12-2012

Agriculture, Influence, and Instability Under the *Ancien Régime*: 1708-1768

Adam J. Polk

AGRICULTURE, INFLUENCE, AND INSTABILITY UNDER THE *ANCIEN RÉGIME*: 1708-1789

by

Adam J. Polk

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Arts
Department of Geography
Advisor: Gregory Veeck, Ph.D.

Western Michigan University
Kalamazoo, Michigan
December 2012

AGRICULTURE, INFLUENCE, AND INSTABILITY UNDER THE *ANCIEN RÉGIME*: 1708-1768

Adam J. Polk, M.A.

Western Michigan University, 2012

The French Revolution has been studied from myriad perspectives. The majority of scholarship focuses on the political and urban chaos of the times. Agricultural conditions and the influence of onerous taxation and stagnant agricultural options are given only a cursory examination in most research. This thesis aims to investigate the relationship between agronomic and environmental conditions and the eruption of violence in urban centers during the French Revolution and the years leading up to it (1708-1768). This period prior to the French Revolution serves as a template to investigate the nature of the rural-agricultural influences, with a particular focus paid to the role of grain production and prices. Data was collected primarily from the French National Archives and from other historical documents and reports. Methods in historical GIS are employed to further the scholarship regarding this period of history. GIS allows clear illustration and analysis of the political and economic factors which impacted the agricultural practices during this period, and the subsequent extent of the rural/urban relationship and potential agronomic influences that led to the ultimate collapse of the *Ancien Régime*.

ACKNOWLEDGMENTS

The journey which culminates in the completion of this thesis has been life changing to say the least. I am eternally grateful for everyone that has helped me along the way. I am indebted to the both the Lucia Harrison Endowment Fund and the WMU Graduate Research Award for making my dreams of international travel and research a reality. To all the staff at *Les Archives Nationales* in Paris, I will never forget how helpful you all were, especially the in the beginning when all I could muster were a few nervous lines in French. Thank you for making me feel at home. I would also like to thank my fellow graduate students who provided input and suggestions (even when you were calling me "Frenchie").

I would especially like to thank my thesis committee. Dr. Greg Veeck, you were everything I could have hoped for in an advisor. Thank you for always challenging me. I will always remember the guidance you have given me on this journey. Dr. Kathleen Baker, thank you sparking my interest in GIS and starting me down this path. Dr. Lucius Hallett IV, thank you for your help and perspective. I am grateful to all of you for helping my research ideas become a reality.

Finally, I would like to thank my family and friends who contributed to my life over these last years. I needed you more than you know. This would have not been possible without you.

Adam J. Polk

TABLE OF CONTENTS

Table of Contents—Continued

CHAPTER

LIST OF TABLES

LIST OF FIGURES

List of Figures—Continued

CHAPTER I

INTRODUCTION

The French Revolution has been exhaustively studied from various perspectives, from political to social to economic. Four main periods of historiography have been identified for the Revolution: "initial reactions to the French Revolution," "Revolution and French identity," "The French Revolution and the 'catéchisme révolutionaire,'" and "New trends in the historiography of the French Revolution."[1] All of these areas of scholarship have focused on the social-political and ideological causes and repercussions of the events of the Revolution and the period immediately prior, known as the *Ancien Régime*, with respect to major urban areas or to a lesser extent, the nation as a whole. Since the most famous events transpired within urban centers, such as the storming of the Bastille and the various political machinations that led to it, the story of the Revolution has mainly been one concerned with cities. Conditions within France's rural communities are grossly overlooked as potential "drivers" of the Revolution, alternatively, problems in such locations are treated as a minor footnote, "Paris has been affected by food shortages, unemployment, a rise in the price of basic foodstuffs and a public mood of dissatisfaction with levels of indirect taxation."[2] This one sentence is the extent to which the rural communities are examined by Davies, in his book *The French Revolution*. However, to understand the full circumstances

[1] Claval, Paul. "New Interpretations of the French Revolution and their geographical significance", *Journal of Historical Geography*, 15, 3, (1989): 260-263.
[2] Davies, Peter. *The French Revolution*, (Oxford: Oneworld Publications, 2009), 37.

surrounding the events of the Revolution, it is necessary to also address and understand France's rural situation and to determine the synergies between the rural and urban systems that ultimately led to the conflict and collapse of the government. If it is important to note the status of the food supply, it should be equally important to address the systems and events which ultimately resulted in the famines that began in 1786. The failures of the harvests between 1786 and 1790 caused such severe hyper-inflation of food prices for which even a successful harvest in 1790 offered little reprieve[3]. There is evidence to support the claim the agricultural systems of pre-Revolution France had as much influence of the events of 1789 as poor governance and political intrigue. In fact, given that any population needs agricultural and food supplies in order to exist, the agricultural landscape of the day presents an underlying system of abuses and deficiencies which radiated outwards from the rural to the urban centers. Political and social strife undoubtedly forced the hands of the revolutionaries, but failure within the structural systems responsible for the lack of nourishment fostered an atmosphere of urgency which led the already traumatized and dejected populous down the path of armed conflict.

Social Structure and Agriculture

Prior to the revolution, French society, especially rural society, still essentially operated under a feudal system. Dues and duties levied on the peasant class in an effort to supplement the income of the lords due to increasing prices and declining rents

[3] Rosenthal, Jean-Laurent. *The Fruits of the Revolution*. (Cambride: Cambride University Press, 1992), 9.

certainly led to instability. However, the inability of the rural communities to obtain loans to purchase seeds and other necessary agricultural supplies led to a shift in population to the urban centers, just as the food shortages and grain price inflation began. While these arguments suggest rural origins for the revolution, the feudal structure is seen as the main cause. The system certainly shaped the agricultural practices of the period, yet this point is under examined and the struggles of the peasant class are cited as the reason for the explosion of violence. Others make the connection between the feudal system and poor agrarian practices, but stop short of suggesting a clear link with the violence which erupted in urban centers.[4]

History and Geography

History and geography are two unique disciplines which have the opportunity to benefit greatly from one another. Geography offers potential benefit to the study and analysis of history in ways that would otherwise be unobtainable. The use of spatial analysis specifically, a technique unique to geography, has the potential to further such interdisciplinary research. This research will employ techniques from both history and geography in order to investigate characteristics of the *Ancien Régime* which would be impossible to explore without such interdisciplinary methods.

[4] Jones, Peter M. "Agricultural Modernization and the French Revolution," *Journal of Historical Geography* 16 (1) (1990): 38.

Research Question

The purpose of this research is to investigate the relationship between the agronomic and environmental conditions of the French countryside during the *Ancien Régime* and on the eve of the revolution in 1789. By examining the myriad reasons for these conflicts, several grievances can be identified. These cases, though diverse, all existed within an atmosphere driven by the human suffering which unfolded not just in the cities, but in the surrounding rural landscape as well. The extent to which events within the cities were spawned by local rural events or fueled by strife which originated in the fields will be explored. This research will focus on six different *généralités*, or administrative regions, which combined include 70 market places. These *généralités* are Soissons, Poitiers, Champagne, Dauphine, Franche Comté, and Haynaut, the county seat of which are Soissons, Poitiers, Châlons, Grenoble, Besançon, and Valenciennes respectively (Figure 1.1). The spellings of all locations reflect 18th century spellings.

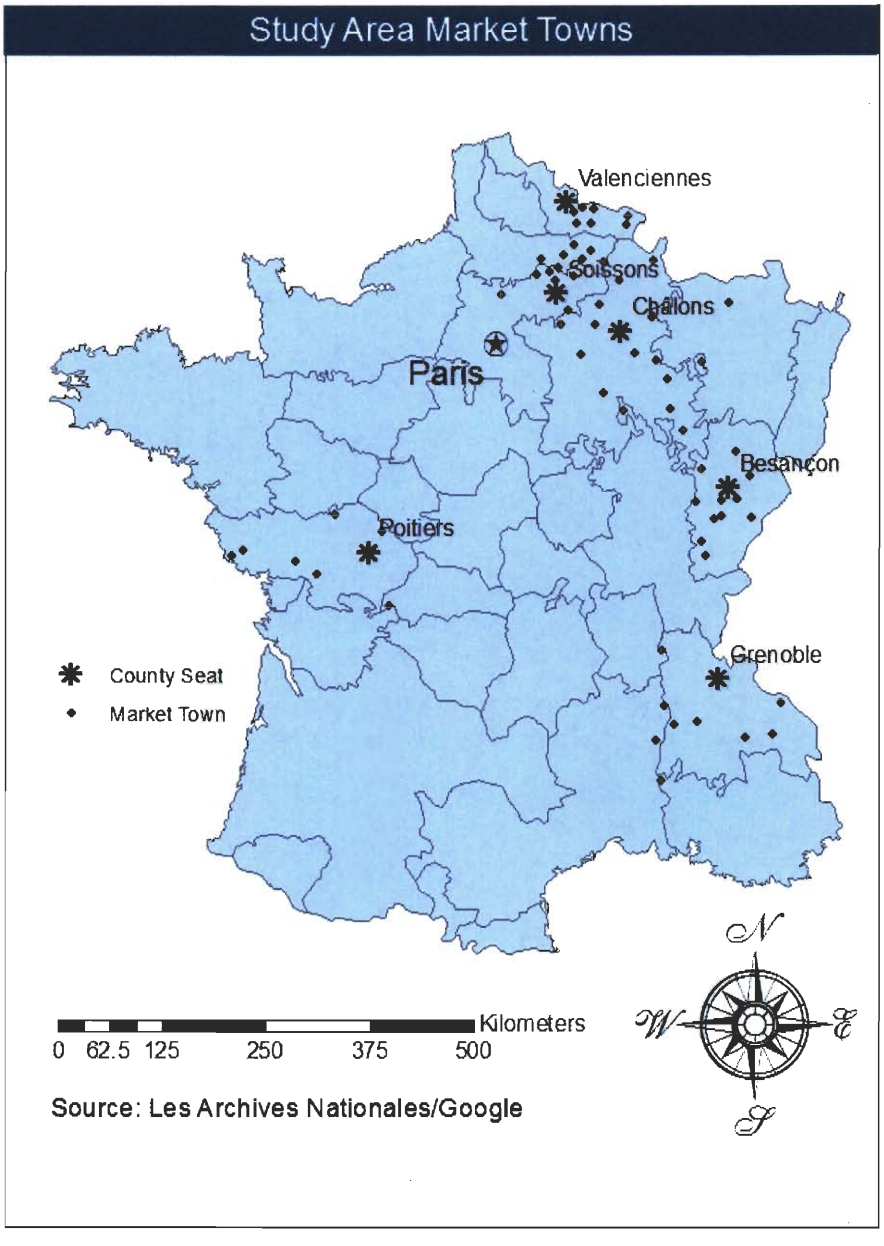


Figure 1.1: Study Area Market Towns
Source: Les Archives Nationales/Google, 2012

This research, then seeks to develop a better understanding of conditions during the years leading up to the revolution of 1789 and the subsequent bloody years in so far as they were related to the decline of rural life and agricultural systems. Through an examination of grain prices and the availability of grains for sale in any given location, the influence of the local markets can be compared with those of Paris and other major cities. This examination will be made possible by utilizing historic data in conjunction with computer-based spatial analysis, joining statistical analysis with a geographic information system (GIS). A better understanding of this time period will be sought through the use of these interdisciplinary methodologies.

Objectives of the Study

1) Digitization of historic maps and other related data.
2) Employ spatial analysis to investigate of the relationship between grain prices and market locations vis-à-vis Paris and other major cities.
3) Investigate possible explanations for the price variances and instabilities in grain markets identified through the use of statistical tests in conjunction with the historical GIS of France developed for this research.

CHAPTER II

HISTORICAL GEOGRAPHY

Geography and history have been explicitly linked since Herodotus described the landscapes and events of the ancient world over a millennium and half ago. Since antiquity, scholars have written countless works which contribute to both disciplines and at times, blur the line which separates the two. In more recent times, a debate has arisen regarding the relations between these fields. Much of this debate is concerned with what has come to be known as *historical geography*.[5] Historical Geography can be defined in one of two ways. Traditional usage of the term harkens back to Herodotus. It refers to both to the role of geography in describing the physical environments upon which historical events transpired and the changing of these historical landscapes over time. In more recent years, the term has been applied to any work which reconstructs geographies of the past.[6] Much of the debate concerning this subfield revolves around which discipline can rightly lay claim to the work which is produced. This concern for disciplinary boundaries has resulted in many critiques of historical geography. Leonard Guelke and Robin Donkin have taken a hard line against what they have perceived as a danger to both fields of study[7]. Donkin has gone on to argue against not only historical geography, but all subfields within geography:

---

[5] Miles Ogborn. "The relation between geography and history: work in historical geography in 1997." *Progress in Human Geography* 23 (1) (1999): 97.
[6] Pitzl, Gerald R. *Encyclopedia of Human Geography* (Westport, CT: Greenwood Publishing, 2004), 100-101.
[7] Ogborn, "Work in historical geography," 98-99.

> Much is now done under the banner of 'geography' that could be done as well or (dare I say) better within the ringfence of some neighbouring discipline, whether in the natural or social sciences. Such external connections are sometimes more fruitful and more intellectually congenial than connections, if any, within the same prescribed discipline. Decentralisation is beginning to look perilously like deconstruction. If 'geography' as an academic discipline did not exist today, would there be a case for inventing it?[8]

Such harsh criticisms ignore the many genuine contributions of interdisciplinary research, and ultimately are nothing more than semantics. The name under which such research is conducted is not as relevant as the information which can be obtained. As such, Ogborn identifies five distinct traditions in historical geographic research: empire, environmental history, social and cultural history, and heritage and memory.[9]

The study of empire requires involvement of interrelated disciplines. As phenomena exist across time and space, the spatial analytical approach of the geographer is just as necessary as the ability of the historian to analyze and interpret temporal events. The imperial historians concerned with territory and administration require the use of geography in any such research. The spread of empire manifests as effects that ripple through time and space requiring an approach which could not be undertaken without a blending of history and geography.

Environmental histories are developed by examining the changes which occur to the physical environment over time. These observations of changes are intertwined often with political histories. An examination of the policies of the past and present offer an insight into subsequently observed environmental changes. This approach can

[8] Donkin, R A. "A 'servant of two masters'?" *Journal of Historical Geography* 23 (3) (1997):264.
[9] Ogborn, "Work in historical geography," 99.

often be coupled with the empire approach to relate more complicated stories of "ecological imperialism" which attempt to coalesce the spreading of peoples and culture, and the resultant changes to the physical environment into one cohesive narrative. The result demonstrates little difference between history and historical geography due to shared subject matter.[10]

Social and cultural histories therefore reflect common subject matter and similar analytical methods. These studies are less driven by the work of other geographers or historians, and more by the adoption of particular theories. In this approach, theory is applied to events and places of the past in a way which seeks to explain events in their historical and geographical context. Such studies are important because the theoretical basis provided in the research forms a fulcrum around which historians, geographers and historical geographers can communicate.[11]

The final approach is what Ogborn refers to as the "memory and heritage" approach. This approach focuses on the role past events play in shaping present events. This can be seen in the ways in which events and areas are represented through maps or historiographical studies. This can be an especially useful approach if one is able to utilize maps from a particular historical time period. Such maps provide insight into the people of the day by illustrating how the surrounding environment was perceived at the time.

All of these approaches incorporate the use of historical and geographic research methods informed either by subject matter or theoretical approach. The true strength

[10] Ogborn, "Work in historical geography," 102-103.
[11] Ogborn, "Work in historical geography," 103-104.

of historical geography comes from this ability to incorporate different approaches. By utilizing varied methodologies, the historical geographer is able to conduct research which would otherwise be limited by only the traditional approaches employed by each respective discipline. Historical geography therefore applies the strengths of both history and geography to create an otherwise unobtainable research perspective, joined with a unique set of tools.

Historical GIS

This notion of geographic techniques being applied to other fields has become even more widespread in recent years with the introduction of geographic information systems (GIS). GIS is the confluence of cartographic and computerized concepts, and as such has similar development roots as the computer systems of the 1960's and 1970's.[12] Since its inception, GIS has become a useful tool in diverse fields beyond geography. The relatively recent use of GIS in historical research has led to the creation of a rapidly growing field that has become known as historical GIS.

GIS can aid the advancement of historical scholarship in several ways. First, by allowing revisionist studies that challenge existing orthodoxies. Second, by tackling questions that have been solved to date in different ways, and finally by providing approaches that enable the researcher to ask completely new questions.[13] GIS also allows the historian or geographer to create databases which spatially integrate data

[12] Foresman, Timothy W. "GIS Early Years and Threads of Evolution." In *The History of Geographic Information Systems*, ed. Timothy W. Foresman, (Upper Saddle River, NJ: Prentice Hall, 1998), 3-10.
[13] Ian N. Gregory and Richard G. Healey, "Historical GIS: structuring, mapping and analyzing geographies of the past." *Progress in Human Geography* 31(5) (2009): 644.

from various sources which can then be more easily analyzed. Historical GIS, as a tool used by the historical geographer requires knowledge and understandings of the tools available to both disciplines, as well as the necessary computer skills. GIS allows location to be treated as an independent factor, thus enabling the analysis of patterns and distributions. The use of "data layers," in which spatial data are "overlayed" on a selected base map, allows multiple levels of information to be integrated from different sources as well as for different time periods allowing for visualization of the data as it varies over space and time.[14]

Specific uses of historical GIS include digitization of historical maps,[15] reconstruction of historical landscapes,[16] and the analysis of historical events.[17] The creation of digital maps allows the researcher to create a template for spatial analysis using the world as it was viewed during the historical period under study. This technique can also be used for digital visualization and dissemination and analysis of archival maps as well. Using historical records which account times and places, GIS can be used to reconstruct the environment as it would have been known during the historic period. Finally, by combining aspects of both of these techniques, the researcher can analyze historical events in a manner otherwise impossible. These GIS techniques are

[14] Holdsworth, Deryck W. "Historical geography: new ways of imaging and seeing the past." *Progress in Human Geography* 27 (4) (2003) 486-487.
[15] Hayes, D. *Historical Atlas of Canada: Canada's history illustrated with original maps*. Vancouver: Douglas and McIntyre (2002).
[16] Lowe, David W. Telling Civil War Battlefield Stories with GIS. In *Past time, past place: GIS for history*. ed. Knowles, A.K, Redlands, CA: ESRI Press (2002), 51-64.
[17] Cunfer, Geoff Causes of the Dust Bull. In Knowles, *Past time, past place: GIS for history*. ed. Knowles, A.K, Redlands, CA: ESRI Press (2002), 93-104.

therefore invaluable to any researcher interested in historic geography, particularly one with access to quantitative data and historical maps and documents.

The current research, introduced in Chapter I, will employ a GIS-informed historical geographical approach. I have selected these methods with the hope that viewing the conditions which faced 18th century rural France through this "spatial lens" will identify new relationships and information. The next chapter will place my own research in the appropriate spatial and historical context.

CHAPTER III

ENVIRONMENTS AND HISTORICAL CONTEXT

The era prior to the 1789 revolution in France is known as the *Ancien Régime*. The literal English translation of this term would be "Old Regime." However, this term contains connotations in French which do not translate well into English, and is generally used a pejorative term. The period of *Ancien Régime* (1461-1789) has gone down in history as a period rife with myriad problems. Political, social, and economic mismanagement by the state was the norm during this period. In fact, many of the reasons for the French Revolution must be associated with the ills of this formative period.[18] One of the fundamental points of departure for this period is the system of social distinctions, known as the Three Estates, which fixed all citizens firmly within a particular social caste. These castes were le clergé, la noblesse et le Tiers État, or the clergy, the nobility, and the Third Estate. This system had its roots in the medieval period, and the feudal systems that still permeated class interactions.[19] Many of the other problems as well as social conflicts of this period stemmed from the gross imbalances among classes best represented by the groups that formed the Three Estates.

Pre-modern, often inefficient, forms of agriculture, such as the three field rotation and open field systems, remained the norm during the period just prior to the

[18] La Déclaration des droits de l'homme et du citoyen de 1789.
[19] Kemp, Tom. *Economic Forces in French History*. (London: Dennis Dobson, 1971), 27.

French Revolution. The system of feudalism and strict class divides ensured the persistence of this flawed system. While some social critics of the day were aware of the problem as 1789 approached, little could be done to correct the issues without the devoted attention of the monarchy.[20] The excesses of the royal court and an overall lack of concern for the peasant class all but assured that the backward condition of the agricultural sector would remain "frozen", unaltered by the forces of modernization that were unfolding in rural England or Belgium during the same period.

As a result, the term *Ancien Régime* has become synonymous with all that was perceived as "backwards" and wrong in French society. These words conjure up images of monarchial excess, state mismanagement, and intense suffering among the lower class.[21] As such, no translation of this term can adequately capture the emotions which are forever related to the term as it is used in the French language.

Physical Environments

The period known as the *Ancien Régime* existed within several contexts. The most basic, and easiest to understand, is the manifestation of the *Ancien Régime* upon the physical environments of France. As in the present, the majority of France can be classified as a temperate four-season climate and it is assumed that similar patterns existed during the 18th century.[22] A similar assumption can be made with respect to the soils of France. Presently French soils are comprised of 15 major types of soils,

[20] Jones, Peter M. "Agricultural Modernization," 38.
[21] Carr, John Laurence. *Life In France Under Louis XIV*. Edited by Peter Quennel. (New York: Capricorn Books, 1970), 1-3.
[22] Peel, M. C., Finlayson, B. L., and McMahon, T.A. "Updated world map of the Köppen-Geiger climate classification." *Hydrology and Earth System Science* 11 (2007): 1633-1644.

according to the World Reference Base for Soil Resources (WRB). Cambisols are the predominate soil type in France, though significant areas of Leptisols and Luvisols can also be identified (Figure 3.1). Cambisols are very productive agriculturally, and Leptisols and Luvisols less so[23]. The elevation of central France is fairly uniform, with more mountainous areas and rolling hills located in the East and South (Figure 3.2). The combination of well-watered lowland areas and cambisols makes the regions to the west and south of Paris ideal for agricultural use, though areas to the north of the city can also be highly productive with proper management.

[23] Jones, Arwyn, editor, *Soil Atlas of Europe*. (Luxembourg: Office of Official Publications of the European Communities, 2005), 28-33.

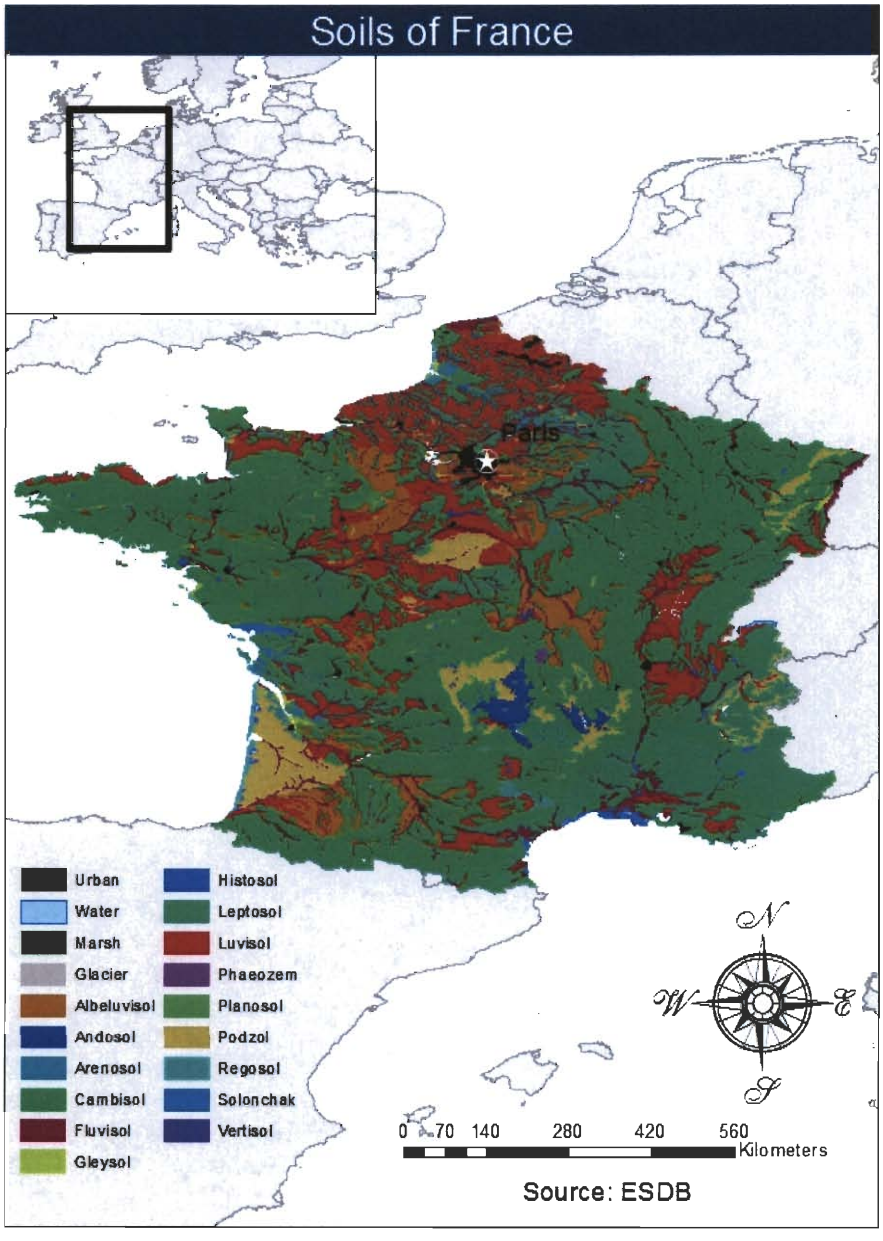


Figure 3.1: Soils of France
Source: European Soil Database, 2012

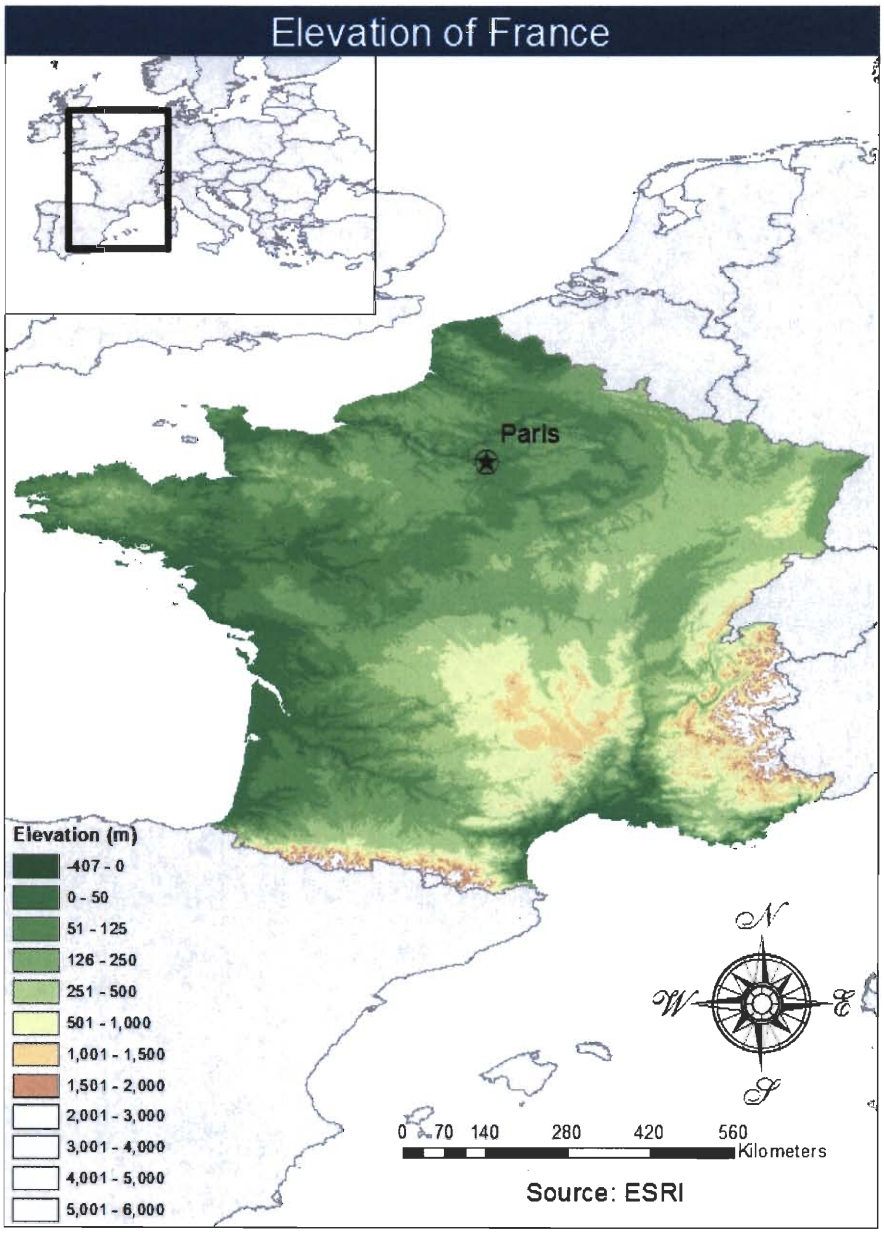


Figure 3.2: Elevation of France
Source: ESRI

During the *Ancien Régime*, France was divided into 32 traditional provinces, and 36 *généralités*. Both administrative regions were recognized, although the existence of *généralités* as fiscal administrative regions assumed greater importance at the close of *Ancien Régime* (Figure 3.3).

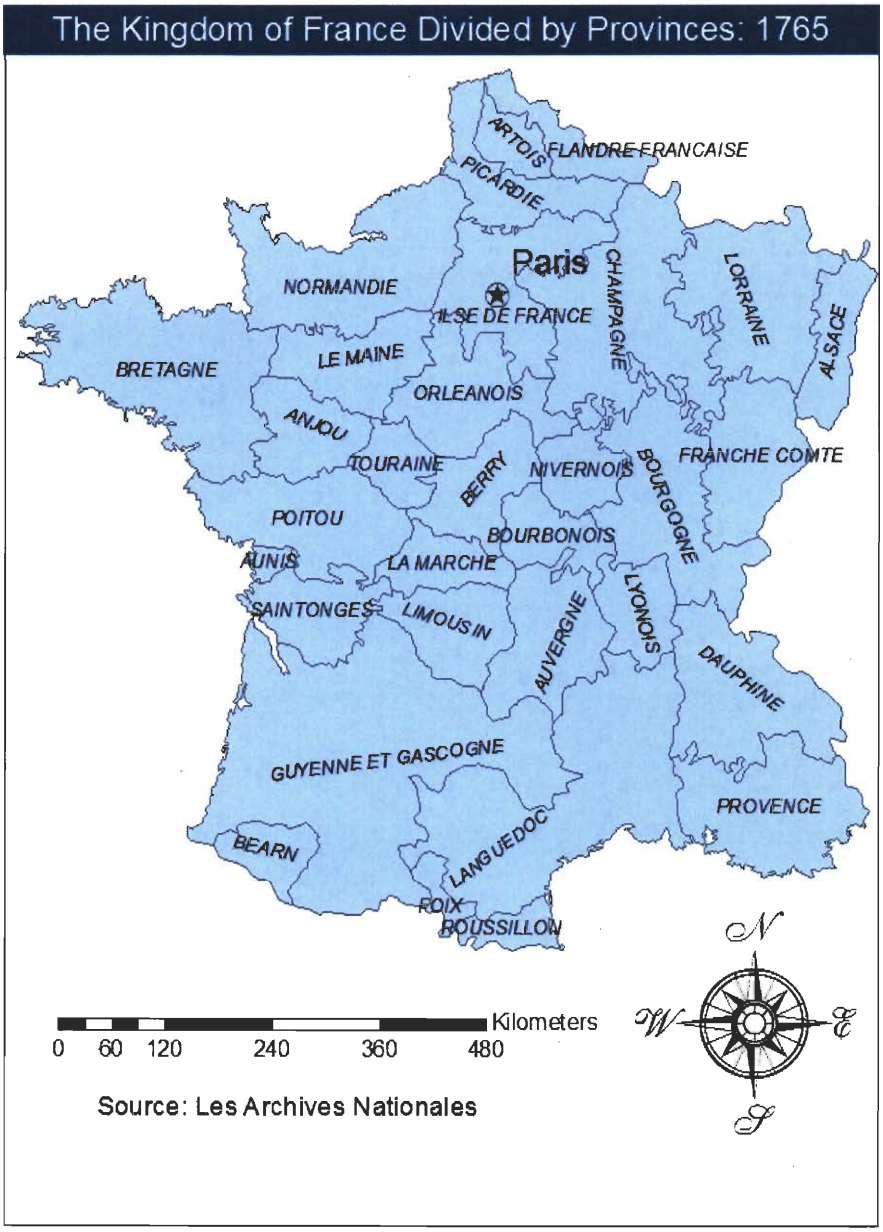


Figure 3.3: The Kingdom of France Divided by Provinces: 1765
Source: Les Archives Nationales

Demographics

As noted previously in the chapter, in 18th century France, the population was divided by law into three classes, or Estates as they were traditionally known. The First Estate was comprised of members of the clergy, the Second Estate was comprised of the nobility, and all others, including farming families, fell into the Third Estate. Lefebvre estimated the total population of France during this period at 23,000,000 persons. Of this, the clergy is thought to include approximately 100,000 priests, nuns, and monks, or 0.4% of the population while the nobility counted approximately 400,000 members, or 1.7% of the population. This left almost 98% of the population to the Third Estate (Figure 3.4).[24] As a result, members of the Third Estate varied greatly in both economic and social conditions, and also in terms of different grievances depending on their status within the Third Estate over time. The ordering of the Three Estates corresponded to the approximate order of prestige and influence as well.

[24] Lefebvre, Georges. *The Coming of the FRENCH REVOLUTION*. Trans. R. P. Palmer (Princeton, NJ: Princeton University Press, 1947), 7.

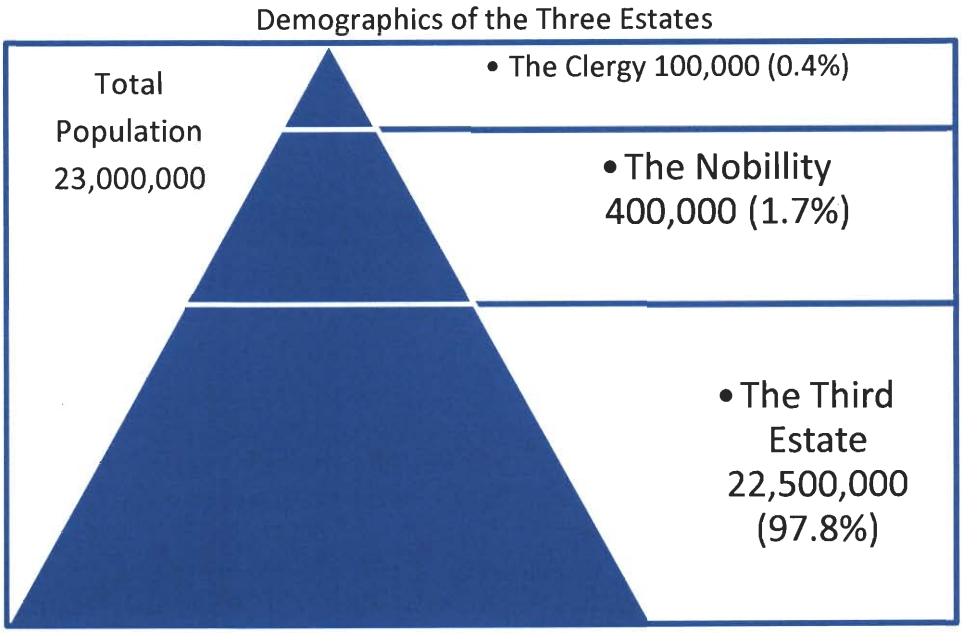


Figure 3.4: Demographics of the Three Estates
Source: Lefebvre, Georges. The Coming of the FRENCH REVOLUTION. Trans. R. P. Palmer Princeton, NJ: Princeton University Press, 1947

The clergy, though the smallest of the Estates, arguably enjoyed the greatest power during this period. Unlike the other Estates, the clergy was an organized body, with its own systems of administrations and courts. The clergy was also different from the other Estates in that it was not a true social class, but a profession. This added to complications later in the century because members of the clergy could identify with either the Second or Third Estate depending on their position within religious orders to which all belonged.[25] Bishops and abbots were usually closer to the nobility, while priests and monks more closely identified with commoners. The clergy as a whole was exempt from direct taxes, and was responsible for collecting the tithe on all agriculture products and all landlord properties which the religious orders owned. Properties

[25] Lefebvre, *REVOLUTION*, 8.

controlled by various religious orders and the papacy were extensive, especially in the north. Immediately prior to the revolution, Lefebvre estimates that land controlled by the church in all its guises amounted to a full 10% of the entire territory of France.[26] As a result of these considerable land holdings, many members of the clergy were also lords, and received the manorial dues associate with such titles.

The power of the clergy far exceeded mere tax exemptions and extensive control of land and properties. The right of the monarchy to wield power was established by divine right. This effectively meant that without the support of the clergy, the king had no legal claim to the crown. The clergy also possessed a virtual monopoly on education and by extension the potential to enact censorship over all lawfully printed material.[27] After the revocation of the Edict of Nantes in 1685, all of the population was considered Catholic.[28] This granted the clergy extensive power because records of birth, marriage and death were all maintained by local parishes. Without the help of the clergy, individuals had no legal standings in matters concerning lineage and inheritance, and therefore fees for record provision and duplication while onerous, still had to be paid regularly.

The Second Estate was comprised of the aristocracy. Nobles enjoyed many unique privileges such as exemptions from certain taxes, as well as the right to carry the sword. Nobles owned approximately a fifth of the land within the kingdom, either through heredity or more recent grants from the king for services or valor. Given

---

[26] Lefebvre, *REVOLUTION*, 7.
[27] Lefebvre, *REVOLUTION*, 7.
[28] Jones, Peter M. "Protestantism and Jacobinism in the Department of the Averyon, 1789-1815," in *Problems in French History*, ed. Martyn Cornick et al. (New York: PALGRAVE, 2000), 20.
Lefebvre, *REVOLUTION*, 7-8.

resources and special status, the nobility also enjoyed considerable power in pre-revolution France.[29] Nobility was not necessarily synonymous with lordship and Goldsmith estimates that during the last three centuries of the *Ancien Régime*, only half of the nobility also possessed lordships.[30] Nobles lacking lordships still enjoyed power and privilege of title, though prestige within the nobility was directly proportional to the prestige of the lordship. There was no organized body for the nobility, unlike the clergy, and thus the nobility could not exert direct control which the clergy enjoyed in as concentrated a manner. While it was possible to "become" a noble, most "true" nobles were born into the caste. In this sense, the clergy held considerable sway over the Second Estate due to the record keeping responsibilities of the parish offices. The true power of the Second Estate came from their ability to influence the monarchy. Nobles possessing large amounts of land and wealth were able and called upon to provide credit to King and court, and as a result had the ability to sway political and military policy. Local governmental administrations were generally populated by the nobility, and regional disputes were common. In many cases, political power was more substantial at the local level and in reality the monarch relied on the affinity and loyalty of the nobles to maintain control of the kingdom, and, when needed, to defend its borders.

The existence of the clergy as a professional body, rather than a true social class, meant there were truly only two classes during this period, nobles and commoners. Since anyone who was not born into the nobility was considered a commoner, the Third

[29] Lefebvre, *REVOLUTION*, 8-9.
[30] Goldsmith, James Lowth. "Lordship in France, 1500-1789." (New York: Peter Lang, 2005), 1.

Estate, again, constituted the overwhelming majority of the population which included everyone from the poorest of peasants to artisans to the upper middle class, known as the Bourgeoisie. The right to own land was not restricted to the nobility and many Bourgeoisie families owned land as well. Indeed, immediately prior to the revolution, about a fifth of the kingdom was owned by Bourgeoisie families but actually worked by the poorest members of the Third Estate.[31] The Bourgeoisie also enjoyed some of the same privileges of the nobility concerning taxes, military service, and exemption from other levies and regulations. From the perspective of the peasants, there was little difference between the bourgeoisie and the aristocracy, as manorial dues were paid to both. While both the Bourgeoisie and the peasants fell under the umbrella of the Third Estate, there were great differences from top to bottom. Indeed, the Bourgeoisie had more in common with the nobility than other members of their own class, but still lacked the privileges afforded by blood. As a result all the menial and physical tasks fell to the poorest groups of the Third Estate.

Of course, France's peasants were the primary agricultural producers and laborers during this period. As with the Third Estate in general, a wide range of subclasses existed within the farming class. Lefebvre roughly defined seven social distinctions among this farming peasant class (Figure 3.5). Large farmers, who often owned no land, enjoyed the best conditions. The largest farmer group was known as *laboureurs*. These individuals worked relatively large tracts of land which they personally owned, or shared with other farmers. Next in order came the small farmers,

[31] Lefebvre, *REVOLUTION*, 133.

sharecroppers, and peasants who had access to small tracts of land which were too small to live on, and farmers who owned a small house and parcel which was leased. The bottom of this subclass was populated by laborers who owned nothing and had to sell their labor as itinerant farm workers to survive.[32]

Peasant farmers by order of social distinction	Large farmers owning no land
	Laboureurs
	Small farmers
	Sharecroppers
	Peasants with access to small tracts
	Farmers owning a house and leasing land
	Farmers owning nothing

Figure 3.5: Peasant Farmers by Order of Social Distinction
Source: Lefebvre, Georges. The Coming of the FRENCH REVOLUTION. Trans. R. P. Palmer Princeton, NJ: Princeton University Press, 1947

Taxes, Privileges, and Dues

The Three Estates existed within a political environment which significantly favored the First, Second, and more prestigious members of the Third Estate. The most common and relevant imbalance between the classes with respect to this research was the distribution of the absolute tax burden. By the end of the 18Th century there were

[32] Lefebvre, *REVOLUTION*, 133.

no less than 5 direct taxes and 3 indirect taxes which all people, in theory, were required to pay. In practice however this was rarely the case.

The most basic of the direct taxes was known as the *taille*. The word *taille* originally meant the "cut" which the lord theoretically levied on each and every subject based on land holdings. The burden varied in implementation as well as in severity from province to province. In some areas the amount collected was based on the real estimated value of the land while in other locations additional amounts were assessed without clear guidelines. Individuals possessing the appropriate status, or with personal influence were able to exempt themselves from this tax, and as a result it was generally only paid by poorer members of the Third Estate who lacked the necessary "social clout" to secure a waiver. The system which allowed the privilege of exemption of this basic tax had the additional effect of making the *taille* not only a financial burden, but also a social indignity as only those lacking any social status or political connection paid the *taille*. Attempts to reform the *taille* were pursued in the late 17th century but abandoned in the earlier 18th century as wars necessitated the need for fresh tax revenue.[33] [34]

Another direct tax, created by Louis XIV in 1695, repealed in 1698 but reinstated once again in 1701, was the *capitation*.[35] This tax was similar to a poll tax, although this translation is inadequate as it was collected based on annual income. As was the case with the *taille* when initially promulgated, this tax was to be levied against all subjects.

---

[33] Carr, *Life In France*, 125-129.
[34] Lefebvre, *REVOLUTION*, 8-11.
[35] Carr, *Life In France*, 126-127.

Other direct taxes created during this period were the *dixième* (1710) and the *vingtième* (1749). These were a 10% and 5% tax on all revenues for which subjects were responsible in addition to the *taille* and *capitation*.[36] [37] These taxes were similar to the *taille* both in theory and practice. All were required to pay it, but in actuality the burden fell almost exclusively to the peasants.

Other direct forms of taxation included the *corvées royales*, or royal chores. Only peasants were subject to these mandatory labor and equipment requirements. As the name suggests, these were met by the provision of services rather than money or grain. The *corvées royales* where divided into either *transports militaires* or *corvée des routes*. *Transports militaires* required that subjects furnish carts and other equipment necessary for the movement of soldiers and supplies through the kingdom. *Corvée des routes* required that peasants living in proximity of highways be responsible for the maintenance of these routes. Subjects were expected to supply wagons, laborers and teams and citizens were usually liable for between six and thirty days per year. Peasants were also the primary group subject to military conscription.[38]

The clergy was exempt from direct taxes such as the *taille*, while the aristocracy and members of the bourgeoisie were often able to avoid their total assessed payment by payment of an annual lump sum. This lump sum rarely reflected the true total tax liability.[39] Members of the clergy, nobility, and bourgeoisie, were not incorporated

[36] Lefebvre, *REVOLUTION*, 8-11.
[37] Carr, *Life In France*, 125.
[38] Lefebvre, *REVOLUTION*, 9.
[39] Goldsmith, "Lordship," 8-9.

within the structure of the government and as such refused payment citing grievances similar to the American cry of "no taxation without representation".

In the face of declining revenues and increasing costs due to colonial expansion and wars, the monarchy could not meet its debts nor effectively raise the additional capital required to meet governmental debt obligations and operating costs. It was this weakening of the monarchy during the 18th century, which necessitated the need for new indirect taxes. As noted earlier, enforcement of direct taxes was successful amongst only the poorest of the kingdom, and not surprisingly, did not adequately cover the growing budget of the king and court. Indirect taxes included custom duties, *aides*, and government monopolies. Custom duties were collected on all goods moving into the country, as well as on goods which were sold internally. *Aides* were taxes on goods of common consumption, such as wine, liquor, playing cards, and soap. The government also held a monopoly on numerous goods including tobacco and salt. The *gabelle,* or salt monopoly, was especially intrusive because it required subjects to purchase fixed amounts of salt at prices much higher than the actual market prices in some regions regardless if the salt was needed or could be afforded.[40] In other regions, specifically the regions which produced the salt, peasants were unable to purchase enough even to satisfy personal needs. This paradoxical situation arose as an attempt to combat the smuggling or contraband salt between privileged and unprivileged regions within the kingdom.[41]

[40] Lefebvre, *REVOLUTION*, 10.
[41] Carr, *Life In France*, 126.

Indirect taxes were not collected by the monarch directly due to administrative and financial reasons. Administratively, collecting taxes from millions of individuals was not practical. Responsibility for collection instead fell to private institutions. This was financially beneficial because it allowed for the collection of a lump sum from the farmers, as well as the right to profit by collecting the entire legally due amount over a period of time, typically a year in a single visit to each farmstead.

In addition to *corvées royales* requirements and the collection of direct and indirect taxes, peasants were also subject to tithes and seigniorial dues. Since the clergy was responsible for the collection of the tithe, as well as owed seigniorial dues in several cases, this additional burden upon the peasantry was also quite significant. It is estimated that by the close of the *Ancien Régime*, the total net revenue for all ecclesiastical lordships was between 150-180,000 million *livres* per year. This equated to approximately 80% of total revenue collected through the *taille*, *capitation*, and *vingtième* combined, with the tithe accounting for almost two-thirds of this sum[42]. The tithe and other taxes and fees were often paid in kind through the provision to the church or state of agricultural products, most commonly wheat[43]. In addition to dues and taxes, the peasant was also subject to the *banalités*. These were fees which were paid for the use of the mills for grinding grain and the ovens owned by the lords but used by the peasants for baking bread. Separate payments were due for both of these activities which amounted to taxation for eating as well.

---

[42] Goldsmith, "Lordship," 11.

[43] Mondrou, Robert. "Scarcity and Insecurity in Agrarian Life," in *The Peasantry in the Old Regime: Conditions and Protests*, edited by Isser Woloch 82-87 (New York: Holt, Rineheart, and Winston, 1970), 16.

Peasants were subject to multiple taxations due to accounts being calculated and recalculated upon payment of the tithe, manorial dues, and *banalités*, as well as when seed was stored for the following season. Seed put aside for the next year's crop alone could consume over a quarter of the harvest, while other obligations noted above could account for an additional 25-30%.[44] The remainder was all that was left to feed the farmer and his family. Perhaps the largest injustice visited upon the peasant farmer was the fact that if the price of wheat rose in urban markets, it was not they who profited. Tithe-owners, wheat markets, and hucksters were responsible for the selling of manorial dues, and as a result realized the profits stemming from urban food price increases, rather than the farmers. Peasants therefore profited very little from the price fluctuations of the urban market, and what profit was earned was used to pay all the aforementioned fees. For some, though certainly not all, neglect of the land became a solution in order to lower costs of production.[45] Whatever the individual response may have been, the imbalance in tax obligations, coupled other financial burdens were the primary source of distress for peasants, and therefore agriculture, during this period. Ultimately, some farming families faced with the prospect of crushing debt and taxes voiced exasperation with the system and abandoned farming all together.

Status of Agriculture and Technology

Around the middle of the 18th century, the French writer and philosopher Voltaire penned, "having had enough of verse, tragedies, comedies, operas, romances ...

[44] Mondrou, Robert. "Scarcity and Insecurity," 16-17.
[45] Mondrou, Robert. "Scarcity and Insecurity," 17-18.

and theological debates about grace and convulsions [the educated] turned at last to discoursing on corn ... useful things were written on the subject of agriculture; everyone read them save for the farmers."[46] While Voltaire well illustrates his famous wit in describing the emerging interest in the rueful agrarian situation during this period, he also ignores the larger issues involved. Writers and reformers of the day wrote such criticisms under the assumption that the farmers were not unlike themselves and should, and potentially could apply the newly conceived practices and strategies that were being developed as part and parcel of an emerging "scientific" agriculture. However as a result of the crushing taxes and other fees, most farmers were unable to implement any of the useful new technologies being developed due to limited capital. Implementation of modern practices assumed the ability of the farmer to work outside of the system which had been established and often required greater capital investments or greater amounts of land for fallow than were actually available. However, the average French peasant farmer of the day was,

> ...a small-scale farmer on the land of his parish, owning a half-dozen sparse plots in different exposures, often in very different types of soil. Thus he cultivates his part of each field, those large, age-old segments of crop rotations, so different in their simplicity from the rotations of today - three field system in the north, two-field in the south. They are aware of no method of improving arable land other than letting it stand fallow, sometimes for an extended period. This small farmer can thus make 25 to 40 acres (as we would measure them today) 'produce.'[47]

For most scholars, the primary causes for this stagnation were associated with the financial burdens under which the peasants suffered. There were, however several

[46] Quoted in Jones, Peter M. "Agricultural Modernization and the French Revolution," *Journal of Historical Geography* 16 (1) (1990): 38.
[47] Mondrou, Robert. "Scarcity and Insecurity," 14.

additional issues stemming from this burden. Due to a lack of credit or capital, peasants were often unable to purchase seed varieties which were suitably adapted to local soils and climates and were forced instead to make use of their own inadequate seeds from one season to the next. However if the amount the peasant retained after harvest and payment of dues was reduced due to a lower harvest, higher dues, or combination thereof, the peril drastically increased. The amount of grain stored for seeding was not a percentage obviously, but a fixed amount. For example, a harvest of 100 or 150 sacks per acre always required 25 bags of seed.[48] This forced the peasant families to subsist on roots and other plants through the winter and spring, lest they consumed the only means by which planting was possible for the following year.

Practices which utilized beasts of burden presented another difficulty. Putting aside the most obvious problem of the availability of capital by which to purchase oxen, donkeys or horses, this assumes the means by which to feed and care for the beasts. As a result, many large areas which required beasts of burden were worked by farmers who were "rich" relative to other peasants. In other cases, such beasts were rented to the smaller farmers, adding yet another fee which demanded successful harvests to avoid penury.

Marc Bloch coined the term "infernal cycle" to describe this dilemma and summarizes the cycle in the following:

> Due to poor farming practices, crop rotation remained the only option to avoid soil exhaustion. Intensive cereal cultivation was an option, but that required large supplies of fertilization. The need for fertilizer assumed the existence of stock which in turn required large areas of pasture. Setting this conundrum of

[48] Mondrou, Robert. "Scarcity and Insecurity," 17.

> land supply aside, there was also a lack of communal rights which allowed the stock to graze freely. A solution to this cycle was the development of more specialized agriculture, however there was no economic incentive for this, and grain continued to be sown in inhospitable soils.[49]

Onerous regulations and taxes combined with a rural financial system which ensured technological stalemate all but guaranteed the onset of violence in the late 18th century, as had already been seen to a lesser extent years prior.[50] The systems which promoted hardship among the rural farming classes in nearly all aspects of life helped to seal the fate of the *Ancien Régime*. The privileges of the higher classes offered little reprieve as food shortages began to grip the kingdom. As the 18th century progressed events transpired which caused minor scattered troubles to lead to open rebellion and insurrection throughout the countryside.

The economy of the *Ancien Régime*, specifically during the 18th century was primarily agrarian and therefore it was in the interest of the landowners to maintain the status quo concerning wages and overall conditions of the peasant class.[51] Paradoxically this determination of the landed elite to maintain this system was also responsible for its stagnation. The continued maintenance of the multitude of dues and taxes ensured a sluggish rate of change and growth in the agricultural and therefore economic sectors. Since this economy was built and sustained on the suffering of the lower members of the Third Estate it had the unintended consequence of strengthening the bonds of members against those they perceived as responsible for such plight. The strengthened

---

[49] Bloch, Marc. *French Rural History*. trans. Janet Sondheimer. (Berkly, CA: Univesity of California Press, 1966), 170.
[50] Lefebvre, *REVOLUTION*, 143.
[51] Kemp, *Economic Forces*, 9.

sense of identification of individuals became more evident as the century progressed, ultimately culminating in the Convocation of the Estate-General.

The Estates-General was an assembly of representatives from each Estate which met for the first time since 1614 on May 4, 1789. The objective of the assembly was to air and seek resolution for the many grievances of the Three Estates, with particular importance placed on financial concerns. The meeting took place in Versailles in an attempt to avoid the display of opulence of the court in Paris, but with close enough proximity to the capital to encourage a firm royal stance. The weak position of the Third Estate was made immediately clear during an address by the finance minister which contained advice, "to the privileged, to renounce their pecuniary privileges at once; to the Third, to show proper 'gratitude'; to all, to determine by common agreement the subjects on which they might deliberate in common."[52] This initial meeting left the representatives of the Third Estate further dejected and disillusioned, as it became increasingly clear their voice would not receive the same reception as that of the other Estates.

Further meetings did little to inspire hope among the Third Estate. The lack of formal organization within the Third Estate led to difficulty concerning agreements on concessions. The situation continued to deteriorate and by June the very name "Third Estate" was replaced by "Commons."[53] This disillusionment of the Third Estate culminated in the creation of the National Assembly on the 17th of June. Initially the National Assembly was nothing more than the title the Third Estate assumed for itself in

[52] Lefebvre, *REVOLUTION*, 77.
[53] Lefebvre, *REVOLUTION*, 78.

an attempt to represent the overwhelming majority of the populace. Eventually the members of the clergy and nobility joined the National Assembly and this organization began to take on a larger political role. This shifting of power paved the way for open rebellion, but more importantly demonstrated the will of the peasants to ensure their voice would be heard.

In the course of the 18th century, and most importantly during the Convocation of the Estates-General, the bonds among groups within the Third Estate became overwhelmingly strengthened. Throughout the country the periodic farm market where peasants met and exchanged information became increasingly important as a source of news of events transpiring within the capital and other urban centers. As a result association with the localized community became increasingly necessary for self-identification and preservation. The peasants banded together against the aristocratic oppressors and with the inaction of the Estates-General, the existence of an "aristocratic conspiracy" became apparent.[54] Centuries of experience had shown the peasants that manorial dues were considered sacred among the lords. These dues provided lords not only with income but social distinction and superiority. The insistence of the aristocracy that such dues must be maintained, particularly during the Estates-General, signaled to the peasantry the willingness of the aristocracy to make every attempt to deceive the "good king." As news of insurgency within the capital, and the approval of resistance to the aristocracy by the monarch, reached the markets of the country side the duty of the peasantry became obvious. Peasant revolts against

[54] Lefebvre, *REVOLUTION*, 144.

aristocratic landowners were conducted with the insistence that the king's orders were being executed.[55]

[55] Lefebvre, *REVOLUTION*, 144-145.

CHAPTER IV

DATA AND METHODOLOGY

Historical research requires ample amounts of primary and secondary information. Such information may be available in primary form as documents from the period, as well as in secondary form acquired from the work of other historians. Research in historical geography requires additional data which may be analyzed using geographic techniques and spatial analyses. Historical GIS specifically requires quantitative data which can be analyzed for spatial patterns and non-random distributions. Relevant maps from the period are also necessary for the reconstruction of the historical geography of the period. Methods related to the collection, normalization, and analyses of the data used in this research are described in this chapter.

Les Archives Nationales

All historical data for this project was obtained from *Les Archives Nationales* in Paris, France. Initial research into the available of data at this site was conducted using the website located at http://www.archivesnationales.culture.gouv.fr. Research utilities located on this website indicated the presence of a much greater amount of data concerning agriculture during this time period. Through initial contact with onsite personnel, I discovered that free access to archival data at *Les Archives Nationales* is available to foreign nationals as well as to French citizens. On July 31, 2011, I travelled

to Paris to access these archives. Research began on August 3, 2011 and was conducted at Centre d'Accueil et de Recherche des Archives Nationles (Le CARAN) in Paris. The process of accessing archival data began by providing identification to archival staff and a one-time payment of a 10 Euro fee. A *carte de lecteur* was provided which allows access to archival records for a period of one year.

I began by consulting catalogs located within the *Salle des Inventaires* which were organized by period and subject. The search for data was limited to documents discussing and or reporting information on agricultural production between the years 1699 and 1789. Once appropriate documents were located, I went to the next floor and requested a *numero de place*. This was necessary to request documents and corresponded to a specific table in the archives. Finally, I requested the documents via computer terminals located in an adjoining room. Five collections could be requested simultaneously. After a wait of approximately one hour, the documents were available. Each document was reviewed and all relevant wheat price and production data for each of the six locations was recorded. Relevant documents were photographed using a 5 megapixel cellular phone camera. In all, 914 images of handwritten letters and price logs (tables) were collected to be reviewed after my return to the United States.

The majority of documents photographed were the market records sent to the *Contrôleur général des finances* (Finance Controller-general) by the *Intendent* of each généralité which indicated the price of wheat, meslin[56], rye, oats, and barley. These

[56] Meslin (French: méteil) is a mixture of any cereal grains such as wheat, rye, oats, or barley, though traditionally wheat and rye are the most common. Meslin was primarily used as animal feed.

records were kept to discern the state of agricultural production in a given region during the period. In many cases this information was used to determine whether action should be taken to insure the stability of supply in major urban areas, most notable Paris. The price data were also used to assess the economic health of the kingdom. Prices were recorded either by province or *généralité* and reports were usually bi-monthly. Some records contained only an average price for the entire area, while others included the price at each individual market. Samples of these documents and maps may be found as Figure 4.1, Figure 4.2, and Figure 4.3. Prices were recorded using the monetary system of Livres, Sous, and Deniers per pound which existed prior to the revolution. Several different systems of measurements were used depending on time period and region. These included *setier*, *boisseau*, and *muid*, which also varied depending on region. The *Setier de Paris*, which corresponds approximately to 75 kilograms, was used as the common unit for wheat volumes.[57]

Retrieval of archival maps required a different procedure. Map documents are located in the *Rotunde des Cartes et Plans* and reservations must be made 24 hours in advance, with visits possible between 2pm and 5pm, Monday through Wednesday, for all map documents. After reserving several map documents and receiving brief

---

[57] Palaiseau, Jean-François-Gaspard, *Métrologie universelle, ancienne et moderne: ou rapport des poids et mesures des empires, royaumes, duchés et prinicipautés des quatre parties du monde, présenté en tableaux par ordre alphabétique de pays ou ville, et leur position géographique avec les anciens et nouveau poids et mesures du royaume de France, et l'inverse, avec la méthode pour opérer toutes les conversions par des nombres fixes, etc* (Bordeaux, France: Lavigne Jeune, 1817), 11-12.

instructions related to the handling of historical maps, 141 photographs of these maps were also taken.

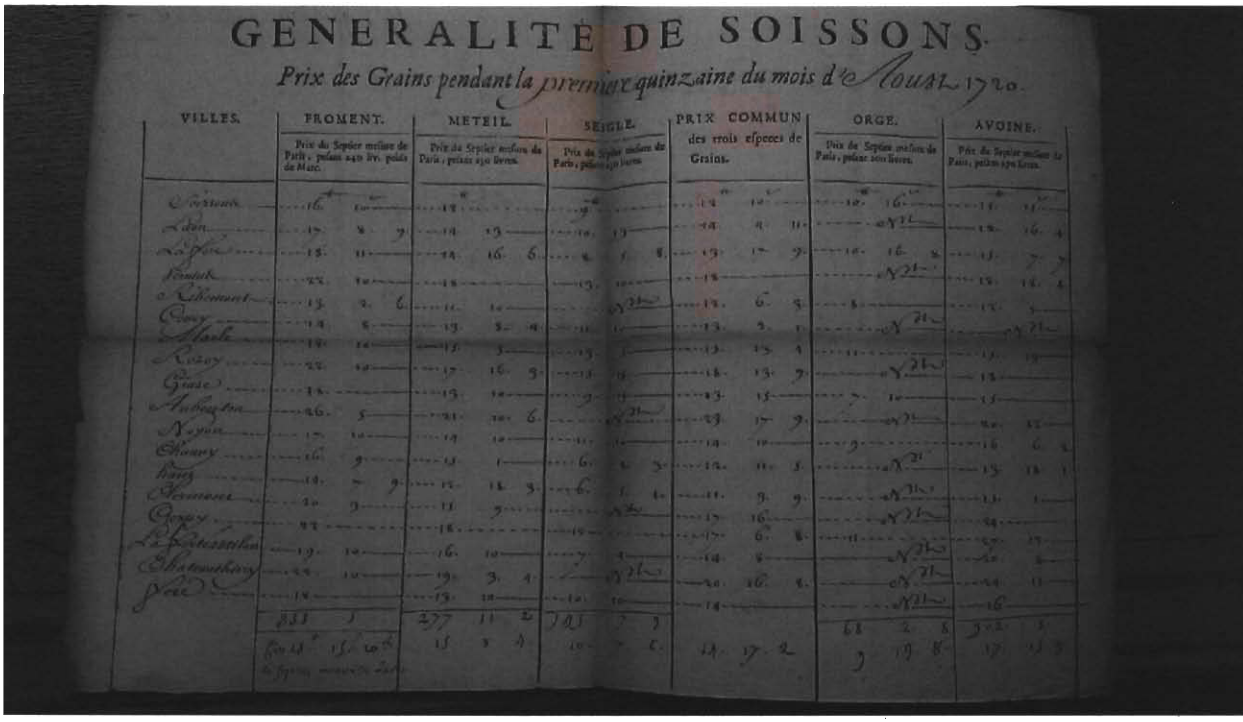


Figure 4.1: Généralité de Soissons Prix des Grains pendant la première quinzaine du mois d'Aoust 1720
Source: Les Archives Nationales

Figure 4.2: Carte du Royaume de France Diviseé par Provinces
Source: Les Archives Nationales

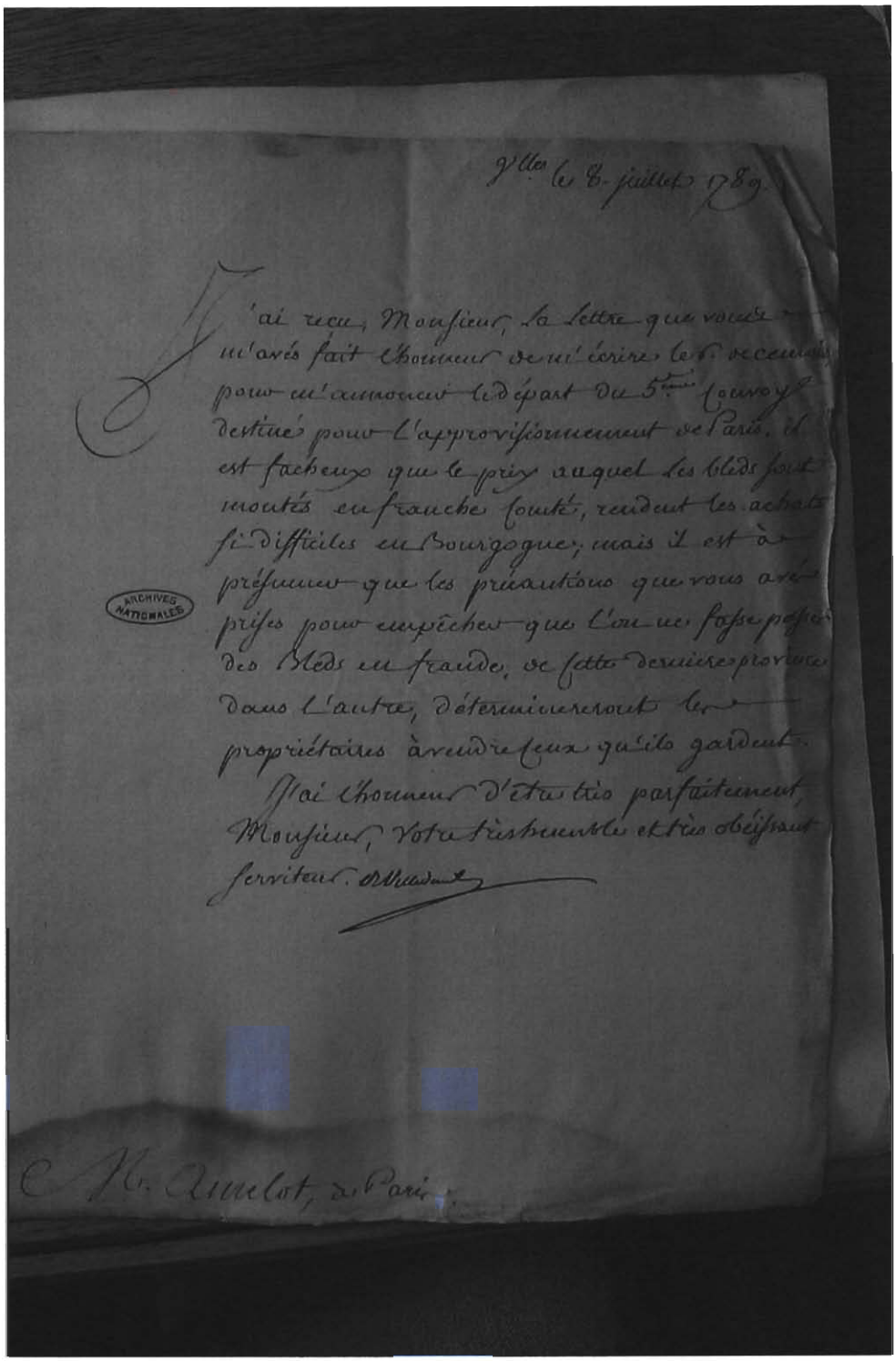


Figure 4.3: Letter Dated July 8, 1789
Source: Les Archives Nationales

Digitization and Statistics

Map documents containing French provinces as they existed in 1765 as seen in Figure 4.2, were digitized through "heads up" digitizing using ArcGIS 10. Once digital copies of these provinces were created, the shapefiles were georeferenced to match the historical provinces to current administrative shapefiles of France provided by ESRI CD-ROMS using major French cities as control points for the "rubber sheeting" process. Rubber sheeting is the process by which a one map layer is distorted in order to be joined with another. This is particularly common in Historical GIS, and is required in the digitization of all historical maps. The transformation was performed using 1st order polynomials. Accurate markets locations were determined using Google Earth's latitude and longitude calculator and were next imported to ArcGIS Desktop. Once the "Historical France" GIS project was developed, ArcGIS desktop was used to calculate distances between all market towns, and all major cities.

One of the major goals of the research was to determine if there were spatial differences in crop prices and, if so, if these differences were associated with distance from the main local markets and/or to Paris. To resolve these questions, Pearson's Product Moment Correlation was used in conjunction with the distance calculator included in the ARC GIS toolbox.

SPSS 18.0 was employed for all statistical calculations. High correlation values will suggest that market access was a major factor in variable prices that enriched officials and landowners while plunging the peasants of the Third Estate into greater

poverty and despair. Low or insignificant correlation values would suggest that prices were more or less uniform across the regions of France included in the study.

CHAPTER V

ANALYSIS AND RESULTS

As previously stated, this research combines spatial analysis with historical research to draw conclusions about the price of grain in relation to the location of the market during the *Ancien Régime*. While data were available in many regions for wheat, meslin, rye, oats, and barley, this research focused on wheat due to its predominance as the main staple of the French diet. The main determining factor in selecting areas of study was availability of historical data. It was necessary to select areas from different geographical regions in which data was available for a range of years spanning the period so that meaningful comparisons could be made. Again, as noted in Chapter I, the Généralités of Soissons, Poitiers, Champagne, Dauphine, Franche Comté, and Haynaut were selected due to regional differences with respect to Paris (Figure 1.1), as well as the availability of data for the years 1708, 1720, and 1768.

The Généralité of Soissons was located northeast of Paris and included market towns in the provinces of Isle de France, Picardie, and Champagne. The 15 market towns used in this study were Soissons, Laon, La Fère, Vervins, Ribemont, Coucy, Marle, Rozoy, Guise, Noyon, Chauny, Ham, Clermont, Chatâteau Thiery, and Fère-en-Tardenois (Figure 5.1, Figure 5.2). Prices were available for these market towns for the 1st half of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and prices were converted to

deniers per pound and distances to Soissons and Paris listed in Kilometers (Table 5.1).

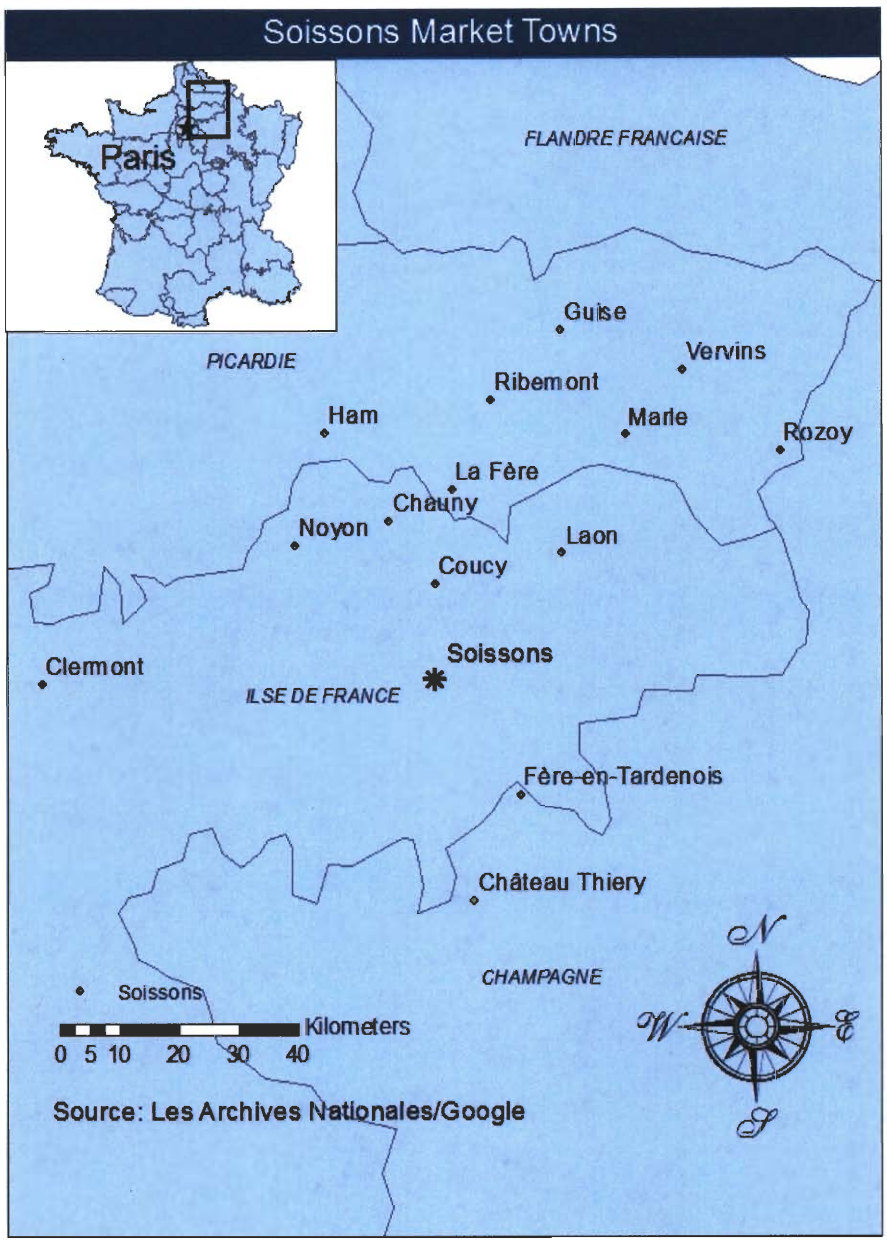


Figure 5.1: Soissons Market Towns
Source: Les Archives Nationales/Google, 2012

Table 5.1: Soissons Market Prices and Distances

Market	Distance to Soissons	Distance to Paris	1720 Price	1768 Price
Soissons	N/A	91.93	16.50	25.50
Laon	29.76	121.63	17.44	24.00
La Fère	31.37	116.16	18.55	26.55
Vervins	65.93	157.13	22.50	29.75
Ribemont	47.14	131.95	13.13	26.00
Coucy	16.92	103.76	14.40	24.10
Marle	51.34	142.55	18.50	24.00
Rozoy	68.75	160.40	22.50	26.00
Guise	61.77	148.61	18.00	27.00
Noyon	32.32	93.46	17.50	26.55
Chauny	27.16	105.57	16.45	26.55
Ham	44.48	112.11	14.39	26.70
Clermont	66.09	58.35	20.15	28.05
Château Thiery	39.14	79.32	22.50	24.55
Fère-en-Tardenois	24.69	93.42	18.00	23.10

Source: Les Archives Nationales/Google/ESRI, 2012

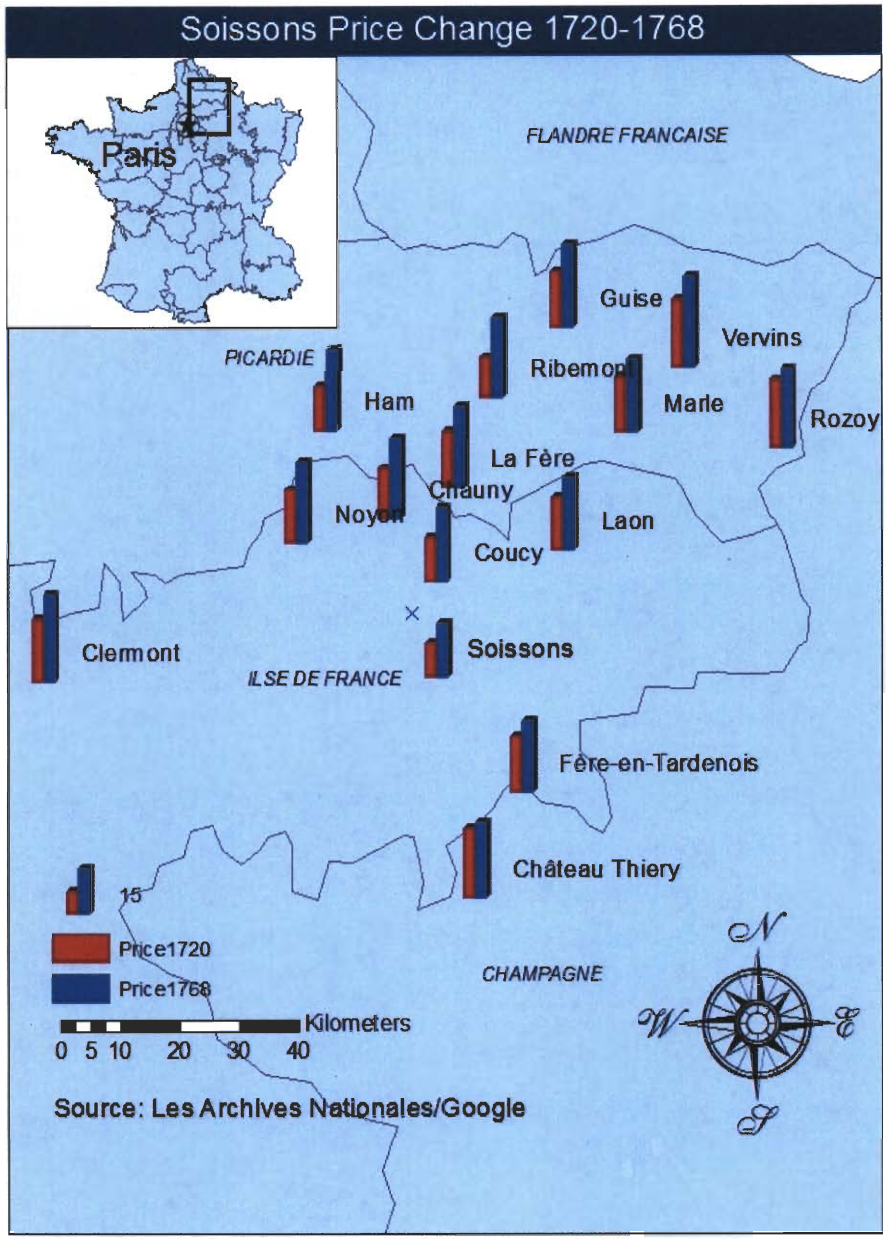


Figure 5.2: Soissons Price Change 1720-1768
Source: Les Archives Nationales/Google, 2012

The Généralité of Poitiers was located southwest of Paris and included market towns in the provinces of Poitou and Saintonges. The 8 market towns used in this study were Poitiers, St. Maixent, Niort, Fontenay, Les Sables-d'Olonne, Thouars, Châtellerault, and Confolens. (Figure 5.3, Figure 5.4). Prices were available for these market towns for the 1st and 2nd halves of the month of September 1708, the 1st and 2nd halves of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and prices were converted to *deniers* per pound and distances to Soissons and Paris listed in Kilometers (Table 5.2).

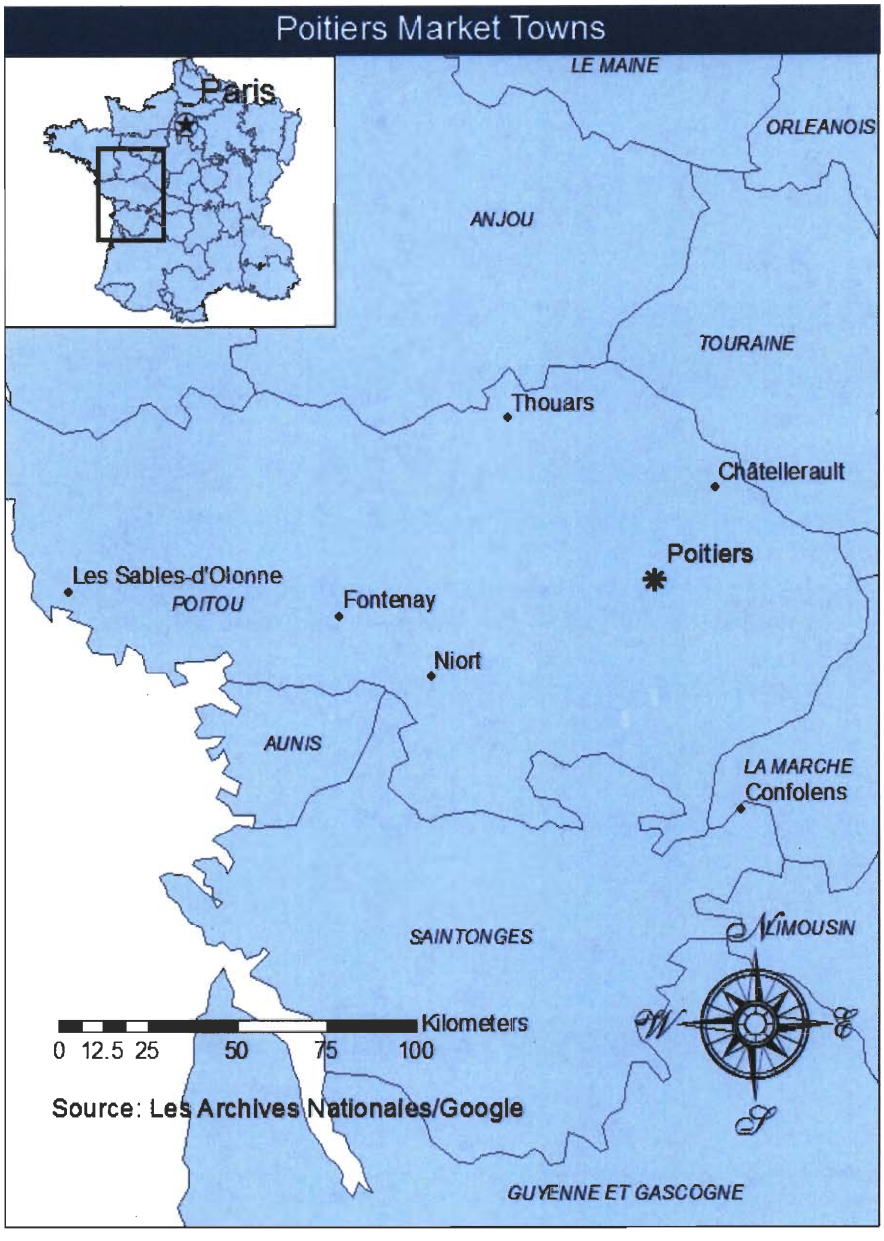


Figure 5.3: Poitiers Market Towns
Source: Les Archives Nationales/Google

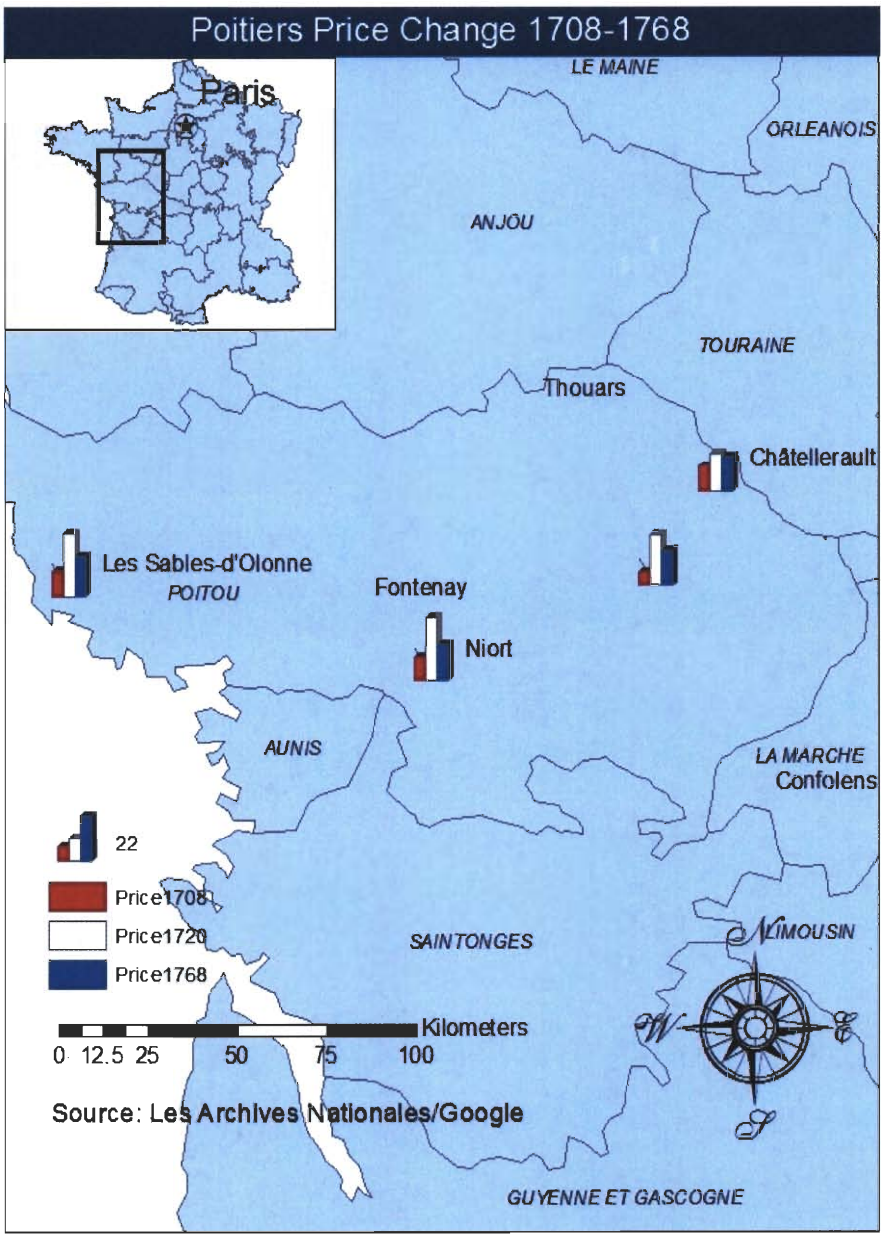


Figure 5.4: Poitiers Price Change 1708-1768
Source: Les Archives Nationales/Google, 2012

The Généralité of Champagne was located east of Paris and included 16 market towns in the provinces of Champagne, Bourgogne, and Lorraine. The market towns used in this study were Châlons, Vitry, St Dizier, Joinville, Chaumont, Vaucouleurs, Langres, Bar-sur-Seine, Troyes, Sezanne, Epernay, Reims, Rethel, Maizieres, Sedan, and St Menehould. (Figure 5.5, Figure 5.6). Prices were available for these market towns for the 1st and 2nd halves of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and prices were converted to *deniers* per pound and distances to Soissons and Paris listed in Kilometers (Table 5.3).

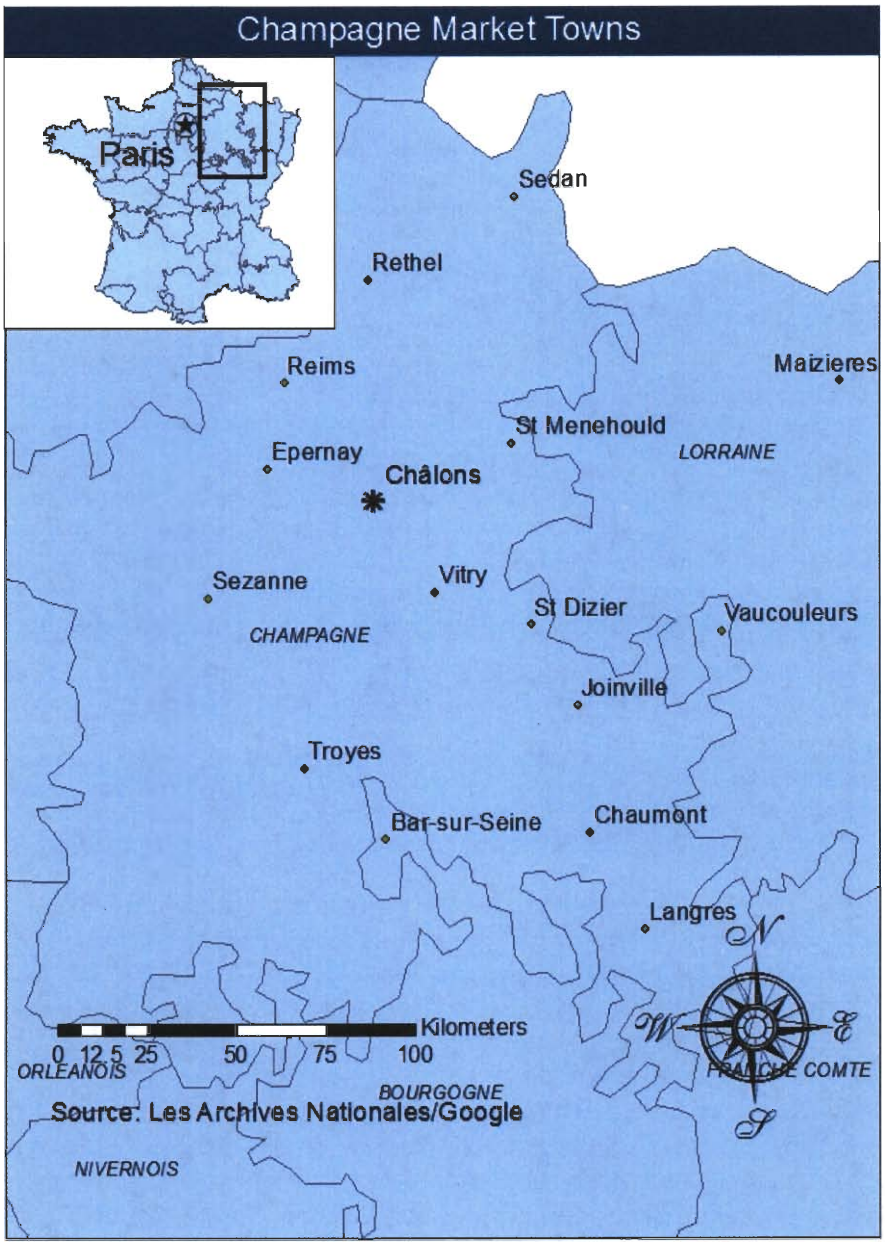


Figure 5.5: Champagne Market Towns
Source: Les Archives Nationales/Google

Table 5.3: Champagne Market Prices and Distances

Market	Distance to Châlons	Distance to Paris	1720 Price	1768 Price
Châlons	N/A	147.82	22.23	19.50
Vitry	30.41	164.74	14.68	17.60
St Dizier	55.69	192.39	15.23	17.30
Joinville	80.38	208.81	20.63	20.25
Chaumont	109.87	221.96	23.63	19.50
Vaucouleurs	103.53	245.36	20.13	15.70
Langres	140.92	246.87	19.20	20.00
Bar-sur-Seine	93.70	170.70	25.00	21.00
Troyes	76.42	141.54	18.00	20.10
Sezanne	53.65	101.76	19.00	21.30
Epernay	31.29	119.30	23.50	18.30
Reims	41.36	130.61	18.95	22.35
Rethel	61.40	163.69	22.50	20.30
Maizieres	134.25	281.15	20.85	N/A
Sedan	92.99	210.41	22.00	N/A
St Menehould	41.52	187.80	N/A	17.20

Source: Les Archives Nationales/Google/ESRI, 2012

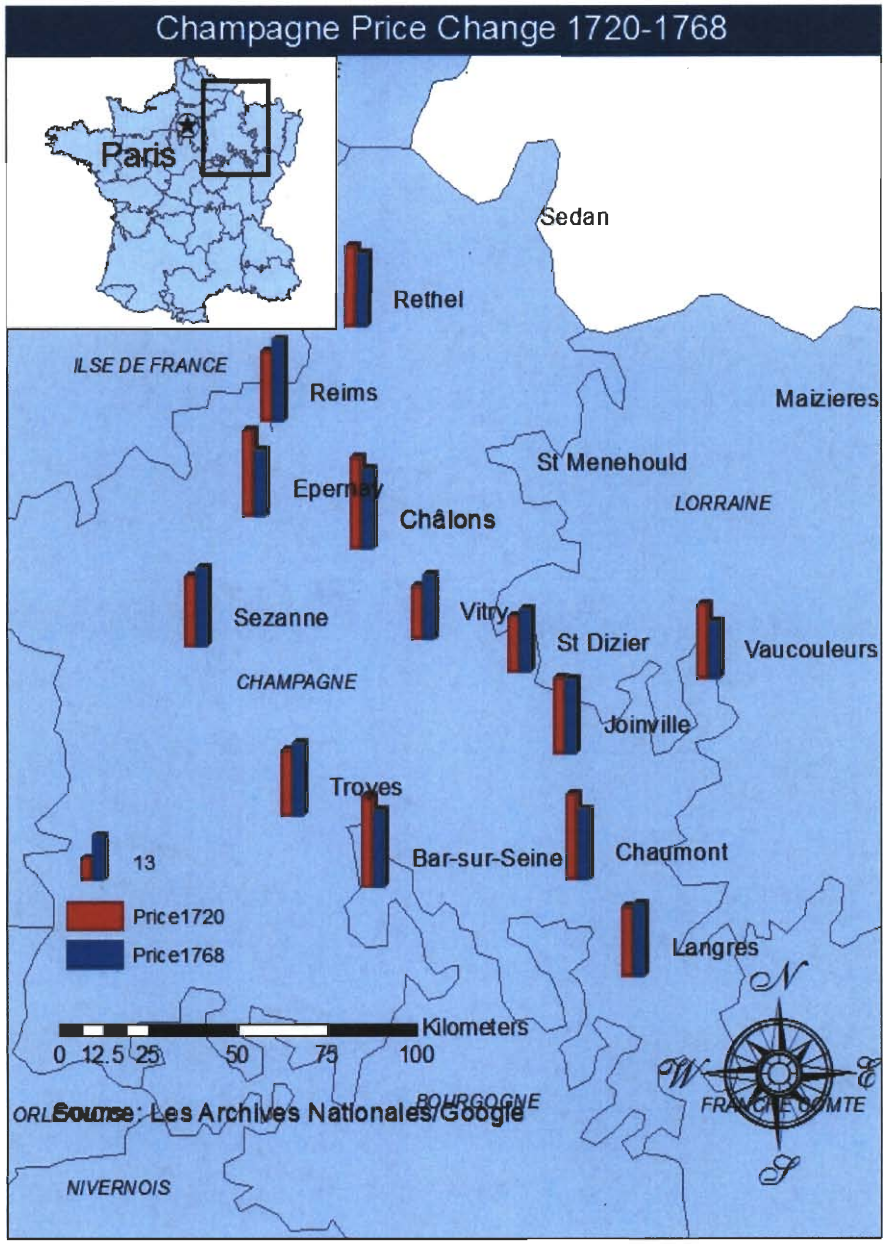


Figure 5.6: Champagne Price Change 1720-1768
Source: Les Archives Nationales/Google, 2012

The Généralité of Dauphine was located southeast of Paris and included 10 market towns in the provinces of Dauphine, Languedoc, and Provence. The market towns used in this study were Grenoble, Vienne, Valence, Montelimar, Orange, Dye, Crest, Gap, Embrun, and Briançon. (Figure 5.7, Figure 5.8). Prices were available for these market towns for the 1st and 2nd halves of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and prices were converted to *deniers* per pound and distances to Soissons and Paris listed in Kilometers (Table 5.4).

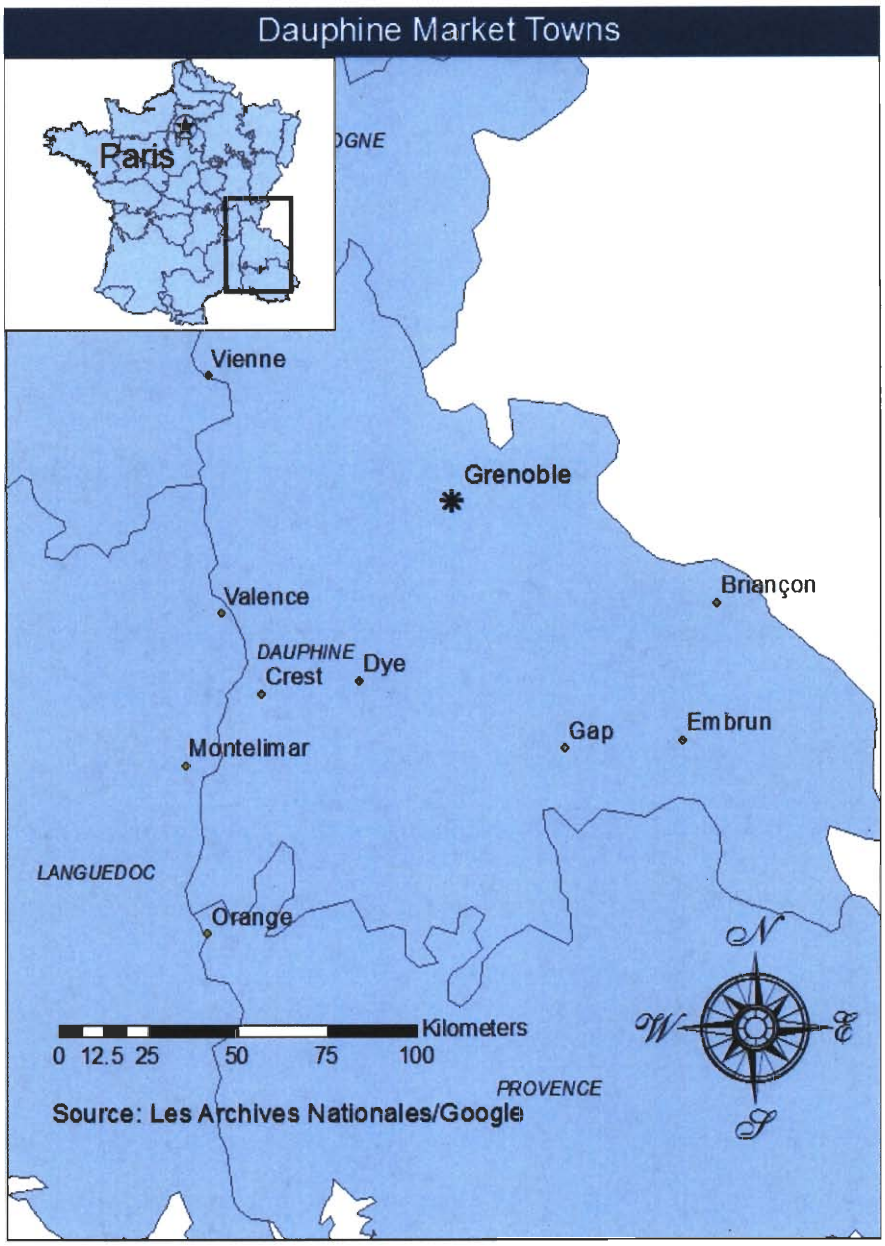


Figure 5.7: Dauphine Market Towns
Source: Les Archives Nationales/Google

Table 5.4: Dauphine Market Prices and Distances

Market	Distance to Grenoble	Distance to Paris	1720 Price	1768 Price
Grenoble	N/A	482.03	42.84	25.70
Vienne	76.61	417.02	38.40	25.90
Valence	71.61	477.61	43.20	26.65
Montelimar	104.54	512.50	36.60	27.60
Orange	137.99	558.10	38.40	N/A
Dye	56.23	511.75	36.00	N/A
Crest	75.52	502.74	43.20	27.60
Gap	75.54	556.79	38.40	28.10
Embrun	92.63	573.31	43.20	30.00
Briançon	79.41	548.59	43.20	31.50

Source: Les Archives Nationales/Google/ESRI, 2012

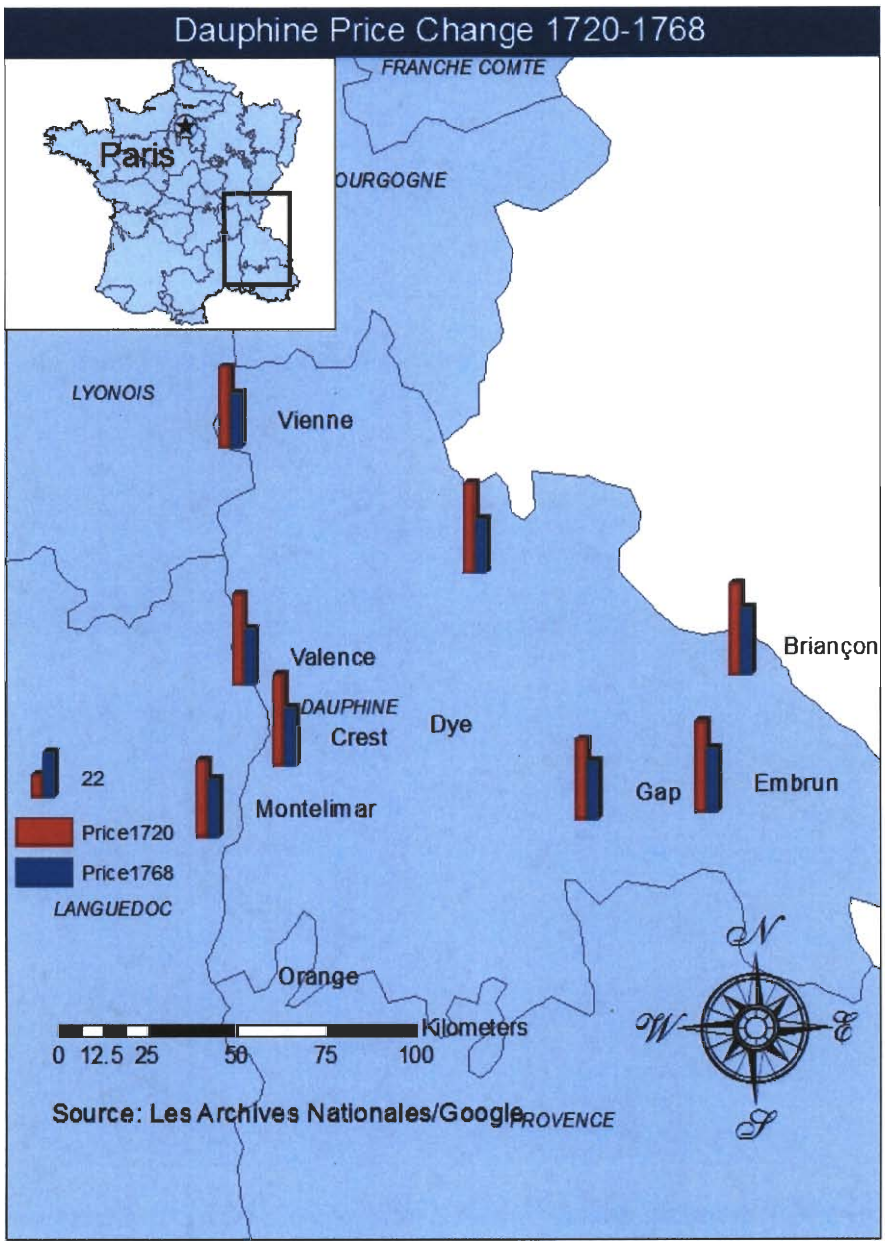


Figure 5.8: Dauphine Price Change 1720-1768
Source: Les Archives Nationales/Google, 2012

The Généralité of Franche Comté was located southeast of Paris and included 12 market towns in the province Franche Comté. The market towns used in this study were Besançon, Dole, Gray, Vesoul, Salins, Lons le Saunier, Ornans, Pontarlier, Baume, Quingey, Arbois, and Orgelet. (Figure 5.9, Figure 5.10). Prices were available for these market towns for the 1st and 2nd halves of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and prices were converted to *deniers* per pound and distances to Soissons and Paris listed in Kilometers (Table 5.5).

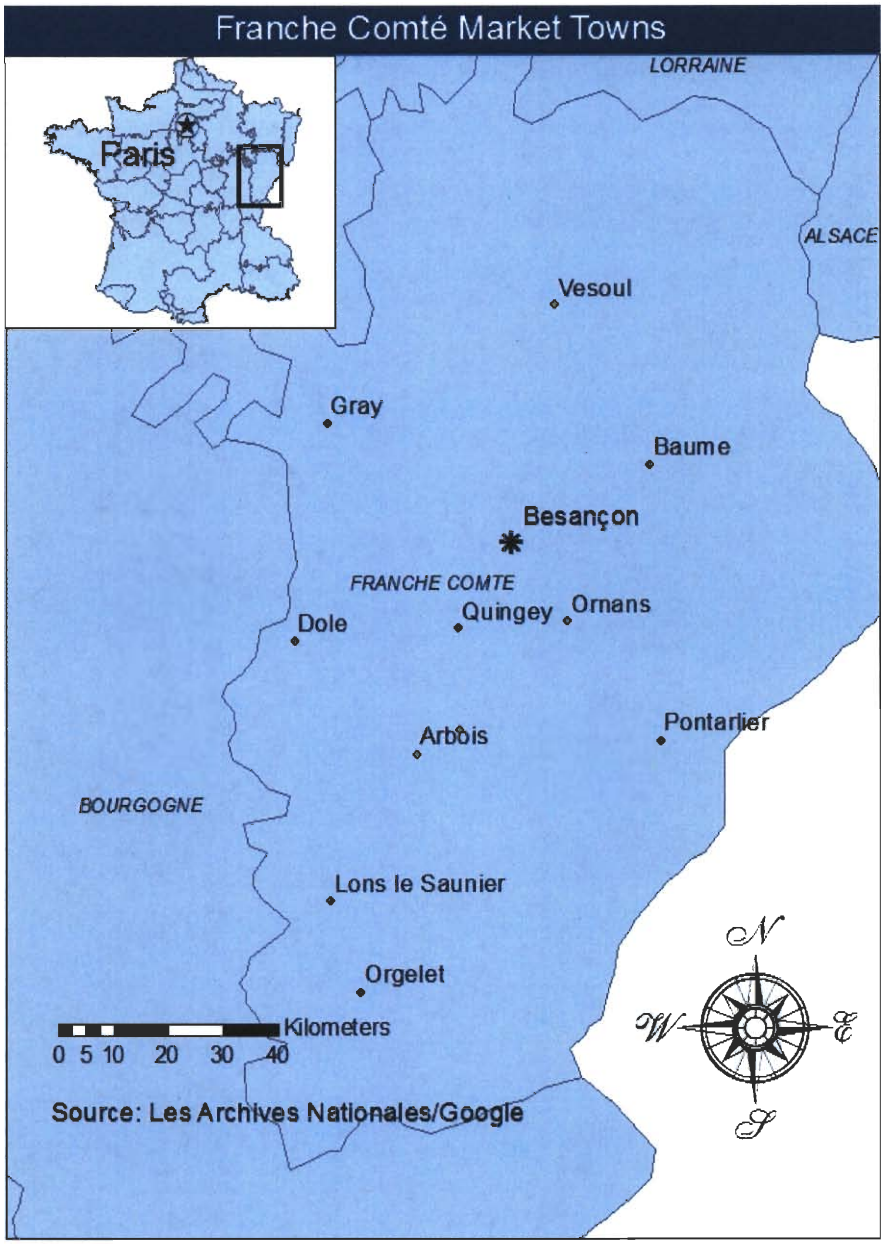


Figure 5.9: Franche Comté *Market Towns*
Source: Les Archives Nationales/Google

Table 5.5: Franche Comté Market Prices and Distances

Market	Distance to Besançon	Distance to Paris	1720 Price	1768 Price
Besançon	N/A	327.65	29.15	23.00
Dole	43.45	305.42	24.00	21.10
Gray	40.01	287.64	24.00	21.00
Vesoul	43.61	314.12	23.13	21.60
Salins	35.03	338.93	23.95	22.60
Lons le Saunier	72.61	341.44	26.44	22.40
Ornans	17.38	343.74	29.00	26.00
Pontarlier	44.82	369.81	34.00	26.40
Baume	28.57	342.25	22.50	21.05
Quingey	18.40	327.90	28.88	N/A
Arbois	41.89	335.66	22.58	21.00
Orgelet	85.55	356.84	23.75	21.60

Source: Les Archives Nationales/Google/ESRI, 2012

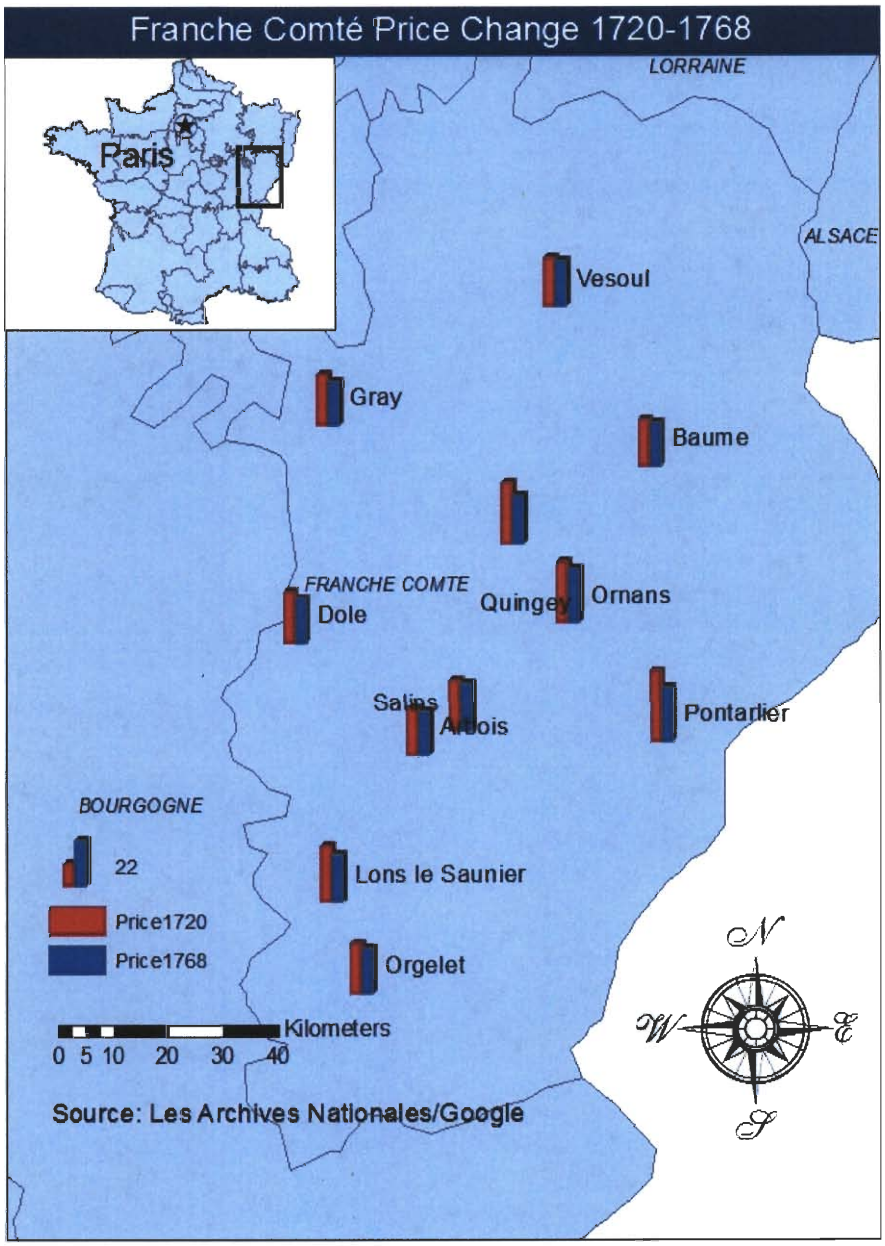


Figure 5.10: Franche Comté Price Change 1720-1768
Source: Les Archives Nationales/Google, 2012

The Généralité of Haynaut was located north of Paris and included 8 market towns in the province Flandre Française. The market towns used in this study were Valenciennes, Maubeuge, Le Quesnoy, Bavay, Landrecy, Avesnes, Philippeville, and Marienbourg (Figure 5.11, Figure 5.12). Prices were available for these market towns for the 1st and 2nd halves of the month of August 1720 as well as the 1st half of the month of February 1768. All measurements were converted to the *Setier de Paris* and

Table 5.2: Poitiers Market Prices and Distances

Market	Distance to Poitiers	Distance to Paris	1708 Price	1720 Price	1768 Price
Poitiers	N/A	294.74	6.55	24.00	16.55
St Maixent	45.75	332.87	10.50	30.00	17.25
Niort	67.59	352.10	10.91	30.00	17.10
Fontenay	88.69	356.30	N/A	24.00	20.50
Les Sables-d'Olonne	163.04	406.51	12.00	30.00	19.25
Thouars	60.75	283.77	8.00	24.00	N/A
Châtellerault	30.78	263.97	12.00	18.00	16.40
Confolens	68.32	340.58	N/A	20.00	14.40

Source: Les Archives Nationales/Google/ESRI, 2012

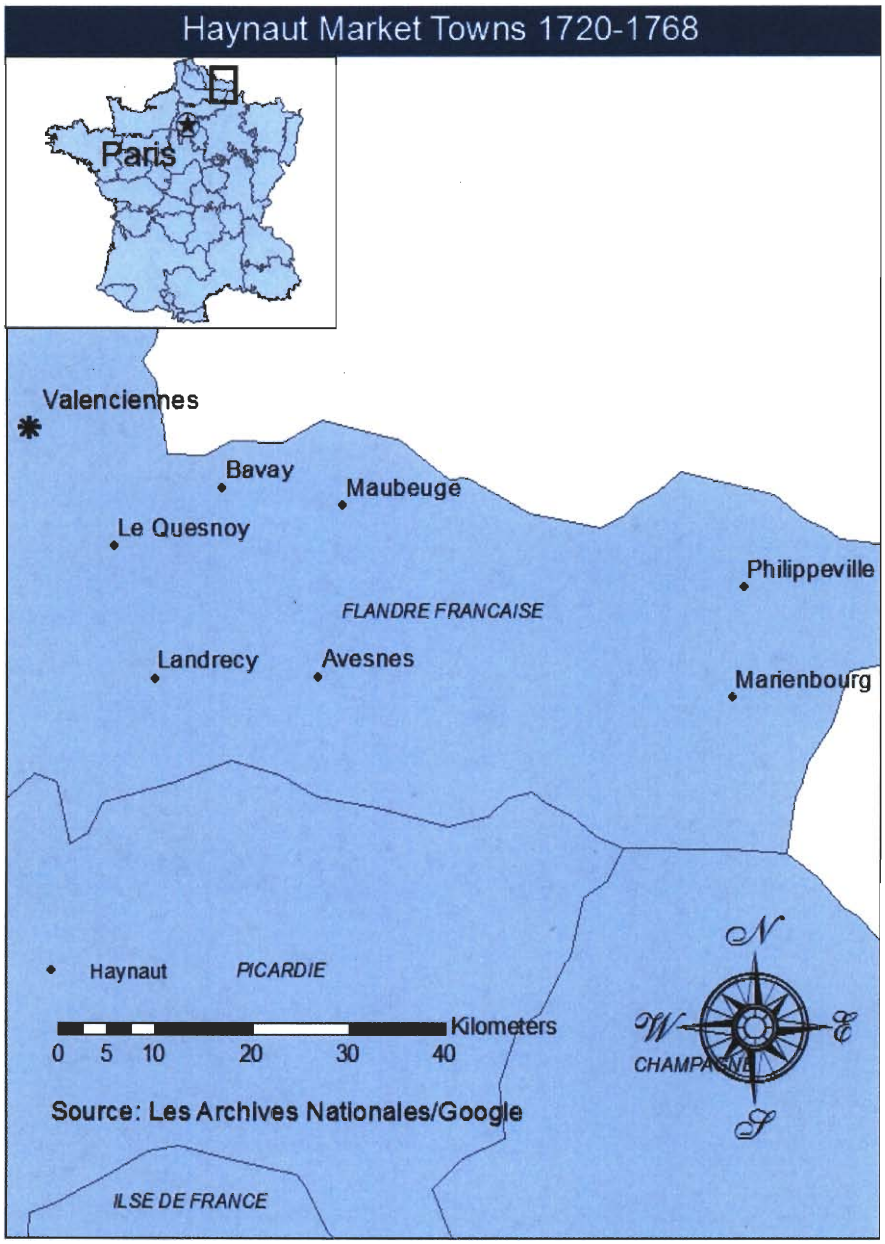


Figure 5.11: Haynaut Market Towns
Source: Les Archives Nationales/Google

Table 5.6: Haynaut Market Prices and Distances

Market	Distance to Valenciennes	Distance to Paris	1720 Price	1768 Price
Valenciennes	N/A	186.94	19.20	27.00
Maubeuge	33.11	196.75	20.00	24.80
Le Quesnoy	14.84	180.43	20.63	25.40
Bavay	20.70	191.26	20.63	24.00
Landrecy	28.58	171.24	19.30	28.75
Avesnes	39.04	181.28	20.50	25.75
Philippeville	75.21	217.55	26.00	22.00
Marienbourg	77.32	208.98	27.10	26.10

Source: Les Archives Nationales/Google/ESRI, 2012

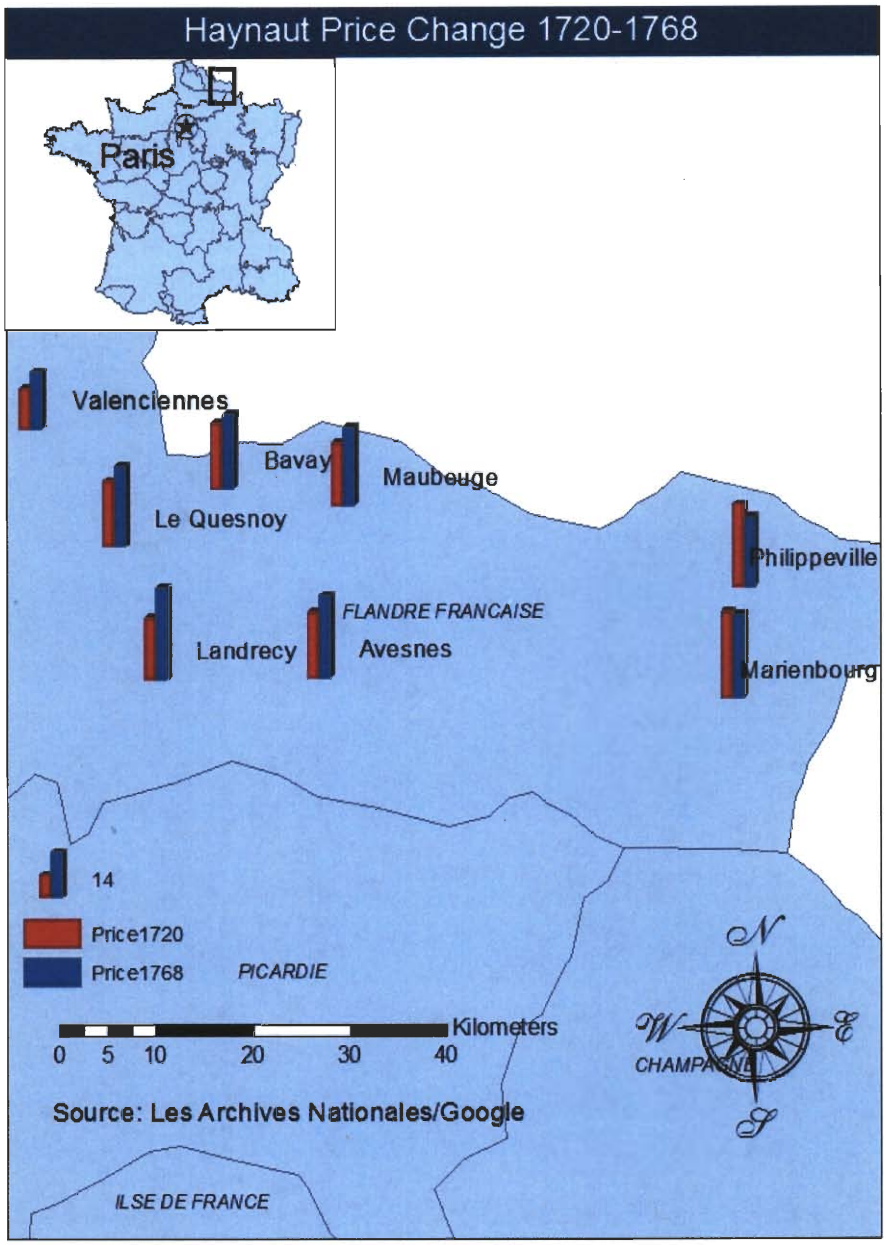


Figure 5.12: Haynaut Price Change 1720-1768
Source: Les Archives Nationales/Google

Tests of association between market price and distance from six respective county seats as well as Paris were conducted using Pearson's Product Movement Correlation. Multiple significant correlations were identified (Table 5.7).

Table 5.7: Price vs. Distance Correlations by Généralité

Généralité	Year	Price vs. Distance to County Seat	Price vs. Distance to Paris
Poitiers	1708	N = 5, r = .292, p = .633	N = 6, r = .438, p = .386
Soissons	1720	N = 14, r = .532, p = .055	N = 15, r = .124, p = .660
Poitiers	1720	N = 8, r = .465, p = .293	N = 8, r = .646, p = .083
Champagne	1720	N= 14, r = .318, p = 268	N = 15, r = .052, p = .853
Dauphine	1720	N = 9, r = -.127, p = .745	N = 10, r = .067, p = .854
Franche Comté	1720	N = 11, r = -.192, p = .571	N = 12, r = .446, p = .146
Haynaut	1720	N = 7, r = .922, p = .003	N = 8, r = .848, p = .008
Soissons	1768	N = 14, r = .617, p = .019	N = 15, r = .187, p = .506
Poitiers	1768	N = 6, r = .550, p = .258	N = 7, r = .515, p = .236
Champagne	1768	N = 13, r = .074, p = .809	N = 14, r = -.444, p = .111
Dauphine	1768	N = 7, r = .218, p = .639	N = 8, r = .799, p = .017
Franche Comté,	1768	N = 11, r = .311, p = .352	N = 12, r = .223, p = .487
Haynaut	1768	N = 7, r = -.320, p = .484	N = 8, r = .-728, p = .041
Significant Correlation			

Source: Les Archives Nationales/Google/ESRI/SPSS

Again, correlation values close to 1.0 between distance and price would signify that either the local administration or Paris may have been exerting influence over price. In the case of Paris, this correlation may have been achieved though governmental shifts in grain stores to other areas of the kingdom. At the local level, this correlation may have been indicative of harvest strength, or perhaps influence of the

local lords. A lack of significant correlation implies no difference in price for that time and area, therefore no need for intervention such as the shifting of grain, and in turn stability. The observance of significant correlations or lack thereof, is indicative of the level of influence on the regions. Significant correlations at the national level would be indicative Paris' influence and power. However a lack of correlation would indicate that while Paris may have been the capital, it was unable to exert sufficient influence across the kingdom. A lack of significant correlations would indicate stability, but also a lack of influential power as well.

A comparison of prices and distance for the earlier period of 1708 indicates stability across Poitiers. This result is not surprising considering it is early within the century and long before many of the troubles described earlier in the thesis began to develop. This period was marked by the reign of Louis XV, the longest ruling monarch in French history. While conditions under Louis XV were not necessarily better than that of subsequent monarchs, the strength and consistency of his rule seems to indicate stability within the financial and agrarian sectors.

Analyses of the 1720 data results in significant correlations between price and distance in the *généralités* of Soissons, Poitiers, and Haynaut. In the case of Soissons, the correlation exists between the markets and Soissons, indicating influence at the local level. However, a correlation between distance and price exists between Poitiers and Paris. In the case of Haynaut, a correlation exists at both the local and Parisian levels. All of the indications of instability and influence can likely be tied to the growing debt incurred the wars of Louis XIV. With the death of Louis XIV in 1715, France's

finances were in a most perilous state and this instability is reflected at the market level through variable prices. The influence of Paris over Poitiers during this time therefore seems to imply troubles within the capital which reverberated strongly enough throughout the country side to impact these markets. The correlation identified at the local level in Soissons and both levels in Haynaut is less surprising given closer proximity of both *généralités* to Paris. The instability generated by the death of the monarch and the growing financial problems needed not travel far to influence the markets in these areas. The case of Haynaut is especially interesting because correlations at both levels imply high levels of instability and pressure from all administrative levels during this period. This was likely the result of the soil profile as well as close proximity to both Paris and Belgium. This region had only been returned to France in the previous century with the rise of Louis XIV. The recent change of the monarch undoubtedly manifested itself both domestically and internationally as well.

There is no significant correlation observed for the *généralités* of Champagne, Dauphine, nor Franche Comté. This indicates that, while some influence was noticed over distance, as was the case with Poitiers, stability seems to have reigned over the kingdom, at least with regard to agriculture and associated finances.

By 1768 there is no significant correlation observed for either distance in Poitiers, Champagne, Dauphine, nor Franche Comté. Given the growing level of financial and political problems facing the kingdom this result at first glance seems surprising. However this result may in fact be reflecting the growing bonds among the farming peasants. That a community further removed from the capital was

experiencing stability during this period may indeed indicate the growing political alienation and isolation of the country side, as well as the lessened ability of the chaotic Parisian economy to exert influence and/or pay for increased shipments of grain to the city from the country side. While no correlation between distance and price is observed for this year, differences in prices at the local level are observed. With a few exceptions in the *généralité* of Champagne, these areas all experienced a uniform decrease in price during this 40 year period. This observation further points to stability of market prices within these regions.

The existence of significant correlation during this period in the Soissons and Haynaut regions can be explained in similar fashion as conditions in these areas remained essentially the same as in 1720. Growing turbulence in the capital undoubtedly affected nearby regions more than distant. Poitiers appears fortunate enough to have escaped the influence and troubles of the capital while the proximity of Soissons and Haynaut seems to indicate both markets fell victim to the influence of Paris. The observance of a negative correlation of Haynaut certainly suggests growing turbulence within the area as a direct result of the situation within the capital. Interestingly, these correlations are observed in conjunction with an almost uniform rise in price across both regions. This indicates a direct connection between price instability due to distance is directly related to the increase of the market price in the region as well.

1768 Price Deviations

An analysis of the price of wheat in 184 markets for 1768 also shows little deviation of price across all regions of the kingdom (Figure 5.7). The mean price for all markets during this year was observed to be 23 *deniers*. All markets prices were observed between -1.5 and +2.5 standard deviations from the mean, with the exception of 12 markets. These markets were Vitre, Longwi, Neufchateau, Vendome, Poitiers, Le Chatre, Limoges, Aix, Arles, Vaucouleurs, Châtellerault, and Confolens. The 10 markets below the -1.5 threshold are still observed close enough to the mean to not be considered outliers, leaving only the markets of Aix and Arles located in the most southern regions as outliers. The existence of only two outliers during this period signifies some semblance of stability in prices when looking at the kingdom as a whole. This does not however consider stability at only the local levels nor is it possible to determine the primary influential factor which may have contributed to this observed lack of deviation.

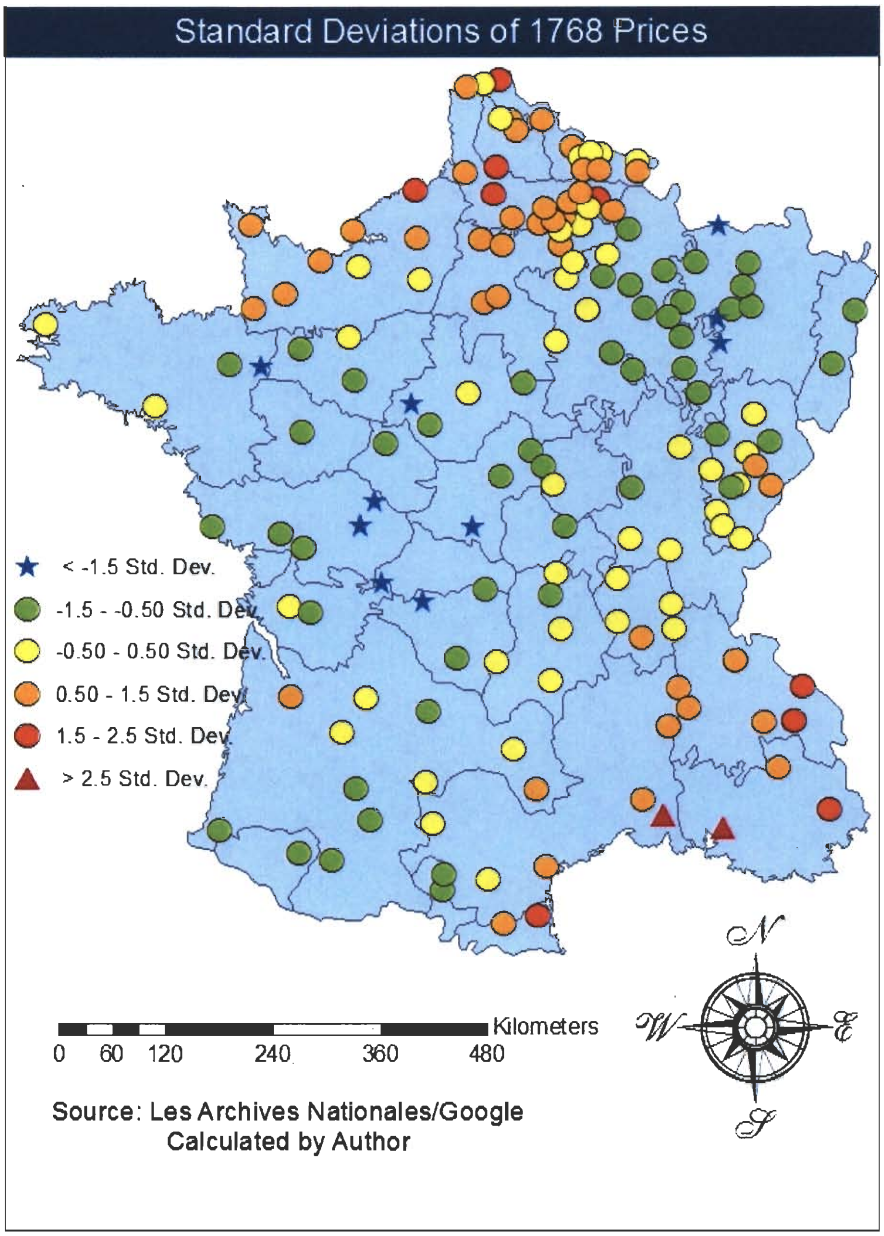


Figure 5.13: Standard Deviation of 1768 Prices
Source: Les Archives Nationales/Google/ESRI

The agricultural and rural/urban conundrum of the French Revolution seems to be reflected in the correlations for these regions and periods. Early in the period price stability in wheat prices appears over all regions due in large part to the strength of the monarchy. With the passing of time, and the weakening of the monarchy in conjunction with the growing debt of both the state and the populace, the price instability becomes evident as does the ability of Paris to exert influence across the entirety of the kingdom. By the latter half of the century the situation concerning market prices appears to reflect the political situation facing the kingdom. This trend of price instability reflects the story of plight of the peasantry, which ultimately culminated in the revolt. The events which led to the formation of the National Assembly and subsequent violent revolution may have been stemmed if stability in grain price had been achieved. However, the weakening of the monarchy and the resultant inability of Paris to exert influence on a national scale made such stabilization impossible Given that this instability mirrored events on the political level, a symbiosis between grain prices, market distances and political and financial burdens and intrigues seems evident.

CHAPTER VI

DISCUSSION

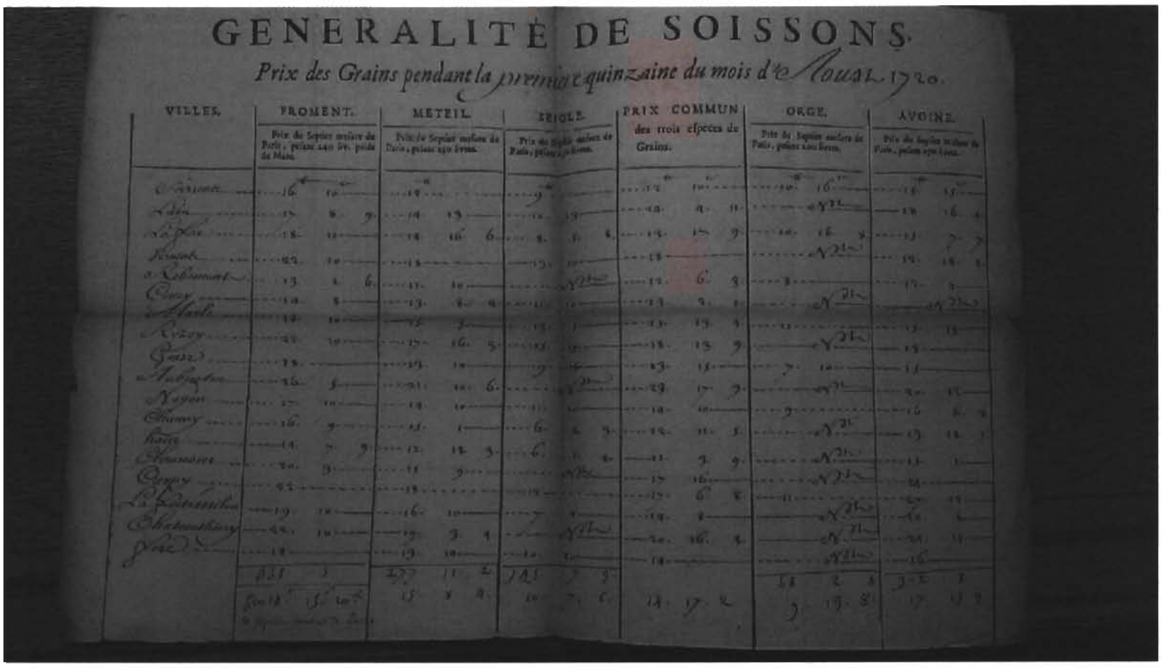
The analyses and results of this research were driven entirely by the availability of data. While this can be said for all research, it is particularly necessary to note a greater dependency on data availability in historical research. The passage of time is accompanied by the disappearance of historical data as well. While *Les Archives Nationales* has done an excellent job in maintaining vast repositories of historical information, much has been lost. Given the previously described turmoil which transpired just prior the formation of the archives, the amount that currently exists is even more impressive. This research focused primarily on only six of the 36 historical provinces of France. While data for the other provinces exists, most of them exist in small portions, or there are simply averages for the entire region and not the more detailed market-location prices required for this study.

For this research, only the national archives were consulted. While this location contains the largest collection of archival records, smaller, in some cases family, archives do exist across the whole of France. However access to these records was not feasible due to both time and monetary restraints. These smaller archives also lack any centralized inventory and would require the researcher to physically inspect the collections without the foreknowledge of the existence of any actual data. Therefore more data may exist to illustrate a more complete picture of this place and period; however it is simply not plausible to conduct such research at this time. It is for this

same reason that while several types of grain records were available, wheat was the primary focus of this study. It is possible that a more complete picture of agrarian life may have been recreated with the inclusion of lower cost alternative grains as substitutes, however due the prevalence of wheat in both agriculture production and diet, it was determined that very little additional insight would be added through the inclusion of all grains. Unburdened by temporal and financial restraints, this research could however possibly be expanded to include more data on more crops as well as further digitization of additional historical maps.

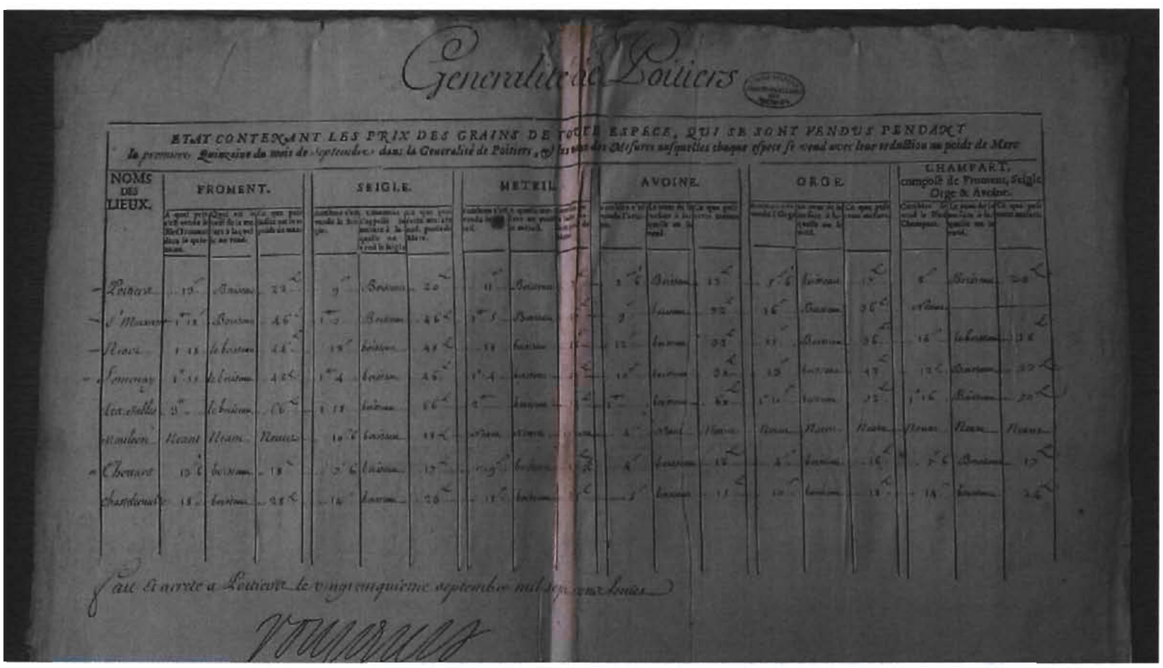
This research resulted in the creation of previously non-existent digital versions of historical maps and records. The transference of history into digital format was only possible through the use of interdisciplinary methodologies. It may have been possible to create a collection of historical records and attempt to glean some information regarding the situation of the period. However, the introduction of statistics, archival digitization, and most importantly spatial analysis, allowed for the creation of a historical GIS. It was this GIS which made possible the examination of both influence and stability during the *Ancien Régime*. The confluence of historical and geographical methodologies were therefore necessary for this research to recreate a historic landscape and attain results which would have previously proven elusive to researchers employing single disciplinary methodologies.

MARKET RECORDS


GENERALITÉ DE SOISSONS.

Prix des Grains pendant la premiere quinzaine du mois d'Aoust 1720.

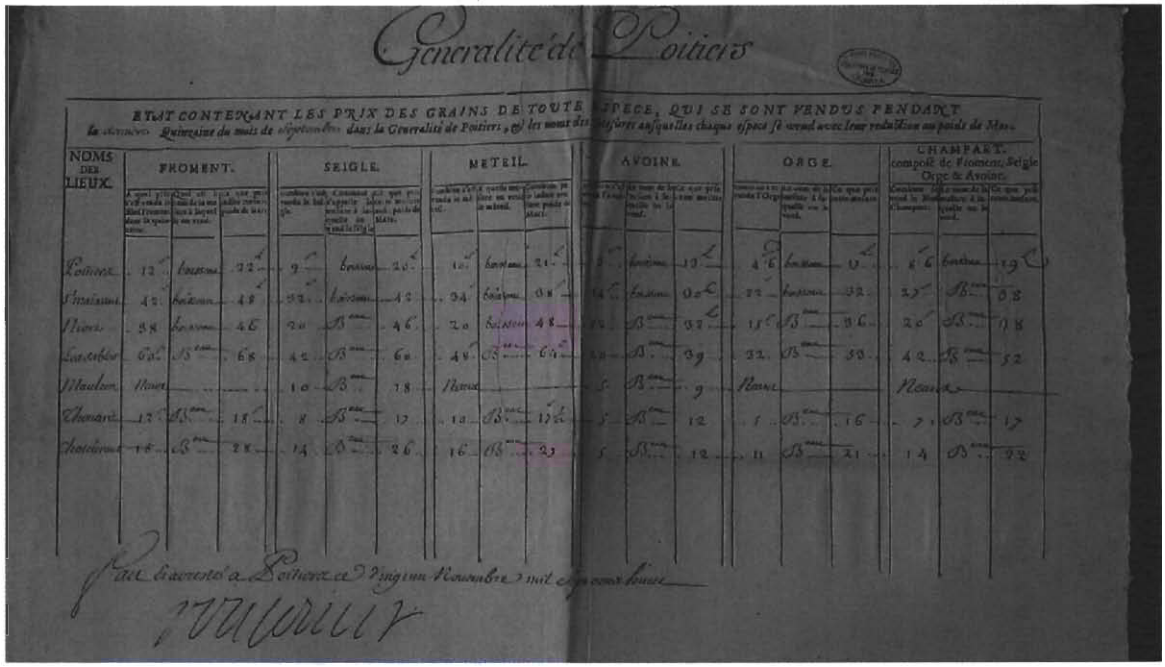
VILLES. | FROMENT. Prix du Septier mesure de Paris, pesant 240 liv. poids de Marc. | METEIL. Prix du Septier mesure de Paris, pesant 230 livres. | SEIGLE. Prix du Septier mesure de Paris, pesant 220 livres. | PRIX COMMUN des trois especes de Grains. | ORGE. Prix du Septier mesure de Paris, pesant 200 livres. | AVOINE. Prix du Septier mesure de Paris, pesant 150 livres.


Generalité de Poitiers

ETAT CONTENANT LES PRIX DES GRAINS DE TOUTE ESPECE, QUI SE SONT VENDUS PENDANT la premiere Quinzaine du mois de Septembre dans la Generalité de Poitiers, et les noms des Mesures auxquelles chaque espece se vend avec leur reduction au poids de Marc

NOMS DES LIEUX. | FROMENT. | SEIGLE. | METEIL. | AVOINE. | ORGE. | CHAMPART, composé de Froment, Seigle, Orge & Avoine.

Fait & arresté a Poitiers le vingt cinquieme septembre mil sept cent vingt



Generalité de Poitiers

ETAT CONTENANT LES PRIX DES GRAINS DE TOUTE ESPECE, QUI SE SONT VENDUS PENDANT la dernière Quinzaine du mois de Septembre dans la Generalité de Poitiers, & les noms des Lieux auxquels chaque espece se vend avec leur reduction au poids de Marc.

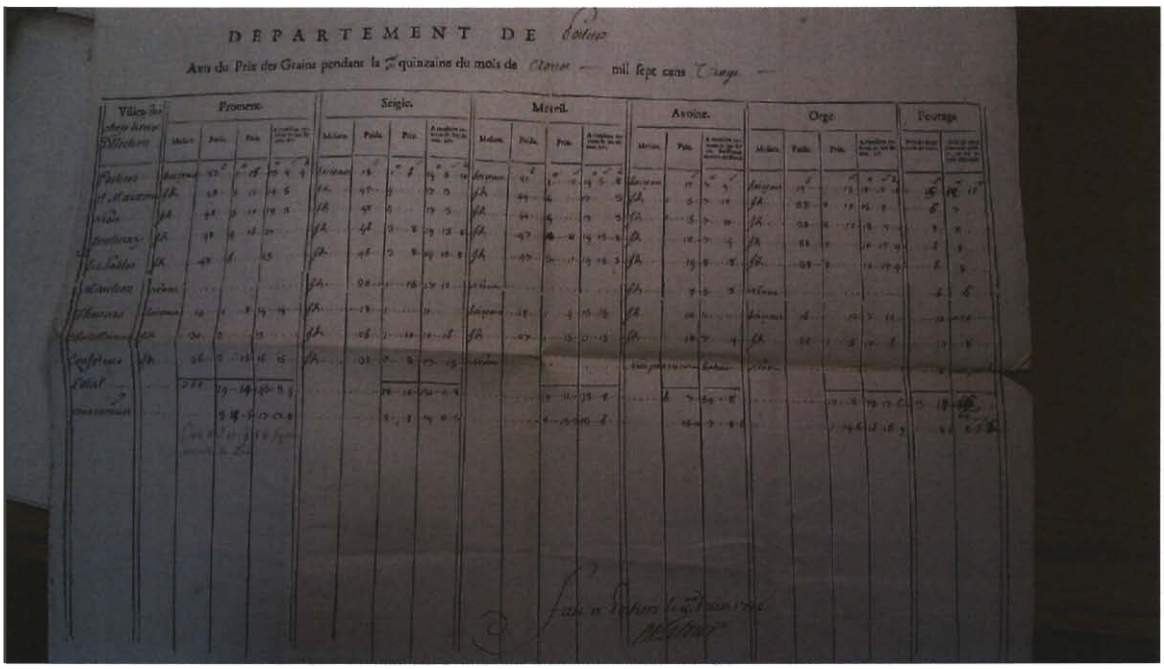
NOMS DES LIEUX.	FROMENT.	SEIGLE.	METEIL.	AVOINE.	ORGE.	CHAMPART. composé de Froment, Seigle Orge & Avoine.
Poitiers	12 l. boisseau 22 s.	9 l. boisseau 20 s.	12 l. boisseau 21 s.	5 l. boisseau 10 s.	4 l. 6 boisseau 0 s.	4 l. 6 boisseau 19 s.
Sanxaisme	12 l. boisseau 18 s.	12 l. boisseau 12 s.	14 l. boisseau 08 s.	4 l. boisseau 02 s.	2 l. boisseau 12 s.	2 l. 5 boisseau 08 s.
Niort	18 l. boisseau 16 s.	20 l. boisseau 16 s.	20 l. boisseau 18 s.	7 l. boisseau 07 s.	1 l. 5 boisseau 06 s.	2 l. 6 boisseau 08 s.
Lusignan	6 l. 5 boisseau 8 s.	4 l. 2 boisseau 6 s.	4 l. 6 boisseau 6 s.	1 l. 8 boisseau 3 s.	3 l. 2 boisseau 3 s.	4 l. 2 boisseau 5 s.
Maulon	Neant	10 boisseau 18 s.	Neant	5 boisseau 9 s.	Neant	Neant
Chenay	12 l. 5 boisseau 15 s.	8 l. 5 boisseau 17 s.	12 l. 5 boisseau 17 s.	5 l. 5 boisseau 12 s.	1 l. 5 boisseau 16 s.	2 l. 5 boisseau 17 s.
Chatellerault	16 l. 5 boisseau 28 s.	14 l. 5 boisseau 26 s.	16 l. 5 boisseau 23 s.	5 l. 5 boisseau 12 s.	11 l. 5 boisseau 21 s.	14 l. 5 boisseau 22 s.

Fait & arrêté à Poitiers ce Vingt un Novembre mil sept cent soixante

DEPARTEMENT DE Poitiers

Avis du Prix des Grains pendant la dernière quinzaine du mois de Août mil sept cent soixante

Villes.	Froment.	Seigle.	Meteil.	Avoine.	Orge.	Fourrage.
Poitiers						
Chauvigny						
Niort						
Lusignan						
Lusignan						
Chenay						
Thouars						
Chatellerault						



DEPARTEMENT DE Poitou

Avis du Prix des Graine pendant la Quinzaine du mois de Février — mil sept cens Trente —

Villes des cinq lieues limitrophes	Froment.				Seigle.				Meteil.				Avoine.				Orge.				Fourage	
	Mesure.	Poids.	Prix.	A proportion du poids de marc.	Mesure.	Poids.	Prix.	A proportion du poids de marc.	Mesure.	Poids.	Prix.	A proportion du poids de marc.	Mesure.	Poids.	Prix.	A proportion du poids de marc.	Mesure.	Poids.	Prix.	A proportion du poids de marc.		
Poitiers	Boisseau	42	1 18	20 6 8	Boisseau	18	1 8	19 5 10	Boisseau	21	1 12	19 5 8	Boisseau	15	1 5	19 5	Boisseau	15	1 5	19 5		
St Maixent	Id.	48	1 10	19 5	Id.	42	1	17 5	Id.	44	1	19 5	Id.	15	1	19 5	Id.	15	1	19 5	5	15
Niort	Id.	42	1 12	19 5	Id.	42	1	17 5	Id.	44	1	19 5	Id.	15	1	19 5	Id.	15	1	19 5	5	5
Lusignan	Id.	30	1 12	20	Id.	42	1	19 15	Id.	47	1	19 15	Id.	12	1	19	Id.	15	1	19	3	3
Fontenay	Id.	42	1	15	Id.	42	1	19 10	Id.	45	1	19 10	Id.	19	1	19	Id.	18	1	19	3	3
Chantonay	Boisseau	...			Id.	20	1	17 12	Boisseau				Id.	9	1	19	Boisseau				3	3
Thouars	Boisseau	12	1	14	Id.	18	1	0	Boisseau	18	1	19	Id.	20	1	19	Boisseau	18	1	19		
Montreuil	Id.	20	1	15	Id.	18	1	18	Id.	17	1	15	Id.	18	1	19	Id.	20	1	19	3	3
Confolens	Id.	28	1	16	Id.	28	1	19	Boisseau				Boisseau				Boisseau					
Total		322	19	20		28	10	19		6	11	19		7	19	19		18	19	19	5	15
			1	19		1	19			1	19			1	19			1	19			

Fait à Poitiers [illegible]

Année 1720

GENERALITE' DE CHAMPAGNE.

Premre Quinzaine d'aoust

ESTAT du prix des Grains vendus dans les principaux Marchez de la Generalité de Chaalons.

	FROMENT. Prix du Septier mesure de Paris pesant 240. livres poids de marc.	METEIL. Prix du Septier mesure de Paris pesant 230. livres.	SEIGLE. Prix du Septier mesure de Paris pesant 230. livres.	Prix commun des trois especes de grains.	ORGE. Prix du Septier mesure de Paris pesant 200. livres.	AVOINE. Prix du Septier mesure de Paris pesant 270. livres.
Chaalons	19..14		12..13	16..3..6	1..5	18..6
Vitry	14..17..4		10	12..8..8	5..13..4	16..10
St Dizier	14..6..8			14..6..8		8..8
Joinville	20..12..6			20..12..6	12	15..6
Chaumont	22..15			22..15		14
Vaucouleurs	20..2..6	16..10		18..6..3	8..5	11
Langres	20..8			20..8		9..12
Bar sur aube	25	23	21	23	18	14
Troyes	18		11..18	14..19	12..16	25
Sezanne	19	13..10	12..15	15..1..8	12	20
Epernay	22..4		16..5	19..4..6	9..15	18..19
Reims	18..19		11..3..9	15..1..4	8..8	9..9
Rethel	20..8		10..9	15..12..6	8..16	20..14
Maizieres	21	15..2..6	12	16..0..10	15	7..10
Sedan	22..13..3		14..13..3	18..13..3	13..10	9..9
St Menehould	ne s'est rien vendu					
	300..0..9 20	68..2..6 17	132..17 13..5		125..8..4 10..10	218..2 14..15

20
17
13 5
50 5
16 15

Année 1720

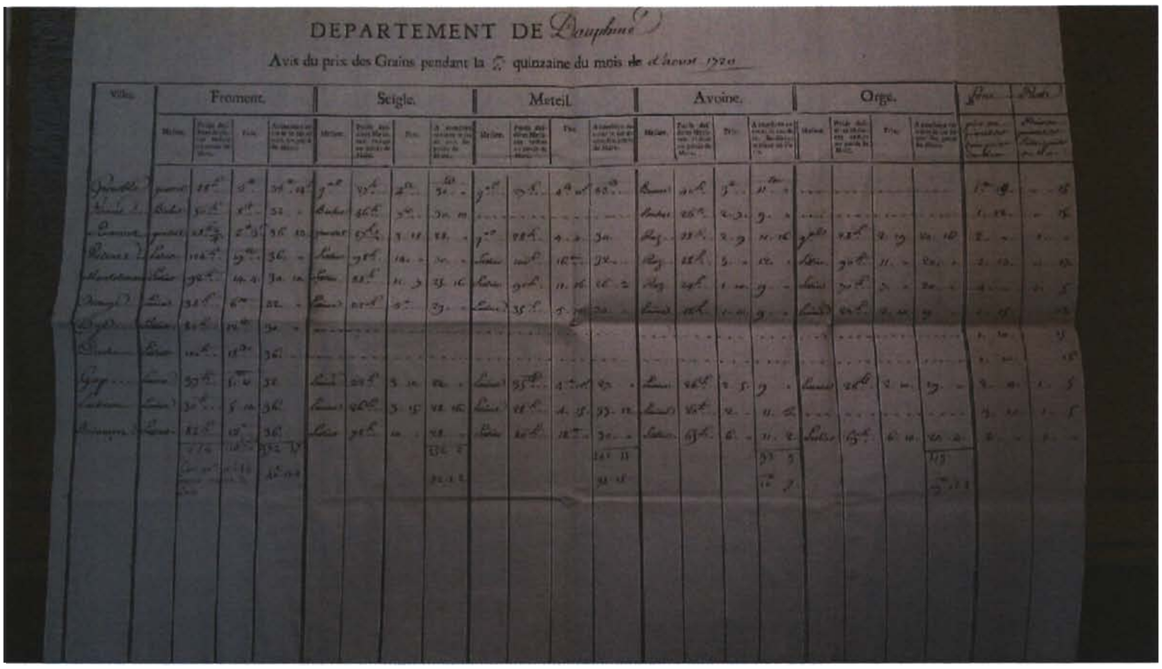
GENERALITE' DE CHAMPAGNE.

2e. - Quinzaine d'aoust

ESTAT du prix des Grains vendus dans les principaux Marchez de la Generalité de Chaalons.

	FROMENT. Prix du Septier mesure de Paris pesant 240. livres poids de marc.	METEIL. Prix du Septier mesure de Paris pesant 230. livres.	SEIGLE. Prix du Septier mesure de Paris pesant 230. livres.	Prix commun des trois especes de grains.	ORGE. Prix du Septier mesure de Paris pesant 200. livres.	AVOINE. Prix du Septier mesure de Paris pesant 270. livres.
Chaalons	24 .. 15	.....	12 .. 7 .. 6 ..	18 .. 11 .. 3	11 .. 5 .. 0	18 .. 11 ....
Vitry	14 .. 10	.....	10 .. 15	12 .. 12 .. 6 ..	7 .. 16 .. 8 ..	17 .. 5 ....
St. Dizier	16 .. 2 .. 6	.....	.....	16 .. 2 .. 6 ..	.....	8 .. 8 ....
Joinville	20 .. 12 .. 6	.....	.....	20 .. 12 .. 6 ..	12	15 .. 6 ....
Chaumont	24 .. 10	.....	.....	24 .. 10	.....	14 .....
Vaucouleurs	20 .. 2 .. 6 ..	16 .. 10	.....	18 .. 6 .. 3	8 .. 5	11 .....
Langres	18	.....	.....	18	.....	8 .....
Bar sur Aube	25	23	21	23	18	14 .....
Troyes ...	18	.....	11 .. 18	14 .. 19	12 .. 16	22 .. 16 ....
Sezanne	19	14 .. 10	11 .. 10	15	10	19 .....
Epernay ..	24 .. 6	.. 1	14 .. 12 .. 6 ..	19 .. 9 .. 9 ..	.....	16 .. 5 ....
Reims ...	18 .. 19	.....	11 .. 3 .. 9 ..	15 .. 1 .. 4 ..	8 .. 8	9 .. 9 ....
Rethel	24 .. 12	.....	10 .. 19	17 .. 13 .. 6 ..	8	15 .. 15 ....
Mezieres ..	20 .. 14	13 .. 10	13 .. 15	16 .. 13	14	8 .. 5 ....
Sedan	21 .. 6 .. 8 ..	.....	12 .. 7 .. 3 ..	16 .. 16 .. 11 ..	11 .. 17 .. 6 ..	9 .. 2 ....
Ste. Manehould	20					
	310 .. 10 .. 2	68 .. 10	192 .. 8		122 .. 8 .. 2	207 .. 2
	20 .. 13	17 .. =	13 .. 1		11 .. 5	14

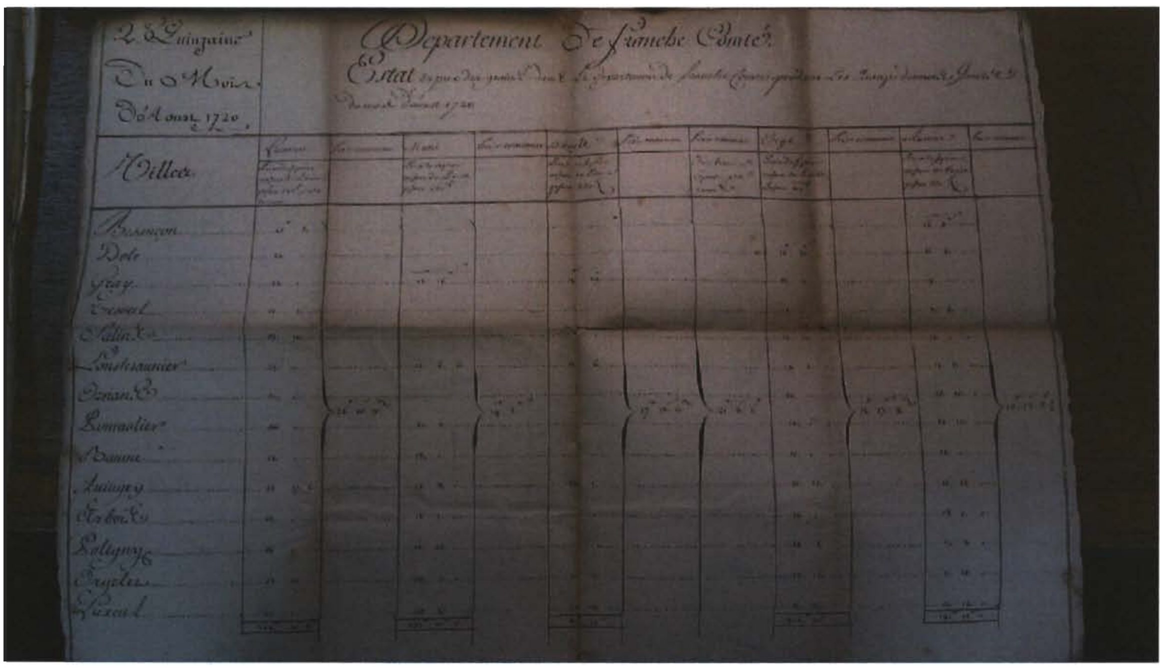
20 18
17
19 1
51 2
17 = 8



DEPARTEMENT DE Dauphiné

Avis du prix des Grains pendant la 2e quinzaine du mois d'Aoust 1720

Villes	Froment	Seigle	Meteil	Avoine	Orge

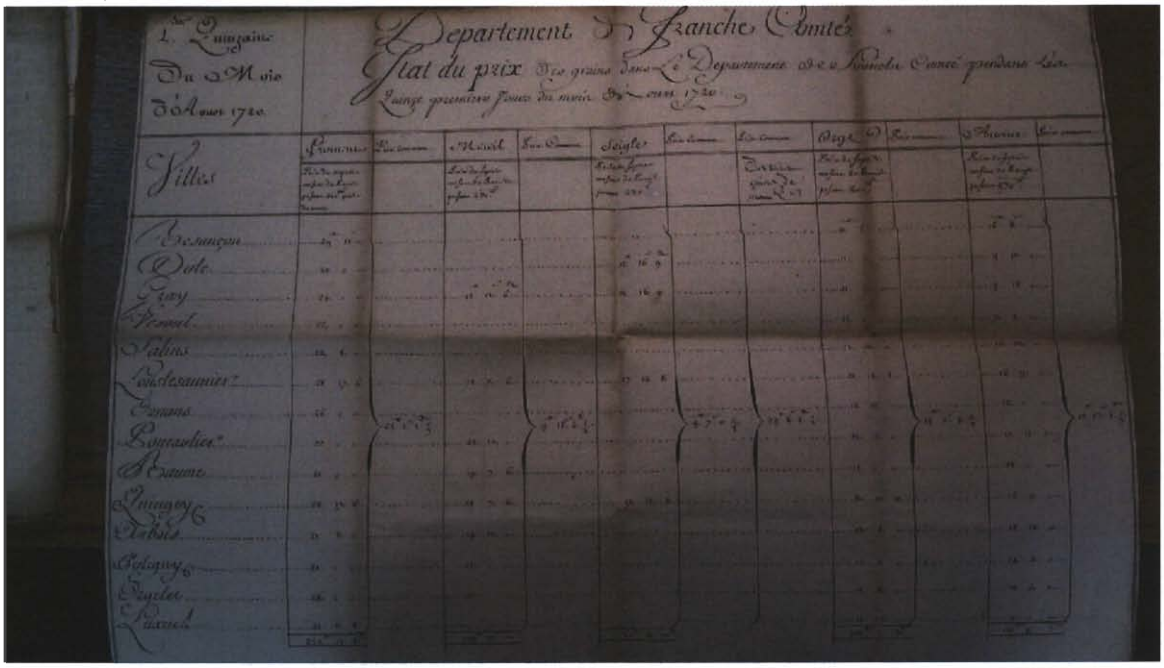


2e Quinzaine Du Mois D'Aoust 1720

Departement De franche Comté

Estat du prix des grains

Villes: Besançon, Dole, Gray, Vesoul, Salins, Lons le Saunier, Ornans, Pontarlier, Baume, Quingey, Arbois, Poligny, Orgelet, Luxeuil



REFERENCES

Bloch, Marc. *French Rural History*. translated by Janet Sondheimer. Berkly, CA: Univesity of California Press, 1966

Carr, John Laurence. *Life In France Under Louis XIV*. Edited by Peter Quennel. New York: Capricorn Books, 1970.

Claval, Paul. "New Interpretations of the French Revolution and their geographical significance", *Journal of Historical Geography*, 15, 3, (1989): 260-263

Davies, Peter. *The French Revolution*, Oxford:Oneworld Publications, 2009.

Donkin, R A. "A 'servant of two masters'?" *Journal of Historical Geography* 23 (3) (1997):247-266.

For ESDB v2.0: "The European Soil Database distribution version 2.0, European Commission and the European Soil Bureau Network, CD-ROM, EUR 19945 EN, 2004".

Foresman, Timothy W. "GIS Early Years and Threads of Evolution." In *The History of Geographic Information Systems*, edited by Timothy W. Foresman, 3-18. Upper Saddle River, NJ: Prentice Hall, 1998.

Goldsmith, James Lowth. "Lordship in France, 1500-1789." New York: Peter Lang, 2005.

Gregory, Ian N., and Healey, G. Richard. "Historical GIS: structuring, mapping and analyzing geographies of the past." *Progress in Human Geography* 31(5) (2009): 638-653.

Hayes, D. *Historical atlas of Canada: Canada's history illustrated with original maps*. Vancouver: Douglas and McIntyre (2002).

Holdsworth, Deryck W. "Historical geography: new ways of imaging and seeing the past." *Progress in Human Geography* 27 (4) (2003) 486-493

Jones, Peter M. "Agricultural Modernization and the French Revolution," *Journal of Historical Geography* 16 (1) (1990): 38-50.

Jones, Peter M. "Protestantism and Jacobinism in the Department of the Averyon, 1789-1815," in *Problems in French History*, edited by Martyn Cornick and Ceri Crossley 17-30, New York: PALGRAVE, 2000.

Kemp, Tom. *Economic Forces in French History*. London: Dennis Dobson, 1971.

Lefebvre, Georges. *The Coming of the FRENCH REVOLUTION*. translated by R. P. Palmer. Princeton, NJ: Princeton University Press, 1947.

Mondrou, Robert. "Scarcity and Insecurity in Agrarian Life," in *The Peasantry in the Old Regime: Conditions and Protests*, edited by Isser Woloch 82-87 New York: Holt, Rineheart, and Winston, 1970.

Ogborn, Miles. "The relation between geography and history: work in historical geography in 1997." *Progress in Human Geography* 23 (1) (1999): 97-108.

Palaiseau, Jean-François-Gaspard, *Métrologie universelle, ancienne et moderne: ou rapport des poids et mesures des empires, royaumes, duchés et prinicipautés des quatre parties du monde, présenté en tableaux par ordre alphabétique de pays ou ville, et leur position géographique avec les anciens et nouveau poids et mesures du royaume de France, et l'inverse, avec la méthode pour opérer toutes les conversions par des nombres fixes, etc*. Bordeaux, France: Lavigne Jeune, 1816.

Peel, M. C., Finlayson, B. L., and McMahon, T.A. "Updated world map of the Köppen-Geiger climate classification." *Hydrology and Earth System Science* 11 (2007): 1633-1644.

Pitzl, Gerald R. *Encyclopedia of Human Geography*. Westport, CT: Greenwood Publishing, 2004.

Rosenthal, Jean-Laurent. *The Fruits of the Revolution*. Cambride: Cambride University Press, 1992.

Rudé, George. "The Crisis of 1775 and the Traditions of Popular Protest," in *The Peasantry in the Old Regime: Conditions and Protests*, edited by Isser Woloch 82-87 New York: Holt, Rineheart, and Winston, 1970.