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*A.-R.-J. TURGOT ON A GENERAL MARKET:
COMPETITION, PRICE AND HISTORY*

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Department of Economics

A.-R.-J. TURGOT ON A GENERAL MARKET: COMPETITION, PRICE AND HISTORY

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Abstract

The purpose of this paper is to re-examine the notion of price determination in A.-R.-J. Turgot's writings. Consideration is given to the evolution of the concept of market during the 18th century. It is argued that Turgot provided a model of multiple exchanges with merchants, called General market, in order to tackle economic problems, as is the market integration, price stability and the hoarding of capital. Further, we demonstrate how a uniform price, which is kept constantly, required that Turgot made use of theoretical tools from other disciplines.

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1. Introduction

The concept of market was changing throughout the 18th century. As a result, several authors went beyond the place in which merchandises are bought and sold. The article “Foire” in *Encyclopédie* of Diderot and d'Alembert was an example of an open-minded idea of exchange. From his early writings, Turgot overcame local market analysis in order to tackle several economic problems. In 1770, he finally dared to name the outcome employed during years: *General market*. It concerns a multiple exchange within several local markets whose main target is to guarantee a stable price. For the most developed case of exchange, there was need to employ numerous concepts, ideas and figures already used in Turgot's contributions to other disciplines.

This paper shows the place of Turgot in the discussion on price stability in the 18th century. This contribution derived a great deal of Richard Cantillon's ideas because of the required demonstration of the one-law price while Turgot's argument is strongly opposed to regulatory stances. For this paper, we are looking at how a series of theoretical tools from other disciplines —his theory of the History of progress and his Physical model of gaseous state— are employed specifically for the economic modelling of market dynamics. The relation between the theory of progress and the economic theory in Turgot's writings is extensively analysed by the literature (Faure-Soulet, 1964; Meek, 1973; Ravix & Romani, 1984), although the price formation theory has not been specifically taken into consideration.

We are going to prove that Turgot considered a case of exchange in what can be called the General market. On the basis of the one-law price this model tackles the question of price stability. There is plenty of literature dealing with Turgot's theory of exchange and value, although we do not know much about the issues of how a stable price is reached by his price-formation theory.

The first part of the paper illustrates the background of the economic modelling of market dynamics during the 18th century. The General market gathered a number of new economic problems, such as price volatility, hoarding of capital, local markets integration, which economists encountered. The second part illustrates Turgot's theory of progress, an essential contribution of his early writings, which is closely associated to his economic theory. The third part illustrates Turgot's models of exchange in order to describe how the case of the General market completes his price theory. We present Turgot's concept of stability.

2. Beyond local markets

Richard Cantillon analysed the market place in order to offer a description of price-formation throughout supply-demand mechanisms together with market virtues, as is the reduction of transaction and uncertain costs (Charles, 2003). His theory aimed at explaining how the current price is determined in a local market. Further on, these concepts were on the basis of several price determination theories within a larger market conception. However, Cantillon did not consider the existence of a unique rate of exchange for all parties.

The concept of market changed throughout the 18th century (Braudel, 1979). Local markets were expanding although this fact did not take place moving outward from one centre, but through a spatial connection among several centres (Paris and Rouen grain markets no longer existed, only the grain market), together with a temporary connection (the future based upon past conditions). Consequently, the idea of a General market became a new topic for research.

The Physiocrats considered that the General market was just the result of a local market opening process (Benkemoune, 2005). Once all technical and legal blockages are removed, the exchanges are extended until an optimal price emerges: a stable price, which offsets the producers without any damage to the consumers. Du Pont uses the term *prix commun du*

marché général to indicate the average price of grain in foreign markets in *De l'exportation et de l'importation des grains* (1764), François Quesnay uses the term *prix général du blé entre les nations* in *Hommes* (1757). Herbert (1753) and Abeille (1764) pointed out some requirements for achieving price stability within a General market: free trade, competition and the appetite for profits (see Kaplan, 1976; Persson, 1993).

Beyond the virtues of a common price, Forbonnais (1753a) considered that Cantillon's representation was not able to explain price formation within General market. He distinguished between internal trade (retailer) and external trade (merchants) in his article *Concurrence* (1757). Both markets allowed reciprocal communication, which links competition to price determination process. However, the mechanisms ruling both exchanges are different; there are mutual benefits in internal trade because it is a question of reciprocal exchange. Otherwise external trade makes a conflict possible between the interest of the merchants and public interest. Agents are only concerned about their immediate situation while price stability requires a long-term perspective (see Salvat, 2003). The authority possesses the long-term perspective needed for overcoming the self-interest behaviour. Consequently, the leading authority is required to guide the exchange¹.

A.-R.-J. Turgot tackles the problem of price stability by means of a new concept of competition. He refused the option of an authority guideline because of his idea of the way information affects economic decisions. In his *Lettres au contrôleur général (abbé Terray) sur le commerce de grains* (1770), Turgot explains that any intervention in the grain market does not lead the way towards a solution of problems of price volatility. Economic dynamic itself introduces so much uncertainty that the "optimal price" can never be found by the regulator

¹ The *Journal Economique* (Feb, 1754) also published several articles on the flaws of this General market: (i) the effects on the local markets which delay joining the General market, (ii) the effects of job mobility in search of windfall lucre without regard of the public needs, (iii) the guarantee of the absence of monopolies (Kaplan 1976: 109).

(Turgot [1770a]: 311). Turgot outlined that a single individual could not calculate an optimal price because of dispersing knowledge as a result of change. For that reason, Turgot searches for a new conception of the process of competition that is able to properly match freedom and this open-minded idea of market.

3. Turgot's Theory of Progress

Two writings constituted the fundamental part of raw material upon which Turgot drew his History of progress². In *Lettre à Buffon sur son système de formation de la terre* (1748), Turgot commented Buffon's theory which was employed later in extensive notes titled *Recherche sur les causes des progrès et de la décadence des sciences et des arts ou réflexions sur l'histoire des progrès de l'esprit humain* (1748); Turgot was already looking for permanent laws, which generate the same effects in all ages. Because he considered that "the historical processes of social developments, and the manner in which any particular society (economy) were not arbitrary, but were in an important sense subject to law" (Meek 1973: 27)³. In 1750 two discourses in Sorbonne —*Philosophical Review* and *On Universal History*— were to describe his idea of progress.

The first discourse explains how Christian religion has helped to make man better and happier (first part) and to improve governments (second part). Not only God produces the progress of human beings, but also the effect of Christian religion on human behavior. Following Gonçal (1991: 39), the inability of reason to overcome human tyranny is the hypothesis of this discourse. On these grounds, Turgot reaches two conclusions: (i) only religion allows men to place social interests before their self-interest and (ii) one of the roles

² The 3rd of July 1750 was the date of the first discourse —*Discours sur les avantages que l'établissement du christianisme à procurés au genre humain*— and the 11th of December was the date of the second one —*Le Tableau philosophique du progrès successifs de l'Esprit Humain*.

³ It enabled a plausible explanation of differences between societies and it also facilitated the formulation of a general theory of the development of society from lower to higher levels.

of Christianity is to eradicate injustice from the despotic behaviour of monarchs (Meek 1973: 27).

The second discourse is to illustrate the advances towards greater perfection of the human mind by indicating the main lines of the progress of the Arts and Sciences. It is the history of the greatest events for the progress of mankind. Turgot begins by considering the duality Nature and History. Nature represents the field of needs and of determinism, where circular movement represents change, the natural cycle, and therefore nothing changes in the end. History is the field of progress; where reason, passion and freedom take place, where novelties are created and accumulated from age to age by means of transmission capacity (see Morilhat, 1988: 83). Turgot's argument seems to be that all men have roughly proceeded through the same stages of development, from barbarism to refinement. But "they do not all move forward at the same pace along the road which is marked out for them". Turgot argues about the circumstances which either encourage or discourage the pace of development: (i) different forms of government, (ii) the size and geographical situation of the nations, (iii) Education and (iv) means of production. All of them bring about inequality in the progress of nations.

What exactly is the key-element that causes progress? Genius and the chance for education are the two conditions of progress. The former is someone who breaks the cycle created by Nature⁴, whereas the learning process assures that each breaking point does not cause regression but development⁵. Therefore, Turgot joined other philosophers of progress, such as Voltaire, Châtelet and Fontenelle, although his theory emphasises this connection between

⁴ In a draft written in *l'Académie de Soissons* (see Gustav Schelle: Op. cit., p. 117), Turgot considered that there are three causes of progress: (i) Development of language, (ii) Political issues and (iii) Genius.

⁵ This inequality in the development of knowledge which results from this process is closely associated, together with freedom, the right to property and inequality, to variation in the general development of the nations (Meek, 1973).

progress and the economy. In the topic of progress, Turgot went from reason to production⁶: how societies in the long run tend to develop towards greater perfection is to be sought in the economic sphere (Meek 1973: 9).

Here we have those theoretical tools which allow Turgot to “describe the successive changes in the way of life of men and the order in which they have followed one another: people who are shepherds, hunters, husbandmen”. The *four stages theory* was of great importance in the subsequent development of social science in the eighteenth century⁷. Having introduced the various different agreements that landowners may make with the farmers, Turgot described the transition from the agricultural society to the commercial stage. This fourth and final phase is where Turgot develops his economic theory (Finzi 1982: 15). Furthermore, the concept of trade involves much more than exchange; a process of communication, a tool of convergence among isolated nations and a free interaction, which enables an increase in judgment.

4. Turgot’s Theory of price determination

Given the particular role of the current price determination in Turgot, some authors include him in neoclassical antecedents (Kauder, 1953; Bourrinet, 1966; Hutchinson, 1982; Desai, 1987; Erreygers, 1990). On the other hand, several commentators consider the current price set by supply and demand is not the key-element in the theory of price but the

⁶ History is the story of the progress of reason. In fact, Turgot proposed his *four stages theory* as a measure of the rate of development.

⁷ The development of these principles allows reaching a new organization of production, which defines social relationship, as Adam Smith and Karl Marx would enounce further on. In the beginning, when men could devote themselves to nothing but obtaining their subsistence, they were primary hunters. But in countries where certain animals like oxen and sheep were found, the herding way of life was introduced. Eventually, in fertile countries, shepherds moved on to the state of farming, and as a result of the surplus, which agriculture was able to generate, there emerged “towns, trade, and all the useful arts and accomplishments”. Ravix & Romani (1984) consider Turgot had a historical and non-normative view of human societies faced to Physiocrates’ natural order.

fundamental price⁸ (Finzi, 1982; Ravix & Romani, 1983; Brewer, 1987). The latter interpretation leads Turgot to the classical school and the former towards the neoclassical one. Finally, there are various essays of integrating both approaches: Yamakawa (1959) observes a change from an objective to a subjective theory; Groenewegen (1970) and Hervier (1997) try to make both ideas compatible by means of a value-labour theory or by a syncretistic theory.

In his unfinished text *Valeur et Monnaies* (1769), Turgot describes his theory of value and exchange. From this analysis, Turgot derived three basic conclusions: firstly, the value of a commodity can be expressed only by the current price; secondly, the current price is equal for all parties in the exchange; and thirdly, the exchange ratio is a midway price obtained by averaging the individual appreciative value, that is the gains derived from the subjective comparison of the quantities of commodities⁹. Turgot attempts to prove the existence of a unique exchange ratio for all parties in the exchange. Groenewegen (1970) and Erreygers (1990) have clearly proved him wrong. However, Hervier (1997) points out that the task was not yet finished. Turgot considered that the measure of value improved as the exchanges progressed.

Groenewegen (1970) adds two other cases to the latter exchange situations in order to complete Turgot's theory¹⁰. Consequently, there would be six different exchange situations:

⁸ This *prix commun* is related to a minimum supply price called *prix fondamental* (Groenewegen 1970: 181; Romani 1982: 118). The main price is laid by Turgot in his papers of 1767 –*Observations sur les mémoires de Graslin et Saint-Péravy* and *Lettres à Hume*– as a basic device of a theory of price determination which desires a stable exchange rate. The main price has the function of minimum supply price or, long-run balance price and it is thoroughly well-matched with the theory of value and exchange (Groenewegen 1970: 181). It expresses the degree of difficulty a man meets in producing a commodity and therefore, it was a guide in the transformation of individual estimate value into a current price. It is the estimate value by merchants and it covers every cost of production including a normal rate of profit (Turgot 1769: 472).

⁹ The “*valeur appréciative*” is influenced by two considerations: the usefulness of a commodity for the satisfaction and the scarcity of the object (Hervier, 1977).

¹⁰ Groenewegen integrated Turgot's fragment on value and price with four other sources written by Turgot at around the same time: *Lettre sur le Papier-Monnaie* (1749), *Plan d'un ouvrage sur le commerce, la circulation et l'intérêt de l'argent, la richesse des états* (1753-4), *Eloge de Vincent De Gournay* (1759). *Projet de lettre au contrôleur général Bertin sur un projet d'édit* (1761).

three isolated exchanges (the “valueless surplus”, two individuals and two commodities and four individuals with two different commodities), two multiple exchanges (several individuals with two different commodities and several individuals with several commodities) and an inter-temporary exchange (present against future goods).

However, this classification of exchange situation does not include Turgot's notion of General market; an added case where space and time are taken into the exchange. What happens when the local market is a specific case in a general theory of exchange? Could the price mechanism of a local market be applied within the General market? Turgot completes his price formation theory by a mechanism that highlights an interspatial exchange, or the “General market”.

Il aisé de comprendre que, de même que la concurrence entre les vendeurs et celle entre les acheteurs forment dans chaque lieu particulier ce qu'on appelle le *prix du marché*, de même la concurrence entre les négociants des diverses nations qui ont du grain à vendre, et celle entre les négociants des nations qui ont besoin d'acheter, déterminent un prix commun entre les principales nations commerçantes, qu'on peut considérer comme réunies pour former une espèce de *marché général*. (Turgot [1770a]: 331n)

A couple of years after his works on History, Turgot first undertook the analysis of the exchange. His text in economics –*Plan d'un ouvrage sur le commerce, la circulation et l'intérêt de l'argent, la richesse des états* (1753-4)– tackled for the first time the problem of price determination. On the basis of an isolated exchange, Turgot introduces the concept *Concurrence réciproque* in order to analyse the case of a multiple exchange within a local market. And afterwards, merchants for the case of a multiple exchange within several local markets in what can be called General market. A process of price-formation is created to establish the conditions under which a competitive (i.e. without authority guidelines) and stable equilibrium exists.

The General market becomes another attempt on the proof of the existence of one price. However this case involves two different steps: Initially, the way to balance, an equal rate for all parties in the exchange called *prix commun*, which is a topic within the sphere of exchange. The second one is the stability problem, where Turgot articulates spheres, production and exchange.

5. The General Market

Along his works, Turgot pointed out how the magistrates fail when they establish the commodity price. He argues on the relation of supply and demand under the premise of free competition as a unique principle of price fixation¹¹. In addition, the magistrates are neither able to establish an equal price for all parties. So, “le prix du blé étant égal, on paye le pain plus cher dans un lieu que dans un autre” (Turgot 1753-4: 386).

However, a self-regulating market allows reaching a unique current price by means of a process that involves all participants of exchange.

Dans la concurrence réciproque entre les vendeurs et les acheteurs, le prix est fixé par le débat entre la totalité de vendeurs, d’une part, et la totalité des acheteurs, de l’autre, au lieu de l’autre par le débat entre deux personnes seulement. (Turgot 1753-4: 383)

5.1. Reciprocal Competition

In 1753, Turgot made use of the term *Concurrence réciproque* in order to introduce the effects of the number of people on the process of price determination. Now, the exchange involves three clashes of interest: (i) between buyer and seller, (ii) between patience and necessity (iii)

¹¹ “Il (le Magistrat) cherchera sans doute à fixer le prix courant à un taux équitable par lequel ni le consommateur, ni le vendeur, ne soit lésés, s’est-à-dire à faire ce que la concurrence ferait bien plus sûrement sans lui.” (Turgot 1753-4: 385).

between agents pursuing the same target¹². Turgot considered that a multiple exchange has to reach an equal price for all participants as well. This is the *prix commun* and it is the result of the balance between opposite interests (Turgot [1770a]: 311n).

Turgot's physics article describes the same idea of balance and stability. The article “Expansibilité” (1756) in *Encyclopédie* of Diderot and d'Alembert specifically deals with the effect of the clash between the expansive forces and the compressive forces of fluids.

Il suit de notre définition, que ces fluides ne sont retenus dans de certaines bornes que par la force comprimante d'un obstacle étranger, & que l'équilibre de cette force avec la force expansive, détermine l'espace actuel qu'ils occupent. (Turgot 1756: 274)

During the 18th century, the method of science was considered a general philosophy that was freely used on other disciplines and Turgot was not an exception (Perrot 1988: 246). The current price determination is illustrated by the fluid analogy in two senses. Firstly, those clashes of interest displayed in the exchange balance themselves in such a way that a unique rate of exchange is reached. Therefore, opposite directions guarantee the existence of balance. Secondly, if a fluid is added to one chamber, then, under the weight of gravity, this will disperse to the others until the level is the same in all chambers. After a process of adjustment, a self-regulating market will always reach balance.

La tendance qu'ont les parties d'une fluidité pesant à se mettre au niveau (...) est moins un changement d'état du fluide (...) qu'un transport local d'une certain partie du fluide en masse par l'effet de la pesanteur, transport absolument analogue su mouvement d'une balance qui se met en équilibre. (Turgot 1756: 276)

¹² “... voilà donc deux intérêts contraires, dont l'un balance et limite l'autre: le désir de vendre cher cède au besoin de vendre; le désir d'acheter bon marché cède au besoin d'acheter, chacun compare en lui-même ces deux intérêts et se détermine en conséquence à offrir plus ou à demander moins, jusqu'à ce que tous deux étant d'accord, le marché doit conclure (Turgot 1753-4: 383).

Concurrence means a clash of interests related to an amount of commodities in the market but not to the price, which is specifically considered homogeneous inside the demand and inside the supply (Turgot 1753-4: 383). The quantity of commodities sets the process of competition in motion. Turgot considered the whole of exchanges does not take place in the market, which is an obstacle. However, this problem is overcome by means of experience¹³ because producers are in the habits of exchanging the quantities of commodities on market increases (Turgot [1766a]: 475). Therefore a certain quantity is required before competition can take place although Turgot did not point it out.

The final rate of exchange is not determined by means of a sequential process –firstly, the *producer price*, which depends directly on the tension between producers and merchants, and later the *consumer price*, which depends directly on the tension between consumers and merchants– but of a process of groping between agents (producers, consumers and merchants) who had weighted their relative esteem of the product. Finally, there is only one price¹⁴.

How is the unique price reached in Turgot’s work? Unlike in Walrasian tâtonnement, auctioneers about the balanced price at which they can sell or buy do not inform dealers. Erreygers (1990) points out that a uniform rate of exchange can only be achieved reach under the hypothesis of “transparent traders”, agents ready to reveal their estimative values, in Turgot’s multiple exchange models. Precisely, he surrenders personal secret comparisons in favour of perfect information obtained by means of experience. In consequence, one of the

¹³ That is the case for a self-regulation market but not when the Authority directs the exchange. When the Authority tries to maintain the price of grain in time, the crash of the system is assured because of exchanges out of the market. Given fixed prices and exchanges out of the market, the Authority sells less grain within good harvests –time to make profits since price is low– than within bad harvests (time to make losses since the purchase price is high) which is the moment for feeding farmers and townspeople: “En effet, une très grande partie du grain qui se consomme ne se vend ni ne s’achète, tout cultivateur qui recueille vit sur sa récolte: non seulement il vit lui-même, mais il nourrit ceux qui travaillent pour lui.” (Turgot [1770a]: 312).

¹⁴ Turgot explains this price determination process in the case of a multiple exchange throughout his works; from *Plan d’un ouvrage sur le commerce* (1753-4) to *Mémoires sur les prêts d’argent* (1770b) or *Réflexions* (1766).

main principles of *Valeur et Monnaies* (1769) is the influence of experience on a better evaluation.

As the exchanges progressed the measure of value improved. (Hervier, 1997). The exchange lets agents know the real value of products. Experience by repetition allows traders to acquire the information required for the law of one price (Turgot 1759: 596) in such a way that any rate of exchange out of a current price is a lack of information mistake (Turgot 1753-4: 384).

Le cours du commerce libre suit toutes ces variations sans aucun inconvénient; tous les changements qu'il amène se font par degrés insensibles: le débat entre chaque acheteur et chaque vendeur est une espèce de tâtonnement que fait connaître à chacun avec certitude le vrai prix de chaque chose. Les augmentations ou les diminutions réparties sur tous, les pertes et les gains compensent entre tous, font qu'il n'y a de lésion pour personne dans le changement...

(Turgot [1770a]: 312)

It is possible that the final rate of exchange does not fit in the value of product, prix fundamental, which involves an extra gain. This is the case of lack of competition. The spread of exchange allows dealers to know the real value of products and therefore to detect the extra profit. By means of freedom of entry and exit, a new process of groping begins until the current price coincides with the real value. *Concurrence réciproque* balances any excess profit and any excess loss coming from the exchange¹⁵.

¹⁵ *Concurrence réciproque* is also able to correct the process of exchange as education does in Turgot's theory of progress. He considered education could overcome any social disparity as knowledge does in the process of exchange. For that reason, the spreading of knowledge and universal education are so important as inequality for progress. Turgot recognized inequality and self-interest behaviour as the movers of the market process. Even though, Turgot pointed out a series of negative effects from the part of self-interest behaviour (in opposition to Helvetius' approach). Education compensates those destructive consequences in search of sustainable social development (Faure-Soulet 1964: 34)

Ce prix ne peut non plus être longtemps fort au-dessus de la valeur fondamentale, car le gros prix, offrant de gros profits, appellerait la denrée et ferait naître une vive concurrence entre les vendeurs. (Turgot 1767: 266).

Although the main price is the same as the exchange rate, time and space change the balance of price and output. Turgot introduces merchants in his multiple exchange models in order to analyse this case. This is the General market where merchants constantly monitor the market in search of profit opportunities in the form of price differentials in time or space.

... toutes les opérations du commerce ont pour base la connaissance exacte de la valeur des denrées et de toutes les circonstances qui concourent à fixer cette valeur, puisque c'est sur la différence des prix des denrées, dans les lieux et les temps différents, combinée avec les frais de transport et de garde que le négociant appuie toutes ses spéculations (...). La science du négociant qui, au premier coup d'œil, paraît bornée à des connaissances de détail, devient cependant par la multitude et l'enchaînement de ces détails, un objet immense.

(Turgot 1753-4. 381-2)

A Merchant's industry consists of all the capabilities that allow him to calculate consumer needs, market price and the supply available in the market place. This knowledge supports the assumption of risk of uncertain prices against known costs. Therefore, profit sets the limit of their presence in the marketplace because "il faut toujours que la marchandise payes tous ses frais et ses risques" (Turgot 1757: 40).

However, Turgot needed to explain why merchants decide to be part of the exchange if they know that the new tâtonnement process is not on their side. Thereby, Turgot made use of his theory of human progress methodology. In his *Discourses* in Sorbonne, there is a law-governed universe in which the complex interplay of cause and effects was likely to produce a long-run –but often very slow and unsteady– tendency towards perfection (Meek 1973: 29). Self-regulating market mechanism becomes a law-guide consistent with self-interest (the

prime mover of the market process). Turgot is able to reply to Forbonnais's remark on the conflict between self-interest behaviour and public interest.

Merchants know that the final outcome of exchange is in conflict with their will –the highest profit–. As each trader gives part of his earnings derived from the subjective comparison of commodities, merchants resign themselves with the continuity of the business –the normal rate of profits–. Profit justifies their necessary activity and it sets the limit of their presence in the marketplace, because if they do not obtain a normal rate of profit – *profit ordinaire du commerce*– they will disappear.

5.2. Price stability

Initially, we have a set of local prices within a General market. On the basis of his one-price law, Turgot explains how a series of prices converge in time and space towards an equal and stable rate for all parties in the exchange.

La circulation encouragera donc l'emmagasinage, et la multiplicité des magasins, en multipliant les entrepôts, facilitera la circulation ; ces deux voies de communication toujours ouvertes réuniront les lieux et les temps et entretiendront entre les prix des grains un niveau partout uniforme et toujours constant (...) La non-valeur et la cherté ne peuvent être bannies que par la l'égalité du prix et l'égalité du prix ne peut être établie que par la liberté entière de la circulation et du magasinage. (Turgot 1761: 311; se also Turgot [1766a]: 472)

If the amount offered is scarce and the initial price –local market prices– is sufficiently high, merchants become suppliers competing with producers. A new process of groping begins which leads to a drop in the market price below the initial price; and in addition the amount exchanged is bigger than the initial supply of producers. If, on the other hand, the quantity brought to the market leads to a low enough initial price, merchants add to

consumers and thereby the demand becomes “heavier”. Therefore, the market price –level– increases over and above the initial price.

This merchant’s activity starts moving the circulation of commodities that allows the convergence towards a *prix commun*¹⁶. The higher number of merchants, the closer the local prices are to the common price of the General market. Merchants assure price stability and a sufficient amount of them assure a unique price.

Price stability becomes a property of the General market. Therefore, *la liberté entière de la circulation* is an adjustment process of a particular system. Turgot presents a particular conception of stability that allows him to define the construction of this General market.

The first point about Turgot’s idea of stability is that it refers to motions originating close to the balance, that is, a series of bad harvests in any local market means a current price different from the common price of the General market¹⁷. The General market is globally stable, which imposes many restrictions on the system concerned. For that reason, Turgot suggested analysis through regions of stability in such a way that the General market may not include every local market. *Circulation* is not enough to guarantee an equal and stable price.

...dans quelques provinces, et en particulier dans celle-ci, les circonstances n’ont pas été aussi favorables qu’il eût été à souhaiter pour accoutumer le peuple à cette liberté, que les fausses mesures de la police l’ont autorisé si longtemps à craindre. Avant que le commerce de grain ait pu se monter, avant que les négociants aient pu étendre leurs correspondance, et qu’ils aient pu se former un assez grand nombre de magasins, il es survenu dès la

¹⁶ Turgot introduced an empirical price –prix moyen- in order to prove that a mathematical solution is the same as the solution worked out by the market. The average of the price of a ten-year period allows him to calculate the common price of the General market (Turgot 1771: 25).

¹⁷ “Or, dans l’état actuel, le prix moyen du consommateur dans la capitale et dans les provinces adjacentes, en y faisant entrer les temps de disette, est plutôt au-dessus qu’au-dessous du prix du marché général, lequel est d’environ 20 livres le setier de Paris. Il n’y aura donc point d’augmentation dans les prix moyen, puisque la liberté ne peut jamais porter ce prix au-dessus du taux du marché général.” (Turgot [1770a]: 313).

première année une mauvais récolte qui a fait monter les grains au-dessus du prix ordinaire.

(Turgot [1766a]: 473)

The General market requires the existence of merchants to assure the stability. Turgot makes use of the merchants' earnings as the determining factor of the region of stability. *Circulation* must make it possible for merchants to guarantee a *profit ordinaire* needed for their survival. Thus, we could consider that there is a minimum rate of profit or *profit sufficient* which becomes a barrier to the entrance of entrepreneurs in the market (Turgot 1753-4: 385). In consequence, the reduction of commercial costs, that is, storage and transport, improvements in infrastructure and the lowering of taxes allow a normal rate of profit to be achieved inside the area. The General market determines its own size; the more the cost of trading decreases, the larger the amount of local markets integrated in the region of stability¹⁸.

However, Turgot contemplates levels of integration inside it (Benkemoune, 2005), which involves a spatial economy strictly opposite to Von Thünen's contribution (1826). It is not just a question of geographical distances.

Ce marché (marché général) ne se tient pas dans un lieu unique ; mais le facilité du transport par mer fait qu'on peut considérer les ports des principales nations commerçantes, et surtout de celles qui, par leur situation entre le nord et le midi de l'Europe et par une liberté ancienne et habituellement du des grain, sont devenues l'entrepôt le ordinaire de ce commerce, comme formant une espèce de *marché* unique et *général*.

(Turgot [1770a]: 311n)

An intermediate level –maritime ports– centralizes the local market information in order to articulate the General market. The area where information allows the calculation made by

¹⁸Turgot, as the 'intendant' of Limoges was aware of the consequences of improvements in infrastructures over both the grain market and local production. Arthur Young wrote in *Voyage en France* (1787): "La renommée laissez ici par Turgot est considérable. Les magnifiques chemins que nous avons suivis, si fort au-dessus de tout ce que j'ai vu en France, comptent entre ses bonnes œuvres (see Vigreux 1947: 160).

the entrepreneur is to become part of the General market as commercial costs are reduced. However, even though an area is next to the General market, integration is impossible without the network of information required for the business activity.

Turgot also asked how stability could be analysed. He analyses what happens to the time path of economic variables and its effect on economic agents. The concept of time, which Turgot introduces, is not Newtonian because two moments are not identical and it is possible to increase knowledge. Time leads to different scenarios since there will not always be an equal quantity of commodities. Time is not an additional dimension, but the model is in time, “which would imply the need for a sequence of decisions by economic agents” (Loasby 2001: 10). Turgot needs that time changes the knowledge available to agents because knowledge will lead to stability.

The study of stability requires specifying the trading bodies as well. Jevons uses this idea to explain exchanges because “the behaviour of the aggregate person is much more stable than that of an individual person” (Neguishi 1985: 149)¹⁹. In contrast to the six exchange situations analysed in *Valeur et Monnaies* (1769), the General market obliges to consider two different agents: the entrepreneur who is able to modify the outcome, and the passive agents, that is, consumers and producers. When Turgot analyses economic activity, he employs a particular methodological approach in which an individual activity is essential from the point of view of any theoretical formalization. Since his concept of progress appearing in his early writings, Turgot, at least implicitly, linked human action to a limited but effective control over the development of political society. In his second speech at Sorbonne University, he sustains the particular capability of the genius for breaking the circular movement of Nature. So, Turgot joins those nineteenth century economists, Jean-Baptiste Say or Alfred Marshall, although

¹⁹ Similar concepts, that is economic agents, have been used very often in pre-classic economics (i.e. see Ph. Fontaine: « Classes laborieuses et classe disponible chez Turgot », *Economies et Sociétés*, Série Economica, P.E., 1995, pp. 22-23).

they call this circle *routine* and the genius *entrepreneur*: « The tendency to variation is a chief cause of progress; and the abler the undertakers are in any trade the greater this tendency will be » (Marshall 1920: 295).

The latter issue leads us to the last question, that is the condition under which the stability can be achieved. In Neoclassical thought, the condition for stability is the equality of the profit rate expected by economic agents (Caravale 1997: 21). In this case, Turgot does not forget Cantillon's *valeur intrinsèque* (Schumpeter 1954: 354) or the centre of gravitation in Galiani²⁰. He distinguishes between the fundamental value, *prix fundamental*, and the current price (Turgot, 1767) in order to employ the idea of a centre of gravitation.

Il faut distinguer deux prix : le prix courant qui s'établit par rapport de l'offre et de la demande et le prix fondamental (...). Or quoique le prix fondamental ne soit pas le principe immédiat de la valeur courante, il est cependant un minimum au-dessous duquel il ne peut baisser. Car si un marchand perd sur sa marchandise, il cesse de vendre ou de fabriquer ; si un ouvrier ne peut vivre de son travail, il devient mendiant ou s'expatrie.

(Turgot 1767: 272-3)

The *prix fondamentale* and the *prix commun* may diverge. Stability requires a memory of process –accumulation of knowledge–, which allows merchants to remember the current prices of previous periods. Every market has a history; ignorance, together with a scenario of scarcity, leads merchants to pay a price so high that the latter current price does not cover their costs. In that case, the *prix commun* would fluctuate.

However, Turgot had still an unresolved question posed by Forbonnais. Since agents lack the long-run view needed for a stable price, the General market must be regulated. Once again Turgot turned to his theory of progress; once the genius has broken the cycle created by

²⁰ Turgot takes the idea of gravitation from Cantillon or Galiani who matched the law of trade with the laws of both gravitation and liquids (Hervier 1997: 95n).

nature, it is knowledge that makes sure mankind does not go backwards. The memory of agents is so capable of creating a long-run view as the authority is. Knowledge allows entrepreneurs to overcome the short-run. Merchants rely on their previous exchanges for constructing knowledge, interpreting information, creating prediction. As a result, they estimate the long-run price, which, for the General market, is called *prix commun*.

Il s'instruit par des essais réitérés, par ses succès, par ses pertes, et acquiert un tact dont la finesse, aiguisée par le sentiment du besoin, passe de bien loin toute la théorie du spéculateur indifférent. (...) découvrir les causes et les effets cachés de cette multitude de révolutions et de leurs variations continuelles; remonter aux ressorts simples dont l'action toujours combinée, et quelquefois déguisée par les circonstances locales, dirige toutes les opérations du commerce; reconnaître ces lois uniques et primitives fondées sur la nature même, par lesquelles toutes les valeurs existant dans le commerce se balancent entre elles et se fixent à une valeur déterminée, comme les corps abandonnés à leur propre pesanteur s'arrangent eux-mêmes suivant l'ordre de leur gravité spécifique. (Turgot 1759: 596-622)

The last feature of the definition of stability refers to the nature of the system²¹. The universe Turgot decides to introduce in his theoretical system exceeds price establishment and the amount of exchange. His economics can be looked at the light of the Marshallian time analysis. There is a combination of a close system, the General market, in which price and output are determined, and an open system where it looks at the balance structure of firms and household, and the stability of that structure.

Mais on doit espérer qu'elle y deviendra commune lorsque les fermiers des pays de grande culture, enrichis, chercheront à étendre de proche en proche leurs entreprises et leurs exploitations, et lorsque l'augmentation du prix dans les pays de petite culture, par la

²¹ Newman (1961) distinguishes between closed systems concentrated on the balance of prices and output and open systems concentrated on the balance of other sort of variables.

communication avec le marché général, leur offrira des bénéfices suffisants pour rendre cet emploi de leurs capitaux avantageux. Il est certain que la grande culture s'est étendue dans des provinces où elle n'avait pas lieu autrefois (Turgot [1770a]: 329)

Under the premise of price stability, Turgot tackled the production-distribution-consumption scheme as a single indivisible process²². A unique and stable price creates incentives for farmers to increase production (Lerrère, 1992; Persson, 1993). The creation of enterprises flourishes, the transformation of small-scale production to large-scale production is stimulated (see *Des caractères de la grande et de la petite culture*, 1767), and the population satisfy their needs (Turgot 1761: 128-9).

6. Final remarks

The General market allowed breaking the circle of scarcity created by local markets. The most important example was the price fluctuation in grain markets because of changing conditions of harvest. Another example is the insufficient capital supply because of hoarding²³. History is the field of freedom in Turgot's theory of progress and the General market is the system of price stability and economic progress.

The General market yields three basic results: First, the current price in local markets converges toward a *prix commun*; second, any amount of commodities supplied will be sold; and finally, the amount of commodities exchanged will be the same in almost any situation.

²² Although we just focus on the first case, the condition under which the stability of the open system is reached seems an interesting way of research. This scheme, production-distribution-consumption, is a model, which some authors take to be a Walrasian balance analysis (Bourrinet, 1966) while others see it as a reproductive scheme (Ravix & Romani, 1983).

²³ An increase in interest rates cannot solve the problem and, indeed it is very harmful for the productive activity because both the problem and the solution based on regulation would lead to economic recession. General market mechanism is applied to the capital market, giving rise to the *marchand d'argent*. It appears as the solution by being on the capital demand for savers and on the supply side for borrowers (Turgot [1770b]: 288). *Marchand d'argent* is part of the demand where capital is scarce, which provides savings to face the market. When the merchandiser becomes part of the offer because the interest rate is high, the excess of available amount will lower the price. Competition among these merchandisers increases the capital in circulation, allowing savings to reach the market and immediately transform into investment, *sur-le-champ* (see Menudo, 2002).

General market is a theoretical device that allows Turgot to highlight the advantage of price stability. When the *prix commun* is stable, production does not depend on price fluctuation but on consumer needs. Producers eliminate the uncertainty brought about by the instability of price and so they create incentives for them to increase production.

These results are achieved by means of two different but connected analyses: (i) the first one lies in proving there cannot be more than one price for each commodity. Turgot makes use of the demand and supply mechanism in such a way that it is easy to find many links with neoclassical thoughts. (ii) The second analysis is related to price stability. Turgot decides to choose the main price as a reference for traders. In this case, Turgot approaches the classical school and its centre of gravitation.

However, the idea of price stability involves so many restrictions on the system concerned that Turgot needs to relax a great number of requirements. (i) Stability cannot be achieved with a Newtonian concept of time and perfect information so that Turgot introduces the concept of knowledge. Stability also required (ii) distinguishing two different agents for the same trading bodies and (iii) merging analysis, spatial economy and equilibrium, by means of a region of stability. However, Turgot is enabled to overcome all the problems posed by the stability in a competitive market. Turgot turns to both the spreading of knowledge in order to solve the case of lack of competition (as the role of education in the unequal progress of nations) and to the genius-merchants in order to guarantee stability. Even so, stability involves such complex questions that Turgot can only invoke to “no-formal concepts” such as freedom or competition.

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