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## APPENDIX G

### ANALYSIS OF WICKENS' ESTIMATING TECHNIQUE

CONSIDERATION of Wickens' estimates of dwelling units started in the 1890-99 decade<sup>1</sup> illustrates the possible error inherent in his estimating technique. The figures for this decade show the greatest discrepancy between Wickens' dwelling unit figures and those prepared for this study, the difference amounting to about 500,000 units. There are at least two sources of potential error in Wickens' technique whose error margin is at least as great as the amount of this discrepancy. First, Wickens rejected the Census count of farm families in 1900 and made his own estimate based on an interpolation between 1890 and 1920 of the ratio of farm families to farms. If he had accepted the Census figure, his estimate of new dwelling units would have been more than 300,000 greater for the decade.

Second, Wickens estimated nonfarm vacancies in 1890 at 5 per cent and in 1900 at 4 per cent. No data were available to support the 1890 estimate, and only data for St. Louis to support the 1900 estimate. The percentage for 1890 was justified on the grounds that 1890 followed a period of active building and therefore vacancies were probably numerous. The year 1900, which followed a period of lower building activity and of continued increase in families and of continuing immigration, was probably associated with a somewhat lower level of vacancies, it was held. The 1890 situation was judged to parallel the rise in vacancies following the high level of construction in the middle 1920's. But 1890 was two years prior to the peak in dwelling units started<sup>2</sup> and probably not characterized by the same high vacancy level found in 1930, five years after the peak of the very large building boom of the 1920's; and 1900 was a trough in the residential building cycle and probably not characterized by the low vacancy level found in 1920. Surely, a strong argument could be made for reversing the movement of the vacancy ratios indicated by Wickens. A simple reversal of his ratios would have yielded an additional 200,000 dwelling units for the decade of the 1890's.

No attempt can be made, of course, to estimate the correct vacancy ratios or the correct farm family count, since no better data exist now than when Wickens derived his estimates. Similarly, it would be futile to re-estimate conversions and demolitions for the same reasons. The above discussion, however, indicates the magnitude of the possible margin of error in Wickens' estimates and suggests that these estimates should be used only as rough measures of orders of magnitude.

<sup>1</sup> David L. Wickens, *Residential Real Estate* (National Bureau of Economic Research, 1941), p. 53-56.

<sup>2</sup> See Appendix A, Table 16. The year 1890 also followed a heavy wave of immigration.