

Economic Fluctuations in France 1815-1938

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The reconstruction of France's GDP (Gross Domestic Product) on an annual basis for the period 1815-1938 has recently been completed by Jean-Claude Toutain, a member of the research unit on the quantitative history of France at the *Institut de Sciences Mathématiques et Économiques Appliquées* (I.S.M.E.A.). The series have now been published in *Economies et Sociétés* (no. 5, 1987) and cover:

i) annual real growth rates of French GDP and its principal components: agriculture, industry (with various sub-divisions), government, housing, domestic services, trade, transport and professional services;

ii) annual growth rates of implicit prices of French GDP and its principal components.

I have been responsible for this project since 1956 and the publication of these series offers an excellent opportunity for making some general observations on the fluctuations in the French economy in the period from 1815 to 1939.

A simplified picture of the main fluctuations is given in *Table 1*. This shows the geometric averages of real growth rates of GDP through successive periods of positive and negative growth. Periods of expansion run from the first year that shows a marked increase in GDP (in real terms) to the year that shows the last increase. Periods of recession begin when real increase in GDP stops and continue until the decline terminates. Minor year to year fluctuations are ignored. The combination of these periods of real growth with fluctuations in GDP implicit prices could lead to one of four types of economic development:

i) *inflationary growth* when both volumes of production and prices are moving upwards. In *Table 1* this is represented by black rectangles above the 0 line;

ii) *deflationary growth*, when volumes of production increase but prices fall. These are represented in *Table 1* by striped rectangles above line 0;

iii) *stagflation*, when volume of production falls but prices rise. This is represented by black rectangles below line 0;

iv) *depression*, when both volumes of production and prices fall. This is represented by striped rectangles below line 0.

Table 2 shows that positive growth in the nineteenth century between 1815 and 1899 was proportionately more sustained (68% of all the years studied) than in the twentieth century before the Second World War where there was positive growth in 56% of the years considered (leaving out the years between 1914 and 1920). All the long periods of positive growth in the nineteenth century were deflationary: taking all yearly fluctuations into account for the period 1815-1899, 56% of the years of positive growth were also years of falling prices. Of the 25 other years in which positive growth occurred in an inflationary situation, only two (1847 and 1852) are recorded on *Table 1*. The periods of inflation in which the other instances of positive growth occurred were all too short to be seen as significant interruptions of the deflationary trend.

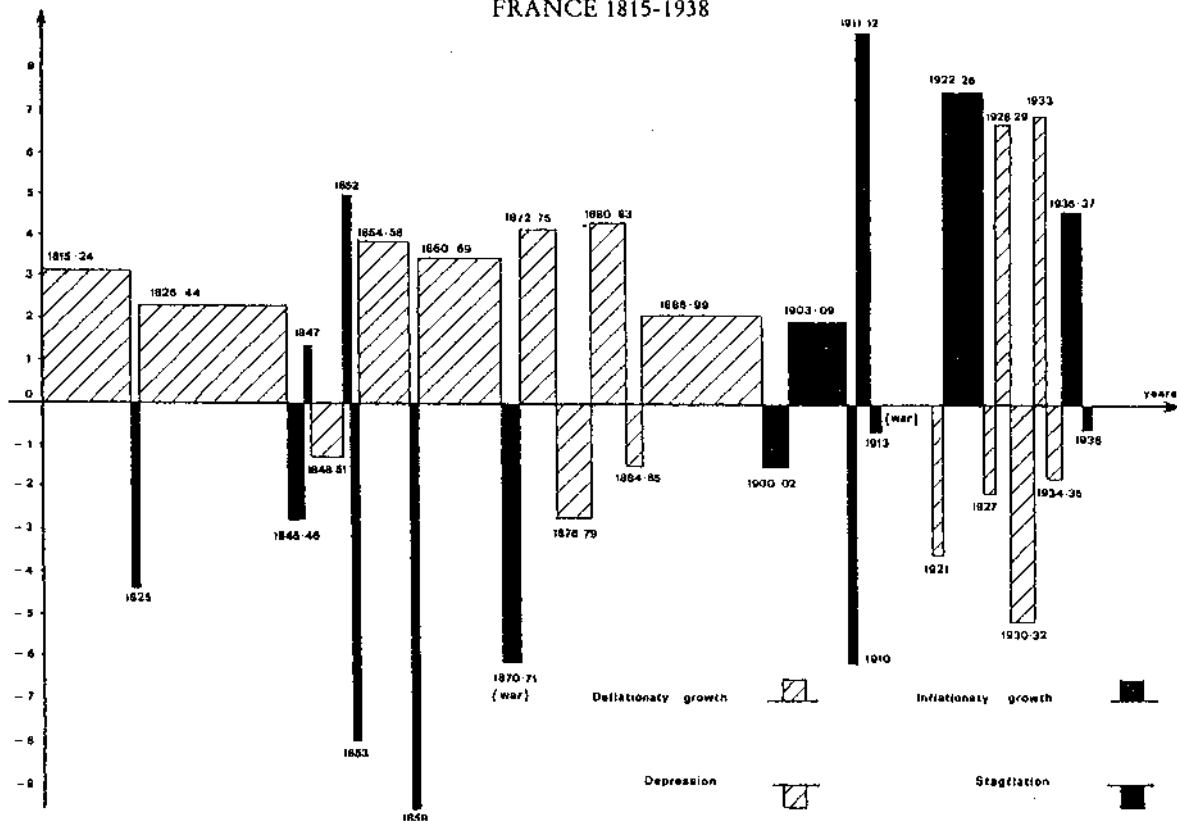
On the other hand, out of the 27 years of recession in the nineteenth century, only a third were deflationary depressions (1848-51, 1876-9, 1884-6). All others were years of stagflation, which appears to be the oldest form of recession.

In the early twentieth century the picture changes completely. The years of positive growth are now mainly inflationary (78%) and the years of recession are mainly deflationary (64%). In my opinion the reasons for this change are as follows.

Throughout the nineteenth century, agriculture remained by far the most important component of French GDP. It necessari-

Table I

GEOMETRIC AVERAGE ANNUAL GROWTH RATES IN FRENCH GDP (in real terms) ACROSS SUCCESSIVE PERIODS OF EXPANSION AND RECESSION WITH THE CORRESPONDING FLUCTUATIONS IN THE IMPLICIT PRICE, FRANCE 1815-1938



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Table 2
DISTRIBUTION OF THE FLUCTUATIONS BETWEEN DIFFERENT
TYPES OF ECONOMIC EVOLUTION, FRANCE 1815-1938

	1815-1825		1900-1938		1815-1938	
	Number of years	%	Number of years	%	Number of years	%
Deflationary growth	32	38.1	4	12.5	36	31
Inflationary growth	25	29.5	14	43.8	39	33.6
Depression	9	10.2	9	28.1	18	15.6
Stagflation	18	21.4	5	15.6	23	19.8
Total	84	100.0	32	100.0	116	100.0

ly follows therefore that during that period increases in agricultural production were mainly responsible for positive growth in GDP (in 86% of cases) (Table 3). But when agricultural production increases this normally causes farm prices to fall and favours the expansion of industrial productivity. Increasing output with a strictly limited supply of money causes a continuous fall in industrial prices. For the same reason a bad harvest will cause farm prices to rise and bring about a sharp reduction in the real value of GDP and a rise in its implicit price. Deflationary growth interspersed with frequent but very short intervals of stagflation brought on by bad harvests was therefore the most common pattern of economic development in the nineteenth century and accounts for trends in 60% of the years examined (Table 2).

The remaining 40% of the years in the nineteenth century were either years of inflationary growth (30%) or depression (10%). Inflationary growth occurred when increases in industrial (92% of the years examined) and agricultural (80%) production were accompanied by a rise in industrial (76%) and agricultural (60%) prices (Table 3). This was normally the product of increased demand resulting from public expenditure and/or exports, sometimes stimulated by the discovery somewhere in the world of new gold or silver mines. Depression always saw a

fall in industrial prices, while in 78% of the deflationary years farm prices also fell. In 89% of these years agricultural production fell while industrial production also fell in 78%. This would suggest that unlike stagflation, depression is not brought on by lack of supply but rather by inadequate domestic and/or foreign demand for home produced goods. Inadequate demand could be the result of a contracting money supply, as occurred in 1848-51, or of increased foreign competition as occurred between 1876-9 and 1884-5 when the development of transoceanic steam shipping and the American trans-continental railways brought American agricultural exports flooding in to Europe.

For the 32 years of the twentieth century that we have examined, the general conditions of the French economy were very different. Agriculture was no longer the principal contributor to GDP. Industry and agriculture functioned behind strong protective tariffs and after 1930 there were import quotas. The price of agricultural products on home markets were well above the prices of their equivalents on foreign markets. French producers, especially farmers, had little interest in expanding production, particularly since France's population was also stagnant. Only exports and public expenditure could stimulate growth, and these acted primarily on industrial production. When those factors were present, therefore, growth was inflationary (in 44% of the cases considered) (Table 2). When they were removed, the result was depression (28% of cases). Inflationary growth alternating with depression account for 72% of all the years covered and constitutes the most common pattern in the development of the French economy before the Second World War. Deflationary growth (12%) and stagflation (16%) were now rare. Deflationary growth reappeared momentarily after the return to the Gold Standard in 1928 but was cut off by the Great Depression between 1930-2. Stagflation occurred only when a slowing down in exports coincided with a particularly bad harvest.

Table 3

DISTRIBUTION OF ANNUAL GDP FLUCTUATIONS BETWEEN DIFFERENT TYPES
OF ECONOMIC EVOLUTION AS A FUNCTION OF AGRICULTURAL AND INDUSTRIAL
OUTPUT AND PRICES, FRANCE 1815-1938

		Deflationary growth 1	Inflationary growth 2	Depression 3	Stagflation 4
1	$\delta A (+), PA (-)$ $\delta I (+), PI (-)$	1821, 1824, 1834, 1843, 1863, 1864, 1869, 1874, 1875, 1887, 1892, 1894, 1899, 1929, 1933			
2	$\delta A (+), PA (-)$ $\delta I (+), PI (+)$	1844, 1872	1835, 1841, 1850, 1881, 1896, 1911, 1922		
3	$\delta A (+), PA (-)$ $\delta I (-), PI (-)$	1819, 1831, 1857, 1858, 1862, 1883, 1893		1884, 1921, 1927, 1931, 1934	
4	$\delta A (+), PA (-)$ $\delta I (-), PI (+)$	1828, 1904			
5	$\delta A (+), PA (+)$ $\delta I (+), PI (-)$	1826, 1832, 1837, 1868, 1877, 1898	1817, 1840, 1880, 1882, 1924		
6	$\delta A (+), PA (+)$ $\delta I (+), PI (+)$		1816, 1823, 1829, 1838, 1849, 1852, 1856, 1860, 1890, 1903, 1907, 1909, 1912, 1937		
7	$\delta A (+), PA (+)$ $\delta I (-), PI (-)$			1932	
8	$\delta A (+), PA (+)$ $\delta I (-), PI (+)$		1897, 1854, 1925		1900, 1938

Table 3 (continued)

		Deflationary growth 1	Inflationary growth 2	Depression 3	Stagflation 4
9	$\delta A (-), PA (-)$ $\delta I (+), PI (-)$	1886, 1891, 1905		1879, 1901	
10	$\delta A (-), PA (-)$ $\delta I (+), PI (+)$	1818	1836		1822, 1833
11	$\delta A (-), PA (-)$ $\delta I (-), PI (-)$			1839, 1848, 1865, 1885, 1895, 1908, 1935	
12	$\delta A (-), PA (-)$ $\delta I (-), PI (+)$				1873
13	$\delta A (-), PA (+)$ $\delta I (+), PI (-)$		1855, 1866, 1928	1892, 1930	1820, 1827, 1853, 1861, 1876
14	$\delta A (-), PA (+)$ $\delta I (+), PI (+)$		1888, 1889, 1906, 1923, 1926, 1936		1825, 1845, 1846, 1867, 1897
15	$\delta a (-), pa (+)$ $\delta i (-), pi (-)$			1878	1851, 1871
16	$\delta A (-), PA (+)$ $\delta I (-), PI (+)$				1830, 1859, 1870, 1902, 1910, 1913
		36	39	18	23

After the Second World War this pattern changed again with the adoption of Keynesian economics. The typical pattern was then inflationary growth, and after 1973 this was combined with a pronounced tendency towards stagflation owing to rapidly increasing production costs.¹

¹ Cf. J. MARCZEWSKI, "The Concept of Macroeconomic Cost and its Utility", in *The Review of Income and Wealth*, no. 1, 1986.