

# The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy\*

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## Abstract

This paper analyzes the causes of the rise and the fall of the Algerian wine industry. It is hard to imagine in the twenty-first century global wine economy, but until about 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 was the decline of Algerian wine production: today, Algeria produces and exports little wine. There was an important bidirectional impact between developments in the Algerian wine sector and French regulations. French regulations had a major impact on the Algerian wine industry, and the growth of the Algerian wine industry triggered the introduction of important wine regulations in France at the beginning of the twentieth century and during the 1930s. Important elements of these regulations are still present in European wine policy today. (JEL Classifications: K23, L51, N44, N54, Q13)

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

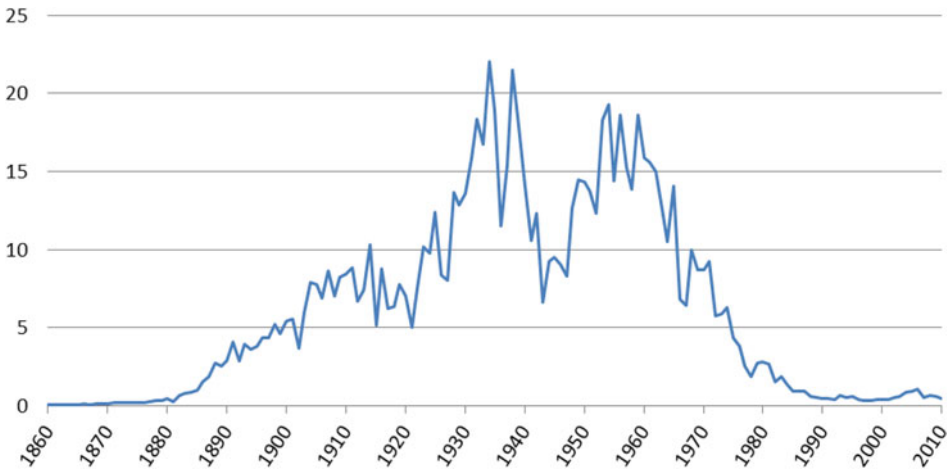
## I. Introduction

It is hard to imagine in the twenty-first-century global wine economy, but in 1960—more than 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

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*Figure 1***Wine Production in Algeria, 1860–2010 (in million hectoliters)**

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

production and exports grew dramatically, turning the industry from nonexistent into the world's largest exporter of wine.<sup>1</sup>

What is as spectacular as the rise of Algerian wine production is its decline. The fortunes of Algerian wine have declined dramatically. Today, Algeria no longer produces or exports any wine. In fact, current Algerian wine production reflects the situation at the end of the nineteenth century, when wine production was virtually nonexistent. Hence, over the course of a century, Algeria went from producing almost no wine to the world's largest exporter to again producing very little wine (see [Figure 1](#)).

An analysis of the causes of growth and decline of such an important economic sector should be of interest to everyone 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 diseases, and the associated migration of investors and human capital. 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 nineteenth century. However, beginning in the 1930s, French wine regulations halted the expansion of Algerian wine production. After Algeria achieved independence in 1962,

<sup>1</sup> Throughout the paper when we talk about wine production and trade, we consider Algeria separately from France. Algeria was a colony of France for much of the period 1830–1962.

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 continues in France and in the world. The growth of the Algerian wine industry triggered the introduction of important wine regulations in France at the beginning of the twentieth century and during the 1930s. These regulations formed the basis of other regulations, which today affect a large share of 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 European wine policy.

## II. The Growth of the Wine Industry in Algeria in the Late Nineteenth Century

When France annexed Algeria in 1830, no one could have predicted that Algeria would become the world’s largest exporter of wine and the fourth-largest wine producer (see [Table 1](#)).<sup>2</sup> Although wild grapevines have been present in Algeria since the first millennium BCE, when the Phoenicians and Carthaginians<sup>3</sup> traded huge quantities of wine (and transplanted grapevines) across the Mediterranean Sea, the cultivation of vines never took off at a substantial rate. 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 (Barrows, 1982; Bourget, 1930; Carlà and Marcone, 2011; McGovern, 2009).

It was only after France began to colonize the region that Algerian viticulture developed. The French colonists and settlers consumed wine because it was considered the safest drink and a “cure” for certain epidemic diseases such as cholera (Birebent, 2007, p. 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 (Isnard, 1947; Isnard and Labadie, 1959; Leroy-Beaulieu, 1887).<sup>4</sup> It was only after the 1880s that the Algerian wine industry

<sup>2</sup>The Algerian cultivable land amounts to only 3% of the country (7.5 million hectares). By comparison, France has 32 million cultivable hectares, 60% of the national territory (Birebent, 2007; Fillias, 1886). In 2011, the share of cropped area under vines was 1% in Algeria, 4% in France, 6% in Spain, 8% in Italy, and 13% in Portugal (FAO, 2012; OIV, 2013).

<sup>3</sup>Mago of Carthage wrote the first treaty on viticulture, later becoming the basis of Roman wine knowledge (McGovern, 2009, p. 195).

<sup>4</sup>Not only did vineyards fail but so did other tropical plant species, such as sugarcane, cocoa, coffee, and cotton, because of a poor understanding of the Algerian climate (Isnard, 1949).

*Table 1*  
**Main Wine Producers and Exporters from 1865–2004**

*Production (average annual)*

	<i>Million hectoliters</i>				<i>Percentage of world production</i>			
	<i>1865–75</i>	<i>1910–14</i>	<i>1961–65</i>	<i>2000–04</i>	<i>1865–75</i>	<i>1910–14</i>	<i>1961–65</i>	<i>2000–04</i>
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 total	113.5	142.8	261.9	277.8	100	100	100	100

*Exports (average annual)*

	<i>Million hectoliters</i>				<i>Percentage of world exports</i>			
	<i>1909–13</i>	<i>1934–38</i>	<i>1961–65</i>	<i>2000–04</i>	<i>1909–13</i>	<i>1934–38</i>	<i>1961–65</i>	<i>2000–04</i>
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 total	16.5	19.2	26.1	68.2	100	100	100	100

Sources: FAO (2012); Insee (1951, p. 413); Pinilla and Ayuda (2002) .

took off in earnest (see [Figure 1](#)). The remarkable growth after 1890 was caused by a combination of scientific progress and the spread of a disease in France.

### ***A. Technological Progress in Wine Production***

From 1830 to 1860, French settlers tried to plant vines<sup>5</sup> in Algeria's warm subtropical climate, but winegrowers did not have the technology to produce drinkable wines in a hot climate. The problem with fermentation in hot countries is the high temperature reached in the tanks. If the heat exceeds 40 °C, sugar cannot be converted into alcohol, and fermentation stops. 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 mid-nineteenth century of the role of yeast in alcoholic fermentation were the basis for winemaking in hot climates. In the presence of high temperatures, yeast cannot survive, and fermentation stops unintentionally, leading to wine spoilage and bad wine (Robinson, 2006, p. 565).<sup>6</sup> Pasteur's discoveries led to an innovation in wine production called "cold fermentation," which allowed the production of better wine in warm climates such as that in Algeria (Johnson et al., 2010). Advanced refrigeration systems were introduced to control temperature during fermentation in the tanks.<sup>7</sup> For instance, by the 1890s, the Baudelot cooler (previously used for brewing) was used for wine. The machine consisted of metal tubes through which a chilling liquid flowed (Isnard, 1947). While this technological breakthrough was crucial for the production of Algerian wine,<sup>8</sup> it was not the only reason for the take-off in Algerian wine production.

### ***B. Devastation of French Vineyards***

Another major factor was the devastation of French vineyards caused by the *Phylloxera* infection beginning in 1863 (Augé-Laribé, 1950; Lachiver, 1988). Between 1875 and 1889, one-third of the French vine area was destroyed, and the

<sup>5</sup>In 1830, about 2,000 hectares of vines were cultivated, mainly those belonging to Turkish officials and Moorish merchants (Birebent, 2007).

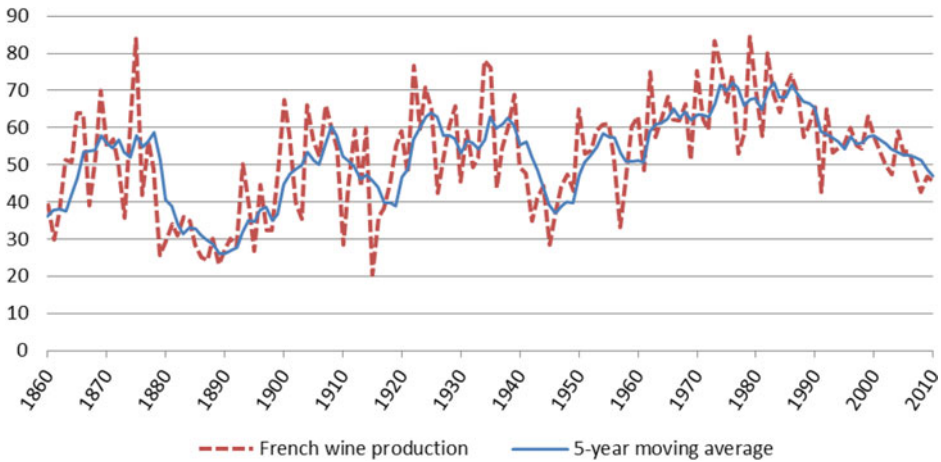
<sup>6</sup>During the 1873 Vienna wine fair, Algerian wines were considered "not suited to trade sales" (Isnard, 1947).

<sup>7</sup>Interestingly, the Romans were also 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).

<sup>8</sup>A second (cheaper) technological breakthrough introduced during the 1890s was the addition of sulfur in the winemaking process, which delayed fermentation (Simpson, 2011, p. 51).

Figure 2

## Wine Production in France, 1860–2010 (in million hectoliters)



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

remaining (infected) vineyards produced little wine. French wine production declined by about 70% (see Figure 2). This had major consequences for Algerian wine: it induced an inflow of skills in wine-making through the migration to Algeria of many broke French winegrowers, 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.<sup>9</sup> However, the wine crisis in France changed this. The ruined French winegrowers who immigrated to Algeria brought with them their technical know-how and expertise. Between 1871 and 1900, 50,000 families, many of whom had been producing wine in France and were hurt by the *Phylloxera* outbreak, immigrated to Algeria and took possession of 700,000 hectares of land (Isnard and Labadie, 1959).

By 1890, average annual production in France had fallen to 30 million hectoliters, while consumption remained at about 45 million hectoliters. To fill this gap, France had started to use wine “adulterations”<sup>10</sup> and to import wine. French wine imports

<sup>9</sup> During the first period of colonization, Algeria witnessed an immigration not composed of winegrowers but of soldiers. Like the veterans of the Roman legions after defeating the rebellious tribes, the soldiers of Marshal Bugeaud started cultivating land in Algeria (Leroy-Beaulieu, 1887, p. 116). Moreover, in 1846, the French government granted free land to 13,000 unemployed workers living in Paris who lacked agricultural knowledge (Birebent, 2007, p. 55).

<sup>10</sup> Examples of wine adulteration were that producers used wine by-products at the maximum capacity (e.g., 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 (such as sulfuric or muriatic acids) in order to correct flawed wines (Augé-Laribé, 1950; Stanziani, 2004).

*Table 2*  
**French Imports of Bulk Wines by Major Exporting Countries (in average annual hectoliters and percentage of total imports)**

	<i>Spain</i>		<i>Algeria</i>		<i>Italy</i>		<i>Total</i> 1,000 hl
	1,000 hl	%	1,000 hl	%	1,000 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).

increased tenfold in a ten-year period: 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 accelerate wine production in its Algerian colony to limit imports from Spain or Italy.<sup>11</sup>

To resist *Phylloxera*, two different types of new vines had been developed. This shift to different varieties, however, reduced not only the quality of French wine but also the average alcohol content. The first type of new vines resulted from grafting,<sup>12</sup> which consisted of attaching European vines to the roots of the *Phylloxera*-resistant American vine species (Gale, 2011; Paul, 1996). Grafting was preferred by wealthier wine producers in the Bordeaux and Burgundy regions.

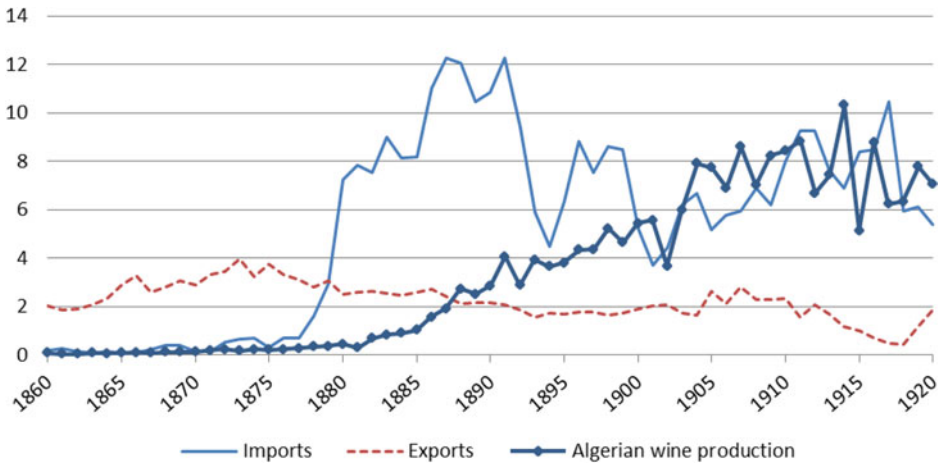
The second type—hybrids—consisted of crossing two or more varieties of different vine species. Hybrids were the result of genetic crosses either between

<sup>11</sup> This idea took shape during the first wave of vine disease in France (oidium or powdery mildew). In seven years, from 1847 to 1854, wine production decreased from 54 million 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).

<sup>12</sup> An earlier example of grafting is from sixteenth-century Spanish Mexico, where in 1524 Hernán Cortés, Spanish conquistador, ordered the grafting of European vines onto American rootstocks in Mexico (Hyams, 1965).

Figure 3

**French Imports and Exports of Wine and Algerian Wine Production, 1860–1920 (in million hectoliters)**



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

American vine species (“American direct-production hybrids”)<sup>13</sup> or between European and American vine species (“French hybrids”). Hybrids were 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 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 to blend with French wine.

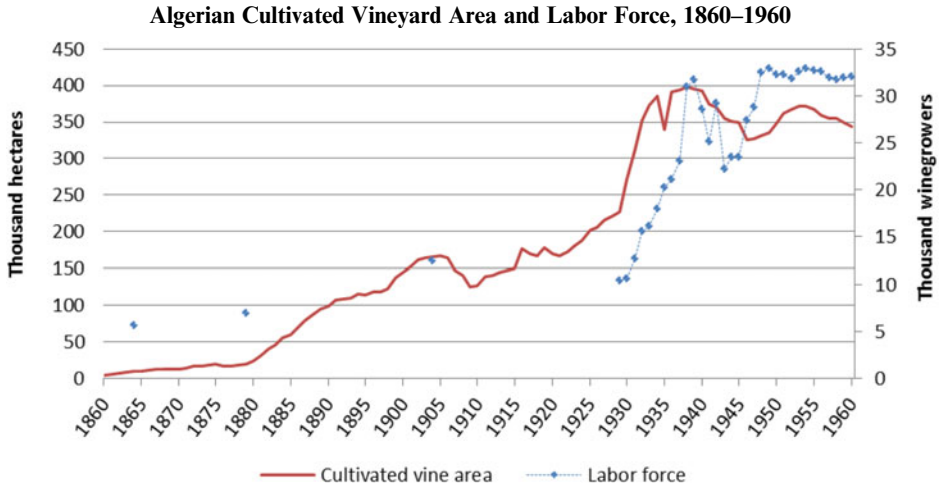
A final element was the increase in the supply of capital for investment in Algerian agriculture. Until 1880, the Bank of Algeria had refused to provide credit for long-term investment in agriculture. However, the Bank’s charter was due to expire in 1880,<sup>14</sup> and the Algerian government agreed to renew this authorization if the Bank increased its loans for agricultural investment. As a result, the supply of bank credit for vineyard expansion increased after 1880 (Isnard, 1949).

<sup>13</sup> These “American hybrids,” such as Clinton, Isabelle, and Noah, were developed in the United States at the beginning of the nineteenth century. They were directly planted in 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).

<sup>14</sup> The Bank of Algeria was founded in 1854 as an independent bank, with 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).



Figure 4



### C. 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 (Supreme Council of Government)<sup>15</sup> perceptively asserted:

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. (Algérie, 1883)<sup>16</sup>

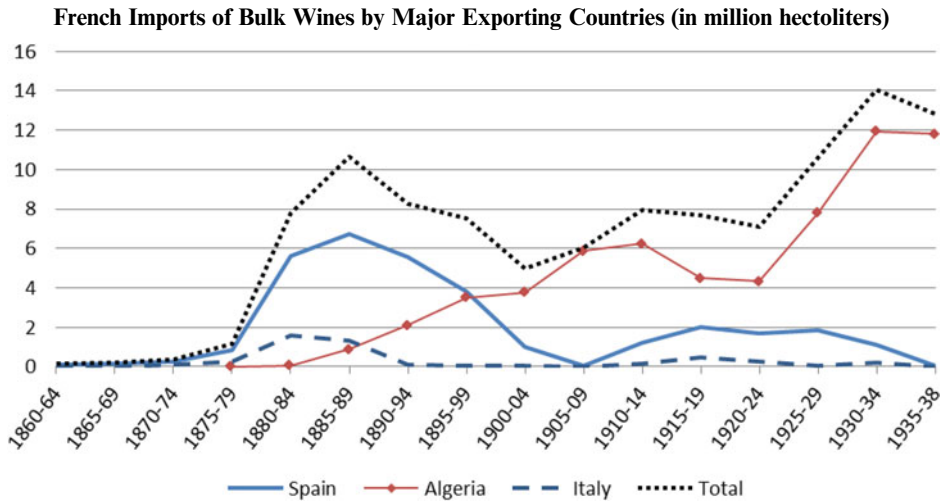
Beginning in 1880, vine plantations expanded massively and vines quickly replaced wheat as the principal plant in cultivation in Algeria. Between 1880 and 1900, the area under vines increased from 20,000 to 150,000 hectares (see Figure 4).

Production of wine followed quickly thereafter (Figure 1). From about 25,000 hectoliters in 1854, Algerian production increased to 200,000 hectoliters in 1872, and to 400,000 hectoliters in 1880. By 1900 Algerian production had reached 5 million hectoliters per year, and by 1915 it doubled to 10 million hectoliters.

<sup>15</sup>The French governor general of Algeria was at the head of the colonial government and, after 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, pp. 405–406).

<sup>16</sup>“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” (translation by the authors).

Figure 5



Source: Pinilla and Ayuda (2002).

This dramatic increase in Algerian production had major implications for international wine markets. In contrast to other wine-producing countries, in Algeria most wine was exported because domestic consumption was limited. Algeria transformed from a wine importing to an exporting country. Exports grew quickly, and their main destination was France.<sup>17</sup> Before this period, most French wine imports came from Spain (see Table 2 and Figure 5): Spanish exports to France totaled almost 7 million hectoliters in the late 1880s, followed by Italy, with exports of 1.5 million hectoliters. However, from 1890 onwards, Algerian wine exports began to supplant Spanish and Italian wines on the French market. By 1900, Algeria had become the number one exporter to France, and in 1905, it was effectively the dominant exporter, with from 4 million to 6 million hectoliters per year, while Italian exports had almost disappeared and Spanish exports had 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 twentieth century, half of Algerian exports were of wine, which contributed almost one-third of the gross domestic product (GDP). The maximum was reached in 1933, when wine exports represented 66% of Algerian exports (Isnard, 1956; Isnard and Labadie, 1959).

<sup>17</sup> In 1867, the first barrels of Algerian wine were exported to Marseille. Beginning in 1886, Algerian exports exceeded imports (Bateman, 1883).

### III. Recovery of French Production and Government Regulations in the Early Twentieth Century

*Il n'est guère que le vin d'Algérie à être un thème électoral dans les départements viticoles du Languedoc-Roussillon.* (Meynier, 1981, p. 13)<sup>18</sup>

The reasons behind the rapid growth of the Algerian wine industry did not last, an outcome foreseen by the Algerian Supreme Council of Government in 1883. In the same speech where it explained the great opportunity for Algerian wine, it 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. (Algérie, 1883)<sup>19</sup>

These words of caution turned out to be prescient. During the 1890s, French vineyards began to recover, with new plantings that used grafting and hybrid grape varieties. Production also increased, and by 1900 it had reached around 65 million hectoliters, the level of the pre-crisis years (see Figure 2). Hence, by the beginning of the twentieth 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 those in 1880. The most dramatic decline was during the 1890s, when French production began to increase.

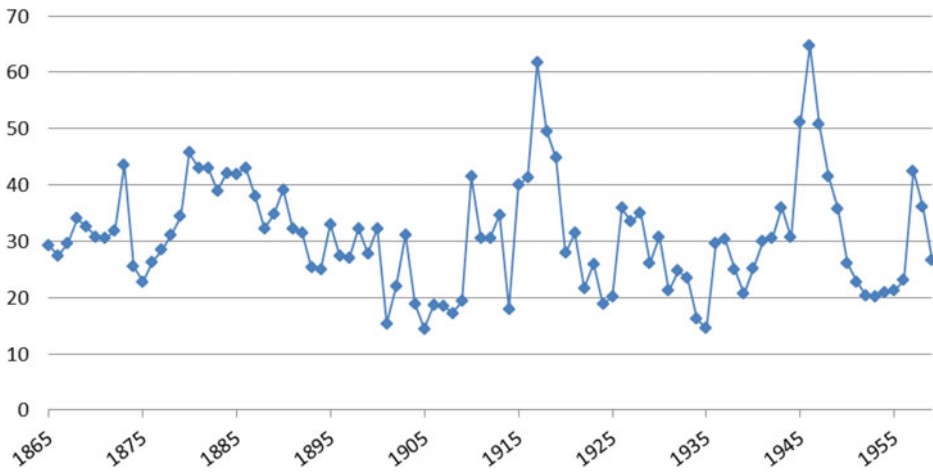
The declining prices resulted in demands by French producers to limit imports and wine “adulteration.” While French consumers (and some of the French producers that used Algerian wine for blending) initially welcomed imports and wine “adulteration,” French producers increasingly lobbied and put pressure on the government to stop them. As wine prices continued to fall, the protests by winegrowers grew increasingly intense. The winegrowers’ revolts in various parts of France included street protests and even violence. Winegrowers resorted to expressing their opinions through so-called *actions directes*, which included “mutinies, pillages, burning down of city halls” (Bagnol, 2007; Martin, 1998; Wolikow, 2009).

<sup>18</sup> “The wine from Algeria is the only electoral issue in the Languedoc-Roussillon wine departments” (translation by the authors). The quotation refers to the first half of the twentieth century. The Languedoc-Roussillon (made up of five departments: Aude, Gard, Hérault, Lozère, and Pyrénées-Orientales) is a region in southern France (called the Midi) that started producing table wines in great quantities at the beginning of the twentieth century (Lachiver, 1988).

<sup>19</sup> “Mais plus les plantations augmenteront, plus la concurrence s’établira entre les vendeurs, et les prix actuels subiront peut-être une baisse assez sensible . . . . 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. . . . et nous devons, pour ce motif, nous montrer très circonspects” (translation by the authors).

Figure 6

## CPI-Deflated Wine Prices in France, 1865–1959 (in old francs per hectoliter)



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

### A. 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 Italy (Becuwe and Blancheton, 2012).<sup>20</sup> A few years later, in 1892, France also increased the tax on the importation of Spanish wines and Greek raisins (Critz, Olmstead and Rhode, 1999; Pinilla and Ayuda, 2002).<sup>21</sup> Figure 7 shows that import tariffs increased from 5% in 1885 to more than 40% after 1892. This increase in French tariffs led to a dramatic decrease in Spanish and Italian wine exports (see Figure 5).<sup>22</sup>

In contrast, because Algeria was considered part of France,<sup>23</sup> 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

<sup>20</sup> The “trade war” (1887–1892) between Italy and France was initiated by Italy when it introduced a new tariff on wheat and manufactures in 1887 (Federico and Tena, 1999).

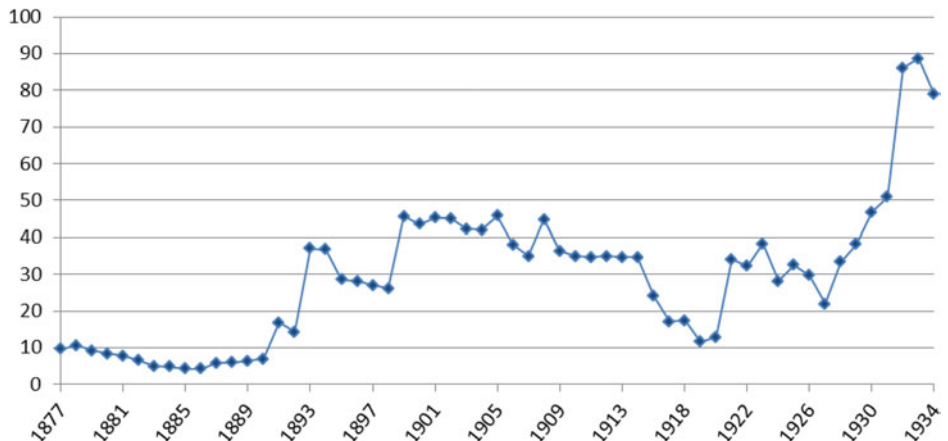
<sup>21</sup> In the second half of the nineteenth century, Spain became the world’s largest exporter of table wine. In 1891, Spanish exports were “32 times greater than those of 1850 or six times those of 1877,” with the French market accounting for 85% of the Spanish exports between 1886 and 1890. Beginning in 1892, Spain witnessed a decline in table wine exports driven mainly by France’s trade policy imposing high tariffs on Spanish wine exports (Pinilla and Serrano, 2008).

<sup>22</sup> The importance of Algeria in French imports of table wines increased from about 8% between 1885 and 1889 to 97.7% between 1905 and 1909, with the importance of Spain decreasing from 80% during the second half of the nineteenth century to 0.8% between 1905 and 1909 (see Table 2).

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

Figure 7

## French Import Tariffs on Bulk Wine Imports, 1877–1934 (in %)



Source: Pinilla and Ayuda (2002).

of Algerian wine<sup>24</sup>. The French government reduced imports while supporting French winegrowers ruined by *Phylloxera* who had emigrated to Algeria. Moreover, France still needed extra wine to meet domestic demand—average French annual production was 30 million to 40 million hectoliters in the 1890s, compared with 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 shows that 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 in Spanish imports. Over this period, the importation 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 twentieth century. Moreover, after 1905, further increases in Algerian imports (from 4 million hectoliters 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 twentieth century (see Figure 6).

<sup>24</sup> Algeria's external trade was entirely dependent on France. France had constructed a trade monopoly 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 Algeria, but not vice versa. Algerian products were still considered "foreign" imports by France. In 1851, a new law permitted certain Algerian products, such as fruits, vegetables, cotton, and tobacco, to enter France duty free. However, wine was not initially included. Tariffs on Algerian wine imports were lifted in 1867 (Barrows, 1982; Isnard, 1954, p. 30; Leroy-Beaulieu, 1887, p. 176).

Not surprisingly, with increasing imports and falling prices, French wine producers now pressed the government to intervene and stop the inflow of Algerian wine and its impact on their revenues. However, French wine producers were not a homogeneous group. On the one hand, producers from Bordeaux, Champagne, and Burgundy were upset that the influx of cheap wine would affect their “high-quality” wine market. They tried to defend their export markets and to ensure their “brand” against possible imitators or lower-quality wines. For instance, producers in the Bordeaux region were worried that wine produced outside the Bordeaux region could be sold as “Bordeaux.” On the other hand, producers of table wines, such as those in southern France, competed directly with Algerian winegrowers as they both produced large quantities of the same types of wines sold in France.<sup>25</sup>

Both groups pressured the government to constrain the inflow of Algerian wine, but used different strategies—with different degrees of success. The first group tried to persuade the government to enact regulation that would protect them from all (low-quality) table wine, not just from Algerian wine. These producers and winegrowers were members of associations that had a great deal of influence with the authorities. For instance, in the Champagne region, three powerful lobbying groups existed: the *Fédération des Syndicats de la Champagne* (now called the *Syndicat Général des Vignerons de la Champagne*, the trade organization representing Champagne’s grape growers); the *Syndicat du Commerce des Vins de Champagne* (now called the Union of Champagne Houses); and the *Association Viticole Champenoise* (AVC, the local Champagne trade organisation) (Comité Interprofessionnel du Vin de Champagne, 2003; Wolikow, 2009).

Wine producers in Algeria or other French regions organized only later. Winegrowers in southern France organized the *Syndicat des Viticulteurs* (Union of Winegrowers) in 1887<sup>26</sup> and the *Confédération Générale des Vignerons du Midi* (General Confederation of Midi Winemakers—CGVM) in 1907. In 1912, the French settlers organized as well in order to protect their common interests, forming the *Confédération des Vignerons des Trois Départements Algériens* (CVA, the Algerian Winegrowers Confederation). The French settlers were called *pieds noirs* (black feet). They owned around 97% of the Algerian vineyards and

<sup>25</sup> 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 harbor at Marseille. Second, “wines for consumption” (with an alcohol content between 11% and 13%) represented 30% of Algerian production and were considered higher-quality wines directly sold in Paris (via Marseille in the south or Rouen in the north). 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 Cette) or Bordeaux. The “wines for blending” was the only category not in competition with Midi wines as the process was used only to increase their alcohol content (Isnard, 1954).

<sup>26</sup> 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).

produced almost 99% of Algerian wine (Isnard, 1954, p. 424; Meynier, 1981, p. 145).<sup>27</sup>

## **B. The Introduction of French “Quality Regulations”**

*Consommateur français bois ce vin français.* (Algerian wine advertisement)<sup>28</sup>

In the early twentieth century, producer organizations in Bordeaux, Champagne, and Burgundy were successful in lobbying the government to introduce several “quality regulations,”<sup>29</sup> because they were heavily supported by political representatives of these regions who held key positions in parliament.<sup>30</sup>

Birebent (2007) and Strachan (2007) argue that a particular event involving Algerian wine, known as the “Leakey Affair,” played an important role in the political discussions. Because it faced a surplus on French wine markets, Algeria was searching for new markets and attempted to promote Algerian wines on the British market. In July 1905, Charles Jonnart, the French governor general of Algeria, entered into a contract with James Leakey, a businessman based in London, to sell 50,000 hectoliters of Algerian wine in Britain. In newspaper advertisements, Leakey promoted Algerian wine as French wine, reasoning that “Algeria is now an integral part of France.” The advertisements also drew parallels with renowned wine regions in France such as Bordeaux and Burgundy. When word of these advertisements spread to France, French wine producers protested and lobbied the French Ministry of Commerce. They accused Algerian producers of inciting the deception and of producing “non-natural,” artificial wines.

<sup>27</sup> When French colonists arrived in Algeria, lands were owned by a tribe or family group and not by a single individual. During the 1870s, these “common lands” were expropriated, privatized, and freely granted to European settlers (Halvorsen, 1978). At the beginning of the twentieth century, landless Algerians comprised a cheap labor force for work in the vineyards (Isnard, 1966; Smith, 1974).

<sup>28</sup> “French consumers drink this French wine” (quotation from an Algerian wine poster; translation by the authors).

<sup>29</sup> Note that there was considerable heterogeneity within these regions—and different interests. For example in the Bordeaux wine region, the large inflow of cheap wine led to conflicts between growers of the same area (the few large “châteaux” owners producing “high-quality” wines versus the numerous small family winegrowers producing “low-quality” wines), between growers of different areas (producing inside and outside the Bordeaux area), and between merchants and growers (Simpson, 2011). The main problem faced by the small, “low-quality” wine producers was overproduction. The merchants were blending Bordeaux wines with wines from outside the region (including Algerian wines that were shipped to France via Bordeaux). Blending was initially welcomed due to the scarcity of wine, but became a problem during the overproduction crisis at the beginning of the twentieth century. At the same time, the “high-quality” wine owners were less worried about blending as they bottled their wines in their “châteaux” but were more worried that Algerian wines might threaten their export market. Both groups, however, were united in their pressure on the government to constrain the inflow of cheap wines and to establish regional *appellations*.

<sup>30</sup> In 1919, Joseph Capus was elected deputy of the Gironde (the Bordeaux wine production area), and he was also the president of the Parliamentary committee on *des grands crus* (great vintages).

Only a month after the Leakey contract went into effect, the law of August 1, 1905, on “frauds and falsifications” was passed, indicating the conditions for the production of a “natural” wine. Article 4<sup>31</sup> required that the wine sold had to clearly indicate the wine’s origin to avoid “misleading commercial practices.” Article 16 of 1905 law explicitly stated that the law also applied to Algeria (Mérignhac, 1912, p. 268).<sup>32</sup>

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, the region where it is produced (the *terroir*), and the traditional method of producing wine. In this way, the regional boundaries of Bordeaux, Cognac, Armagnac, and Champagne wines were established between 1908 and 1912, referred to as *appellations*.

These regulations in response to Algerian wine imports and low prices turned out to have long-lasting impacts. Not long after they went into effect, a new law in 1919 specified that if an appellation was used by unauthorized producers, legal proceedings could be initiated against them. Later, the restrictions grew tighter: a 1927 law placed restrictions on grape varieties and methods of viticulture used for appellation wine (Loubère, 1990). Finally, a law in 1935 created the *Appellations d'Origine Contrôlées* (AOC), which combined several earlier regulations: it restricted production not only to specific regional origins (through delimitation of specific areas) but also to specific production criteria such as grape variety, minimum alcohol content, and maximum vineyard yields (Simpson, 2011; Stanziani, 2004). The 1935 law formed the basis of the AOC and *Denominazione di Origine Controllata* (DOC) regulations, which play an important role in today’s European Union (EU) wine markets.<sup>33</sup>

#### IV. 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.

—Mr. Jean-Ch. Leroy, General Counsel of the Appellations of Origin (Société de législation comparée, 1932)<sup>34</sup>

<sup>31</sup> Loi du 1er Août 1905 (Law of August 1, 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” (“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”—translation by the authors).

<sup>32</sup> 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, pp. 268–269).

<sup>33</sup> The European initial system of “quality” regulations explicitly referred to (and integrated) the French 1935 AOC system (for more details, see Meloni and Swinnen, 2013).

<sup>34</sup> “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’état



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. On the contrary: the regulations targeted not only Algerian wine but also wine from other French regions.<sup>35</sup> Southern French winegrowers lobbied the government to impose import tariffs and quotas to protect them against Algerian wine as well. 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 Algeria as French territory (Barrows, 1982; Isnard and Labadie, 1959).

World War I (1914–18) and the spread of *Phylloxera* in Algeria brought some relief in the Franco-Algerian wine conflict. *Phylloxera* reached Algeria at the end of the nineteenth century, and 63% of the vineyards were still infected in 1910.<sup>36</sup> However, the impact on Algeria’s vineyards was limited because Algerian winegrowers benefited from the French experience with how to counter the disease.<sup>37</sup> They opted for the grafting solution (Isnard, 1954; Meynier, 1981).

The relief on French wine markets was brief. Algerian wine production and exports rapidly increased in the 1920s and the early 1930s. Production recovered, growing from its lowest point of 5 million hectoliters in 1922 to 10 million hectoliters by 1925. Over the next decade, it doubled again, reaching 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 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). Moreover, wine prices in France were around 40% higher in the second half of the 1920s than in the first half. Figure 6 shows that in real terms (1914 prices), annual prices were 23 francs per hectoliter (in 1921–1925) and 32 francs per hectoliter (in 1926–1930). The growth in plantation led to increased

dans le domaine de la vie économique. C’est, suivant l’expression à la mode, de l’économie dirigée au premier chef” (translation by the authors).

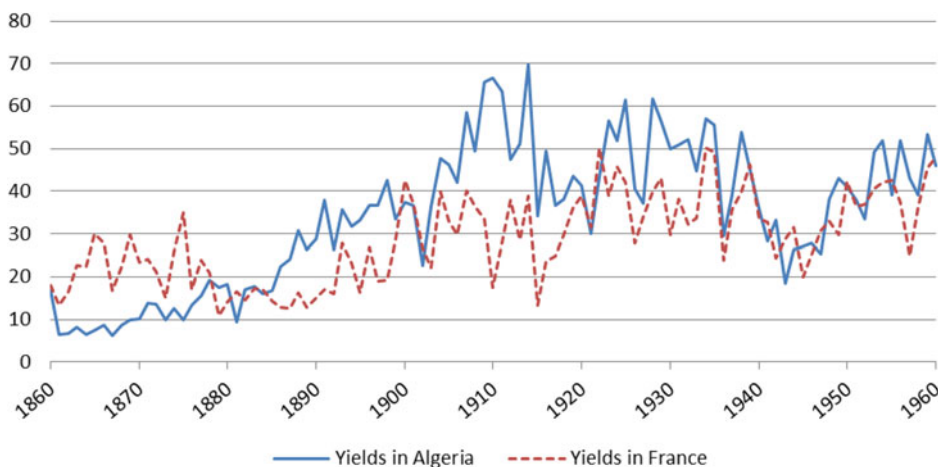
<sup>35</sup> Underlying these increasingly tight “quality” regulations in France was a major battle over the regulation of hybrids, one of the two practices used to cure vines of *Phylloxera* (see Meloni and Swinnen 2013 for more details). This battle continued through most of the twentieth century. A strong division of interests existed between the AOC producers, located in Bordeaux, Champagne, or Burgundy (who used grafting since it allowed them to retain European *Vitis vinifera* characteristics, with the same productivity and quality) and wine producers from other regions (who used hybrids because the new vines were more productive, easier to grow, and more resistant to disease—requiring less winegrowing experience, less pesticide, and less capital) (Paul, 1996).

<sup>36</sup> From 1905 to 1910, around 40,000 hectares of vines were destroyed by *Phylloxera* (see Figure 4).

<sup>37</sup> For a detailed analysis of the battle against *Phylloxera* in Algeria, see Isnard (1954).

Figure 8

## Wine Yields in France and Algeria, 1860–1960 (in hectoliters per hectare)



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

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 more quickly in the early 1930s. A crucial factor for this was the fear in Algeria that France would block planting of new vineyards there, a concern aroused by political discussions in Paris. In 1929, a suggested law—the “Castel proposal”—proposed to limit vine plantation (Isnard, 1949). The proposal was rejected in the parliament, but alerted Algerian wine producers that a prohibition on new plantings could become a reality. This, in turn, induced them to plant more vineyards.

The combination of postwar recovery in French production, increasing imports, and a fall in demand due to the Great Depression in 1929 caused another crisis in the French wine market. Between 1927 and 1935, real wine prices declined by 50% (see [Figure 6](#)). Again, winegrowers in southern France asked for import tariffs or quotas on Algerian wine. However, again the French government was unwilling to impose them, and in 1929 a proposed law to limit imports of Algerian wine to 8 million hectoliters was rejected (Birebent, 2007, p. 132).

During 1914–1925, Spanish table wines were allowed to enter France more easily because of the wine shortages during World War I. However, with the recovery of the Algerian and French wine industry and the wine overproduction crisis of the 1930s, France decided to raise again import tariffs on Spanish wines. [Figure 7](#) shows that import tariffs were much lower during the earlier period but increased from around 30% in 1926 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 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, p. 129). Because almost all Algerian production was exported to France, a limit on vineyard expansion was equivalent to import constraints. This attempt was more successful, possibly because it led to regulations that (ostensibly) did not discriminate between French citizens (producers) in France and those in Algeria.

Between 1931 and 1935, a series of laws (*Statut Viticole*)<sup>38</sup> aimed at controlling the wine supply in France were introduced, including the following measures: an obligation to store part of the excess production (*bloccage*),<sup>39</sup> obligatory distillation of surpluses,<sup>40</sup> and the establishment of a levy on large crops and yields, a ban on planting new vines, and premiums for grubbing up of “overproductive” vines (Gavignaud, 1988; Loubère, 1990).

New planting of vines was forbidden for 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 imposed on winegrowers whose average yield (calculated over the three previous harvests) was more than 500 hectoliters or produced more than 80 hectoliters of wine per hectare (JORF, 1931; Lachiver, 1988; Simpson, 2011). The regulations also imposed taxes on high yields.<sup>41</sup>

The regulations applied to producers in both France and Algeria.<sup>42</sup> However, the policy was biased in favor of wine producers in France and hit Algerian producers much harder than French producers (Bagnol, 2007; Isnard, 1947).<sup>43</sup> During the 1930–1935 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, 4, and 5). Furthermore, due to the hot climate, the obligation to store part of the excess production was more difficult for Algerian wine producers.

<sup>38</sup> Laws were issued in 1931, 1933, 1934, and 1935 (JORF, 1931, 1933, 1934, 1935).

<sup>39</sup> Producers could allocate their product in the market using successive quotas.

<sup>40</sup> Between 1934 and 1935, 24 million hectoliters were distilled (Lachiver, 1988).

<sup>41</sup> A progressive tax was imposed on yields of more than 100 hectoliters of wine per hectare. Starting with a fee of 5 francs per hectoliter for yields between 100 and 125 hectoliters per hectare, the tax reached a maximum of 100 francs per hectoliter for yields exceeding 250 hectoliters per hectare. Moreover, a second tax was levied on the large winegrowers, who produced a total of more than 2,000 hectoliters (JORF, 1931, Article 1).

<sup>42</sup> Article 17 of the 1931 law and article 54 of the 1935 law stated that the regulations were applicable to Algeria (JORF, 1931, 1935).

<sup>43</sup> The appellation wines were exempted from these measures, leading to the creation of a large number of appellation wines (Capus, 1947).

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, p. 222).

Table 5  
The Evolution of Algerian Vineyard Sizes, 1908–1948 (in hectares)

	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, p. 223).

The laws did not immediately restrain total wine production. In each of these two years, 1934 and 1935, production in France and Algeria totaled almost 100 million hectoliters.<sup>44</sup> However, the *Statut Viticole* did immediately halt the increase in Algerian vineyard area (see Figure 4). Total vineyard area in Algeria never expanded beyond the level reached in the mid-1930s (400,000 hectares).

<sup>44</sup> In 1934, France and Algeria produced, respectively, 78 million hectoliters and 22 million hectoliters, while total (French) consumption totaled 70 million hectoliters. In 1935, France and Algeria produced, respectively, 76 million hectoliters and 19 million hectoliters (Insee, 1935).

In the following years, the *Statut Viticole* caused a reduction in vineyards and production, dramatically so in 1939–1947 and during World War II (1939–45). The grubbing up of “overproductive” vines, which began 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](#)).

Starting in 1939, Algerian wine exports were paralyzed as the fighting in World War II seriously affected maritime trade and caused destruction or abandonment of many vineyards in France and Algeria, leading to a sharp fall in wine production. Algerian production declined from 12 million hectoliters in 1942 to 7 million in 1943 (Insee, 1935). As a result, the *Statut Viticole* was repealed.

After the conclusion of the war, 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 (1943/1944) to around 60 million hectoliters a decade later (1953/1954).

This led to new pressure for political intervention, as Algerian wines were once more competing with southern French wines (Isnard and Labadie, 1959).<sup>45</sup> The *Statut* was reintroduced in 1953, under the name *Code du Vin*,<sup>46</sup> intended to block the expansion of Algerian vineyards and wine production. After Algeria gained its independence, this economic and regulatory interdependence between the Algerian and French wine sectors changed dramatically.

## V. The Collapse of the Wine Industry in Algeria

In 1961, on the eve of its independence from France, despite all the French-imposed regulations, Algeria was still the world’s fourth-largest producer of wine (after Italy, France, and Spain) (see [Table 1](#)). However, immediately after Algeria gained political independence in 1962, wine production started falling and, in the course of two decades, the Algerian wine industry collapsed (see [Figure 1](#)). The area under vines decreased from 366,000 hectares in 1962 to 100,000 hectares in the mid-1980s and fell further, to 25,000 hectares in 2005, the same as in 1880. Production dropped from 15 million hectoliters in 1962 to about 600,000 hectoliters in 2009 (the equivalent of production in 1882), of which only 3% was exported. Algerian exports decreased from 14.8 million hectoliters in 1962 to 17,000 in 2008 (FAO 2012; Ministère de la PME et de l’Artisanat, 2005).

<sup>45</sup> Algerian wines were also more competitive as innovative transport modes (in bulk) were used for the export of Algerian wines—tankers first appeared in 1935 and developed during the beginning of the 1950s (Caralp, 1953).

<sup>46</sup> 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).

The Algerian wine industry collapsed for two main reasons. The first reason was its total dependence on France for wine sales; the second was poor management after the wine sector was nationalized following independence.

### ***A. Export Constraints After Independence***

After independence, Algeria no longer enjoyed the same trade status with France. In fact, French producers used the independence of Algeria as a reason 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 to purchasing 39 million hectoliters of Algerian wine—between 7 million and 9 million hectoliters per year over the next five years, but in decreasing quantities.<sup>47</sup> This rate of imports was considerably lower than before independence (e.g., in 1961 Algeria exported 15 million hectoliters to France). However, under pressure from French wine-growers, the French government did not fulfill the agreement and forbade French traders to sell Algerian wine in France, effectively imposing a ban on Algerian imports. Although the ban was lifted 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. During 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, Algerian wine exports to France fell by two-thirds in only a few years (see [Table 6](#)).

France also tried to stop wine imports from Algeria by other means. It prohibited the blending of French wines with those of other countries, and this French prohibition was integrated into the 1970 European wine regulations, which extended this prohibition to the entire European Union.<sup>48</sup> The European law prohibited the blending of wines from member countries with those of nonmember countries (Article 26, Council Regulation (EEC) No 816/70).

Algeria tried to find other export markets for its wine. In 1969, Algeria signed a seven-year agreement with the Soviet Union in which it agreed to buy 5 million hectoliters of Algerian wine every year at a fixed price. The Soviet Union then became Algeria's principal wine export market (Sutton, 1988), which led to a brief surge in exports. In 1969 and 1970, wine exports increased to around 12 million hectoliters, but the recovery did not last. Exports to France continued to decline, and exports to the Soviet Union were not successful. The prices set by the Soviet

<sup>47</sup> More precisely, the amount was spread across five 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).

<sup>48</sup> Since the 1960s, the European Union has introduced a vast number of regulations in the wine sector, the so-called Common Market for wine. These common regulations for agricultural markets include public interventions and production standards (for more details, see Meloni and Swinnen, 2013).

Table 6  
 Algerian Exports to France (% of the total Algerian exports to France)

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

Source: Brandell (1981).

government were lower than world market prices for wine, a price at which production was not profitable for Algeria (Brandell, 1981; Sutton, 1988).

### ***B. Nationalization and Poor Management***

In October 1962, the ruling political party (National Liberation Front) nationalized agricultural land, including vineyards and thus the entire wine sector. Vineyards were to be run by state organizations and governed by local politicians without much agricultural knowledge or wine-making skill (Birebent, 2007).

In 1968 two state institutions were created to manage the wine industry. The first institution was the *Office National de Commercialisation des Produits Vitivinicoles* (National Marketing Office for Viticulture Products, ONCV),<sup>49</sup> which has a virtual monopoly on wine production and marketing. Today it owns 42 wineries, thereby controlling 95% of Algerian wine production.<sup>50</sup> The second institution was the *Institut de la Vigne et du Vin* (IVV—Institute of Vine and Wine), which had 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” labels (Boudjellal, 1972; Isnard, 1969; Ministère de la PME et de l’Artisanat, 2005).<sup>51</sup> This closely resembles the role of

<sup>49</sup>The ONCV website states: “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, 2014).

<sup>50</sup>Only three private companies operate in the wine sector (Ministère de la PME et de l’Artisanat, 2005).

<sup>51</sup>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 (Blotière, 1930, p. 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).

the *Institut National de l'Origine et de la Qualité* (National Institute for Origin and Quality, INAO) and the French AOC regime.<sup>52</sup>

The combination of poor domestic management of the wine sector after its nationalization (as in many other examples of state management of farms and the agrifood industry; see Rozelle and Swinnen [2004]) and French import constraints caused a dramatic reduction in exports. The state-managed system was unable to respond effectively to the changed international market situation and could not find alternative outlets or reposition Algerian wines for a growing global market. The state decided to uproot a large share of the vineyards in Algeria. Between 1970 and 1973, 20% of the total vineyards were uprooted, some 71,300 hectares of vine (Sutton, 1988). The fall of the Algerian wine industry continued through the rest of the twentieth century. By the early 1990s, 30 years after independence, the Algerian wine industry was restored to where it had been 120 years earlier, before its spectacular rise. From a global perspective, it has effectively disappeared. Production, vineyard surface, and exports have fallen back to negligible levels.

### ***C. The Arab Spring and the Future of Algeria's Wine Industry***

Because the established political parties are still in power, it is unlikely that the Arab Spring will lead to the privatization of vineyards and wineries or a major policy shift. The state-managed wine system is likely to remain in place.

In contrast to its neighbors (Tunisia and Egypt), where massive protests and riots overturned governments, Algeria has maintained political stability.<sup>53</sup> Through public spending programs and the redistribution of oil revenues,<sup>54</sup> Algeria eased public discontent due to high (youth) unemployment and food price inflation. With oil prices high, the Algerian government used its oil export revenues to create new public sector jobs, to increase wages to civil servants, and to decrease the price of staple foods (Achy, 2012, 2013; Chikhi and Parent, 2011).

In the past decade, some attempts have been made to stimulate wine production and exports. Since the introduction of the Plan National de Développement Agricole (National Agricultural Development Plan, PNDA) in 2000 and the 10-year Plan National de Développement Agricole et Rurale (National Agricultural and Rural Development Plan, PNDAR) in 2004, increased attention has been

<sup>52</sup>The INAO was established in 1935 as a government branch to administer the AOC process for “high-quality” wines (JORF, 1935).

<sup>53</sup>During the 2012 Algerian parliamentary election, unlike in neighboring countries, Islamist parties did not win against the established political parties (Front de Libération Nationale [National Liberation Front] and Rassemblement National Démocratique [National Rally for Democracy]) (Achy, 2012).

<sup>54</sup>Public spending in Algeria doubled in the 2011–12 period, with its energy sector making up more than a third of government expenditures, two-thirds of government revenues, and 98% of exports (Achy, 2012).



focused on the wine industry. Public funds have been allocated for the modernization of wine production and wine cellars, for the replanting of vineyards, and for the planting of new grapes (more “noble ones” such as cabernet sauvignon, pinot noir, and merlot). Training programs in Bordeaux have been offered to increase wine knowledge and skills (Oxford Business Group, 2008, 2010; Wallis, 2005).

However, many problems remain despite the efforts at renovation and modernization. The winemaking methods date from the period under French colonization. The scarcity of vine varieties encourages blending, and the wineries and cellars are in poor condition (certain machinery and equipment date from the early twentieth century). Another key obstacle to the development of the sector is the ONCV, whose monopoly does not promote the growth of new technologies or the search for premium wines in the global market (Ilbert, 2005).

In sum, it appears unlikely that Algeria will retake its position as a major wine producer and exporter in the near or medium term.

## VI. 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 in 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 nineteenth century. However, beginning in the 1930s, 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, 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 twentieth century and during the 1930s that 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, perhaps many regulations that shape today’s wine industry, particularly in Europe, would not have been imposed. Somewhat paradoxically, the fact that Algeria had free trade with France while a colony, such that France could not impose import tariffs on Algerian wine, induced a series of regulations that arguably have a much longer-lasting impact than tariffs imposed on the exports of other countries, such as Spain and Italy.

Until the beginning of the twentieth century, the French state did not regulate and intervene in the wine market in a systematic way. This changed during the

beginning of the twentieth 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 in the renowned wine regions in France, in regions such as Burgundy and Champagne, by introducing an explicit link between the “quality” of the wine, its production region (the *terroir*), and the traditional method 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 (*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 “overproductive” vines. It also created the viticultural land register.<sup>55</sup>

The severity of these regulations and the dramatic change they caused in the wine markets is illustrated by a quotation 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 note 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 Common Market for wine). The most important producers, Italy and France, held different positions. France proposed its own, heavily regulated, model while Italy favored a more liberal system. The final version of the European Common Wine Policy, agreed on in 1970, was a compromise. However, the compromise did not last very long. Under pressure from French producers, in 1976 the European Council of Ministers introduced 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 intervention in markets had become the official European wine policy (Meloni and Swinnen, 2013; Niederbacher, 1983).

<sup>55</sup> These regulations caused dramatic changes in the French wine market. See note 34 and the definition of a “planned economy” as an illustration.

Many elements of French wine regulations triggered by the Algerian wine industry's spectacular growth are still present in the European wine policy today.<sup>56</sup> 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 its wine supply. The French “quality regulations” form the basis of today's well-known AOC and DOC regulations that play an important role in today's EU wine markets. With the integration of other wine-producing countries 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 in order to join the EU.

In summary, while Algerian wine production had effectively disappeared from the global wine markets by the 1990s, its institutional legacy continues until today – and likely will remain important for a large part of the global wine economy for many years to come.

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<sup>56</sup>This remained almost unchanged until 2006, when the European Commission proposed a set of reforms, which included the immediate elimination of traditional market intervention measures (e.g., distillation, aid for private storage, export refunds, and planting rights), the consolidation of previously adopted measures (e.g., restructuring and conversion of vineyards), the parallel introduction of new measures (e.g., green harvesting and promotion in third countries), and simplified labeling 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 had to be phased out by 2012). Planting rights restrictions were set to be officially abolished, but opposition to their removal is growing (Meloni and Swinnen, 2013).

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