

Appendix 1

Egyptian Nominal Wage, Cost of Living, Real Wage and Land Rent Data, 1858-1941

Nominal Wage, 1858-1941: The nominal wage series was constructed using data from three different sources. In *The Cost of Living Abroad* (Sampson Low, Marston, Searle, & Rivington: London, 1876, pp. 116-18), based on consular reports, Charles Bidwell states that wages in Alexandria doubled from 1858 to “the present” which is taken to be 1870. Therefore, we halved the 1870 wage for 1858. The wage observations for the years 1870-1879, 1888-1889, 1891, 1899-1901, 1906-1907, 1909-1910, 1912-1914, 1922, 1927-1928, 1930-1933 and 1937-1938 come from Alan Richards, *Egypt's Agricultural Development, 1800-1980: Technical and Social Change* (Westview Press: Boulder, Colorado, 1982, Table 3.17, p. 96, & Table 4.4, p. 119). These wages are daily and appear to be for rural unskilled laborers. Where a range of wages was given for a particular year, the mean value is reported. Although this data is the most comprehensive in terms of time period and number of observations, they still offer only incomplete coverage. We extend coverage by using observations from Bent Hansen's agricultural wage index for 1920, 1929, 1934 and 1941 (Richards does not have data for these years). This additional data is from Bent Hansen, “Marginal Productivity Wage Theory and Subsistence Wage Theory in Egyptian Agriculture,” *Journal of Development Studies*, **2(4)** (July 1996, p. 405). Hansen also had data for 1939, a year which is missing from the Richards data. However, because Hansen's agricultural wage index indicates that wages were constant for 1937-1939, we simply inferred that Richards' observations for 1937-1938 held for 1939. In order to construct the real wage time series, we interpolated to fill the gaps, and re-based the series so that 1900=100.

Appendix Table A1.1 reports the nominal wage time series (1900=100). All interpolated figures are starred (*).

Cost of Living, 1858-1894: In the same source as his wage information, Bidwell states that prices of provisions and house rent doubled in Alexandria from 1858 to 1870 (pp. 116-18). We assume as much. Egyptian price data are equally scarce for 1870-1894. Therefore, the best possible alternative seemed to be a price index from a similar economy in the eastern Mediterranean basin. We substituted the cost of living index for 1870-1894 calculated for our Turkish time series (see Appendix Table A2.2), and linked it to the Egyptian cost of living index, which starts in 1895. This is a poor substitute for actual price data, and the reader should beware.

Cost of Living, 1895-1913: The 1895-1913 observations are derived from the *Annuaire Statistique* (1919, Table I, p. 99, & Table VI, p. 387). Using this price data and Turkish budget weights, we constructed a price index. The Turkish weights were derived using budgets from the “Reports on the Conditions of the Industrial Classes (in Turkey)” in *Parliamentary Papers* (Parliament, House of Commons: Great Britain, LXVIII, 1871, pp. 720 & 806). Cereal prices were derived using an average of prices for wheat, maize, barley and rice. Similarly, other foodstuffs prices were derived using an average of prices for beans, lentils, chick peas and fenugrec (where prices were missing, that food was omitted from the average).

Cost of Living, 1914-1941: The observations for 1914-1941 come from Fathia Zaghoul, “A Cost of Living Index for Rural Labourers, 1913-1961,” *National Planning Memo No. 557* (Cairo, 1965). This index was constructed using budget weights from the rural family budget survey of 1958-1959 made by the Central Committee for Statistics in Egypt. The expenditure weights are given for 20 groups of commodities. For each group of commodities, Zaghoul used a “representative” commodity for which price information extended back to 1913. Prices were taken from the *Annuaire Statistique* as averages for the calendar year. She assumed that among the prices available, wholesale prices in Cairo most closely related to village prices. For that reason, the wage deflator 1914-1941 is a close approximation to a poor urban family's cost of living index, exactly what we want.

Appendix Table A1.2 reports the cost of living time series (1900=100). All interpolated figures are starred (*).

Real Wages, 1858-1941: This index is derived by dividing the nominal wage index by the cost of living index.

Appendix Table A1.3 reports the real wage time series (1900=100). All calculations based on interpolated figures are starred (*).

Land Rents, Land Values and Rent/Wage Index, 1877-1938: El-Ghonemy reports in “The Egyptian State and Agricultural Land Markets 1810-1986,” *Journal of Agricultural Economics*, **43(2)** (1992, pp. 175-90), that annual rental values increased by 60% between 1877 and 1902-4, implying that the rent/wage index rose 47.7% over the same period (using the nominal wages from above). Data on rental rates for the years 1888, 1890, 1895, 1901-3, 1906-7, 1910, 1912-3, 1927-33, 1937-8 is taken from Richards (1982), *Egypt's Agricultural Development* (Table 3.17, p. 96, & Table 4.4, p. 119). Together with the nominal wages from above, this allows us to compute a rent/wage series.

Appendix Table A1.4 reports the rent/wage time series (1900=100). All calculations based on interpolated figures are starred (*).

Appendix Table A1.1

The Nominal Wage in Egypt, 1858-1941 (1900 = 100)

Year	Nominal Wage Index (1900=100)	Year	Nominal Wage Index (1900=100)
1858	33.33	1900	100.00
1859	35.32 *	1901	106.67
1860	37.42 *	1902	97.10 *
1861	39.64 *	1903	88.39 *
1862	42.00 *	1904	80.46 *
1863	44.49 *	1905	73.24 *
1864	47.14 *	1906	66.67
1865	49.94 *	1907	66.67
1866	52.91 *	1908	73.03 *
1867	56.06 *	1909	80.00
1868	59.39 *	1910	106.67
1869	62.92 *	1911	115.62 *
1870	66.67	1912	125.33
1871	66.67	1913	100.00
1872	66.67	1914	73.33
1873	66.67	1915	85.89 *
1874	66.67	1916	100.60 *
1875	66.67	1917	117.83 *
1876	66.67	1918	138.01 *
1877	80.00	1919	161.65 *
1878	66.67	1920	189.33
1879	66.67	1921	150.73 *
1880	70.24 *	1922	120.00
1881	74.01 *	1923	122.55 *
1882	77.98 *	1924	125.16 *
1883	82.16 *	1925	127.83 *
1884	86.56 *	1926	130.55 *
1885	91.20 *	1927	133.33
1886	96.09 *	1928	120.00
1887	101.24 *	1929	85.87
1888	106.67	1930	106.67
1889	106.67	1931	93.33
1890	99.78 *	1932	73.33
1891	93.33	1933	66.67
1892	89.49 *	1934	42.67
1893	85.80 *	1935	52.62 *
1894	82.27 *	1936	64.88 *
1895	78.88 *	1937	80.00
1896	75.63 *	1938	80.00
1897	72.52 *	1939	80.00
1898	69.53 *	1940	82.11 *
1899	66.67	1941	84.27

Appendix Table A1.2

The Cost of Living in Egypt, 1858-1941 (1900=100)

Year	Cost of Living Index (1900=100)	Year	Cost of Living Index (1900=100)
1858	62.57	1900	100.00
1859	66.28 *	1901	100.11
1860	70.22 *	1902	99.56
1861	74.40 *	1903	92.06
1862	78.82 *	1904	89.63
1863	83.51 *	1905	103.40
1864	88.48 *	1906	113.17
1865	93.74 *	1907	114.65
1866	99.31 *	1908	124.82
1867	105.22 *	1909	126.30
1868	111.48 *	1910	111.47
1869	118.10 *	1911	112.91
1870	125.13	1912	119.96
1871	141.37	1913	133.64
1872	135.43	1914	132.12
1873	129.78	1915	110.98
1874	131.80	1916	133.44
1875	120.56	1917	183.64
1876	107.45	1918	219.32
1877	106.98	1919	252.35
1878	106.43	1920	311.80
1879	117.66	1921	186.29
1880	119.76	1922	159.86
1881	104.90	1923	136.08
1882	109.34	1924	150.61
1883	106.90	1925	170.43
1884	106.39	1926	140.04
1885	99.54	1927	120.23
1886	103.14	1928	129.48
1887	100.21	1929	124.19
1888	93.98	1930	113.62
1889	82.39	1931	107.02
1890	88.94	1932	88.52
1891	97.99	1933	76.63
1892	99.91	1934	108.34
1893	86.00	1935	118.91
1894	81.74	1936	104.37
1895	77.18	1937	103.05
1896	84.67	1938	124.19
1897	87.08	1939	114.94
1898	99.46	1940	122.87
1899	93.12	1941	150.61

Appendix Table A1.3

The Real Wage in Egypt, 1858-1941 (1900=100)

Year	Real Wage Index (1900=100)	Year	Real Wage Index (1900=100)
1858	53.27	1900	100.00
1859	53.29 *	1901	106.55
1860	53.29 *	1902	97.53 *
1861	53.28 *	1903	96.01 *
1862	53.29 *	1904	89.77 *
1863	53.28 *	1905	70.83 *
1864	53.28 *	1906	58.91
1865	53.28 *	1907	58.15
1866	53.28 *	1908	58.51 *
1867	53.28 *	1909	63.34
1868	53.27 *	1910	95.69
1869	53.28 *	1911	102.40 *
1870	53.28	1912	104.48
1871	47.16	1913	74.83
1872	49.23	1914	55.50
1873	51.37	1915	77.39 *
1874	50.58	1916	75.39 *
1875	55.30	1917	64.16 *
1876	62.05	1918	62.93 *
1877	74.78	1919	64.06 *
1878	62.64	1920	60.72
1879	56.66	1921	80.91 *
1880	58.65 *	1922	75.07
1881	70.55 *	1923	90.06 *
1882	71.32 *	1924	83.10 *
1883	76.86 *	1925	75.00 *
1884	81.36 *	1926	93.22 *
1885	91.62 *	1927	110.90
1886	93.16 *	1928	92.68
1887	101.03 *	1929	69.14
1888	113.50	1930	93.88
1889	129.47	1931	87.21
1890	112.19 *	1932	82.84
1891	95.24	1933	87.00
1892	89.57 *	1934	39.39
1893	99.77 *	1935	44.25 *
1894	100.65 *	1936	62.16 *
1895	102.20 *	1937	77.63
1896	89.32 *	1938	64.42
1897	83.28 *	1939	69.60
1898	69.91 *	1940	66.83 *
1899	71.60	1941	55.95

Appendix Table A1.4

The Rent/Wage Ratio in Egypt, 1877-1938 (1900=100)

Year	Real Wage Index (1900=100)	Year	Real Wage Index (1900=100)
1877	115.84	1908	336.71 *
1878	127.43 *	1909	312.66 *
1879	116.83 *	1910	238.54
1880	101.65 *	1911	208.79 *
1881	88.43 *	1912	182.73
1882	76.94 *	1913	381.68
1883	66.95 *	1914	493.36 *
1884	58.26 *	1915	399.27 *
1885	50.69 *	1916	323.12 *
1886	44.11 *	1917	261.50 *
1887	38.37 *	1918	211.62 *
1888	33.39	1919	171.26 *
1889	31.86 *	1920	138.60 *
1890	32.51 *	1921	165.02 *
1891	42.77 *	1922	196.48 *
1892	54.90 *	1923	182.37 *
1893	70.49 *	1924	169.25 *
1894	90.47 *	1925	157.08 *
1895	116.13 *	1926	145.79 *
1896	123.27 *	1927	135.31
1897	130.85 *	1928	190.84
1898	138.88 *	1929	325.96
1899	147.40 *	1930	147.9
1900	100.00 *	1931	153.85
1901	95.42	1932	157.64
1902	104.82 *	1933	194.65
1903	182.80 *	1934	323.15 *
1904	225.58 *	1935	278.43 *
1905	278.36 *	1936	239.94 *
1906	343.5	1937	206.74
1907	362.58	1938	206.74

Appendix 2

Turkish Nominal Wage, Cost of Living and Real Wage Data, 1850-1941

Nominal Wage, 1850-1941: The money wage index is from Sevket Pamuk, “Long Term Trends in Urban Wages in Turkey, 1850-1990,” in P. Scholliers and V. Zamagni (eds.), *Labour’s Reward: Real Wages and Economic Change in 19th and 20th Century Europe* (Edward Elgar Publishing Company: Aldershot, England, 1995, pp. 92-7). Pamuk’s data for 1850-1913 come from an earlier study by the author and two colleagues, K. Boratav, A.G. Okun and S. Pamuk, “Ottoman Wages and the World Economy, 1839-1913,” *Review -- Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations*, 7(3) (1985, pp. 379-406). That study used observations of the daily wages of skilled and unskilled construction workers as reported in the “Commercial Reports of the British Consuls” from different locations in Turkey. The data for 1914-1941 mainly relied on industrial wages and, to a lesser extent, on the wages of construction workers. Note that there are gaps in the nominal wage data: 1852, 1855, 1860, 1865, 1867, 1877, 1880-1, 1885-8, 1890, 1894-5, 1897, 1901-4, 1906-7, 1909, 1912, 1915-1934 and 1940. In constructing the nominal wage time series, we interpolated to fill the single year gaps.

Appendix Table A2.1 reports the nominal wage times series (1900=100). All interpolated figures are starred (*).

Cost of Living, 1854-1913: We constructed this cost of living index with prices and market basket weights from different sources. We used the Fisher price indices for cereals, other foodstuffs and textiles (mostly cotton) from Sevket Pamuk, *The Ottoman Empire and European Capitalism, 1820-1913: Trade, Investment, and Production* (Cambridge University Press: Cambridge, 1987, pp.174-5). Two budgets from the “Reports on the Conditions of the Industrial Classes (in Turkey)” in *Parliamentary Papers* (Parliament, House of Commons: Great Britain, LXVIII, 1871, pp. 720 & 806), determined the weights assigned to each price index. The budget for a “married day-labourer” in Anatolia (p. 720), indicates that workers spent 81.3% of their income on food, 4.5% on clothes and 14.2% on various other items (including house-rents, taxes and sundries). The budget for an artisan in Koordistan (p. 806) indicates that of the income workers spent on food, 85% was spent on cereals and 15% on other foodstuffs. Therefore, the final budget weights were 69.1% on cereals, 12.2% on other foodstuffs, 4.5% on textiles (clothes) and 14.2% on various other items. In order to determine the best price index to use for the missing price of the “other” items, we experimented with the price index for cereals, other foodstuffs and textiles, as well as with the assumption that the price of the “other” items was constant over time. We chose to use the price index of other foodstuffs as a proxy for an index of various “other” items, because the index for other foodstuffs represents price fluctuations of an assortment of goods. If we had used the index for cereals or textiles, the index for various other goods would have reflected fluctuations, which were only characteristic of those specific markets. If we had used a constant price index, the index for various other goods would not have captured fluctuations, which occur over time. In any case, the cost of living index was not sensitive to the choice.

An alternative cost of living index can be constructed by using the prices for figs, cereals and cotton quoted in D. Quataert, “Ottoman Reform and Agriculture in Anatolia, 1876-1908” (unpublished Ph.D. dissertation, University of California, Los Angeles, 1973, pp. 367-70). Using these prices we constructed an alternative to our Pamuk-adjusted cost of living index, where figs were substituted for other foodstuffs and cotton for textiles, using the same weights as used above for the Pamuk-adjusted cost of living index. We favored the Pamuk-adjusted cost of living index for various reasons. Although figs are a reasonable replacement for other foodstuffs, because they represented a staple in the Turkish diet, their price index does not serve well in tracking other items in the budget. Another inconvenience is the limited range of the Quataert index. The Pamuk-adjusted cost of living index covers 1854-1913, whereas the Quataert index only covers 1876-1908.

Cost of Living, 1914-41: We use the cost of living index that accompanies the nominal wage index (cited above) from Sevket Pamuk's article in *Labour's Reward: Real Wages and Economic Change in 19th and 20th Century Europe*. For 1914-38, this cost of living index was constructed by the Istanbul Chamber of Commerce. Thereafter, the index is an average of the cost of living indices for urban Istanbul and Ankara prepared by Turkey, Office of the Prime Minister, Undersecretariat for the Treasury and Foreign Trade. This series provides us data for the years 1914 and 1935-41, which we link with our existing cost of living series after interpolating the gaps.

Appendix Table A2.2 reports the cost of living time series (1900=100).

Real Wage, 1854-1941: This index is derived by dividing the nominal wage index by the cost of living index.

Appendix Table A2.3 reports the real wage times series (1900=100). All calculations based on interpolated figures are starred (*).

Appendix Table A2.1

The Nominal Wage in Turkey, 1850-1941 (1900 = 100)

Year	Nominal Wage Index (1900=100)	Year	Nominal Wage Index (1900=100)
1850	53.75	1896	86.25
1851	53.75	1897	86.25*
1852	55.59*	1898	86.25
1853	57.50	1899	96.25
1854	52.50	1900	100.00
1855	59.53*	1901	97.91*
1856	67.50	1902	95.87*
1857	92.50	1903	93.87*
1858	75.00	1904	91.92*
1859	75.00	1905	90.00
1860	75.00*	1906	94.37*
1861	75.00	1907	98.95*
1862	72.50	1908	103.75
1863	101.25	1909	98.62*
1864	65.00	1910	93.75
1865	72.67*	1911	125.00
1866	81.25	1912	123.74*
1867	79.99*	1913	122.50
1868	78.75	1914	125.00
1869	82.50	1915	137.83*
1870	66.25	1916	151.97*
1871	81.25	1917	167.57*
1872	97.50	1918	184.77*
1873	75.00	1919	203.73*
1874	65.00	1920	224.63*
1875	62.50	1921	247.69*
1876	73.75	1922	273.11*
1877	84.80*	1923	301.13*
1878	97.50	1924	332.04*
1879	116.25	1925	366.11*
1880	111.47*	1926	403.68*
1881	106.89*	1927	445.11*
1882	102.50	1928	490.79*
1883	117.50	1929	541.16*
1884	107.50	1930	596.69*
1885	106.74*	1931	657.93*
1886	105.98*	1932	725.45*
1887	105.23*	1933	799.90*
1888	104.49*	1934	881.99*
1889	103.75	1935	972.50
1890	102.49*	1936	1002.50
1891	101.25	1937	892.50
1892	117.50	1938	1021.25
1893	102.50	1939	1051.25
1894	96.77*	1940	1122.58*
1895	91.36*	1941	1198.75

Appendix Table A2.2

The Cost of Living in Turkey, 1854-1941 (1900=100)

Year	Cost of Living Index (1900=100)	Year	Cost of Living Index (1900=100)
1854	144.26	1898	102.37
1855	157.42	1899	106.11
1856	144.29	1900	100.00
1857	144.53	1901	105.34
1858	124.92	1902	108.23
1859	117.64	1903	103.70
1860	142.03	1904	102.05
1861	159.93	1905	106.55
1862	147.91	1906	110.72
1863	137.93	1907	114.00
1864	135.66	1908	122.24
1865	130.58	1909	120.61
1866	141.30	1910	116.74
1867	168.20	1911	122.63
1868	154.39	1912	123.81
1869	129.80	1913	126.49
1870	131.92	1914	128.46
1871	148.91	1915	143.05*
1872	141.18	1916	159.30*
1873	135.19	1917	177.38*
1874	138.04	1918	197.53*
1875	125.90	1919	219.95*
1876	113.27	1920	244.93*
1877	111.30	1921	272.74*
1878	111.80	1922	303.71*
1879	121.20	1923	338.20*
1880	124.39	1924	376.60*
1881	111.26	1925	419.37*
1882	115.73	1926	466.99*
1883	113.12	1927	520.01*
1884	110.15	1928	579.06*
1885	103.70	1929	644.81*
1886	106.45	1930	718.03*
1887	105.64	1931	799.56*
1888	101.37	1932	890.36*
1889	91.63	1933	991.46*
1890	98.16	1934	1104.04*
1891	107.98	1935	1229.40
1892	109.98	1936	1233.26
1893	96.12	1937	1252.53
1894	92.22	1938	1247.39
1895	87.79	1939	1269.23
1896	90.33	1940	1388.70
1897	100.93	1941	1686.74

Appendix Table A2.3

The Real Wage in Turkey, 1854-1941 (1900=100)

Year	Real Wage Index (1900=100)	Year	Real Wage Index (1900=100)
1854	36.39	1898	84.25
1855	37.82*	1899	90.71
1856	46.78	1900	100.00
1857	64.00	1901	92.95*
1858	60.04	1902	88.58*
1859	63.75	1903	90.52*
1860	52.80*	1904	90.07*
1861	46.90	1905	84.47
1862	49.02	1906	85.23*
1863	73.41	1907	86.80*
1864	47.91	1908	84.87
1865	55.66*	1909	81.77*
1866	57.50	1910	80.31
1867	47.56*	1911	101.93
1868	51.01	1912	99.94*
1869	63.56	1913	96.84
1870	50.22	1914	97.30
1871	54.56	1915	96.35*
1872	69.06	1916	95.40*
1873	55.48	1917	94.47*
1874	47.09	1918	93.54*
1875	49.64	1919	92.62*
1876	65.11	1920	91.71*
1877	76.19*	1921	90.81*
1878	87.21	1922	89.92*
1879	95.91	1923	89.04*
1880	89.62*	1924	88.17*
1881	96.07*	1925	87.30*
1882	88.57	1926	86.44*
1883	103.87	1927	85.60*
1884	97.59	1928	84.76*
1885	102.93*	1929	83.92*
1886	99.56*	1930	83.10*
1887	99.61*	1931	82.29*
1888	103.07*	1932	81.48*
1889	113.22	1933	80.68*
1890	104.42*	1934	79.89*
1891	93.77	1935	79.10
1892	106.84	1936	81.29
1893	106.63	1937	71.26
1894	104.93*	1938	81.87
1895	104.07*	1939	80.84*
1896	95.49	1940	80.84
1897	85.46*	1941	71.07

Appendix 3

Serbian Nominal Wage, Cost of Living and Real Wage Data, 1862-1939

Nominal Wage, 1862-1939: A nominal wage index was constructed using building wages from Michael Palairet, “Real Earnings and National Product in Yugoslavia in the Long Run (1863-1988),” in Erik Aerts and Nuno Valerio (eds.), *Growth and Stagnation in the Mediterranean World in the 19th and 20th Centuries: Session B-10: Proceedings, Tenth International Economic History Congress, Leuven, August 1990* (Leuven University Press: Belgium, Leuven, 1990, pp. 63-81). The author provided his input data underlying his Figures 1 and 2 in the above article, which include detailed building wages for 1862-1939. The author did not specify whether the observations are for skilled or unskilled laborers. However, we suspect that they are for unskilled laborers, specifically from Sarajevo. Note that there are gaps in the nominal wage data: 1911-12, 1914-20, and 1922-1925.

Appendix Table A3.1 reports the nominal wage time series (1900=100). All interpolated figures are starred (*).

Cost of Living, 1862-1939: Michael Palairet provided the retail price index for 1862-1939, which underlay his discussion in the article cited above. However, details about weights or about items included in the index did not accompany the data. Note that there are gaps in the retail price index: 1911-12, 1915-1920 and 1923-25.

An alternative cost of living index can be constructed by using a food price index from Michael Palairet, “Real Wages and Earnings in Long-Run Decline: Serbia and Yugoslavia Since 1862,” in P. Scholliers and V. Zamagni (eds.), *Labour’s Reward: Real Wages and Economic Change in 19th and 20th Century Europe* (Edward Elgar Publishing Company: Aldershot, England, 1995, p. 249). We favored the retail price index over the food price index for various reasons, the most important of which being that the retail price index represents a more comprehensive market basket. Also, the food price index had a large gap for 1911-25.

Appendix Table A3.2 reports the cost of living time series (1900=100). All interpolated figures are starred (*).

Real Wage, 1862-1939: Nominal wages divided by the cost of living.

Appendix Table A3.3 reports the real wage time series (1900=100). All calculations based on interpolated figures are starred (*).

Appendix Table A3.1

The Nominal Wage in Serbia, 1862-1939 (1900 = 100)

Year	Nominal Wage Index (1900=100)	Year	Nominal Wage Index (1900=100)
1862	74.80	1901	100.00
1863	70.40	1902	100.00
1864	70.80	1903	103.59
1865	76.40	1904	103.99
1866	82.40	1905	108.39
1867	90.00	1906	113.19
1868	93.60	1907	117.99
1869	99.20	1908	121.19
1870	105.59	1909	125.19
1871	107.19	1910	135.59
1872	107.99	1911	149.02*
1873	101.19	1912	163.77*
1874	98.80	1913	179.99
1875	95.20	1914	250.08*
1876	92.40	1915	347.47*
1877	95.60	1916	482.78*
1878	99.20	1917	670.79*
1879	101.99	1918	932.00*
1880	91.60	1919	1294.95*
1881	113.19	1920	1799.22*
1882	114.79	1921	2499.88
1883	126.79	1922	2640.05*
1884	128.39	1923	2788.07*
1885	105.59	1924	2944.40*
1886	111.19	1925	3109.49*
1887	107.19	1926	3283.84
1888	103.99	1927	2875.86
1889	95.20	1928	2715.86
1890	93.20	1929	2475.88
1891	105.19	1930	2051.90
1892	105.99	1931	2023.90
1893	111.99	1932	1471.93
1894	113.59	1933	1475.93
1895	108.79	1934	1419.93
1896	101.99	1935	1251.94
1897	104.39	1936	1739.91
1898	102.79	1937	1811.91
1899	102.39	1938	2031.90
1900	100.00	1939	2351.88

Appendix Table A3.2

The Cost of Living in Serbia, 1862-1939 (1900=100)

Year	Cost of Living Index (1900=100)	Year	Cost of Living Index (1900=100)
1862	70.77	1901	103.54
1863	74.46	1902	110.92
1864	81.23	1903	110.62
1865	68.46	1904	118.62
1866	78.00	1905	122.00
1867	91.08	1906	110.92
1868	86.62	1907	120.00
1869	82.31	1908	134.15
1870	90.77	1909	139.38
1871	104.15	1910	136.15
1872	128.92	1911	141.81*
1873	129.54	1912	147.71*
1874	113.38	1913	153.85
1875	98.15	1914	153.85
1876	105.38	1915	214.86*
1877	114.92	1916	300.05*
1878	109.23	1917	419.03*
1879	102.92	1918	585.19*
1880	120.46	1919	817.24*
1881	107.69	1920	1141.29*
1882	110.00	1921	1593.85
1883	97.23	1922	2290.77
1884	120.31	1923	2428.01*
1885	98.46	1924	2573.48*
1886	99.08	1925	2727.66*
1887	97.54	1926	2891.08
1888	87.69	1927	2801.38
1889	90.00	1928	2697.38
1890	94.92	1929	2790.15
1891	110.62	1930	2493.38
1892	98.77	1931	2270.46
1893	94.46	1932	1990.77
1894	93.23	1933	1733.38
1895	95.08	1934	1609.23
1896	86.00	1935	1608.31
1897	110.92	1936	1641.08
1898	121.85	1937	1792.15
1899	106.31	1938	1920.92
1900	100.00	1939	1906.00

Appendix Table A3.3

The Real Wage in Serbia, 1862-1934 (1900=100)

Year	Real Wage Index (1900=100)	Year	Real Wage Index (1900=100)
1862	105.70	1901	96.58
1863	94.55	1902	90.15
1864	87.16	1903	93.66
1865	111.60	1904	87.68
1866	105.64	1905	88.85
1867	98.82	1906	102.05
1868	108.07	1907	98.33
1869	120.52	1908	90.35
1870	116.34	1909	89.82
1871	102.93	1910	99.59
1872	83.77	1911	105.08*
1873	78.12	1912	110.88*
1874	87.14	1913	117.00
1875	96.99	1914	162.55*
1876	87.68	1915	161.72*
1877	83.19	1916	160.90*
1878	90.82	1917	160.08*
1879	99.10	1918	159.26*
1880	76.04	1919	158.45*
1881	105.12	1920	157.65*
1882	104.36	1921	156.86
1883	130.41	1922	115.25*
1884	106.73	1923	114.83*
1885	107.25	1924	114.41*
1886	112.24	1925	114.00*
1887	109.91	1926	113.59
1888	118.60	1927	102.66
1889	105.78	1928	100.69
1890	98.19	1929	88.74
1891	95.11	1930	82.30
1892	107.32	1931	89.15
1893	118.57	1932	73.94
1894	121.85	1933	85.15
1895	114.44	1934	88.24
1896	118.61	1935	77.85
1897	94.12	1936	106.03
1898	84.37	1937	101.11
1899	96.33	1938	105.78
1900	100.00	1939	123.40

Appendix 4

The estimates of net emigration's impact on the domestic labor force in Bulgaria, Greece, Romania, Serbia and Turkey were constructed by utilizing the source-country gross United States immigration rates implied by the figures reported by US authorities, and by assuming that the relation between the former and latter among eleven European countries which can be documented (A. M. Taylor and J. G. Williamson, "Convergence in the Age of Mass Migration," *European Review of Economic History* 1 (1997), pp. 27-63) applied to the five eastern Mediterranean countries which cannot be documented.

The US gross immigration rates were the following :

	US immigration rates (persons per 1000 of population)
<i>Non-European countries</i>	
Australia	0.346
Canada	5.458
<i>European countries</i>	
Belgium	0.333
Denmark	2.655
France	0.148
Germany	1.621
Great Britain	1.729
Ireland	9.530
Italy	2.309
Netherlands	0.764
Norway	6.796
Portugal	0.452
Spain	0.062
Sweden	5.049
<i>Eastern Mediterranean countries</i>	
Bulgaria	0.234
Greece	1.317
Romania	0.286
Serbia	0.857
Turkey	3.359

US Gross Immigration 1870-1910

The gross immigration figures are taken from I. Ferenczi and W. F. Willcox, *International Migrations, Volume One* (New York: NBER, 1929). Figures are taken from the United States data on pp. 384-9 1.

France includes Corsica, Italy includes Sicily and Sardinia, Portugal includes Cape Verde and Azores, Spain includes the Canary and Balearic Islands and Turkey is the sum of Turkey in Asia and Turkey in Europe. Australia: 1870-1898, Australia includes the entries labeled under "Oceania"; from 1899 onwards, it includes the entries labeled under "Australia, Tasmania and New Zealand". Canada: 1870-1898, Canada includes the entries labeled under "British North America"; from 1899 onwards, it includes the entries labeled

under “Canada”.

Bulgaria and Serbia required some creative interpretation. Bulgaria: Immigration from Bulgaria is assumed to be zero prior to 1899 (negligible enough not to have been given a category on its own); 1899-1919, the figures are treated as if they refer to Bulgaria alone (just as the heading in Ferenczi and Willcox suggests), although a footnote states (inconsistently) that they include Serbia and Montenegro. Serbia: Immigration from Serbia is assumed to be zero before 1899; for 1899 onwards, we used the emigration data for the Serb, Croat and Slovene State, Table XIII on p. 886, which lists immigration “from Yugoslavia (or of Yugoslavs) into Extra-European countries, by country of destination”; although Yugoslavia did not exist as a political entity prior to World War I, we assume that this table offers an estimate for the territories that eventually were to define the modern country of Yugoslavia, and thus use data from the column that refers to Yugoslav migration to the United States by ethnic Bulgarians, Serbians, and Montenegrins.

Source Country Population 1870-1910

For all countries except Australia, Canada and Turkey: Brian R. Mitchell, International Historical Statistics: Europe, 1750-1988, 3rd ed. New York: Stockton Press, 1992. Australia: Brian R. Mitchell, International Historical Statistics: Africa, Asia, and Oceania, 1750-1988, 2nd ed. New York: Stockton Press, 1995. Canada: Brian R. Mitchell, International Historical Statistics: the Americas, 1750-1988, 2nd ed. New York: Stockton Press, 1993. In general, mid-period population estimates were used, and gaps in the annual data were filled by interpolation. Great Britain was taken to consist of England, Wales and Scotland, so as to treat Ireland separately.

For Turkey, we used Charles Issawi, The Economic History of Turkey, 1800-1914, Chicago: University of Chicago Press, 1980, p. 35. Issawi provides estimates of the population of Turkey as follows:

1830s-40s:	8,000,000
1890	:12,000,000
1912	: 15,000,000

The missing years have been interpolated. An alternative source of population estimates is given in Cem Behar, The Population of the Ottoman Empire and Turkey, 1500-1927, Ankara: State Institute of Statistics, 1996. Although Behar offers more coverage in his estimates (eg. p. 65 offers estimates of the population for the years 1844, 1897 and 1910), the figures largely agree with Issawi. Issawi is preferred because it offers pre-1870 estimates.

Labor Force Impact at Home and US Gross Immigration Rates: Atlantic Economy Regressions

variables:

CAMM4 = labor force impact estimates as given in Column 4, Table 1, of CAMM

usimm = US immigration rates (per 1000 people)

yhat = predicted labor force impact estimates as given by the regression

$\ln\text{CAMM4} = \ln(\text{CAMM4} + 100)$

$\ln\text{usimm} = \ln(\text{usimm})$

CAMM refers to Taylor and Williamson, 1997. The regression results are plotted in the figure that follows, and which is labeled Figure 5 in the text:

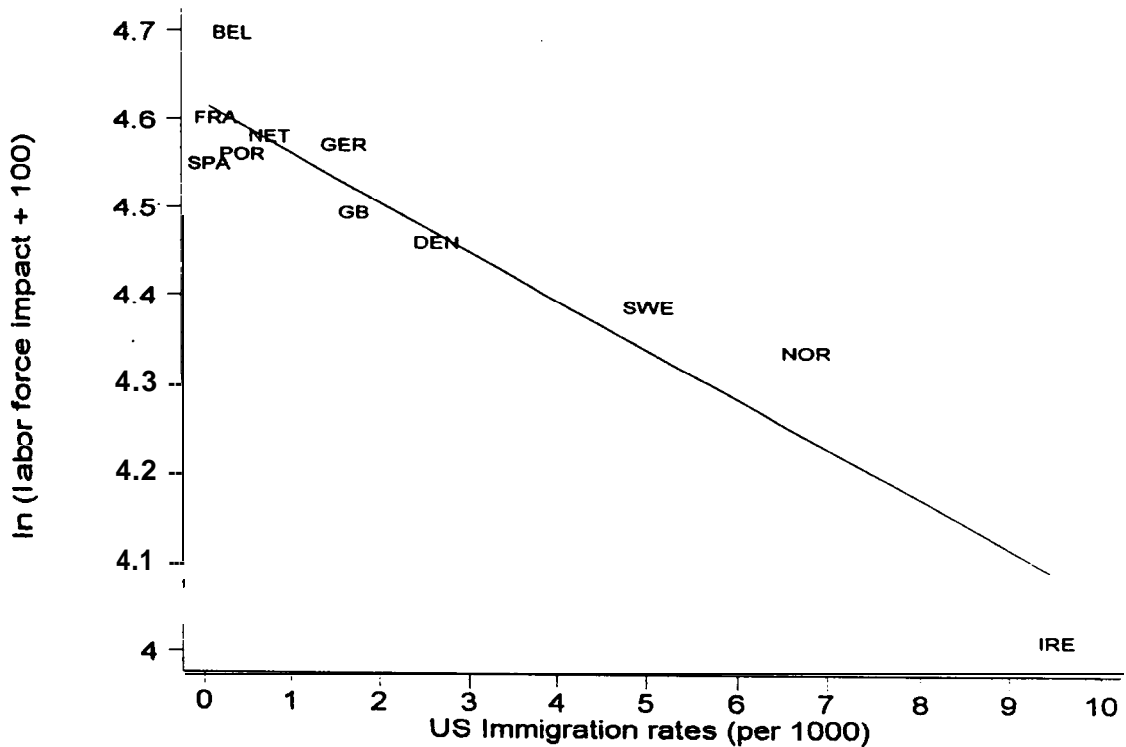
Log-Linear Regressions (lnCamm4 on usimm)

Regression excluding Italy

```
. regress lnCamm4 usimm
```

Source	ss	df	MS	Number of obs =	11
Model	.034014354	1	.034014354	F(1, 9) =	78.91
Residual	.034673763	9	.00385264	Prob > F =	0.0000
				R-squared =	0.8976
				Adj R-squared =	0.8862
Total	.338688117	10	.033868812	Root MSE =	.06207

lnCamm4	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
usimm	-.0554432	.0062414	-8.883	0.000	-.0695621	-.0413242
_cons	4.618303	.0249718	184.940	0.000	4.561813	4.674793

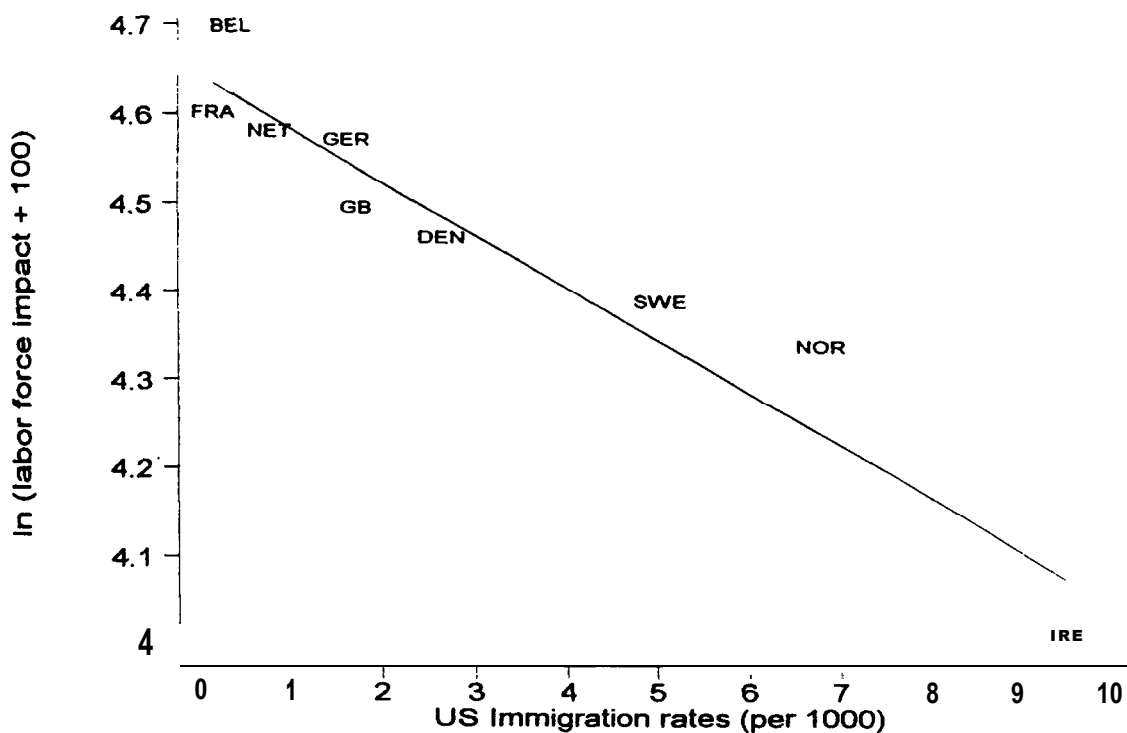


Labor Force Impact at Home and US Gross Immigration Rates: Regressions Excluding Italy, Spain and Portugal:

```
. regress lnCAMM4 usimm
```

Source	I	ss	df	MS	Number of obs =	9
Model	I	.298735916	1	.298735916	F(1, 7) =	82.50
Residual	I	.025345925	7	.003620846	Prob > F =	0.0000
					R-squared =	0.9218
					Adj R-squared =	0.9106
Total	I	.324081842	8	.04051023	Root MSE =	.06017

lnCAMM4I	Coef.	Std. Err.	t	P> t	{95% Conf. Interval}		
usimm	I	-.0593401	.006533	-9.083	0.000	-.0747881	-.0438921
_cons	I	4.643024	.0288801	160.769	0.000	4.574733	4.711314



Predicted Values and Intervals for Labor Force Impact in Five Eastern Mediterranean Countries:

regression type A: Italy excluded

regression type B: Italy, Spain, Portugal excluded

The final listing for each country gives the widest possible interval for estimating the labor force impact of the target countries, taking into account the intervals for the 2 regression types, and conditioning by one standard error about the point estimate.

Country and regression type	Lower end of 95% CI	Point estimate - 1 SE	Point estimate	Point estimate + 1 SE	Upper end of 95% CI
Bulgaria A	-13.96	-6.42	0.02	6.90	16.27
Bulgaria B	-12.43	-4.14	2.43	9.45	19.81
Bulgaria:		-6.42		9.45	
Greece A	-18.76	-11.77	-5.81	0.55	9.20
Greece B	-17.55	-9.96	-3.95	2.46	11.90
Greece:		-11.77		2.46	
Romania A	-14.20	-6.69	-0.27	6.58	15.91
Romania B	-12.68	-4.43	2.11	9.10	19.41
Romania:		-6.69		9.10	
Serbia A	-16.74	-9.53	-3.38	3.19	12.12
Serbia B	-15.40	-7.52	-1.29	5.36	15.17
Serbia:		-9.53		5.36	
Turkey A	-27.39	-21.19	-15.89	-10.25	-2.58
Turkey B	-26.76	-20.14	-14.91	-9.34	-1.14
Turkey:		-21.19		-9.34	