearly in his 1947-1948 lecture on the domination effect (1948b, p. 8), it is totally omitted from the article based on it in 1948 (Perroux, 1948a), necessarily intended for a wider audience. In July 1945, this idea was also absent from a text entitled pour une politique des prix ("for a price policy"), published in a weekly business magazine, in which Perroux defended the deployment of large-scale price controls for the reconstruction period (Perroux, 1945b). For the post-war period, Perroux envisaged a large-scale price control policy, linked to strategic planning. Although we understand that Perroux still considers that corporatist organization would facilitate the adoption of such a system, insofar as "a good professional organization (...) contributes to wage arbitration and can even facilitate the arbitration of certain prices" (1945b, pp. 8-9), this point is only mentioned in passing and is not at all emphasized in the reasoning. Price control is presented here as a conjunctural tool, insofar as its need arises from the situation of "enormous insufficiency of aggregate supply" in the face of the "enormous excess of demand (...) insusceptible of being honored in goods" (1945b, p. 11-12)⁶¹, and not as a perennial tool whose necessity results from the economic structures of capitalism itself. Price control is now seen only as a legitimate means of combating inflation during the particular period of the war and its aftermath⁶², and the corporatist idea of "arbitrated prices" remains absent from the reasoning.

However, it remains difficult, if not impossible, to distinguish the sincerity of this "liberal turn" from the desire to silence a corporatist perspective that is now indefensible. One could note that the corporatist model of price-fixing espoused by Perroux was not dissimilar to the Vichy organizational model. Indeed prices were set at local level by "organization committees" bringing together professional organizations, under the aegis of the State.⁶³ We can only observe that Perroux never again expands on the content of state arbitration, the possibility of which is opened up by the indeterminacy of economic equilibrium. Perroux retains and

⁶¹ The author considers that, in such a situation, the State should "promote the price scales [it] deems best adapted to the new situation" (1945b, p. 5), rather than leaving "competition alone [the] power to determine the price scales of the future". Strategic price policy is justified in particular because, in the absence of action on prices, "consumption would prevail over equipment" (ibid.) due to the enormous excess demand on the consumer goods market, which would orient the productive structure towards the latter.

⁶² When he analyzed the causes of inflation and the appropriate remedies in his 1950 lecture at Sciences Po entitled *six problèmes économiques urgents*, Perroux no longer envisaged price controls, but rather "fiscal and monetary remedies designed to avoid unbearable imbalances between flows of goods and products" (1950, p. 4). While the author considers that wage increases in excess of productivity gains can contribute to inflation (ibid, p. 2), we never find a symmetrical analysis of the role of firms in inflationary dynamics, a theoretically decisive point in understanding the position of economists vis-à-vis peacetime price controls (Clerc, 2024).

⁶³ In practice, however, the « Comités d'organisation » functioned differently from Perroux's model, in that their organization remained totally unbalanced in favor of the employers (Le Crom, 1995).

develops the analyses that underpin this recommendation, while abandoning the public defense of the "arbitrated price", which appears far too intrinsically linked to his corporatist model. In fact, Perroux's abandonment of the defense of price control seems to have helped mask the corporatist roots of his research program for revising the theory of general equilibrium.

It should be noted, however, that the theory of price control expounded by Perroux in his 1944-1945 course was far from unnoticed, and gave rise to several recuperations by economists close to the latter, such as Jean Marchal, André Marchal and Raymond Barre. Jean and André Marchal were both members of the *Institut des Sciences Économiques Appliquées* (ISEA)⁶⁴, founded by Perroux in 1944, while Barre developed an almost paternal relationship with Perroux in his youth (Rimbaud, 2015, p.43), and remained very close to him throughout his life.⁶⁵ On a theoretical level, all these authors are grouped together by Arena within the "sociological realism" current⁶⁶ (Arena, 2000). These authors refer extensively in their own courses⁶⁷ to Perroux's developments on price control at the time of the Liberation.

Marchal and Barre consider "price arbitration", which "consists in fixing a price within the zone of indeterminacy in which it can move" and defend the idea that "the zone of indeterminacy can be the zone of arbitration of the State" (1956, p. 562). They add that, while "the typical case is that of bilateral monopoly, where the price depends on the parties' relationship of contractual forces, and where the State can determine a socially or economically desirable price from among several economically possible prices", arbitration can also "be conceived in a more general way" in situations of concrete competition (1956, p. 561). Jean Marchal, who devotes an entire chapter of his course to state intervention on prices, also uses this analysis verbatim, developing it at length - particularly in relation to the typical example of the "bilateral monopoly" - as well as the representation in terms of "thick curves" set out by Perroux, which we presented above, for example:

⁶⁴ Jean Marchal, called himself a "friend" of Perroux (1949, p. 148).

⁶⁵ Barre and Perroux kept up a lively correspondence, preserved at IMEC (PRX.181.16-PRX.181.17).

⁶⁶ It is not surprising to learn that these authors are characterized by their belief in the necessity of « taking into account other types of behavior, particularly those that violate the usual marginalist assumptions of economic rationality » (Aréna, 2000, p. 998). More generally, Aréna notes that these economists are « often critical of the classical and neo-classical traditions » and exhibit « a certain hostility toward overly deductivist approaches, preferring instead a combination of economic discourse and the inductive observation of facts » (2000, p. 972). ⁶⁷ These courses were well attended. First and foremost, Jean Marchal's course is nothing less than the "great first-year course at the Paris law faculty and Sciences Po" (Rimbaud, p. 66). André Marchal and Raymond Barre's course quickly met with "great success among law and economics students" and has been described as "the first modern law school economics textbook" (Jean-Claude Casanova, quoted by Rimbaud, p. 65). In Rimbaud's opinion, this work gradually eclipsed Jean Marchal's Cours, due to the "pedagogical talent" it displayed (p. 66). François Perroux's developments in price control theory thus reached a sizeable student audience in France in the 1950s and 1960s.

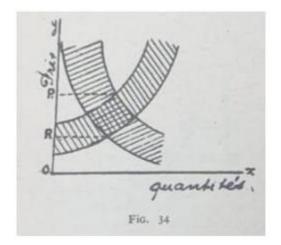


Figure 3, Marchal (1953, p. 667)

The indeterminacy of the equilibrium price makes state intervention on price possible and desirable, within a zone between OP and OR. In addition to these three authors, it is significant to find references to Perroux's theory of price and wage control in Paul Coulbois⁶⁸ (Coulbois, 1968), author of an acclaimed book on incomes policy (Coulbois, 1967). In the 1960s, Jean Marchal and Barre were also strong defenders of this type of policy (Marchal, 1964; Barre, 1969, 1970), which can be defined as the set of public interventions aimed at orienting incomes formation *ex ante* - i.e., before the mobilization of fiscal instruments - through direct interventions on wages and/or prices. Although this policy ultimately failed to see the light of day in France, the debates surrounding it gained considerable momentum during the preparatory work for the IVth (1962-1965) and Vth Plans (1967-1970).⁶⁹ Unsurprisingly, these debates were infused with corporatist thinking and reflections; incomes policy was conceived as a third way between liberal capitalism and state socialism, involving a far-reaching social agreement between labor and capital, under the aegis of the state (Margairaz, 2012; Clerc, 2025).⁷⁰ Insofar as Perroux sought at all costs to overshadow his youthful corporatist commitments, it appears coherent that he did not engage in these debates.

⁶⁸ A professor at the University of Strasbourg, he and Paul Chamley - another great Strasbourg economics professor of the time - "strongly influenced their students at the University of Strasbourg, who in turn became professors, notably Rodolphe Dos Santos Ferreira and Jean-Paul Fitoussi" (Gaffard, 2020, p. 5). Coulbois echoes Perroux's analysis when he argues that when "market forces do not lead to a precise solution, but leave a zone of indeterminacy", then the state can "remove the indeterminacy by 'arbitrating' the price between the interests involved" (1968, p. 402). He adds that a typical example of a case where "supply or demand curves are thick or atypical" can be found in the "bilateral monopoly" (ibid.).

⁶⁹ For an historical analysis of the rise and fall of incomes policy in France, see Margairaz *et al.* (2019) and Clerc (2025). For an analysis of income policy theories, see Forder and Backhouse (2013) and Clerc (2024).

⁷⁰ We note that incomes policy experiments elsewhere in Europe have systematically been analyzed as a form of corporatism (Wolfe, 1985; Marks, 1986; Woldendorp and Keman, 2006; Kiander and Sauramo, 2011).

However, Perroux's corporatist reflections did accompany several key theorists and defenders of this "third way" in 1960s France. In addition to the above-mentioned economists, Pierre Massé, Commissaire Général au Plan (head of the planning committee), at the heart of the income policy project, makes direct reference to Perroux's "spirit of dialogue" when he presents income policy as a means of overcoming the struggle over the sharing of economic surplus (Massé, 1965, p. 104). We might also note a potential influence on De Gaulle himself.⁷¹ We know that corporatism played an important role in De Gaulle's economic thinking (Jackson, 2018), and that he maintained an important correspondence with Perroux (Chavagneux, 2003, p. 44).⁷² It is striking that the theoretical foundations of French incomes policy quite closely align with Perroux's corporatist model, to which a macroeconomic dimension would be added. Indeed the main argument justifying intervention in prices and wages as part of an incomes policy rests on the idea that macroeconomic price dynamics are the result of power relations between unions and concentrated firms. Thus, in order to limit inflation and reconcile growth with price stability, the state must promote the emergence of an in-depth social agreement between employers and workers on the determination of prices and wages, if necessary sanctioned by controls in the event of persistent disagreement. The popularity of Perroux's theory of wage and price control among economists heavily involved in the incomes policy debate leads to identify a diffuse influence of Perroux's corporatist work on French economists' understanding of this typically corporatist policy. A separate study could be devoted to this hypothesis.

CONCLUSION:

Perroux's writings on price control, developed in his 1944-1945 course, appear characteristic of this period of intellectual reconfiguration that marked the immediate post-war years of the economist. We have shown that, in this text, Perroux formalizes the junction between his corporatist model of the 1930s and his critique of neoclassical economics, through the idea that the power relations that structure capitalism give rise to a multitude of unstable equilibria (zones of indeterminacy), within which the intervention of a "third party" is necessary. Perroux devoted much of his later research to developing and formalizing this idea,

⁷¹ De Gaulle championed the idea of an incomes policy, speaking of the need for "an income policy, comprising a set of coherent measures, incorporated into our national plan" (televised speech, April 18, 1964, cited by Brochier, p. 868). ⁷² A separate study could be devoted to analyzing the influence of Perroux's thought on De Gaulle's economic thinking. It is also noteworthy that De Gaulle's project in the 1960s to expand worker participation within the company aligns with certain corporatist concerns, as it reflects the ambition of associating capital and labor within the enterprise (Guillaume, 2003).

which originated in his corporatist writings. We thus identify the corporatist roots at the heart of Perroux's project to revise the theory of general equilibrium, and provide a key to the understanding of a structuring element of continuity in his work.

Above the importance of these works in the development of Perroux's thinking, it is appropriate here to emphasize the originality of the approach to price and wage control based on the idea of indeterminacy of economic equilibrium, with regard to the history of price control theories. While the history of macroeconomic approaches to price control has given rise to numerous works (Bartels 1983; Colander 1984; Rockoff, 2004; Laguérodie and Vergara, 2008; Paesani and Rosselli, 2017; Weber, 2021; Chirat and Clerc, 2023; Clerc, 2024), the history of microeconomic approaches has yet to be written. By exhuming an important but completely forgotten theory, the present article also contributes to setting a milestone in this direction. Indeed, we emphasize that the main contributions to the microeconomics of price controls are posterior. Moreover, the arguments presented here in support of price controls appear original, if not unique. The originality of Perroux's argument lies in his analysis of the indeterminacy of equilibrium, the fact that it applies even in a competitive situation (with regard to low elasticity, non-divisibility of goods, etc.), takes into account power relations, but also the fact that he does not address the aims of price and wage control. Indeed, if control is made possible by the equilibrium indeterminacy, nothing is said about the objectives that should or even could be those of the State. What criteria should guide the State's choice of one economic equilibrium rather than another? Perroux does not propose any clear criterion that could provide an answer to this question.

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Appendix: Other graphic representations of "zones of indeterminacy" in Perroux's work

François Perroux, Cours d'économie politique, 1944-1945 :

Perroux removes the assumptions of preference completeness and non-satiety (though he does not use these terms). We see that "the equilibrium with respect to the tastes of the individual who offers bread to obtain wine remains undetermined for a fraction (N N') of the curve", so that state intervention can "be established in N or in N', the result for the subject will be the same" (p. 201).

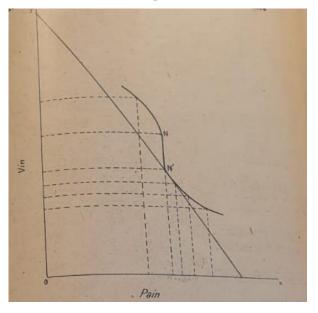


Figure 4, Perroux, 1945a, p. 201

François Perroux, Cours à Sciences Po, 1947-1948, "les régimes intérmédiaires de formation des prix" :

Here we find a reprise of the "thick curve" representation of the 1944-1945 course, in which "the point of determination is transformed into a rhombus of weak determination" (1948, p. 14):

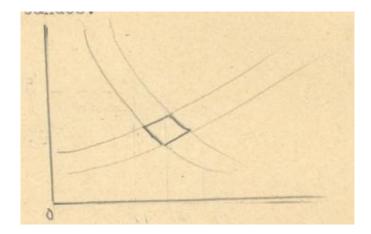


Figure 5, Perroux, 1948b, p. 14

Perroux adds that, in reality, the curve bundles will not be constant, giving rise to an "irregular rhombus" (next figure) and concludes on this point that "econometrics has the last word":

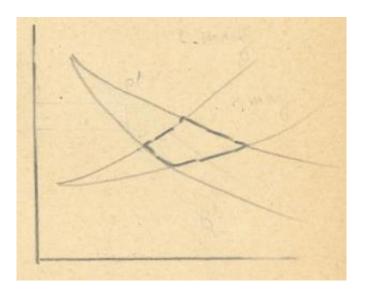


Figure 6, Perroux, 1948b, p. 14

He then returns to the idea of a "kinked" demand curve which generates an indeterminacy. For a price P2, the quantity demanded is not Q2 (following the regular DD' curve) but Q1, following the DD" "kinked" curve:

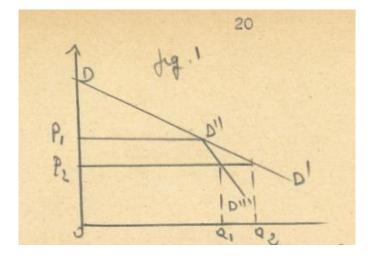


Figure 7, Perroux, 1948b, p. 20

Due to the discontinuity introduced on the demand curve, the marginal revenue curve (shown here as a dashed line) becomes vertical over a portion of its segment. Indeed, for this quantity, there are several possible values for marginal revenue: one derived from the highly elastic portion of the demand curve (upstream of the kink) and the other from the less elastic portion (downstream of the kink). Multiple marginal cost curves can intersect this segment, making the equilibrium indeterminate:

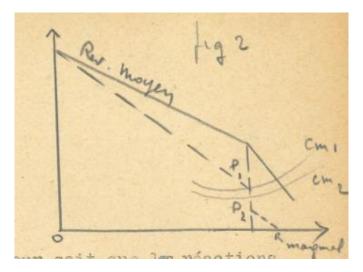


Figure 8, Perroux, 1948b, p. 20

Perroux then seeks to "draw up a table of the most general expressions of multiple equilibrium" (1948, p. 20) and thus presents the following set of representations:

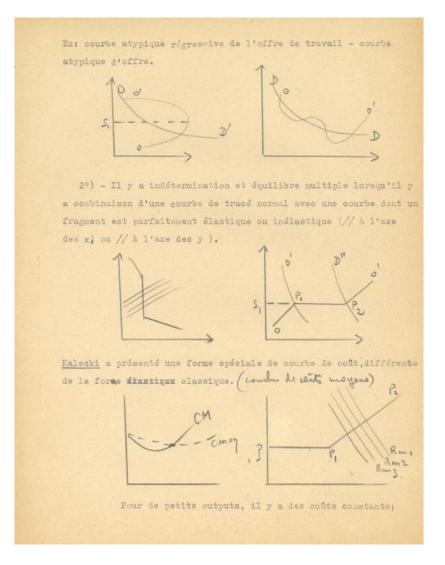


Figure 9, Perroux, 1948b, p. 21

François Perroux, Unités actives et mathématiques nouvelles, 1975a :

Here we find a representation of indeterminacy within an Edgeworth box. In this case, exchanger I is forced by exchanger II to exchange (or not to exchange at all), on the indifference curve (*t-n*), which is very disadvantageous for him, while exchanger II is on a curve which is very advantageous for him. The deadweight loss is thus a function of "the difference in strength of each individual" (1975, p. 101). Perroux immediately links this situation to that of the *"bilateral monopoly"*⁷³ (ibid.).

 $^{^{73}}$ Underlined in the text.

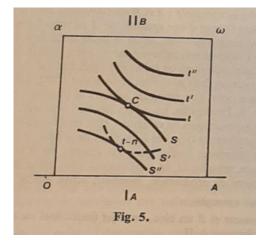


Figure 10, Perroux, 1975, p. 100

The following graph follows the "thick curve" representation introduced by Perroux as early as 1945, and taken up by Marchal in the 1950s. Here, however, the reasoning is conducted in terms of marginal utilities: *UmB* represents the marginal utility of the good acquired and *UmA* that of the good given up for actor I. The initial equilibrium position, before the intervention of an asymmetrical action by actor II, is at Ue, qe. Through his intervention, agent II increases the "subjectively appreciated" marginal utility of the good acquired, for example "through advertising", on a path *UmB'*, and/or decreases the marginal utility of the good given up ("through information") on a path *UmA'*. Thus "the equilibrium of exchange *always* raises (...) the question of *the nature of the obstacles*, the relative strength of the adversaries, and the *relatively spontaneous* or *relatively manipulated* character of tastes"⁷⁴ (1975, p. 102).

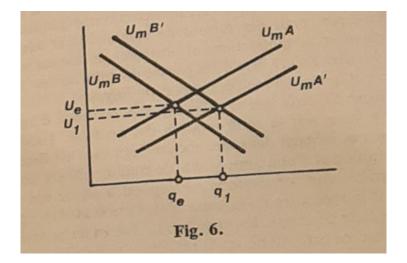


Figure 11, Perroux, 1975, p. 101

⁷⁴ Underlined in the text.