

National and Regional Corn Markets in France from the Sixteenth to the Nineteenth Century*

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The price of corn is an essential element in any research on markets and their integration at the time of the Ancien Régime, and, to a large extent, still in the nineteenth century, when agricultural production, and more specifically cereals, had a determinant role in the French economy.

This article aims to point out how the spatial organisation of corn markets in France evolved between the sixteenth and the nineteenth centuries and to mark any possible changes. Most historians limit the study of markets to the flow of merchandise or to the variations in the price level among markets. F. Braudel, one of the most eminent of these historians, goes so far as to reject "the uniformity of price variations" as a basic element in homogeneous economic areas.

We believe that the study of corn flows and price levels as well as the law of the single price (as economic theory teaches us) may determine homogeneous market areas. In order to do this, using the available price series and the two market areas chosen, we shall examine three markets in the Paris area and three in the Toulouse area.

It will be seen that price levels do not permit the differentiation of price zones in that the differences recorded are insufficient and therefore the differences in transport costs, agricultural methods and monetary reasons should be disregarded when accounting for them.

We shall also see that the market of the Parisian region is an area of single price, as is that of the Toulouse region. But the prices of the two markets were not integrated, even in the late nineteenth century. In disagreement with F. Braudel we shall thus note that the area of the corn markets does not correspond to the nation's political area. Is it possible that the national market is a myth, a product of the Enlightenment?

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The sources

Corn prices are becoming well known in many regions of France due to the work of nineteenth-century scholars and twentieth-century French historians, encouraged in the first place by the *Comité Français d'Histoire des Prix*, chaired by H. Hauser, and then by the teachings of C.-E. Labrousse and J. Meuvret. Many market price lists have been published, and we now have a network which covers French territory fairly well as far as the seventeenth and eighteenth centuries are concerned, and indeed for earlier times too. Unfortunately, these statistics have not been published uniformly, and so the prices of certain markets are for calendar years, whereas others are for crop years. Furthermore, we generally have only four prices per year or the average price for the year, which greatly limits the statistical processes that can be used to exploit these series.

For the nineteenth century, we possess the *département* prices in calendar years published by E. Labrousse and the prices of 53 markets published recently by B. Roehner¹. However, these prices pose a problem when compared with those of the modern period. In fact, the prices published by Labrousse are the average prices of all the markets held in each *département* and there is no doubt that that average conceals variations. Furthermore, these prices are also the yearly averages of markets held once or twice per week. If the prices published by B. Roehner do not stumble at the first obstacle, they do at the second which derives from the way which the administration of the time drew up price lists. In contrast to the modern period, for the nineteenth century archives have few price lists for single markets. And so we must use the prices published by E. Labrousse or B. Roehner.

For these reasons and for others which will be explained in the following section, the three markets chosen for the Paris region are Rozay-en-Brie, Pontoise and Paris, and for the Toulouse region, Grenade, Castelnaudary and Toulouse, with the addition of Carcassonne. Our research will cover the period 1645-1784 for the modern period, and the period 1490-1784 for the comparison of Toulouse prices with those of Paris. For the nineteenth century, we shall study the period 1797-1912, choosing six markets in the *départements* of Seine, Seine-et-Oise and Seine-et-Marne for the Paris region and in those of Haute-Garonne, Aude and Tarn for the South. The reader will have realised that the sample is not homogeneous and that, moreover, there are a few years' statistics missing at the time of the Revolution.²

¹ Roehner (1991), pp. 126-232

² The market prices used in this work for the modern period come from: Castelnaudary: G. Frêche (1967), pp. 251-254; Carcassonne: *ibid.* pp. 250; Grenade: G. Frêche (1969), pp. 28-29; Paris: M. Baulant (1968), pp. 537-540; Pontoise: J. Dupaquier (1968); Rozay-en-Brie: E. Mireaux (1958), pp. 305-308 and Archives Nationales F11 208. For the nineteenth century, E. Labrousse (1970) and Archive Nationales F11.

Cereal Markets in the Two Regions Examined

A town's importance for the corn trade depends on its population, the population of the area providing the corn and the production level of the provisioning zone.

It is difficult to define a provisioning zone accurately, but the Paris provisioning zone, from the study of some details from the nineteenth century, seems scarcely to have varied from the Middle Ages to the mid-nineteenth century and covered some 32,500 square kilometres.

During the whole of the period, the population of Paris has always been very considerable. About 1560, Paris had a population of 200,000, which was 13 percent of the population of the provisioning zone. Just over a century later, in 1680, Paris' population had more than doubled, reaching 450,000. By the mid-nineteenth century, it had reached 935,000. From 1680 until the 1850s the population of Paris represented 25 percent and then 28 percent of the population of the area which supplied it with corn. With the exception of the eighteenth century, the population of the city increased much faster than that of the surrounding countryside³.

This area supplied almost the total corn requirements of the Parisians: Brie alone supplied about half⁴. When corn supplies began to run short, as in the eighteenth century, Paris looked to other regions: in 1726, 15 percent of the consignments came from Rouen. However we must not overestimate the significance of these imports because the year 1726 accounts for 42 percent of corn imports from other regions over the nine years for which we have statistics. For most of the time, Paris was self-sufficient as far as corn supplies were concerned, and when, as in 1726, corn was brought in from Roanne or Lyons by river and canal, it was only in negligible amounts (less than 3 percent of total market consignments in 1726). The Paris provisioning zone was therefore relatively homogeneous and self-sufficient. How could it have been otherwise when every region needed provisions? Map 1 shows the location of the three markets chosen.

The market of the Toulouse region was in keeping with the size of the town, and covered a much smaller area than the Paris market. It drew corn from about 30 kilometres north of Toulouse, 50 kilometres west and 40 kilometres south and east, a total area of about 5,000 square kilometres. The Toulouse provisioning zone was six times smaller than the Parisian provisioning zone.

For a long time, Toulouse was essentially a country town. Like Paris, it was situated in the centre of a region with fertile soil and a favourable climate. Haut-Languedoc is naturally fertile and most of the land was

³ For the definition of the Paris zone see J. Meuvret (1971), J. M. Chevet, A. Guéry (1981), J.M. Chevet (1984), S. Kaplan (1988).

⁴ E. Mireaux (1958), p. 177.

ploughed. Yet Toulouse, unlike Paris, was at the centre of an area with a surplus and which exported part of its produce. Rye was shipped to Bordeaux on the Garonne, and corn was shipped to Provence, Liguria and Tuscany via the *Canal du Midi* and the ports of Agde or Sète. The markets of Toulouse and Grenade have been chosen because they belong to the provisioning zone, Castelnaudry because it was a relay town and Carcassonne because it obtained its corn from the Toulouse region's surplus (see map 1)⁵.

In France at the time of the Ancien Régime, most market provisioning zones were small like Toulouse, Caen or Lille⁶. Only the Paris provisioning zone was large.

In the nineteenth century, the production of the surrounding countryside sometimes could not meet the increased demand of certain towns which therefore imported cereals from more distant regions. Paris was not among them, and these limited cases did not trade on a national scale.

As far as the flow of goods is concerned, it must be noted that the corn market was firmly divided into numerous regional markets at the head of which were a large city and several small towns that drew in surplus produce from the surrounding countryside. If cereals are considered as a whole, market divisions are even more striking because rye, buckwheat, oats and barley were transported much less than wheat, a noble cereal. From the movement of cereals, it is impossible to infer the existence of a national market before well into the nineteenth century⁷.

We shall now consider how market characteristics affect prices and their integration.

General Trends in Corn Prices in the Paris and Toulouse Markets

Graph 1 shows, in logarithmic form, corn prices in the Paris and Toulouse markets between 1490 and 1912, with reservations for their application to consumer patterns in the nineteenth century.

During the sixteenth century, between 1490 and 1590, prices rose steeply, continuously and at a constant rate. That puts into perspective the currency explanations suggested as being responsible for this inflation. On the other hand, whilst Paris and Toulouse prices rose at a similar rate during this period, everything changed at the turn of the century. Corn

⁵ For the commercialisation of grains in the Toulouse region, see the works of G. Frêche quoted in the references. See Le Roy Ladurie for the Languedoc (1974).

⁶ J. C. Perrot (1975), P. Lefèvre (1925).

⁷ For a definition of the national market, see F. Braudel, *Civilisation matérielle, Economie et Capitalisme*, vol. 3: *Le Temps du Monde* (1979), in particular chapter 4: "Les marchés nationaux", pp. 235-330.

prices remained stable in Toulouse until the 1690s, but continued to rise in Paris until about 1650, although not as rapidly as before. Parisian prices stabilised from the mid-seventeenth century to the mid-eighteenth century. On the other hand, from the 1690s the Toulouse market showed inflation which increased from the mid-eighteenth century, a period in which Parisian prices also began to rise again. In the nineteenth century, successive trends were much less marked. We can see, after inflation at the time of the Revolution, a phase of price inversion until the 1840s, a phase of price rises until the 1870s, and then another phase of falling prices until 1890 (round dates); finally we can note a last phase of rising prices. Study of the graph shows, despite many fluctuations, a rising trend over four centuries, from 1490 to 1890, although this rise in corn prices is not comparable to the sixteenth century.

Price Dispersion in the Three Languedoc Markets

We have the prices of the three markets from 1645 to 1912. Graph II charts the evolution of the average variation coefficient of the three markets⁸.

The graph shows great fluctuations in the variation coefficient. It goes down from 7 percent or 8 percent about 1650-55 and then rises again. Despite many fluctuations, a slow contraction in price dispersion may be seen over the period as a whole. Nevertheless, among the dispersion fluctuations we must distinguish the time of the Revolution, when price dispersion was more marked. This did not happen as a consequence of the wars of the Revolution, as has at times been stated, but earlier from 1770 onwards. Moreover, variability in the dispersion of the variation coefficient diminishes over the years. This fact may also be noted during the period from 1645-1788 and so does not result from the heteronomy of the sample.

Price Dispersion in the Three Parisian Markets

Graph III charts the evolution of the price variation coefficient in the Parisian region. There too, dispersion fluctuates but on the whole diminishes. For this reason, the graph for Paris and that for Toulouse are not alike. Price dispersion in Paris is greater than in Toulouse and falls by degrees. It diminishes more quickly than price dispersion in Toulouse because prices are almost uniform by the end of the Ancient Régime.

⁸ This method has already been used to represent the dispersion of French prices considered as a whole, by *départements* or by generalities, J.M. Chevet, P. Saint-Amour (1991 and 1992).

Moreover, fluctuations are not the same and are more marked in the Paris market. Lastly, another important aspect is that the French Revolution was not responsible for any marked change in price variation.

Dispersion in Corn Prices at the Inter-regional Level

Dispersion in the Paris and Toulouse markets is greater at the inter-regional level than dispersion in each regional market. Its pattern also differs from that of the regional markets. Price dispersion firstly levels out, then diminishes progressively from the beginning of the eighteenth century until the 1760s: the variation coefficient goes from 20 percent to 10 percent. An increase in dispersion can be seen, as in the Parisian market at the end of the nineteenth century. After the French Revolution, dispersion diminishes progressively and at the end of the nineteenth century is the same as that of each regional market. Price dispersion in the Paris and Toulouse markets taken together (graph IV) is more important than that recorded within each regional market. It is about 25 percent at the beginning of the period as against 8 percent and 12 percent for the regional markets. It goes down to 10 percent at the end of the eighteenth century, against 4 percent for each regional market. Its development is also different from that of the regional markets.

Keeping to the markets of Paris and Toulouse, it is possible to follow price dispersion trends from 1490 to 1788. Graph V shows the evolution of this new correlation coefficient. It may be noted that from 1490 to 1590 price dispersion fluctuates around an average coefficient of about 15 percent and that from the turn of the sixteenth century when the variation coefficient reaches an average of 30 percent. From the mid-seventeenth century on, dispersion decreases progressively to stabilise around 5 percent about 1710. This research into price dispersion in the Paris and Toulouse markets has brought us to the same conclusion as J. Meuvret: price dispersion reached its peak in the mid-seventeenth century⁹. However, we do not agree with his conclusion when he writes that from the years 1781-1788 prices reached a "véritable parité commune sur le plan national"¹⁰.

As far as the extent of price dispersion is concerned, we should remember that dispersion is not abnormal until it exceeds a certain limit. If we take the limit of 5 percent which is generally adopted in statistics, in the eighteenth and nineteenth centuries only the regions in the far South-East of France comply with this criterion of differentiation.

⁹ J. Meuvret (1988).

¹⁰ For price dispersion at the end of the nineteenth century, see J.M. Chevet and P. Saint-Amour (1992), the map on p. 156 which shows that the prices in South Eastern France are significantly higher than the French average price.

Coming back to the graphs which show the different dispersion trends of the markets, we take any moment and call it t . Prices there have a certain dispersion around the average. If we consider that the price curves found in a space between plus or minus two standard deviations from the average are statistically normal, and if we vary these limits from $t=0$ to $t=k$, we note that only occasionally does any curve go outside these two limits, both at the regional and the inter-regional level. The range of prices develops within parameters that we ought perhaps to consider absolutely normal. Were that confirmed, the series contractions being modest, the deviations would remain practically constant over the course of time. Prices in different markets would thus have the same long-term trends¹¹.

Price differences do not seem to enable us to compare the two market zones examined. If we were to include the South-East region in this study, with the markets of Marseilles, Arles, Aix and several others, we would most certainly find again the disparities that we have already described for the eighteenth and nineteenth centuries.

The Degree of Integration of the Market

According to economic theory, price differences between integrated markets represent normal transaction costs between markets. The single price law states that arbitration between different markets permits an effective equalisation among prices within a normal uneliminable short-term margin. It follows that prices will tend to show similar movements. It is this concordance among different prices that is most often used by economists to measure the degree of integration of markets.

The theory underlying this argument is relatively simple: the reduction in supply in a given place throws the market as a whole into a temporary state of imbalance. It therefore becomes advantageous to buy grain from somewhere else in the same market and transport it to where there is a shortage. Consequently prices in the place of purchase will tend to increase due to the joint effect of reduced supply and increased demand; prices will tend to fall in the market where, because of an insufficient supply, grain will be transported from one place to another on condition that the difference between the two prices will be sufficient to cover transaction, transport and contract costs, with a normal profit margin. We could therefore speak of price parallelism when considering this mechanism which standardises arbitration between regions with a deficit and regions with a surplus. In a normal situation, the actual movement of products is not necessary for market integration. In fact, to the extent that a transfer is possible and profitable, the prices of the different markets making up the integrated market will be

¹¹ This hypothesis will be verified with the aid of the co-integration theory.

defined as timely transaction costs, determining local supply within this market. For this reason, it will be preferable to use the relations between prices rather than between quantities to characterise a single market.

The Measure of the Degree of Market Integration.

Several methods allow us to measure the degree of integration of markets, taken as the place of a single price. Their utilisation depends to a great extent on the data available. It would be best to use VAR models and the transfer functions which enable us to avoid bad specifications due to the presence of auto-correlation of errors and to feed-back. With such methods, as well as knowing the usual information, we would know the *direction of causalities* and how long it took to transmit one market's impulse to another. However, to achieve that, we would need to have prices market by market, or at least weekly or perhaps monthly data. Since only annual prices are available at present, we have opted for other simpler techniques which nevertheless provide us with sufficient information.

We have gone back to the formula proposed by D. Weir which enables the degree of integration of several markets to be measured¹². This formula makes use of the relationship between the variance of the mean of several series and the sum of the variances of each series. The more the series are correlated among one another, the more will be the variance of their mean increase.

The formula is the following:

$$I = \frac{[\text{Var}(x) / (\sum \text{Var}(x_i) / n^2)] - 1}{(n-1)}$$

First the series are 'detrended' to avoid false correlations due to tendencies which could be incorporated in the series. To this end, we used the mobile means process although conscious of its limits. Then we calculated each series' variance on a window of seven years constructed with an annual moving average.

D. Weir's formula takes the value 0 when local series are perfectly independent. It goes to + 1 if the series' movements in time are identical. For a degree of integration from 0 to +1, the index, which from now on we shall call the integration index or simply index 1, is independent of the number of markets considered (n): this enables us to compare the degree of integration among regions with a different number of local series. In the case of negative correlations, index I can have a value between -1 and 0 for n=2 (for when n goes towards infinity, I goes towards 0). Now, since there is no point in speaking of negative degrees of integration, we shall consider the values between 0 and +1.

¹² D. Weir (1991).

At the Regional Level

We shall begin analysing the degree of integration of markets in each regional area.

An examination of the integration index shown in graph VI shows that the three Toulouse markets are strongly integrated, the index moving between 0.9 and 1 over the whole period. Nevertheless, we can see some breaks in the curve about 1680, 1701, 1750 and above all at the end of the nineteenth century. It is not easy to interpret these breaks. Perhaps those regarding modern times are attributable to the slumps which were not felt to the same degree in the three markets taken as a whole, but this has not yet been proved. With regard to the end of the nineteenth century, we believe we can identify the lack of homogeneity in the sources.

One of the drawbacks of the method used is that it says nothing about the value of the impulse sent from one market to another. In order to have some indication of that value and at the same time to profit from the use of several methods, we have also used the regressions of the equation $Y=aX+b$.

These regressions are performed on the primary differences of price logarithms, the coefficient "a" of the regression thus being interpretable in terms of elasticity. They confirm the above results. In the following table, we give the value of the regression coefficients, together with the value of the R^2 , bearing in mind that the possible presence of auto-correlation of errors and feed-back recommends prudence.

	Regression coefficient	student's	R^2
Toulouse/Grenade	0.81	54.85	0.92
Toulouse/Castelnau dry	0.86	29.38	0.80

An increase in price of 100% on the Grenade market leads to an 81% increase in price at Toulouse, whilst an increase of 100 on the Castelnau dry market leads to an increase of 86 at Toulouse. The difference between the two coefficients is slight. It is obtained with the help of a method subject to caution. Had another method been used, perhaps the difference would not have been apparent.

If we now look at the degree of integration of the markets in the Parisian area, we note that price variations in the three markets become more and more concomitant during the second half of the seventeenth century, with the index going up from 0.6 in the mid-seventeenth century to 0.8 at the turn of the century. This trend differs from that of the Toulouse

region where price parallelism is already much more marked. During the eighteenth century, with some exceptions, the index shows strong market integration, since it moves between 0.7 and 0.9. Series of a poorer quality perhaps account for the weaker integration of the Paris market compared with the integration of the Toulouse market. At the end of the nineteenth century, both markets show a definite decline in the degree of integration. This lesser integration could well be due to the fact that the market as a place disappears in favour of sales from samples, and that time-bargains are of increasing importance, etc.

To confirm the results obtained with the aid of the integration index, we have carried out regressions; the results maybe seen in the following table.

	Regression coefficient	student's	R ²
Paris/Pontoise	0.80	31	0.75
Paris/Rozay-en-Brie	0.67	19.9	0.40

According to R², the Paris markets' dependence is less than that of the Toulouse markets. As far as elasticity is concerned, a price increase of 100 in the Pontoise market leads to an 80% increase in the Paris market, whereas a similar increase in the Rozoy-en-Brie market leads to an increase of only 67% in the Paris market.

Despite the differences between the Paris markets and the Toulouse markets, it is clear that there is a strong integration among markets of the same region linked by trade.

At the Inter-regional Level

We shall now examine the degree of price integration between the Paris and Toulouse markets. To this end, as previously, we have calculated and shown the market integration index (Graph VIII).

Market integration at the inter-regional level is very different from that at the regional level. In fact, the curve showing index I is almost at zero at the beginning of the period and then goes up gradually to 0.6-0.7 at the beginning of the eighteenth century. The index remains unchanged for about twenty years and then drops again to 0.2. It goes up again to 0.6-0.7 about the 1760s and then drops sharply to 0.2 about 1770. The period from 1645 to 1784 seems therefore to show that the links between the three Paris markets and the three Toulouse markets are somewhat loose.

There are sudden variations in the nineteenth century, too, but the index remains higher than during the period from 1645-1784. Since the sample is not homogeneous for the periods, we shall not infer from it that prices in the two regions are more integrated in the nineteenth century than before.

Graph IX shows the integration index between the Paris and Toulouse markets for the period from 1490 to 1784. It confirms the conclusions that were reached previously. In particular, it emerges that, during the period from 1490 to 1645, links between the two markets are especially loose. From 1500 to 1570 the index fluctuates between 0.3 and 0.8 and from 1570 to 1630 it fluctuates around 0.5.

It is well worthwhile comparing this new index for the period 1645-1784 with that plotted in graph VIII. Although the curve has the same general aspect, it is on the one hand more accentuated and on the other, though reaching a value of 1 about 1710, it is at a lower level. It emerges from this comparison that the number of series used to calculate the index may have some incidence on the value of the index when a certain number of markets are well integrated. A market-to-market comparison is therefore necessary.

A regression, calculated from the Toulouse and Paris prices for the period 1645-1788 confirms the previous results:

$$\text{Paris} = 0.47 \text{ Toulouse} \quad R^2 = 0.25 \\ (6.50)$$

R^2 indicates that the link is loose because Toulouse price variations account for only 25% of Paris variations. With a value of 0.47, the flexibility obtained is equal to almost half those calculated in the regional markets.

In this work, we have not tackled the forms of commercialisation of grain. Yet this is very important for several reasons. We shall merely mention them here, pointing out that these forms have evolved a great deal from the Middle Ages to the end of the nineteenth century. First of all, the economy's increasing use of money, for example the change from payment in kind to payment in money, leads the producer to play a more important role in the commercialisation process of his product. Secondly, because millers and flour-men interfere in trade, this fact and sample-sales are responsible for the decline of the central role of the market¹³. Of course, all these changes and many others besides should be more closely connected with the integration processes. However, at first sight, it does not seem that these changes have had many consequences on the degree of market integration¹⁴.

¹³ Aymard (1983), Kaplan (1988).

¹⁴ This tends to confirm L. Von Mises' opinion of the market: "The market is neither a place, nor a thing, nor a collective entity. The market is a process, brought about by the joint actions of different individuals cooperating in the division of labour." L. Von Mises (1985), p. 273. Nevertheless, let us note that when the farmer sold his corn at the farm, he enquired regularly about prices at the nearest market. The market in the sense of the market-place thus remains a point of reference as far as prices are concerned.

Within a region, markets are strongly integrated when there is no single price at the inter-regional level. At first sight, it is a good thing that information may be conveyed through cereal transactions, because the latter take place only regionally, where there is a single price. However, at least in the short term, there is no cause-effect relationship between price variations and quantity variations on a given market. Except during slumps, prices convey their own information, information having a memory¹⁵ Besides, how could it be otherwise? In order to glean all the information from the quantities bought and sold, society would have to be totally transparent, that is to say its actors should not be subjective¹⁶. Moreover, at every moment every actor must have a total and perfect knowledge of all the market mechanisms. Each actor must be one of Maxwell's demons, as it were.

The Myth of the National Market

Of course the results we have ought to be confirmed, in particular with fixed price series market by market which have not yet been drawn up. With the assistance of these series, we could measure the degree of integration among different markets more effectively by applying VAR models and transfer functions. Furthermore, with causality tests, we could know about initiator markets. Nevertheless, while waiting for these extensions, we can draw several conclusions from the statistical analyses in this work.

As far as flow is concerned, the corn market is divided into diverse regional markets whose size varies according to the importance of the main city and the small towns which draw in the surplus grain produced in the countryside. Of course, these diverse markets are never totally separate. They intersect at their borders, they overlap in the same year or from one year to the next. However, despite the overlapping of the borders of the diverse markets, inter-regional transactions remain limited or negligible. Contact zones between markets pose a problem as far as the matter of market integration is concerned. In effect, are the more peripheral markets less integrated with the central markets than the nearer markets are? In other words, does integration diminish when one goes from the centre to the outlying districts? Are the outlying markets of the two provisioning zones less integrated with one another than with the pole markets? Are there any real gaps between provisioning zones or does the connection gradually become weaker?

This study shows us that market zones do not correspond to the

¹⁵ Chevet J.M., *Marchés, prix et salaires en France à l'époque moderne*. (in preparation).

¹⁶ On the subjectivity of social actors, see S. Kaplan (1982).

national area. The examination of other economic variables leads to the same conclusion. For example, if F. Spooner is to be believed, the minting of coins would set western France against eastern France¹⁷. The boundaries of development poles and stagnation poles could be marked just as well from both a demographic and an economic point of view. The list of phenomena enabling us to bring to light the explosion of the French economy is not limited to the few examples that we give. They do not lessen its economic area-political area dichotomy.

F. Braudel believes historians above all are the most wedded to the idea of a national market because of a type of history limited to the narration of events which was their sole delight for too many years¹⁸. This idea has no place at all in economists' vocabulary.

F. Braudel was well aware of this dichotomy. Does he not say that, to define the national market, we must reject "peremptory definitions made *a priori*, together with the almost perfectly coherent definition (for example the unison of price variations in an area under examination) which would be the *sine qua non* condition of any national market"? In this case, the national market would not exist. This is what we assert and what F. Braudel recognises implicitly, because France would then be divided into at least three price zones¹⁹.

To rescue the idea of a national economy, F. Braudel comes to consider other criteria, including flows. We have seen that they do not enable us to speak of a national market either. Considering that transactions define the national economy, F. Braudel writes of corn: "Even for corn, the market as a whole functions rather badly. France, a giant producer, a victim of her surface area, uses up her production locally: breakdowns and even shortages are paradoxically and really possible, as late as the eighteenth century". F. Braudel thus recognises that, from his examination of flows, there is no national corn market²⁰.

In the end, it is the role devolved to politics that will enable us to define the national market which is: "In short, a voluminous economy, spread widely over the area, 'territorialised' as it is sometimes said, and sufficiently coherent for governments to manage to shape or manoeuvre it to a greater

¹⁷ F. Braudel (1979), vol. 3, p. 287.

¹⁸ *Ibid.*, p. 235.

¹⁹ *Ibid.*, p. 250.

This passage is in contradiction with what is written on p. 58: "Prices...never cease to vary. Observable from an early date, these fluctuations are the indication of the early existence of market networks, especially as these fluctuations are more or less synchronous over fairly wide areas. Although far from perfect harmony, fifteenth, sixteenth and seventeenth-century Europe, complied with overall rhythms, with an order."

²⁰ *Ibid.*, p. 278.

or lesser degree. Mercantilism is precisely the awareness of the possibility of manoeuvring the whole of a country's economy, to all intents and purposes to cut short the ongoing search for a national market"²¹.

In fact there is a vision of finality in Braudel's concept of the national market because he examines the national market from the political angle. Let us note that the market is an economic concept when the nation is a political notion. To speak of a national market is very often to conflate the market with the nation or, even more often, the nation with the market. In so doing, it is implied that there is a causal connection between the economic system and the political system, i.e. one becomes the other's driving force and vice versa. Politics will thus be a determinant factor if the nation governs the national economy, the French Revolution being a great moment in the formation of the national market. On the other side, which could be called institutionalist, a certain number of institutions would block or at least act as a brake on the market economy's prosperity. D. North and his school represent this current of thought²². The reader will have had no difficulty in recognising an old-fashioned dividing line between the left and the right. It is interesting to observe that, although there are some changes in the field of knowledge, like this balance between economism and determination by politics, people continue to think using the same paradigms handed down by the century of the Enlightenment. However, the odds are that the candle's flame, lit for a long time, flickers to no more than a vanishing point and prevents us from throwing light on the questions our world poses. To conclude, paraphrasing Pascal, we shall say that economy "hath its reasons which politics knoweth not". In so doing, we rediscover Braudel's diverse temporal notions²³.

²¹ *Ibid.*, p. 251.

²² See also L. Von Mises when he writes : "The market economy system has never been fully and unreservedly tried. But in the area of Western civilisation since the Middle Ages on the whole a general tendency has prevailed to abolish institutions that hinder the functioning of the market economy." L. Von Mises (1985) p. 280.

²³ F. Braudel (1969).

We are now refining our argument on the basis of monthly price series and the theory of co-integration.

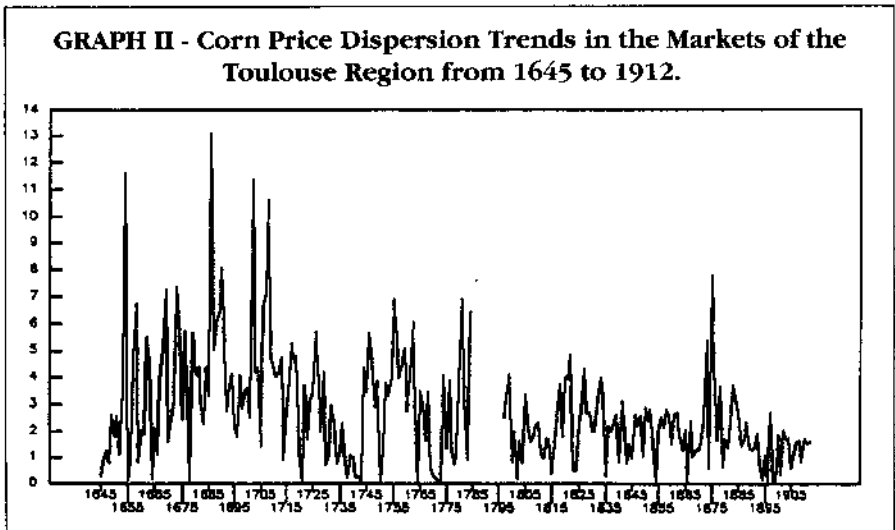
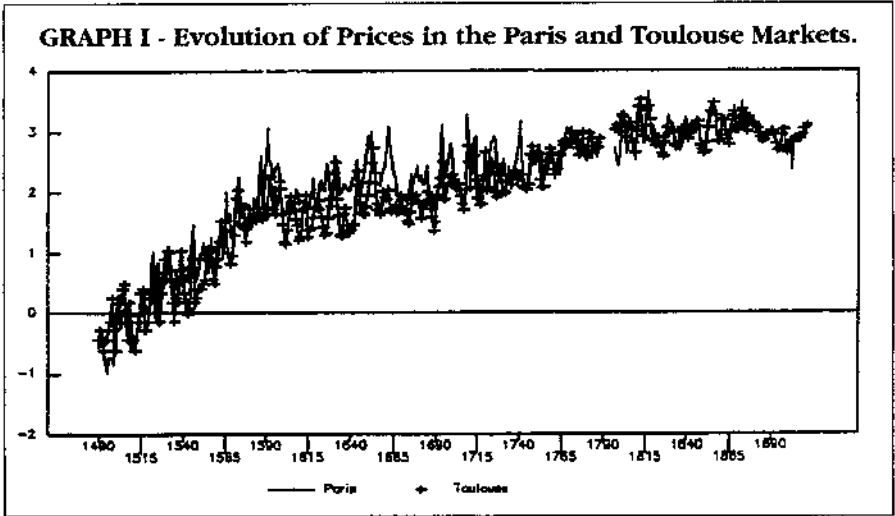
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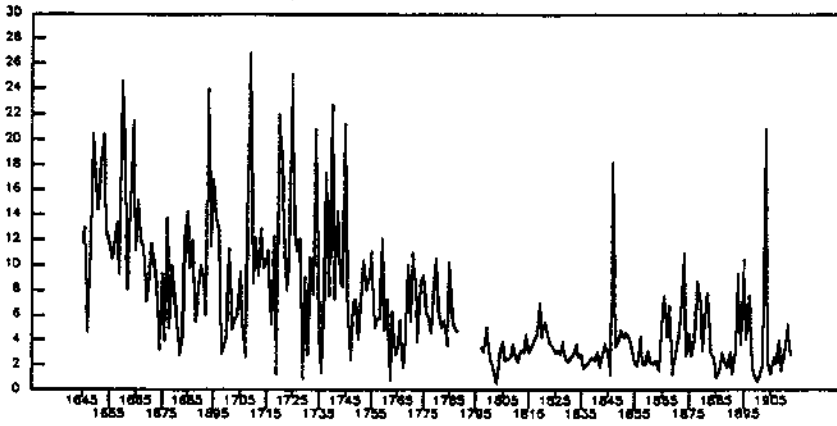
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Appendix

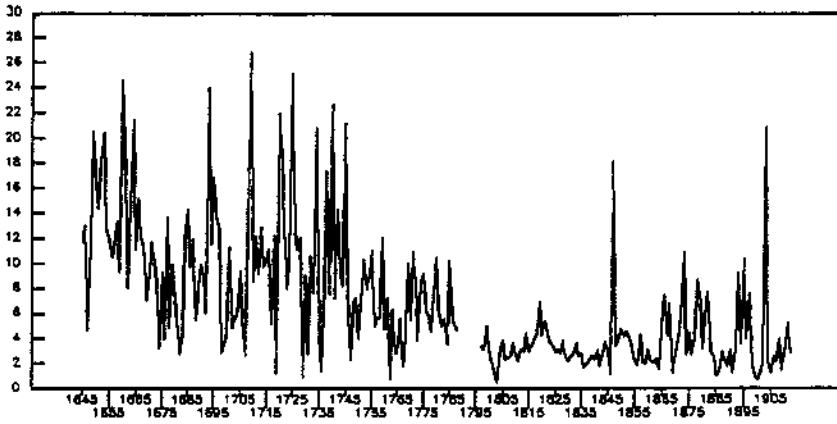
National and Regional Corn Markets in France from the Sixteenth to the Nineteenth Century



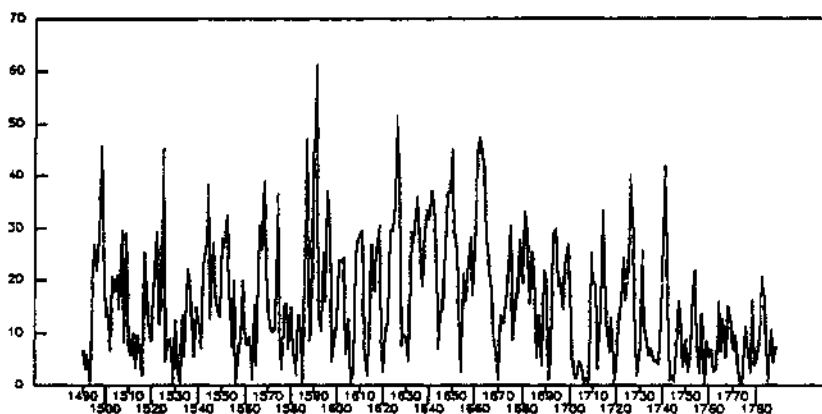
GRAPH III - Corn Price Dispersion Trends in the Markets of the Parisian Region from 1645 to 1912.



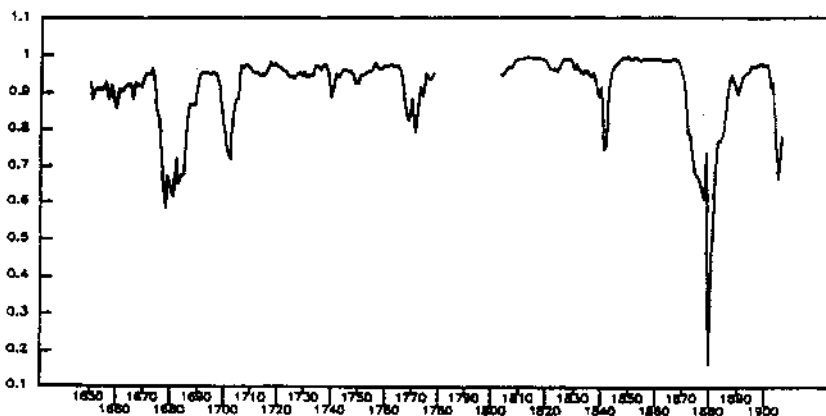
GRAPH IV - Evolution of Corn Price Dispersion in the Markets of the Paris and Toulouse Regions from 1645 - 1912.



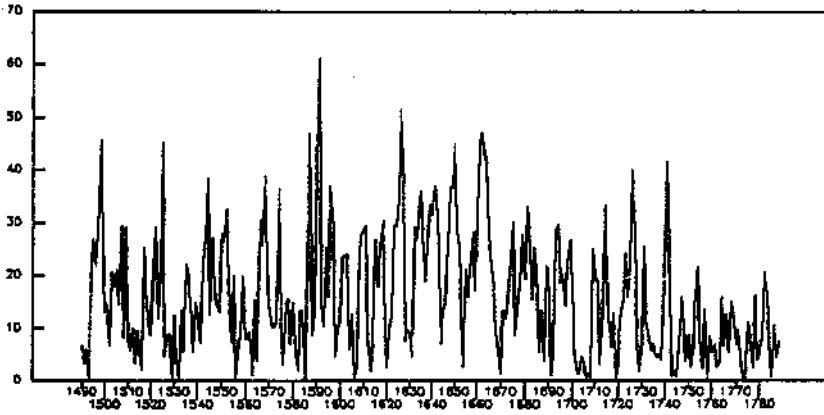
GRAPH V - Price Dispersion Trends in Paris and Toulouse from 1490 to 1912.



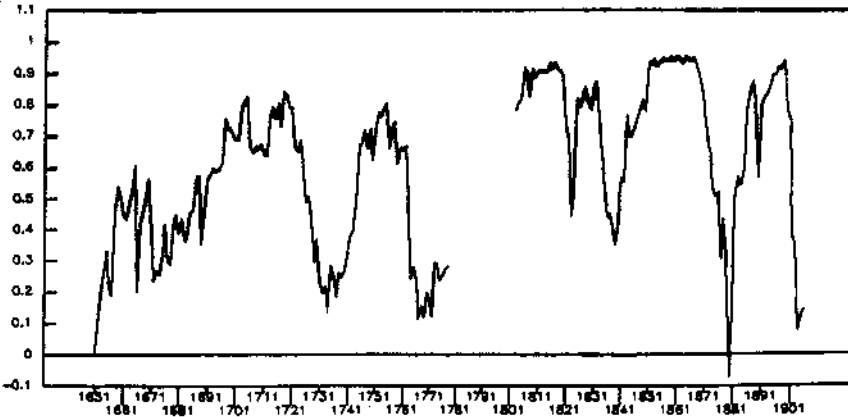
GRAPH VI - Integration Index Trends in the Markets of the Toulouse Region from 1645 to 1912.



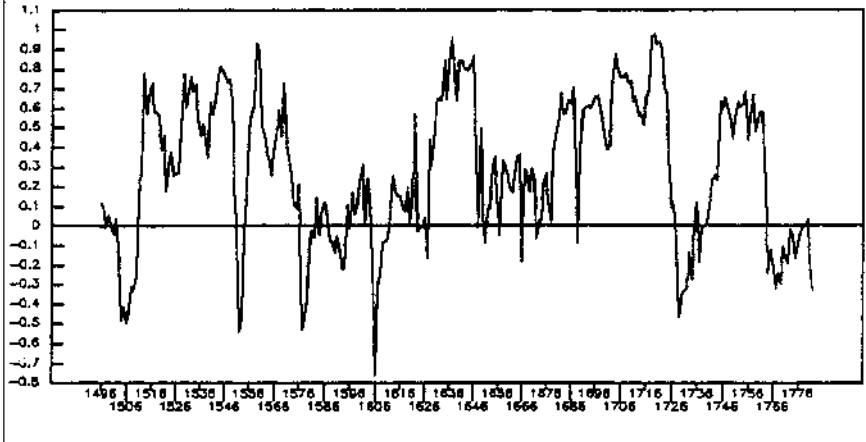
GRAPH VII - Integration Index Trends in the Markets of the Parisian Region from 1645 to 1912.



GRAPH VIII - Integration Index Trends in Inter-regional Markets from 1645 to 1912.



GRAPH IX - Integration Index Trends for Toulouse and Paris from 1490 to 1788.



MAP 1 - Location of Markets

