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The Rise and Fall of the World's Largest Wine Exporter (And Its Institutional Legacy)

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The Rise and Fall of the World's Largest Wine Exporter (And Its Institutional Legacy)

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The Rise and Fall of the World's Largest Wine Exporter

(And Its Institutional Legacy)

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Abstract

It is hard to imagine in the 21st global wine economy, but until 50 years ago Algeria was the largest exporter of wine in the world – and by a wide margin. Between 1880 and 1930 Algerian wine production grew dramatically. Equally spectacular is the decline of Algerian wine production: today, Algeria produces and exports little wine. This paper analyzes the causes of the rise and the fall of the Algerian wine industry. There was an important bi-directional impact between developments of the Algerian wine sector and French regulations. French regulations had a major impact on the Algerian wine industry. Vice versa, the growth of the Algerian wine industry triggered the introduction of important wine regulations in France at the beginning of the 20th century and during the 1930s. Important elements of these regulations are still present in the European Wine Policy today.

Keywords: European agriculture, wine history, regulation, appellations, institutions.

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The Rise and Fall of the World's Largest Wine Exporter

(And Its Institutional Legacy)

Giulia Meloni and Johan Swinnen

1. Introduction

It is hard to imagine in the 21st global wine economy, but in 1960 – 50 years ago – Algeria was the largest exporter of wine in the world – and by a wide margin: it exported twice as much wine as the other three major exporters (France, Italy and Spain) combined. Moreover, it was the fourth largest producer of wine in the world. In the 50 year period between 1880 and 1930 Algerian wine production and exports grew dramatically, turning it from non-existent into the world's largest exporter of wine.¹

What is equally spectacular as the rise of Algerian wine production is its decline. The fortune of Algerian wine has fallen dramatically. Today, Algeria produces and exports virtually no wine anymore. In fact, the current Algerian wine production reflects the situation at the end of the 19th century when wine production was virtually inexistent. Hence, over the course of a century, Algeria went from producing almost no wine to the world's largest exporter to producing very little wine again.

The analysis of the causes of growth and decline of such an important economic sector should be of interest to everybody interested in economic history and development. In this paper we document the rise and the fall of the Algerian wine industry and explain how they were caused by a combination of factors, including technological advances, the spread of vine

¹ Throughout the paper we consider Algeria as separate from France when we talk about wine production and trade. Algeria was a colony of France throughout much of that period (1830-1962).

diseases, and associated migration of investors and human capital. The developments in the Algerian wine industry were heavily influenced by its impact on the French wine market and French regulations. Free trade with France stimulated the growth of Algerian exports when high import tariffs blocked imports from Spain and Italy in the late 19th century. However, from the 1930s onwards, French wine regulations halted the expansion of Algerian wine production. After Algeria's independence in 1962, French import restrictions caused a decline in Algerian exports and, in combination with state intervention and poor management in Algeria, caused the collapse of the Algerian wine industry.

However, there is an additional story – and one with major implications for today's wine markets. The growth of the Algerian wine industry had a crucial impact on French wine regulations. Even if the Algerian wine industry has effectively disappeared from the world's wine market today, the institutional legacy of the Algerian wine industry in France, and in the world, continues. The growth of the Algerian wine industry triggered the introduction of important wine regulations in France at the beginning of the 20th century and during the 1930s. These regulations formed the basis of other regulations which today affect a large share of the global wine production. In fact, important elements of the French wine regulations triggered by the Algerian wine industry's spectacular growth are still present in the European Wine Policy today.

2. The Growth of the Wine Industry in Algeria in the late 19th century

When France annexed Algeria in 1830, nobody would have predicted that Algeria would become the world's largest exporter of wine and the fourth largest wine producer (see table 1).² While

² The Algerian cultivable land amounts to only 3% of the country (7,5 million hectares). To compare: France has 32 million cultivable hectares, 60% of the national territory (Fillias, 1886; Birebent, 2007).

wild grapevines were present in Algeria since the Phoenicians and Carthaginians³ traded huge quantities of wine (and transplanted grapevines) across the Mediterranean sea during the first millennium BC, the cultivation of vines never took off on a substantial level. The Romans used this region as a granary for their Empire. Later, under Arab rule, viticulture was not encouraged as the Koran forbade alcohol consumption (Bourget, 1930; Barrows, 1982; McGovern, 2009; Carlà and Marcone, 2011).

It was only after France colonized the region in 1830 that Algerian viticulture developed. The French colonialists and settlers consumed wine since it was considered to be the safest drink and a “cure” against certain epidemics such as cholera (Birebent, 2007:67). Yet it took some time for wine production to develop. The first attempts to produce wine in Algeria were unsuccessful and the settlers imported wine from France (Leroy-Beaulieu, 1887; Isnard, 1947; Isnard and Labadie, 1959).⁴ It was only after 1880s that the Algerian wine industry took off seriously (see figure 1). The remarkable growth after 1890 was caused by a combination of scientific progress and the spread of a disease in France.

Technological progress in wine production

From 1830 to 1860, French settlers tried to plant vines⁵ in Algeria’s warm subtropical climate but winegrowers did not have the technology to produce drinkable wines in a hot climate. The problem of fermentation in hot countries is the high temperatures reached in the tanks. If the heat exceeds 40°C, sugar cannot be converted into alcohol and fermentation stops.

³ Mago of Carthage wrote the first treaty on viticulture, later becoming the basis of Roman wine knowledge (McGovern, 2009:195).

⁴ Not only vineyards failed, also other tropical plant species, as sugarcane, cocoa, coffee and cotton, were not successful because of a poor understanding of the Algerian climate (Isnard, 1949).

⁵ About 2.000 hectares of vines were cultivated in 1830, mainly belonging to Turkish officials and Moorish merchants (Birebent, 2007).

Refrigeration is needed to control the temperature in the tanks during the fermentation process but refrigeration technology was not available at the time (Dervin, 1902).

Scientific and technological innovations changed this by making wine production in hot climates possible. Pasteur's discoveries in the middle of the 19th century on the role of yeasts in alcoholic fermentation were the basis for winemaking in hot climates. With high temperatures, yeasts cannot survive and fermentation stops unintentionally, leading to wine spoilage and bad wines⁶ (Robinson, 2006:565). Pasteur's discoveries led to an innovation in wine production, called "cold fermentation", which allowed producing better wine in warm climates such as Algeria (Johnson et al., 2010). In order to control temperature during fermentation in the tanks, advanced refrigeration systems were introduced.⁷ For instance, by the 1890s, the Baudelot cooler (previously used for brewing) was applied to wine. The machine consisted of metal tubes through which a chilling liquid was passed (Isnard, 1947). While this technological breakthrough was crucial for the production of Algerian wine, it was not the only reason for the take-off of Algerian wine production.

Devastation of French vineyards

Another major factor was the devastation of French vineyards caused by the *Phylloxera* infection from 1863 onwards (Augé-Laribé, 1950; Lachiver, 1988). From 1875 to 1889, one-third of the total French vine area was destroyed. French wine production declined by about 70% (see figure 2). This had major consequences for Algerian wine: it induced an inflow of skills in

⁶ During the 1873 Vienna wine fair, Algerian wines were considered "not suited to trade sales" (Isnard, 1947).

⁷ Interestingly, also the Romans were already aware of the need for "cold fermentation". Pliny the Elder, in his treatise on Natural History, described a technique used to control temperature for sweet wines: "*It is only made by using great precaution, and taking care that the must does not ferment (...). To attain this object, the must is taken from the vat and put into casks, which are immediately plunged into water (...).*" (Book XIV, Chap. 11).

wine-making through the migration of many broke French winegrowers to Algeria, and it caused an increase in the demand for Algerian wine.

Initially, and without much success, wine production was started by the soldiers and people with little knowledge of wine-making.⁸ However, the wine crisis in France changed this. Ruined French winegrowers immigrated to Algeria and brought with them their technological know-how and expertise. From 1871 to 1900, 50.000 families, many of whom had been producing wine in France and were hurt by the *Phylloxera* outbreak, immigrated to Algeria and occupied 700.000 hectares of land (Isnard and Labadie, 1959).

Between 1880 and 1890, average annual production in France fell to 30 million hectoliters, while consumption remained at about 45 million hectoliters. To fill this gap, France started to produce artificial wines⁹ and to import wines. In ten years' time, French wine imports increased ten-fold: from 1.2 million hectoliters in 1865-69 to 10.6 million in 1875-79 (see table 2 and figure 3). France also decided to stimulate wine production in its Algerian colony to limit imports from Spain or Italy.¹⁰

The wine crisis also increased the demand for Algerian wine for blending with French wine. Not only the quantity of French wine was dramatically reduced but also the average alcohol content had fallen due to the shift to different grape varieties. Two different types of new

⁸ During the first colonization period, Algeria witnessed an immigration, not composed of winegrowers but of soldiers. As did the veterans of the Roman legions after defeating the rebellious tribes, the soldiers of Marshal Bugeaud started cultivating land in Algeria (Leroy-Beaulieu, 1887:116). Moreover, in 1846, the French government granted free land to 13.000 unemployed workers living in Paris without any agricultural knowledge (Birebent, 2007:55).

⁹ Wine adulterations became common. Examples of wine adulteration were that producers used wine by-products at the maximum capacity (for instance by adding water and sugar to grape skins, the *piquettes*), or produced wines from dried grapes instead of fresh grapes, or added plaster or coloring additives (as sulfuric or muriatic acids) in order to correct flawed wines (Augé-Laribé, 1950; Stanziani, 2004).

¹⁰ This idea already took shape during the first wave of vine disease in France (oidium or powdery mildew). In 7 years, from 1847 to 1854, wine production had decrease from 54 to 11 million hectoliters. However, the idea was never implemented as the discovery of sulfur, as a way to tackle the vine disease, allowed France to rapidly recover its wine production levels, with 54 million hectoliters in 1858 (Insee, 1935).

vines had been developed to resist *Phylloxera*. The first solution – grafting¹¹ – consisted in inserting European vines on to the roots of the *Phylloxera* resistant American vine species (Paul, 1996; Gale, 2011). Grafting was preferred by richer wine producers in the Bordeaux and Burgundy regions.

The second solution – hybrids – was found by crossing two or more varieties of different vine species. Hybrids were either the result of genetic crosses between American vine species (so-called “American direct-production hybrids”¹²) or between European and American vine species (so-called “French hybrids”). Hybrids was the preferred solution for producers in many other regions. However, hybrid vines produced wines with lower alcohol levels – no higher than 9 or 10% (Strachan, 2007). In order to increase the alcohol content of their wines (and enhance the quality), these wine producers had to either add sugar or to blend their wines with Algerian wines that had a much higher alcohol level – from 13% to 16% (Gautier, 1930). This increased demand for Algerian wines.

A final element was the increase in the supply of capital for investments in Algerian agriculture. Until 1880, the Bank of Algeria had refused to provide credit for long term investments in agriculture. However in 1880, the Bank’s charter was to expire¹³ and the Algerian government agreed to renew this authorization if the Bank would increase its loans for agricultural investments. As a result, the supply of bank credits for vineyard expansion increased after 1880 (Isnard, 1949).

¹¹ An earlier example of grafting is from 16th century Spanish Mexico, where in 1524 Hernán Cortés, Spanish *conquistador*, ordered to graft European vines on American rootstocks in Mexico (Hyams, 1965).

¹² These “American hybrids”, as Clinton, Isabelle and Noah, were developed in the US at the beginning of the 19th century. They were directly planted into the French soil as a first solution to the vine diseases. However, by 1890-1900, due to their low resistance to *Phylloxera*, they were replaced by either grafting or Euro-American hybrids (Couderc, 2005).

Expansion of Algerian wine production and exports

The combination of these factors had a major impact on Algerian wine production. In 1883, the Algerian *Conseil supérieur du Gouvernement*, the Supreme Council of Government¹⁴, perceptively asserted that:

*“Now, certainly, the situation is favorable: the vineyards of France are partly devastated, Algerian producers have a safe market outlet and their products, even if of inferior quality, are sold at sufficiently remunerative prices.”*¹⁵

From 1880 onwards, vine plantations expanded massively and vines quickly replaced wheat as the principal cultivation in Algeria. Between 1880 and 1900, the area under vines increased from 20.000 to 150.000 hectares (see figure 4).

Production followed soon (figure 1). From about 25.000 hectoliters in 1854, Algerian production increased to 200.000 hectoliters in 1872, and to 1 million hectoliters in 1885. By 1900 Algerian production was 5 million hectoliters per year and fifteen years later (1915) it had doubled again, to 10 million hectoliters.

This dramatic increase in Algerian production had major implications for international wine markets. In contrast to other wine producing countries, most Algerian wine was exported

¹³ The Bank of Algeria was founded in 1854 as an independent bank, with a capital of 3 million francs. The bank charter was to expire in 1871 but a law of 1868 extended the duration of the Bank to 1881 (Editor of the Journal of Commerce and Commercial Bulletin, 1896).

¹⁴ The French governor general of Algeria was at the head of the colony and, since 1871, was a civil servant under the Ministry of Home Affairs without legislative powers. Two councils assisted the governor general: the Supreme Council of Government and the Council of Government. The Supreme Council of Government was a mixed body, composed of representatives of the population and of senior officials of the colony. The main responsibility was the discussion of the budget. The Council of Government was composed only of senior officials from Algeria and had a purely advisory role (Mérignhac, 1912: 405-6).

¹⁵ Authors' translation: *“Aujourd'hui, certainement, la situation est favorable: les vignobles de France étant en partie ravagés, les producteurs algériens trouvent un débouché sûr et leurs produits, même de qualité inférieure, se vendent à des prix suffisamment rémunérateurs.”* (Algérie, 1883).

since domestic consumption was limited. Algeria transformed from a wine importing to an exporting country. The main export market was France and exports grew fast.¹⁶ Initially, most of French wine imports came from Spain (see table 2 and figure 5): Spanish exports to France increased to almost 7 million hectoliters liters in the late 1880s, followed by Italy with exports of 1.5 million hectoliters. However, from the mid-1880s onwards, Algerian wine exports were rapidly replacing Spanish and Italian wines on the French market. By 1900, Algeria was the number one exporter to France, and by 1905, it was effectively the dominant exporter with between 4 to 6 million hectoliters per year and Italian exports almost disappeared and Spanish export fallen to below 2 million hectoliters.

The huge increase in wine exports had major implications for the economy as a whole. At the beginning of the 20th century, wine represented half of the Algerian exports and almost one third of GDP. The maximum was reached in 1933, when wine exports represented 66% of Algerian exports (Isnard, 1956; Isnard and Labadie, 1959).

3. Recovery of French Production and Government Regulations in the Early 20th Century

“The wine from Algeria is the only electoral issue in the Languedoc-Roussillon wine departments”¹⁷

Meynier, 1981:13

¹⁶ In 1867, the first barrels of Algerian wine were exported to Marseille. From 1886 onwards, Algerian exports would exceed its imports (Bateman, 1883).

¹⁷ Authors' translation: *“Il n'est guère que le vin d'Algérie à être un thème électoral dans les départements viticoles du Languedoc-Roussillon.”* The quote refers to the first half of the 20th century. The Languedoc-Roussillon (composed by five departments, namely Aude, Gard, Hérault, Lozère and Pyrénées-Orientales) is a region of southern France (the 'Midi') that massively started producing table wines at the beginning of the 20th century (Lachiver, 1988).

The factors that induced the rapid growth of the Algerian wine industry did not last. This was already foreseen by the Algerian Council of Government in 1883. In the same speech where he explained the great opportunity for Algerian wine, he also expressed some warning for excessive optimism:

*“But an increase in plantations will lead to an increase in competition between the sellers and the current prices may drop (...). This decrease would be even more marked following the recovery of the vineyards of southern France because our wines can be compared with the wines from this region (...) for this reason we must be very cautious.”*¹⁸

These words of caution turned out to be visionary. During the 1890s, French vineyards were recovering with new plantings using grafting and hybrid grape varieties. Production increased again and, by 1900, production was around 65 million hectoliters, the level of the pre-crisis years (see figure 2). Hence, by the beginning of the 20th century, French wine production had recovered.

This recovery was also reflected in the fall of wine prices (see figure 6). From the peak in 1880, average wine prices fell by more than 60% over the course of the next 25 years. Wine prices in 1905 were approximately one-third of those in 1880. The most dramatic decline was during the 1890s when French production increased again.

The declining prices resulted in demands by French producers to limit imports of wine. While French consumers (and some of the French producers which used Algerian wine for blending) initially welcomed imports, French producers increasingly lobbied and put pressure on the government to stop imports. As wine prices continued to fall, the protests by winegrowers

¹⁸ Authors' translation : “Mais plus les plantations augmenteront, plus la concurrence s'établira entre les vendeurs, et les prix actuels subiront peut-être une baisse assez sensible pour faire fléchir les chiffres adoptés par la sous-commission. Cette baisse serait plus accentuée encore, si le vignoble du midi de la France se reconstituait rapidement, car c'est aux vins de cette région que nos crus peuvent être comparés. Nous sommes donc en présence de l'inconnu et nous devons, pour ce motif, nous montrer très circonspects.” (Algérie, 1883).

grew increasingly intense. The winegrowers' revolts in various parts of France included street protests and even violence. Winegrowers resolved to pressing their opinions through so-called *actions directes*, which included "mutinies, pillages, burning down of city halls" (Martin, 1998; Bagnol, 2007; Wolikow, 2009).

Raising import tariffs

The first response of the French government was to increase tariffs on wine imports. Tariffs on Italian wine were increased from 5% to almost 50% in the late 1880s when a trade war began between France and Italy¹⁹ (Becuwe and Blancheton, 2012). A few years later, in 1892, France also increased the tax on the import of Spanish²⁰ wines and Greek raisins (Critz, Olmstead and Rhode, 1999; Pinilla and Ayuda, 2002). Figure 7 shows how import tariffs increased from 5% to more than 40% after 1892. This increase in French tariffs led to a dramatic decrease of Spanish and Italian wine exports (see figure 5).²¹

In contrast, Algerian wine imports were not taxed. Tariffs on Algerian wine imports had been removed in 1867 and the French government continued to allow tariff-free entry of Algerian wine.²² Algeria was considered part of France²³ and, in doing so, the French

¹⁹ The "trade war" (1887-1892) between Italy and France was initiated by Italy that introduced a new tariff on wheat and manufactures in 1887 (Federico and Tena, 1999).

²⁰ In the second half of the 19th century, Spain became the world's largest table wine exporter. In 1891, Spanish exports were "32 times greater than those of 1850 or six times those of 1877", with the French market accounting for 85% of the Spanish exports between 1886-90. From 1892 onwards, Spain witnessed a decrease in table wine exports mainly driven by France's trade policy with high tariffs imposed on Spanish wine exports (Pinilla and Serrano, 2008).

²¹ The importance of Algeria on French imports of table wines increased from about 8% between 1885-89 to 97.7% between 1905-09, with the importance of Spain decreasing from 80% during the second half of the 19th century to 0.8% between 1905-09 (see table 2).

²² Algerian external trade was entirely dependent on France. France had constructed a monopoly in trade with its colonies and a regime of preferential trade tariffs. Initially (after annexation in 1830), there were tariffs on both French and Algerian products in bilateral trade. In 1835, tariffs were removed from French products entering in Algeria, but not vice versa. Algerian products were still considered as "foreign" imports by France. In 1851, a new law admitted certain Algerian products to enter France duty free, such as fruits, vegetables, cotton, and tobacco.

government reduced imports while supporting emigrated French winegrowers ruined by *Phylloxera*. Also, France still needed extra wine to meet its demand – average French annual production was 30-40 million hectoliters in the 1890s, compared to its annual pre-*Phylloxera* average of 50 million hectoliters (see figure 2).

The increase in import tariffs reduced total imports and caused a substitution of wine imports from Spain and Italy to Algeria. Figure 5 illustrates how imports fell from more than 10 million hectoliters in the late 1880s to 5 million hectoliters in the early 1900s, mostly as a consequence of the decline of Spanish imports. Over this period, the import of Algerian wine more than tripled, partially offsetting the reduced imports from Spain and Italy. As figure 3 illustrates, French wine imports equaled Algerian production during the first two decades of the 20th century. Moreover, after 1905, further increases of Algerian imports (from 4 to 6 million hectoliters) caused total wine imports (which now consisted mostly of Algerian wine) to increase between 1905 and 1915. This caused wine prices in France to continue to decline during the first decade of the 20th century (see figure 6).

Not surprisingly, with increasing imports and falling prices, French wine producers now pressured the government to intervene and stop the inflow of Algerian wine and its impact on their revenues. However, French wine producers were not a homogenous group. On the one hand, there were the producers from Bordeaux, Champagne and Burgundy who were upset that the influx of cheap wine would spill over on their “high quality” wine market. On the other hand, there were the producers of table wines, such as the winegrowers of the Midi, located in southern

However, initially wine was not included. Tariffs on Algerian wine imports were removed in 1867 (Leroy-Beaulieu, 1887:176; Barrows, 1982; Isnard, 1954:30).

²³ In 1848, Algeria was divided into three French departments (or administrative units): Oran, Algiers and Constantine (Leroy-Beaulieu, 1887).

France. The Midi and the Algerian winegrowers were directly competing with each other as they both produced large amounts of table wines to be sold in France.²⁴

Both groups pressured the government to constrain the inflow of Algerian wine, but used different strategies – with different success. The first group tried to get government regulation protecting them from all (low quality) table wines, not just from Algerian wines. These producers and winegrowers were grouped in associations that had much influence with the authorities. For instance, in the Champagne AOC region, three powerful lobbying groups existed: the *Fédération des Syndicats de la Champagne*; the *Syndicat du Commerce des Vins de Champagne*; and the *Association Viticole Champenoise* (Comité Interprofessionnel du Vin de Champagne, 2003; Wolikow, 2009).

Wine producers from Algeria or from other French regions organized only later. Winegrowers of the Midi organized themselves in 1887 in the *Syndicat des Viticulteurs* (Union of Winegrowers)²⁵ and in 1907 in the *Confédération Générale des Vignerons du Midi* (CGVM – “General Confederation of Midi Winemakers”). In 1912, the French settlers which owned most Algerian vineyards organized themselves as well in order to protect their common interests, imitating the winegrowers’ association of southern France. They formed an association of

²⁴ Algeria produced three categories of wines. First, “*table wines*” (with an alcohol content between 11% and 11.5%) represented 50% of Algerian production. They were shipped and sold directly to France through the southern Marseille harbor. Second, “*wines for consumption*” (with an alcohol content between 11% and 13%) represented 30% of Algerian production and were considered as higher quality wines directly sold in Paris (via southern Marseille or northern Rouen harbors). Third, “*wines for blending*” (with an alcohol content between 11.5% and 16%) represented 20% of Algerian production and were blended in France either in Languedoc (via the harbor in Cette) or Bordeaux (via the harbor in Bordeaux). The “*wines for blending*” was the only category not in competition with Midi wines as they were used to increase their alcohol content (Isnard, 1954).

²⁵ The *Syndicat des Viticulteurs* was created to increase the tariffs on Italian wines. The French government, under pressure, did not renew the trade treaty with Italy (Pinilla and Ayuda, 2002).

Algerian winegrowers, the *Confédération des Vignerons des Trois Départements Algériens* (CVA).²⁶

The introduction of French “quality regulations”

*“Consommateur Français bois ce vin Français”*²⁷

Algerian wine advertisement

The producer organizations of Bordeaux, Champagne and Burgundy were successful in lobbying the government to introduce several “quality regulations” in the early 20th century. The so-called “quality regulations” were heavily supported by political representatives of these regions who held key positions in parliament.²⁸

Strachan (2007) and Birebent (2007) argue that a particular event involving Algerian wine, known as the “Leakey Affair”, played an important role in the political discussions. Facing a surplus on French markets, Algeria was searching for new markets and attempted to promote Algerian wines in the British market. In July 1905, Charles Jonnart, the French governor general of Algeria, entered in a contract with James Leakey, a businessman based in London to sell 50.000 hectoliters of Algerian wine on the British market. Leakey advertised Algerian wine as

²⁶ When French arrived in Algeria, lands were owned by the tribe or family collectivity and not by the single individual. During the 1870s, these Muslim “common lands” were expropriated, privatized and freely granted to European settlers (Halvorsen, 1978). At the beginning of the 20th century, 10% of Algerian winegrowers (owning large vineyards of over 50 hectares) produced almost 70% of Algerian wine production (see tables 5 and 6). The owners were French settlers – the so-called *pieds noirs*, or ‘black feet’ (Halvorsen, 1978). In 1914, Muslims Algerians only owned 3% of the vineyards. Landless Muslims Algerian were a cheap labor force to work in the vineyards (Isnard, 1966; Smith, 1974; Meynier, 1981).

²⁷ Authors’ translation: “French consumer drink this French wine”. Quote from an Algerian wine poster. As figure 9 shows, wine posters promoted Algerian wine as “French wine” since it was produced on French territory.

²⁸ In 1919, Joseph Capus was elected deputy of the Gironde (the Bordeaux wines production area) and he was also the president of the Parliamentary committee called «*des grands crus*» (great vintages).

French wine in the newspapers since “*Algeria is now an integral part of France*”. The advertisements also drew parallelisms with renowned wine regions in France as Médoc and Burgundy. When word spread to France, French wine producers soon protested and lobbied the French Ministry of Commerce. They accused Algerian producers of being the cause of the crisis and of producing “non-natural”, artificial wines.

Only one month after the Leakey contract, the law of 1 August 1905 on “frauds and falsifications” indicated the conditions for the production of a “natural” wine. Article 4²⁹ required that the wine sold had to clearly indicate the denomination of origin to avoid “misleading commercial practices”. Article 16 of 1905 law explicitly stated that the law also applied to Algeria (Mérignhac, 1912: 268).³⁰

Other laws were introduced to protect the interests of the producers of these regions by introducing an explicit link between the “quality” of the wine, its production region (the *terroir*) and the traditional way of producing wine. In this way, the regional boundaries of Bordeaux, Cognac, Armagnac and Champagne wines were established between 1908 and 1912.

These regulations of the early 20th century in response to the Algerian wine imports and the low prices turned out to have long lasting impacts. The regional boundaries, identified between 1908 and 1912, were referred to as *Appellations*. A few years later, in 1919, a new law specified that if an *Appellation* was used by unauthorized producers, legal proceedings could be initiated against its use. Later, the restrictions grew further: a 1927 law placed restrictions on

²⁹ Loi du 1er Août 1905, article 4: “*Dans les établissements où s'exerce le commerce de détail des vins, il doit être apposé d'une manière apparente, sur les récipients, emballages, casiers ou fûts, une inscription indiquant la dénomination sous laquelle le vin est mis en vente.*” [Authors’ translation: “In the establishments where the retail of wine takes place, a notice indicating the denomination under which the wine is sold must be clearly affixed on containers, packages, boxes or drums].

³⁰ Algeria applied French laws in three different ways: French laws could be expressly declared inapplicable to Algeria, or declared applicable to Algeria but with some modifications, or could contain a final article declaring that the law applied to Algeria (Mérignhac, 1912: 268-9).

grape varieties and methods of viticulture used for the *Appellations* wine (Loubère, 1990).

Finally, in 1935, a law created the *Appellations d'Origine Contrôlées* (AOC) that combined several of the earlier regulations: it restricted production not only to regional specific origins (through areas' delimitation) but also to specific production criteria as grape variety, minimum alcohol content and maximum vineyards yields (Stanziani, 2004; Simpson, 2011). The 1935 law formed the basis of the well-known *Appellations d'Origine Contrôlées* (AOC) and *Denominazione di origine controllata* (DOC) regulations that play an important role in today's EU wine markets.³¹

4. Further Expansion in Algeria and More Regulations in France

“This is a law of a very exceptional nature. (...) We believe it is, since the French Revolution, the legislation with the largest government intervention in the economy. This is (...) a planned economy.”³²

Mr Leroy, General Counsel of the Appellations of Origin, 1932

The “quality regulations” protected the French producers of the Bordeaux, Champagne and Burgundy regions against Algerian imports, but did nothing to protect the other French producers – to the contrary. The regulations targeted not only Algerian wine but also wine from other (French) regions.³³ Southern French winegrowers lobbied the government to impose import

³¹ The European initial system of “quality” regulations explicitly referred to (and integrated) the French 1935 AOCs system (see Meloni and Swinnen 2012 for more details).

³² Authors' translation: “*Il s'agit ici d'une loi d'un caractère très exceptionnel. On peut dire, croyons-nous, qu'elle constitue, depuis la Révolution française, la mesure législative la plus importante consacrant l'intervention de l'Etat dans le domaine de la vie économique. C'est, suivant l'expression à la mode, de l'économie dirigée au premier chef.*” (Société de législation comparée, 1932).

³³ Underlying these increasingly tight “quality” regulations in France was a major battle over the regulation of hybrids, one of the two practices used to cure vines from *Phylloxera* (see Meloni and Swinnen 2012 for more details). This battle continued through most of the 20th century. A strong division of interests existed between the

tariffs and quotas to protect them against Algerian wine. However, the French government was not willing to impose tariffs on Algerian wines, as it would have hurt the interests of French citizens overseas and because it was inconsistent with the integration of the Algerian colony as French territory (Isnard and Labadie, 1959; Barrows, 1982).

The First World War (1914-18) and the spread of *Phylloxera* in Algeria brought some relief to the French-Algerian wine conflict. *Phylloxera* reached the colony at the end of the 19th century and 63% of the vineyards were still infected in 1910.³⁴ However, the impact on Algeria's vineyards was limited since Algerian winegrowers benefited from the French experience on how to counter the disease.³⁵ They opted for the grafting solution (Isnard, 1954; Meynier, 1981).

The relief on French wine markets was brief. The 1920s and the early 1930s saw a rapid increase in Algerian wine production and exports. Production recovered from its lowest point of 5 million hectoliters in 1922 to 10 million hectoliters by 1925. Over the next decade it doubled again: production reached 20 million hectoliters by 1935. Part of the reason for the increased production was the higher productivity of replanted post-*Phylloxera* vineyards (average productivity in Algeria was 30%-40% higher than in France over this period – see figure 8). However, the most important reason was a strong growth in vineyards: the cultivated vine area in Algeria increased from 175.000 hectares in 1925 to 400.000 hectares by 1935. The increase in plantings in the 1930s was also based on borrowing – as the first phase of massive plantations 50 years earlier. In 1925, a law allowed agriculture credit banks to provide medium and long term loans. Again, European settlers borrowed substantial amounts of capital (Isnard, 1949).

Appellation d'Origine producers, located in Bordeaux, Champagne or Burgundy (who used grafting since it allowed to keep European *Vitis vinifera* characteristics, with the same productivity and quality) and wine producers from other regions (who used hybrids since the new vines were more productive, easier to grow and more resistant to diseases – requiring less winegrowing experience, less pesticides and less capital) (Paul, 1996).

³⁴ From 1905 to 1910, around 40.000 hectares of vines were destroyed by *Phylloxera* (see figure 4).

³⁵ For a detailed analysis of the battle against *Phylloxera* in Algeria see Isnard (1954).

Moreover, wine prices in France in the second half of the 1920s were around 40% higher than in the first half. Figure 6 shows that, in real terms (1914 prices), the annual prices were 23 francs per hectoliter (in 1921-1925) and 32 francs per hectoliter (in 1926-1930). The growth in plantations led to increase output and exports to France, and resulted in falling prices in the 1930s. Interestingly, vineyard plantings in Algeria did not slow down in the early 1930s. As figure 4 illustrates, if anything new plantings grew faster in the early 1930s. A crucial factor for this was the fear in Algeria that France would block planting of new vineyards in Algeria. This fear was stimulated by political discussions in Paris. In 1929, a suggested law – the so-called “Castel proposal” – proposed to limit vine plantations (Isnard, 1949). The proposal was rejected in Parliament, but alerted Algerian wine producers that a prohibition of new plantings could become reality. This, in turn, induced them to plant more vineyards.

The combination of post-war recovery in French production, increasing imports and a fall in demand with the Great Depression of 1929 caused another crisis in the French wine market. Between 1927 and 1935 real wine prices declined by 50% (see figure 6). Again, winegrowers of the Midi asked for import tariffs or quotas on Algerian wine. However, again the French government was not willing to impose import tariffs or quotas on wine from its colony. A 1929 proposed law to impose quota restrictions that would limit imports of Algerian wine to 8 million hectoliters was rejected (Birebent, 2007:132).

Tariffs on wine imports were increased for wine from other countries. During 1914-1925, Spanish table wines were allowed to enter France more easily due to the wine shortages induced by World War I. Figure 7 illustrates how import tariffs were much lower during this period. However, with the recovery of the Algerian and French wine industry and the wine overproduction crisis of the 1930s, France decided to raise again the import tariffs on Spanish

wines. Figure 7 shows how import tariffs on wine increased from around 30% to more than 80% after 1930. As a consequence, Spanish wine imports fell from 2 million hectoliters in the 1920s to almost zero after 1935.

The *Confédération Générale des Vignerons du Midi* (CGVM) then changed strategy. Instead of trying to limit Algerian imports, it lobbied the French government to halt the expansion of Algerian vineyards (Meynier, 1981:129). With almost all Algerian production exported to France, a limit on vineyard expansion was equivalent to import constraints. This tactic was more successful, possibly because it led to regulations which (ostensibly) did not discriminate between French citizens (producers) in France and those in Algeria.

Between 1931 and 1935 a series of laws (the *Statut Viticole*)³⁶ aiming at controlling the wine supply in France were introduced. The *Statut Viticole* included several measures: an obligation to store part of the excess production (so-called ‘*blocage*’)³⁷, obligatory distillation of surpluses³⁸, the establishment of a levy on large crops and yields, a ban on planting new vines, and premiums for grubbing-up of “over-productive” vines (Gavignaud, 1988; Loubère, 1990).

The regulations applied to producers in France itself and to its Algerian colony.³⁹ However, the policy was biased towards French wine producers and against Algerian producers. It supported smaller French winegrowers and hurt larger Algerian winegrowers. New planting of vines were forbidden for a period of ten years for producers who owned vineyards of more than 10 hectares or who produced more than 500 hectoliters of wine. Distillation was obligatory when the combined wine production in France and Algeria exceeded 65 million hectoliters, and was

³⁶ Four laws were issued in 1931, 1933, 1934 and 1935 (JORF, 1931; JORF, 1933; JORF, 1934; JORF, 1935).

³⁷ Producers could allocate their product in the market through successive quotas.

³⁸ Between 1934 and 1935, 24 million hectoliters were distilled (Lachiver, 1988).

³⁹ Article 17 of 1931 law and article 54 of the 1935 stated that the regulations were applicable to Algeria (JORF, 1931; JORF, 1935).

imposed on winegrowers whose average yield (calculated over the three previous harvests) was greater than 500 hectoliters or producing more than 80 hectoliters of wine per hectare (JORF, 1931; Lachiver, 1988; Simpson, 2011). It also introduced taxation on high yields.⁴⁰

These regulations hit Algerian producers much harder than French producers (Isnard, 1947; Bagnol, 2007).⁴¹ During the 1930-35 period, the average vineyard for French winegrowers was around 1 hectare, whereas in Algeria it was around 22 hectares. Furthermore, the average yield in France was 38 hectoliters per hectare, whereas in Algeria it was almost 50 hectoliters per hectare (see figure 8 and tables 3 and 4). Furthermore, due to the hot climate, the obligation to store part of the excess production was more damaging for Algerian wine producers.

The series of laws did not immediately contain total wine production. For two successive years, 1934 and 1935, total production of France and Algeria was almost 100 million hectoliters.⁴² However, the *Statut Viticole* did immediately halt the increase of the Algerian vineyard area (see figure 4). The total vineyard area never expanded beyond the level reached in the mid-1930s (400.000 hectares).

In the following years the *Statut Viticole* did cause a reduction in vineyards and production. The dramatic decline in wine production in 1939-1947 was triggered by the *Statut Viticole* and the Second World War (1939-45). The grubbing-up of “over-productive” vines, started in 1938, eliminated 73.000 hectares of vines in Algeria – from 398.000 hectares in 1938 to 325.000 hectares in 1946 (see figure 4).

⁴⁰ A progressive tax was imposed on yields reaching more than 100 hectoliters of wine per hectare. Starting from a fee of 5 francs per hectoliter for yields between 100 and 125 hectoliters per hectare, the taxed reached up to 100 francs per hectoliter for yields exceeding 250 hectoliters per hectare. Moreover, a second tax was hitting the large winegrowers, producing in total more than 2.000 hectoliters (Article 1 JORF, 1931).

⁴¹ The Appellations of Origin wines were exempted from these measures, leading to the creation of a large number of Appellations of Origin (Capus, 1947).

From 1939 onwards, Algerian wine exports were paralyzed as WWII seriously hit maritime trade. The Second World War caused destruction or abandonment of many vineyards in France and Algeria. This caused a sharp fall in wine production. The 1942 Allied invasion of Algeria led to a decrease in production, from 12 million hectoliters produced in 1942 to 7 million in 1943 (Insee, 1935). As a result, the *Statut Viticole* was repealed in 1942.

After WWII, both vine area and wine production recovered as vineyards were replanted with production in Algeria doubling from 9 million hectoliters in 1945 to 18 million in 1953. In France production recovered from around 40 million hectoliters during the war to around 60 million hectoliters a decade later.

This led to new pressure for political interventions, as Algerian wines were once more competing with southern French wines (Isnard and Labadie, 1959).⁴³ The *Statut* was reintroduced in 1953, under the name *Code du Vin*.⁴⁴ The *Code du Vin* again blocked the expansion of Algerian vineyards and wine production, at around 350.000 hectares and 18 million hectoliters of wine, respectively. Algerian vine area and wine production were again regulated by French wine regulations. The maximal size of the Algerian vineyards surface (almost 400.000 hectares) was attained during the 1930s, with regulatory limitations (the *Statut Viticole* and later the *Code du Vin*) halting its expansion afterwards. The situation of economic and regulatory interdependence between the Algerian and French wine sector would dramatically change with Algerian independence.

⁴² In 1934, France and Algeria produced respectively 78 million hectoliters and 22 million hectoliters, while total (French) consumption reached 70 million hectoliters. In 1935, France and Algeria produced respectively 76 million hectoliters and 19 million hectoliters (Insee, 1935).

⁴³ Algerian wines were also more competitive as innovative transport modes (in bulk) were used for the export of Algerian wines – tankers appeared in 1935 and developed during the beginning of the 1950s (Caralp, 1953).

⁴⁴ The *Code du Vin* reestablished subsidies to uproot vines, as well as surplus storage, compulsory distillation, and penalties for high yields. It also created the viticultural land register (Milhau, 1953; Malassis, 1959).

5. The Collapse of the Wine Industry in Algeria

Despite all the French-imposed regulations, Algeria was still the fourth largest producer (after Italy, France and Spain) in 1961, at the eve of its independence from France (see table 1).

However, immediately after Algerian political independence in 1962, wine production started falling and, in the course of two decades, the Algerian wine industry totally collapsed (see figure 1). From 366.000 hectares in 1962, the area under vines decreased to 100.000 hectares in the mid-1980s, and falling further to 25.000 hectares in 2005, the same area as in 1880. Production dropped from 15 million hectoliters in 1962 to about 600.000 hectoliters in 2009 (the equivalent of the 1882 production), of which only 3% was exported. Algerian exports decreased from 14.8 million hectoliters in 1962 to 17.000 in 2008 (Ministère de la PME et de l'Artisanat, 2005; FAO 2012).

There were two main causes for the Algerian wine industry collapse. One reason was the total dependence on France for its wine sales. There was no internal market for wine.⁴⁵ France was the export market for almost the entire Algerian wine production (Isnard, 1961). However, after independence, Algeria no longer enjoyed the same trade status with France. In fact, French producers used the independence of Algeria as an argument to (again) press their case to reduce Algerian wine imports. In 1964, a five-year agreement was reached between France and Algeria in which France committed, over the next five years, to purchase 39 million hectoliters of

⁴⁵ During the 2000s, Algerian per capita consumption was of 1.3 liters per year on average (Ministère de la PME et de l'Artisanat, 2005).

Algerian wine – between 9 and 7 million hectoliters per year, but in decreasing quantities.⁴⁶ The agreed import was considerably lower than before independence (e.g. in 1961 Algeria exported 15 million hectoliters to France). However, under pressure from French winegrowers, the French government did not fulfill the agreement and forbade French traders to sell Algerian wine in France. It effectively imposed a ban of Algerian imports. While the ban was repealed after a few months, the French government continued to claim that the 1964 agreement should not be interpreted as an obligation or as automatic access to the French market, but rather that the entire quota should be imported only if needed. The last two years of the agreement, France imported only 6.2 million hectoliters instead of the agreed 14 million hectoliters (Isnard, 1966; Sutton, 1988). Consequently, in a few years Algerian wine exports to France had fallen by two-thirds (see table 7).

France tried to stop wine imports from Algeria also by other means. They prohibited the blending of French wines with those of third countries, and this French prohibition was integrated in the 1970 European wine regulation which extended this prohibition to the entire European Union.⁴⁷ The European law prohibited the blending of wines from member countries with those of third countries (Article 26, Council Regulation (EEC) No 816/70).

Algeria tried to find other export markets for its wine. In 1969, Algeria signed an 7-year agreement with the Soviet-Union (USSR) in which the USSR agreed to buy 5 million hectoliters of Algerian wine every year at fixed prices. The USSR then became the principal wine export market (Sutton, 1988). This led to a brief surge in exports. In 1969 and 1970, total wine exports

⁴⁶ More precisely, the amount was divided in 5 years: 8.75 million hectoliters in 1964, 8.25 million hectoliters in 1965, 7.75 million hectoliters in 1966, 7.25 million hectoliters in 1967 and 6.75 million hectoliters in 1968 (Isnard, 1966; Sutton, 1988).

⁴⁷ The EU has, since the 1960s, introduced a vast set of regulations in the wine sector, the so-called Common Market Organization (CMO) for wine. These common regulations for agricultural markets include, for instance, public interventions and production standards (see Meloni and Swinnen 2012 for more details).

increased to around 12 million hectoliters. However, the recovery did not last. Exports to France continued to decline while also the new exports to the USSR were not successful. The prices set by USSR were lower than world market prices for wine and it was not profitable for Algeria to produce wine at those prices (Brandell, 1981; Sutton, 1988).

The second reason for the collapse of the Algerian wine industry was the decision by the new Algerian government to nationalize the wine sector. Already in October 1962, the ruling political party (National Liberation Front) nationalized agricultural land including vineyards. The vineyards were to be run by state organizations, governed by local politicians without much agricultural knowledge or wine-making skills (Birebent, 2007).

In 1968 two state institutions were created to manage the wine industry. The first institute was the “National Marketing Office for Viticulture Products” (ONCV).⁴⁸ This institute holds a virtual monopoly on wine production and marketing. Today it owns 42 wineries thereby controlling 95% of Algerian wine production.⁴⁹ The second institute was the *Institut de la Vigne et du Vin* (I.V.V. – “Institute of Vine and Wine”), with the official aim of controlling wine production and establishing the equivalent of the French AOC system by delimitating the best areas of production and granting “quality” labels⁵⁰ (Isnard, 1969; Boudjellal, 1972 ; Ministère de

⁴⁸ The *Office National de Commercialisation des Produits Vitivinicoles* (ONCV) official website states that “*The Company intervenes in all the phases of the wine elaboration process. At the vineyard level: 25 company engineers see to technical itinerary respect and mainly to the achievement of quality grapes through a reasonable fertilizer protection. At wines processing and storage level: A network made of 13 oenologist engineers supervises the whole vinification processes and see to wine storage in conserving stores. At processing and conditioning level: Every bottling centre is managed by two oenologist engineers who carry out blending, wine processing and the storage of finished products. These stages of control are supported by 8 laboratories managed by oenologist and chemical engineers.*” (ONCV, 2011).

⁴⁹ Only 3 private companies operate in the wine sector (Ministère de la PME et de l’Artisanat, 2005).

⁵⁰ Algerian wines were classified into three “quality” categories: the *vins de plaine* [wines from the plains] before used for the blending of southern French wines; the *vins de coteaux* [wines from the hills] the equivalent of table wines; and the *vins de montagne* [wines from the mountains] the highest quality level (Blottière, 1930:21). Nowadays, Algeria still applies the division into table wines and quality wines: *Vins de table* (VCC) and *Vins d’Appellation d’Origine Garantie* (VAOG).

la PME et de l'Artisanat, 2005). This closely resembles the role of the INAO and the French AOC regime.⁵¹

However, the combination of poor domestic management of the wine sector after the nationalization (as in many other examples of state management of farms and agri-food industry – see Rozelle and Swinnen 2004) and French import constraints caused a further reduction of exports. The state managed system was unable to respond effectively to the changed international market situation. It did not manage to find alternative outlets or to reposition Algerian wines for a growing global market. The state decided to uproot a large share of the vineyards in Algeria. Already between 1970 and 1973, 71.300 hectares of vine were uprooted – 20% of the total vineyards (Sutton, 1988). The fall of the Algerian wine industry continued through the rest of the 20th century. By the early 1990s, 30 years after independence, the Algerian wine industry was back to where it was 120 years ago, before its spectacular rise. From a global perspective it has effectively disappeared. Production, vineyard surface, and exports have fallen back to levels which are negligible.

6. The Institutional Legacy of Algerian Wine

As we documented in the previous sections, both the rise and the fall of Algerian wine production and exports were heavily influenced by developments on the French wine market and French regulations. Free trade with France stimulated the growth of Algerian exports when high import tariffs blocked imports from Spain and Italy in the late 19th century. However, from the 1930s onwards, French wine regulations (the *Statut Viticole* and later the *Code du Vin*) halted the expansion of Algerian vineyards and wine production. After Algeria's independence in 1962,

⁵¹ The National Institute for Origin and Quality (INAO) was created in 1935 as a government branch established to administer the AOC process for “high quality” wines (JORF, 1935).

French import restrictions caused a decline in Algerian exports and contributed to the collapse of the Algerian wine industry.

However, the reverse is also true. The growth of the Algerian wine industry had a crucial impact on the French wine industry. Even if the Algerian wine industry has effectively disappeared from the world's wine market today, the institutional legacy of the Algerian wine industry in France, and in the world, continues. The growth of the Algerian wine industry triggered the introduction of important wine regulations at the beginning of the 20th century and during the 1930s. These regulations formed the basis of other regulations which today affect a large share of the global wine production. Had wine production been less successful in Algeria maybe many regulations which shape today's wine industry, particularly in Europe, would not exist. Somewhat paradoxically, the fact that Algeria had free trade with France as a colony, so that France could not impose import tariffs on Algerian wine, induced a series of regulations which arguably (one does not have a clear counterfactual to compare with) have a much longer lasting impact than tariffs imposed on other countries' wine exports such as Spain and Italy.

Until the beginning of the 20th century, the French state did not regulate and intervene in the wine market in a systematic way. This would change during the beginning of the 20th century when regulations were introduced in the French (and Algerian) wine markets to protect French wine growers. More regulations to protect French wine growers were introduced in the 1930s and 1950s.

The first regulations were introduced to protect the interests of the producers of the renowned wine regions in France as regions as Burgundy and Champagne by introducing an explicit link between the “quality” of the wine, its production region (the *terroir*) and the traditional way of producing wine. In this way, the regional boundaries of Bordeaux, Cognac,

Armagnac and Champagne wines were established between 1908 and 1912 and referred to as *Appellations*. Regulations tightened with another crisis caused by Algerian wine imports in the 1930s. A law created the *Appellations d'Origine Contrôlées* (AOC) and restricted production not only to regional specific origins (through areas' delimitation) but also to specific production criteria as grape variety, minimum alcohol content and maximum vineyards yields.

Protecting winegrowers of the Midi resulted in a different type of regulations. The 1930s *Statut Viticole* and the 1953 *Code du Vin* included an obligation to store part of the excess production (so-called '*blocage*'), obligatory distillation and storage of surpluses, the establishment of a levy on large crops and yields, a ban on planting new vines, and premiums for grubbing-up of "over-productive" vines. It also created the viticultural land register.

The severity of these regulations and the dramatic change they caused in the wine markets is illustrated by the quote from the General Counsel of the Appellations of Origin at the Ministry of Agriculture commenting on the introduction of the *Statut Viticole* who referred to the French wine sector as a "planned economy" (see footnote 30).

These French regulations later strongly influenced the EU Wine Policy. Economic integration required the integration of different policy regimes in one EU wine policy (the CMO for wine). The positions of the most important producers, Italy and France, differed. France proposed its own, heavily regulated, model while Italy favoured a more liberal system. The final version of the European Common Wine Policy, agreed in 1970, was a compromise. However, the compromise did not last very long. Under pressure from French producers, the European Council of Ministers in 1976 decided to introduce more regulations, including measures to control the supply of wine. New EU regulations introduced the French system of planting rights restrictions and subsidies for grubbing-up existing vineyards. By 1979, the French wine policy

with its extensive regulations and heavy government interventions in markets had become the official European wine policy (Niederbacher, 1983; Meloni and Swinnen, 2012).

Many elements of the French wine regulations triggered by the Algerian wine industry's spectacular growth are still present in the European Wine Policy today.⁵² The ban on planting new vines (i.e. the system of "planting rights" for vineyards) is a core element of the EU policy to control the EU wine supply. The French "quality regulations" form the basis of today's well-known *Appellations d'Origine Contrôlées* (AOC) and *Denominazione di origine controllata* (DOC) regulations that play an important role in today's EU wine markets. With the integration of other wine-producing nations in the EU such as Greece in 1980, Spain and Portugal in 1986, Austria in 1995 and Slovakia, Hungary, Bulgaria, and Romania in 2006 and 2007, these regulations expanded to a vast wine producing region. All these countries had to adjust their national policies to access to the EU.

⁵² This remained almost unchanged until 2006, when the EU Commission proposed a set of reforms which included the immediate elimination of traditional market intervention measures (such as distillation, aid for private storage, export refunds and planting rights), the consolidation of previously adopted measures (such as restructuring and conversion of vineyards), the parallel introduction of new measures (such as green harvesting and promotion in third countries), and simplified labelling rules with the intention to make EU wines more competitive with New World wines. The reform was approved in 2007, but after significant modifications and because of strong opposition, some reforms were dropped (e.g. banning enrichment through the addition of sugar), diluted (e.g. grubbing-up) or their implementation delayed (e.g. crisis and potable alcohol distillation and use of concentrate grape must will be phased out by 2012). Planting rights restrictions will officially be abolished, but opposition against their removal is growing fast (Meloni and Swinnen, 2012).

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Table 1: Main wine Producers and Exporters

Production (average annual)								
	1865-75	1910-14	1961-65	2000-04	1865-75	1910-14	1961-65	2000-04
	Million hectoliters				Percentage of world production			
France	55.4	47.5	62.4	53.5	48,8	33,3	23,8	19,3
Italy	-	42.3	62.3	49.6	-	29,6	23,7	17,9
Spain	17.1	13.6	26.1	38.4	15,1	9,5	10	13,8
Algeria	0.2	8.1	13.1	0.6	0,2	5,7	5	0,2
World Tot	113.5	142.8	261.9	277.8	100	100	100	100

Exports (average annual)								
	1909-13	1934-38	1961-65	2000-04	1909-13	1934-38	1961-65	2000-04
	Million hectoliters				Percentage of world exports			
France	1.9	0.8	3.7	15.0	12,0	4,3	14,2	22,0
Italy	1.5	1.3	1.7	14.5	9,4	7,0	6,6	21,2
Spain	3.1	0.6	1.9	10.2	18,8	3,0	7,1	15,0
Algeria	6.8	12.9	10.6	0.03	40,9	67,0	40,6	0,1
World Tot	16.5	19.2	26.1	68.2	100	100	100	100

Source: Insee (1951:413*); Pinilla and Ayuda (2002); FAO (2012).

Table 2: French imports of bulk wines by major exporting countries (in average annual hectoliters and percentage of total imports)

	Spain		Algeria		Italy		Total
	1000 hl	%	1000 hl	%	1000 hl	%	1000 hl
1850-54	25	83,4	0	0	0.6	1,9	30
1855-59	261	85,0	0	0	14	4,5	308
1860-64	107	81,0	0	0	13	10,1	133
1865-69	171	87,0	0	0	6	3,1	196
1870-74	270	69,8	0	0	86	22,2	387
1875-79	860	73,4	2	0,1	237	19,9	1.171
1880-84	5.618	72,0	62	0,8	1.589	20,4	7.798
1885-89	6.745	63,4	875	8,2	1.325	12,5	10.635
1890-94	5.581	67,5	2.091	25,3	101	1,2	8.273
1895-99	3.802	50,5	3.507	46,6	20	0,3	7.533
1900-04	981	19,7	3.771	75,8	49	1,0	4.972
1905-09	49	0,8	5.876	97,7	20	0,3	6.014
1910-14	1.196	15,0	6.237	78,4	131	1,7	7.958
1915-19	2.030	26,4	4.489	58,3	463	6,0	7.697
1920-24	1.665	23,4	4.341	61,1	234	3,3	7.107
1925-29	1.852	17,5	7.796	73,7	33	0,3	10.573
1930-34	1.110	7,9	11.945	85,2	210	1,5	14.022
1935-38	59	0,5	11.813	92,1	17	0,1	12.831

Source: Pinilla and Ayuda (2002).

Table 3: French wine production from 1900 to 1961

	Surface (million ha)	Production (million hl)	Yields (hl/ha)	Winegrowers (million)	Surface per Winegrower
1900-1909	1.69	55.8	32,9	1.78	0,96
1910-1919	1.55	43.2	27,9	1.54	1,01
1920-1929	1.52	59.9	39,3	1.48	1,03
1930-1939	1.53	58.8	38,4	1.51	1,02
1940-1949	1.44	42.2	29,2	1.49	0,97
1950-1961	1.35	52.9	39,1	1.50	0,90

Source: Authors' calculations based on Insee (1935; 1966).

Table 4: Algerian wine production from 1900 to 1961

	Surface (million ha)	Production (million hl)	Yields (hl/ha)	Winegrowers (thousand)	Surface per Winegrower
1900-1909	0.15	6.7	43,7	12.4	12,29
1910-1919	0.15	7.6	49,3	na	na
1920-1929	0.19	9.5	48,6	10.4	18,69
1930-1939	0.36	17.2	47,6	20.0	18,05
1940-1949	0.35	10.7	30,4	27.4	12,82
1950-1961	0.36	15.8	44,3	32.2	11,09

Source: Authors' calculations based on Birebent (2007:222).

Table 5: The evolution of Algerian vineyard sizes (in hectares), 1908-1948

	1908	1948
Very small vineyards (<1 ha)	49%	27%
Small vineyards (1 – 5 ha)	28%	36%
Medium vineyards (5 – 20 ha)	15%	23%
Large vineyards (20 – 50 ha)	6%	8%
Very large vineyards (> 50 ha)	2%	5%

Source: Birebent (2007:223).

Table 6: Algerian production by size of vineyard (in hectoliters, 1958)

	Number of winegrowers	Percentage of winegrowers	Production (million hl)	Production (in %)
<50 hl	12.332	38,8	0.38	2,8
51 – 100 hl	5.121	16,1	0.37	2,7
101 – 200 hl	4.233	13,3	0.60	4,3
201 – 300 hl	2.016	6,4	0.49	3,6
301 – 1.000 hl	4.860	15,3	2.68	19,4
1.001 – 3.000 hl	2.429	7,7	4.14	30,0
3.001 – 5.000 hl	413	1,3	1.56	11,3
5.001 – 10.000 hl	242	0,8	1.62	11,7
>10.000 hl	102	0,3	1.96	14,2
Total	31.748	100	13.83	100

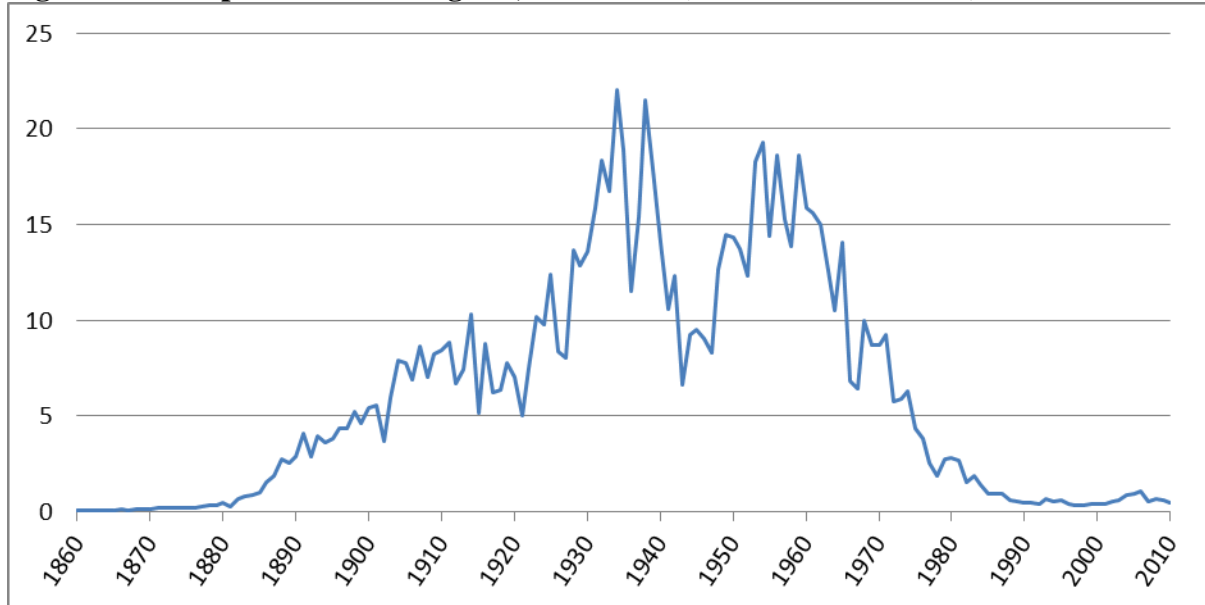
Source: Authors' calculations based on Birebent (2007:222).

Table 7: Algerian Exports to France (% of the total Algerian exports to France)

	Wine	Food products (excluding wine)	Oil and gas
1960	46	18	27
1965	24	39	31
1970	18	4	75
1975	1	3	93
1979	1	1	94

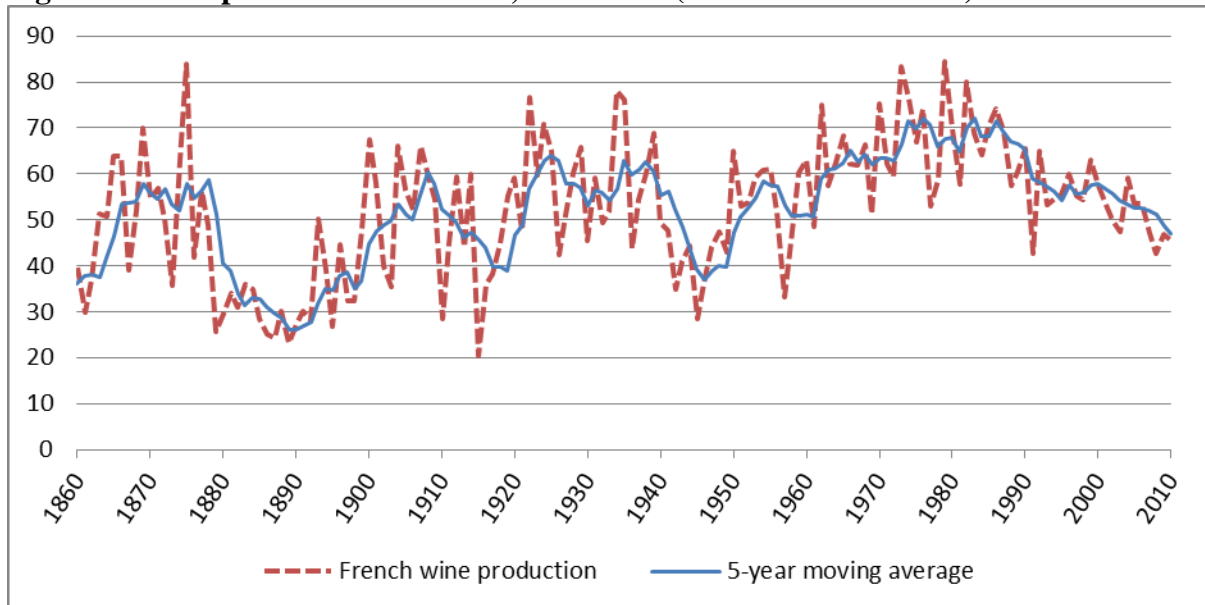
Source: Brandell (1981).

Figure 1: Wine production in Algeria, 1860-2010 (in million hectoliters)



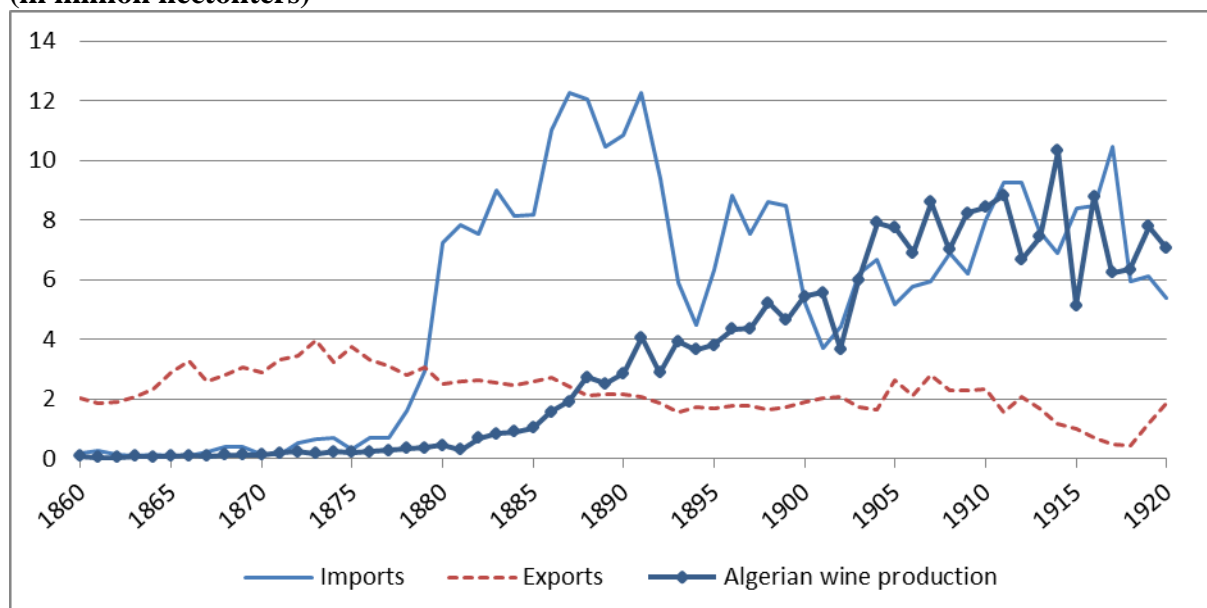
Source: Insee (1935; 1966), Birebent (2007) and FAO (2012).

Figure 2: Wine production in France, 1860-2010 (in million hectoliters)



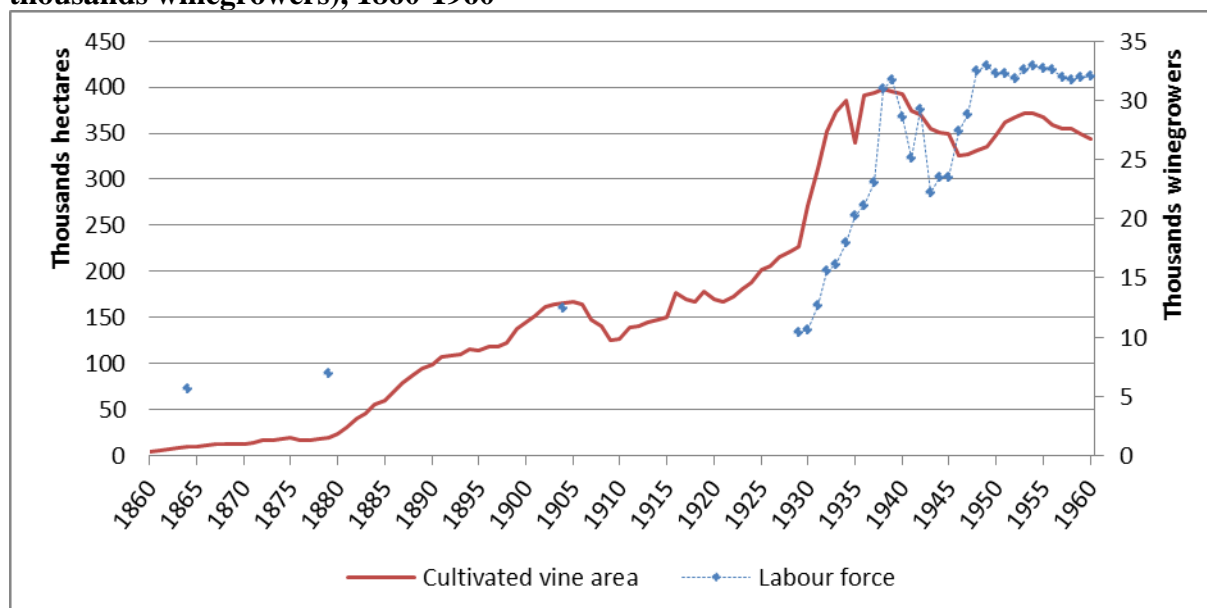
Source: Insee (1935; 1966), Birebent (2007) and FAO (2012).

Figure 3: French Imports and Exports of wine and Algerian wine production, 1860-1920 (in million hectoliters)



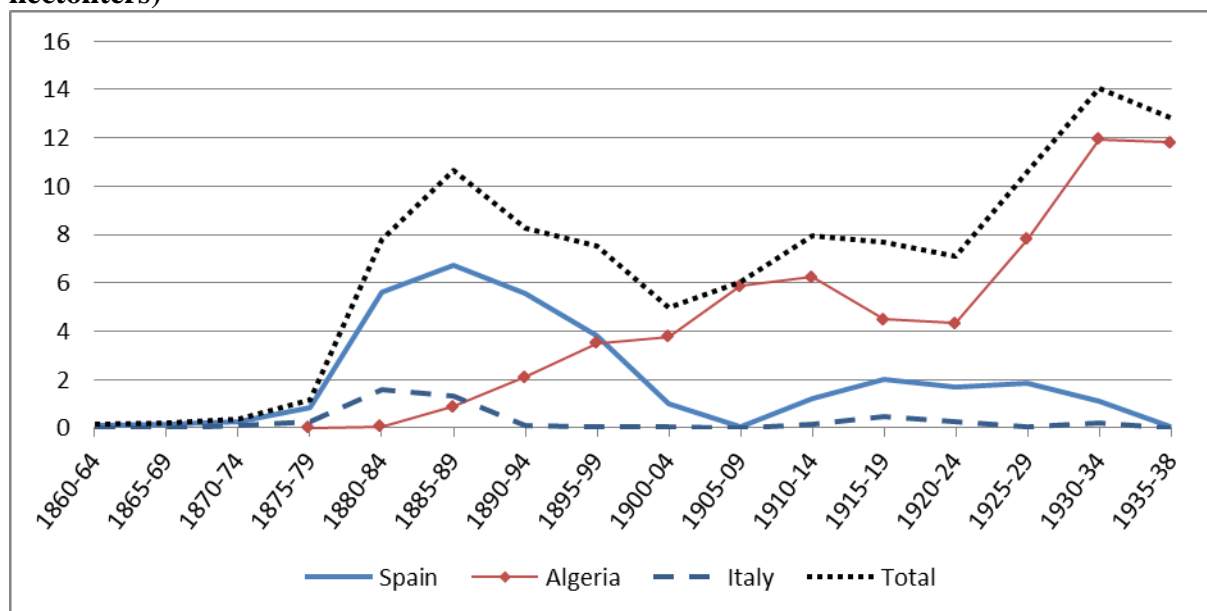
Source: Insee (1935; 1966), Birebent (2007).

Figure 4: Algerian cultivated vine area (in thousands hectares) and labour force (in thousands winegrowers), 1860-1960



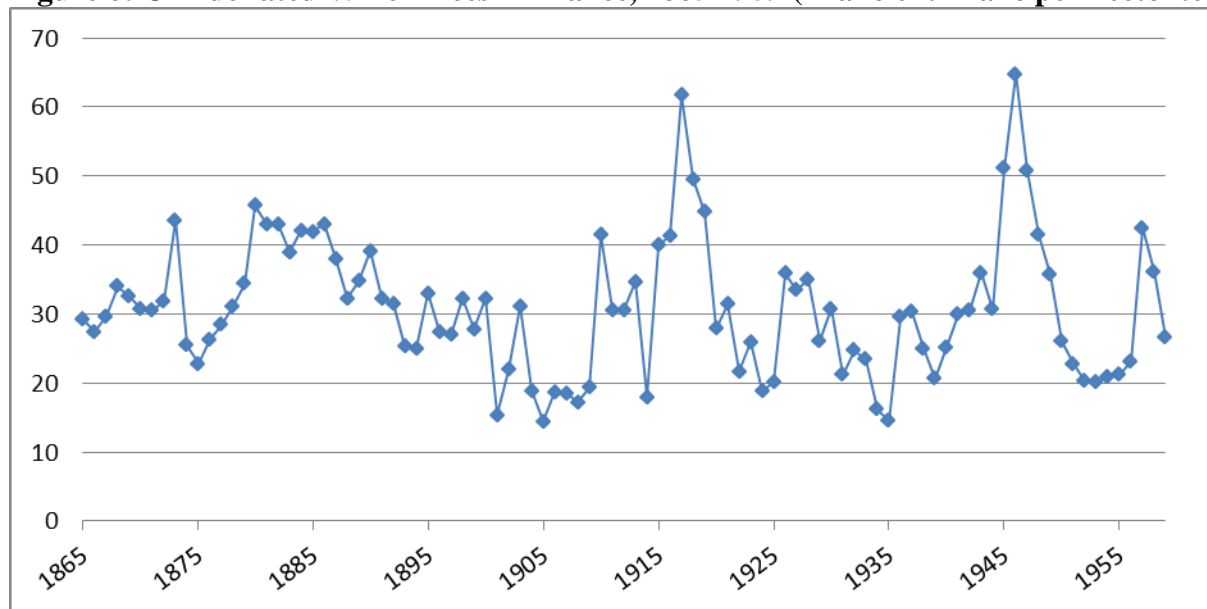
Source: Birebent (2007).

Figure 5: French imports of bulk wines by major exporting countries (in million hectoliters)



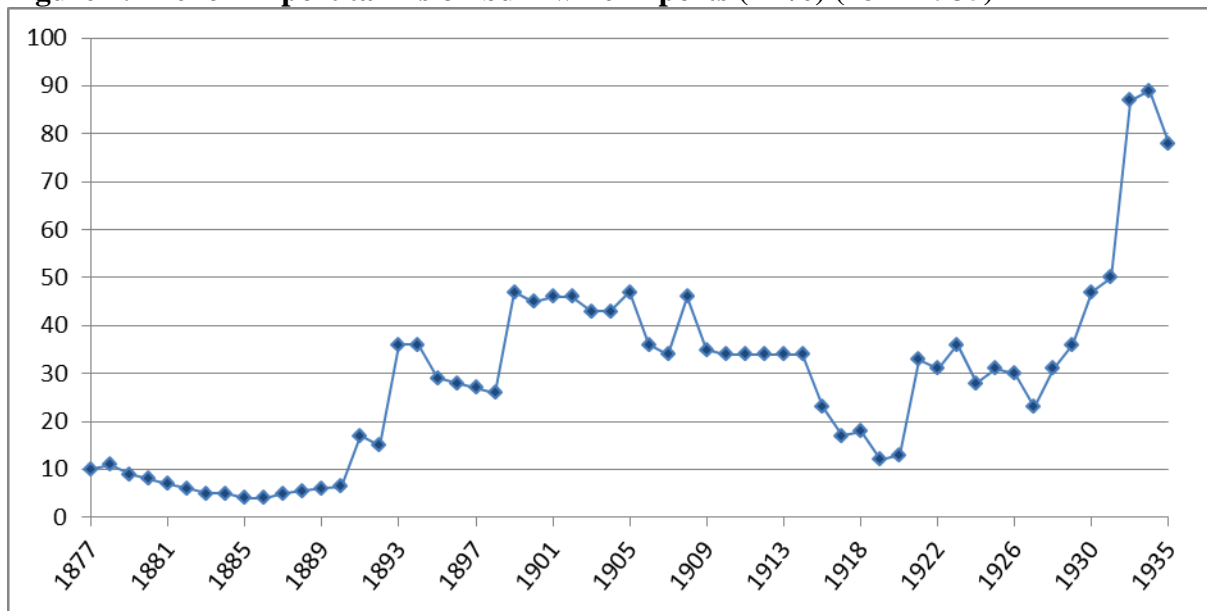
Source: Pinilla and Ayuda (2002).

Figure 6: CPI-deflated Wine Prices in France, 1865-1959 (in ancient Franc per hectoliter)



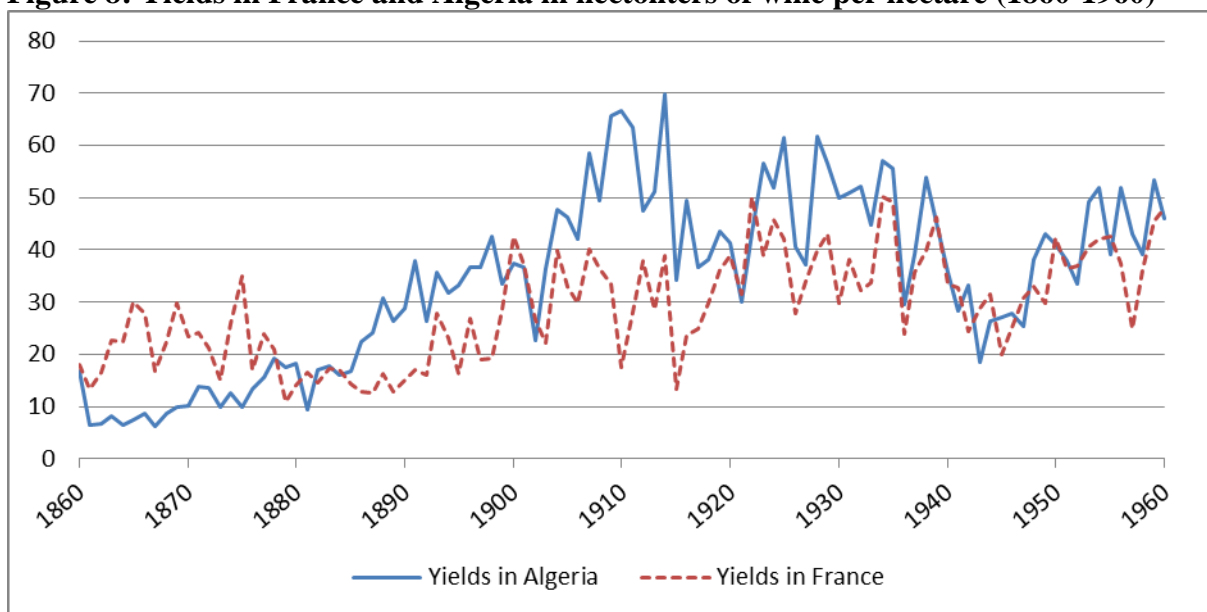
Source: Insee (1935; 1966); Consumer Price Index (1914=100) from Mitchell (1998).

Figure 7: French import tariffs on bulk wine imports (in %) (1877-1935)



Source: Pinilla and Ayuda (2002).

Figure 8: Yields in France and Algeria in hectoliters of wine per hectare (1860-1960)



Source: Birebent (2007) and Insee (1935; 1966).

Figure 9: Algerian wine posters, 1830–1962



Source: ENGIVAL (2011).