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CHAPTER XIV

FACTORS RELATED TO THE INCOME OF THE CONSTRUCTION INDUSTRY

Trend of the Total Value of Construction.

It is widely held that one of the most significant indicators of the degree of prosperity prevailing in our nation is the total value of construction undertaken during a given period. It is not feasible to estimate with any high degree of precision the actual extent of the construction completed in the United States in the various years, but it is possible to approximate the trends at the various dates. The figures in Table CX showing the value in current dollars of the urban construction in the United States for the years 1909 to 1918 are based primarily upon the volume of building permits reported for leading cities. Since 1919, the F. W. Dodge Company has compiled records of construction contracts¹ for a considerable proportion of the area of the United States. This proportion has been growing from year to year, and hence it has been necessary to make supplementary estimates for a constantly smaller fraction of the urban area. The building permit records for the years 1909 to 1918 have been converted to relatives, and, by aid of this series of relatives applied to the F. W. Dodge reports for 1919, estimates in terms of absolute value have been made for the earlier years.

The estimates of the total extent of building construction on the farms of the United States have been based in a general way on the reports of the United States Census of Agriculture, but the data in this field are so scanty that no reliance should be placed upon the approximations here given. Although a considerable but unknown amount of work on repairs and minor additions has been carried on both in country and city during the entire period, it is impossible to make satisfactory estimates of its volume.

Trend of the Physical Volume of Construction.

The index of construction costs given in Table CX is that prepared by the American Telephone and Telegraph Company and presumably represents the changes in cost per unit of construction

¹These figures purport to include public works, railway construction, etc. as well as building.

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TABLE CX

ESTIMATED TOTAL VALUE OF CONSTRUCTION

YEAR	VALUE IN CURRENT DOLLARS (Millions)			INDEX OF CONSTRUC- TION COSTS ^c	VALUE IN 1913 DOLLARS ^d (Millions)
	Urban ^a	On Farms ^b	Total		
1909	\$2,830	\$373	\$3,202	.934	\$3,428
1910	2,675	420	3,095	.964	3,211
1911	2,583	442	3,025	.970	3,119
1912	2,735	477	3,211	.981	3,274
1913	2,512	503	3,015	1.000	3,015
1914	2,305	514	2,819	.968	2,912
1915	2,344	529	2,873	.984	2,919
1916	2,950	559	3,509	1.168	3,004
1917	2,394	605	2,999	1.440	2,083
1918	2,271	608	2,880	1.604	1,795
1919	3,433	752	4,185	1.896	2,207
1920	3,297	823	4,120	2.430	1,695
1921	2,976	899	3,876	1.749	2,216
1922	4,177	800	4,978	1.704	2,921
1923	4,567	760	5,327	1.890	2,819
1924	5,141	758	5,899	1.867	3,159
1925	6,592	458	7,050	1.884	3,742
1926	6,972*	312*	7,284*	1.908	3,752*
1927	6,924*	402*	7,326*	1.864	3,929*
1928	7,426*	363*	7,789*	1.869*	4,167*

^a Based upon records of building permits and the F. W. Dodge Co. figures on building contracts.

^b Based upon *Census of Agriculture*.

^c From American Telephone and Telegraph Co. *Summary of Business Conditions*.

^d Figures in fourth column divided by those in fifth column.

* Preliminary estimate.

which have occurred in the various years. Division by this index gives, then, a rough approximation to the total value which the actual volume of construction would have had if the price level had remained constantly on the 1913 basis.

The physical volume of construction, which was on a high level in 1909 apparently declined steadily until 1915, rose slightly in 1916, then fell off abruptly during the next two years, recovered somewhat in 1919, but fell again in 1920. Thereafter a long upward movement began which was still continuing in 1927. The total volume of construction in 1927 was noticeably larger than in 1909, but the volume for 1909 was not exceeded until 1925.

TABLE CXI

TOTAL VALUE OF CONSTRUCTION
IN DOLLARS OF 1913 PURCHASING POWER

Year	Total Value ^a (Millions)	Population of the Continental United States July 1st ^b (Thousands)	Value Per Capita	Increase in Population During Year ^c (Thousands)	Value Per Additional Inhabitant ^d
1909	\$3,428	90,508	\$37.88	2,173	\$1,578
1910	3,211	92,422	34.74	1,635	1,964
1911	3,119	93,837	33.23	1,293	2,412
1912	3,274	95,249	34.37	1,686	1,942
1913	3,015	97,111	31.05	2,069	1,457
1914	2,912	98,974	29.42	1,497	1,945
1915	2,919	100,390	29.08	1,345	2,170
1916	3,004	101,787	29.52	1,535	1,957
1917	2,083	103,234	20.18	1,262	1,650
1918	1,795	104,377	17.20	672	2,672
1919	2,207	105,007	21.02	1,187	1,860
1920	1,695	106,422	15.93	1,701	997
1921	2,216	108,370	20.45	1,723	1,286
1922	2,921	109,742	26.62	1,553	1,881
1923	2,819	111,478	25.28	1,978	1,425
1924	3,159	113,466	27.84	1,627	1,942
1925	3,742	115,004	32.54	1,531	2,444
1926	3,752*	116,442*	32.22*	1,473*	2,547*
1927	3,929*	117,980*	33.30*	1,513*	2,597*
1928	4,167*	119,440*	34.88*		

^a See Table CX.

^b See Table I.

^c Derived from figures presented in Table I.

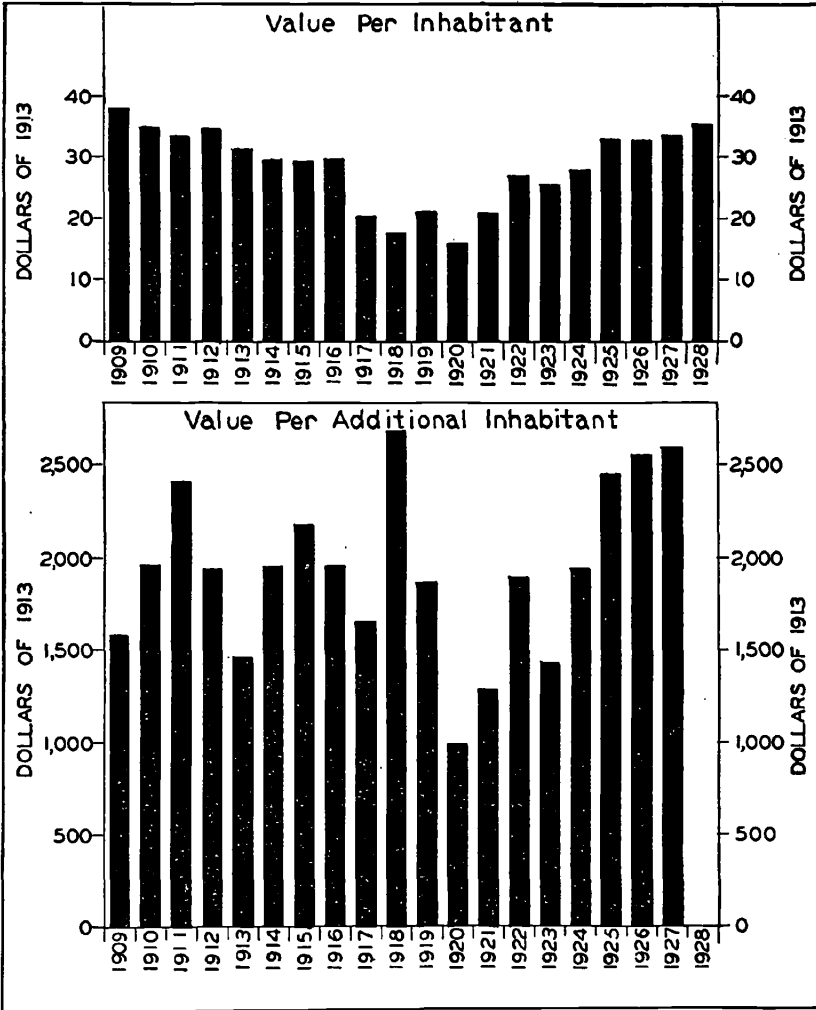
* Preliminary estimate.

Relationship of Construction to Population.

It has been customary to compare the physical volume of construction with the population of the United States in order to ascertain the quantity of construction per capita. This form of comparison is legitimate in so far as repairs are concerned and also in so far as one is interested in the improvements in and additions to building demanded by the population as a whole. With increasing prosperity, people call for better residences, better schools and other public structures, better office buildings, better mercantile establishments, better factories, and better railways; hence there is a tendency for the physical volume of construction per capita to be increased by prosperity.

CHART 51

TOTAL VALUE OF CONSTRUCTION
IN DOLLARS OF 1913 PURCHASING POWER^a



^a For data, see Table CXI.

The fact should be noted that all figures in Table CXI are expressed in terms of dollars of constant purchasing power. These figures have been plotted in Chart 51. The upper graph in this chart shows that the value of construction per inhabitant, measured in 1913 dollars declined almost continuously between 1909 and 1920, but has increased with considerable regularity since. The great depression in building during the war was brought about largely by public restrictions on building. In the years immediately following the World War, high construction costs, indicated by the index in Table CX, postponed the immediate resumption of construction activities to make up for the construction deficit incurred during war time. With the return of construction costs to a more moderate level, it will be observed that the volume of building soon began to increase.

Relationship of Construction to Population Growth.

It is of interest to compare the physical volume of construction not only with the total population of the country but also with the increase in the population during each year. Such a comparison appears in the last column of Table CXI and in the lower section of Chart 51.

When the comparison is made on this basis, we see that the trend shown is very different from that indicated by the value of construction per inhabitant. In general, the value per *additional* inhabitant, expressed in dollars of constant purchasing power, shows a trend approximately horizontal between 1909 and 1919. There was a marked depression in 1920 and 1921, just as was the case when the comparison was made with the entire population. The growth in the volume compared with the *additions* to our population is seen to have been materially steeper between 1920 and 1927 than is the growth when compared with the population as a whole. Since 1924, also, the volume of construction per new inhabitant has been on a higher level than was normally the case during the pre-war period. It appears, therefore, that, in recent years, we have been providing building accommodations for our increased population at a rate somewhat larger than was formerly the case, but these figures may indicate primarily that the existing population is demanding a better grade of building accommodations to accord with its increased income.