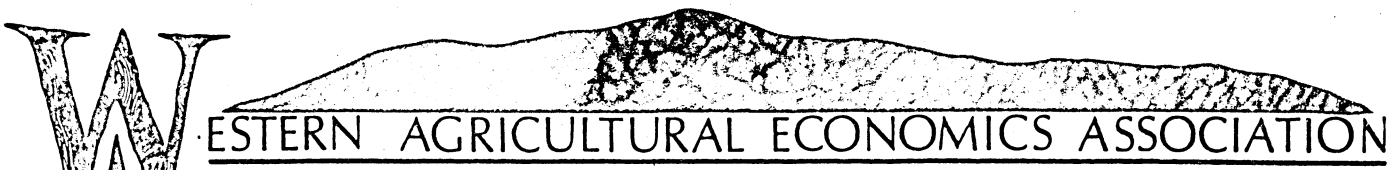


WESTERN AGRICULTURAL ECONOMICS ASSOCIATION

Forty-Seventh Annual Meeting

PROCEEDINGS 1974

Energy Crisis—Food Crisis

- **Keynote Address**
- **Luncheon Address**
- **Contributed Papers Sections**
  - Commercial Agriculture—Marketing
  - Commercial Agriculture—Production
  - Natural Resources
  - Community and Human REsources
  - General Agricultural Economics
- **General Session**
- **Sectional Meetings**
  - International Agricultural Production and Trade
  - The Impact of the Energy Crisis on Western Agriculture
- **Reports and Minutes**

July 24-26, 1974
Moscow, Idaho

THE MYTH OF URBAN GROWTH, OR HOW FISCAL IMBALANCE CAME TO SAN JOSE

Paul C. Huszar

Department of Economics
Colorado State University

A popular myth propagated by urban developers is that cities can solve their financial woes by simply growing fast enough. As experience indicates, however, the dream seldom comes true. The panacea offered by increasing the tax base and spreading the burden of government over a larger population rarely produces the promised fiscal prosperity. This occurrence appears to be particularly the case for growing intermediate size cities.

An important factor contributing to this tendency towards fiscal imbalance is the effects of growth upon the quality of the urban environment. While the costs of government tend to increase exponentially with growth,[1] it is argued here that revenues will increase at a slower rate beyond a certain city size. This particular size can be conceptualized as the optimum and marks the decline of the urban environment. The single most important source of municipal revenues is the property tax and it is here in the value of land and the growth of tax revenues that decreasing environmental quality is reflected.

Factors affecting the value of a site include its accessibility, its time-distance relationship to places of work, shopping and leisure, the intensity and nature of adjoining developments, the attractiveness and racial composition of the neighborhood, the quality of governmental services, the proximity of cultural and recreational activities, the degree of environmental pollution, the expected tax liability, and the natural setting of the site. While increasing agglomerations are expected to positively affect some of these factors continuously, extensive growth beyond the optimum will eventually contribute negative factors to land values. Land values and, hence, property tax revenues may continue to increase with growth, but their rate of increase will decline.

The City of San Jose, California, is examined here as an example of an intermediate size city which has grown rapidly in the past and now finds itself beset by severe fiscal balance difficulties. San Jose began its period of most rapid growth following World War II with the advent of city manager A. P. Hamann, whose avowed goal was to make San Jose the Los Angeles of Northern California; he may have succeeded. During his nineteen-year incumbency, the city annexed nearly 1,400 parcels of land to increase its area by over 120 square miles, in-migration accelerated as population grew by 350,000 residents, development was booming, and freeways proliferated.

> Back in 1950, San Jose was a lush farm community nestled at the foot of San Francisco Bay. Most of its 95,000 inhabitants lived in neat frame houses and worked in the prune and pear orchards nearby. The view of the Diablo mountains to the east was pristine: a brief stroll from their doorsteps lay rich greenery carpeting Santa Clara Valley. Today, twenty years later, the mountains are still there—but you can't see them for the taco stands and the smog. The orchards are almost entirely decimated, and in those not yet sold off to developers, "For Sale" signs seem to sprout as abundantly as the fruit. San Jose, whose population topped 436,000 this year, is perhaps the country's fastest growing boom town—and now its citizens themselves are wondering whether the "progress" was worth it.[2]

This popular feeling that the quality of the urban environment has declined in recent years was nicely expressed by former San Jose Chamber of Commerce Director Dean McKellep:

> We unfortunately have grown for growth's sake and have forgotten the consequences. I look on this area becoming a second Los Angeles, and if that isn't doom, I don't know what is. We are victims of our own success.[3]

The purpose of this study is to examine whether this subjective feeling of a decreasing urban environmental quality is reflected in land values, and, hence, in a proportionately slower growth of municipal revenues compared to municipal costs. The hypothesis is that per capita land values increase, reach a peak and then decline as a function of city growth.

---

[1] William J. Baumol, "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis," *American Economic Review* LVII, (June 1967), pp. 415-26.

[2] "Boom Town," *Newsweek*, September 14, 1970, p. 68.

[3] Steven V. Roberts, "Now the Cry Is: Don't Come Here to Live," *The World, San Francisco Examiner and Chronicle*, (May 2, 1971), p. 23.

ANALYSIS

A quadratic regression model is utilized to test the hypothesis for San Jose during the period from 1940 to 1970.[4] The results of the multiple regression analysis are summarized in the equation below and the following figure.

$$LV = 15.08 + 0.52W + 11.06I - 15.88T - 0.11I^2$$
$$(10.43)\ (7.75)\ \ (11.71)\ (4.74)$$
$$R^2 = 0.88$$

where: LV = per capita land values in constant 1957-59 dollars

W = per capita wealth (i.e., value of improvements and personal property) in constant 1957-59 dollars

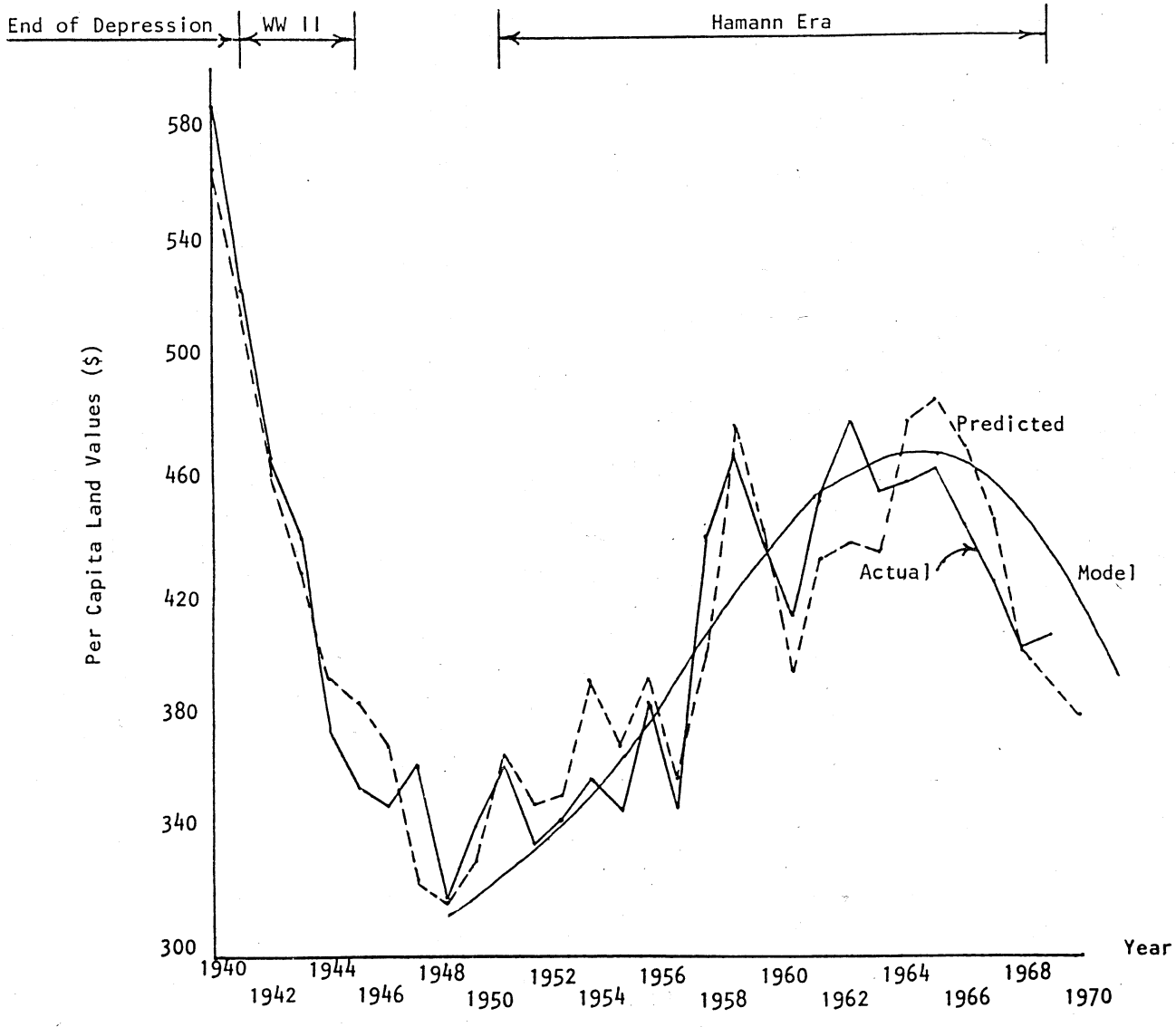
I = interaction term (i.e., population x area of city)

T = time counted for thirty periods from 1940 to 1970.

The Studentized t-ratios in parentheses below each regression coefficient indicate that all the independent variables are significant at at least the 99 per cent confidence level. Multicollinearity is not judged to be a problem and the hypothesis that serial correlation exists is rejected. The equation explains 88 per cent of the variation in per capita land values and specifies that per capita land values are positively correlated with per capita wealth and the simple interaction of population size and city area and negatively correlated with time and the square of the interaction term.

Two obvious indicators of growth are population and area, but independently neither contributes significantly to explaining the observed variation of land values over time. However, an increasing population on a limitless plane or an expanding city boundary with a constant population

[4]Data are from the U.S. Department of Commerce Bureau of the Census, *U.S. Census of Population and Housing*, Washington, D.C.: U.S. Government Printing Office, 1940-1970; and California State Controller, *Annual Report of Financial Transactions Concerning Cities of California*, Sacremento, California.



are not the concepts pictured when these variables are considered as determinants of land values. It is the interaction (I) of these two variables which is expected to affect the value of land.

The form of the interaction is multifaceted, such that it may simultaneously have both positive and negative effects as well as simply one or the other. A growing population, for example, is anticipated to increase land values due to the increased competition for a limited supply of land, while beyond some limit and, perhaps, at the same time congestion and overcrowding may cause land values to decline. The square of the interaction term is utilized to test for these eventual negative effects.

Part of the variation in land values is associated with the decline of site desirability over time due to the deterioration of the building stock and/or changing tastes. A portion of this process would occur whether or not growth took place. The deterioration of the building stock in a neighborhood affects the desirability of land in that area, though the process may not be wholly a product of urban growth. Tastes also change over time so that the value of some land may alter even though there is no physical transformation of the site. The time variable (T) accounts for this variation and is simply a yearly counting device for the period from 1940 to 1970.

Finally, the wealth variable (W) reflects both local and national economic forces. Income and its corollary, wealth, are generated by the local economy, but the local economy is substantially influenced by the national economy. Hence, the per capita wealth variable reflects factors controllable by the local community as well as those beyond its scope. Moreover, it reflects both the immediate material wealth of the community and its relative income level. At least part of its importance is in predicting the atypical land value variations during the 1940s caused by the Great Depression and World War II.

The results of the analysis indicate that per capita land values reached a maximum between 1964 and 1966. The mix of population and area is not specified by the maximizing interaction term; however, the mix is assumed to be commensurate with the historical combination, so that the optimum was approximated in 1965 when population equaled 328,300; area was 109.43 square miles; and per capita wealth totaled $1,207.72 in constant 1957-59 dollars.

CONCLUSIONS

The hypothesis that per capita land values eventually decline beyond a certain city size is confirmed by the analysis. For a given tax rate, as municipal expenditures continue to rise (perhaps exponentially) with urban growth, per capita municipal revenues derived from property taxes will eventually fall and fiscal imbalance will set in.

Fiscal imbalance in San Jose has become increasingly severe since the late 1960s, corresponding with the findings of the analysis which indicate decreasing per capita land values after 1964-66. Therefore, at least part of San Jose's fiscal woes are a function of its excessive growth.

The traditional response to this conflict between a declining per capita tax base and increasing per capita municipal costs has been to either raise the tax rate or lower the level of public services. Both responses, however, serve only to exacerbate the problem.

Already heavily taxed property owners are increasingly able to provide strong and effective resistance to tax rate increases. If the tax rate increase is approved over their objections, then many flee to the lower tax havens of the suburbs and their old property often declines in value. The net result in either case is that municipal revenues fail to grow at the necessary rate.

Alternatively, rather than increasing taxes, the city may simply cut costs by reducing services. While this action may forestall fiscal imbalance for the moment, the eventual result is to accelerate the decline of tax revenues. The quantity and quality of municipal services are important factors contributing to the quality of the urban environment and a decline in one or both of these factors will eventually be reflected in a decreasing growth rate of municipal revenues.

As long as the city treats the symptom rather than the cause of its fiscal imbalance, solutions will be transitory. A vicious circle exists between fiscal imbalance and a declining urban environment. The source of the problem is the extent and form of urban growth. Controlling growth and preserving the quality of the environment are, therefore, necessary prescriptions for achieving long-term fiscal balance.

Obviously, there are other causes of urban fiscal imbalance.[5] But of equal importance are the effects of growth upon the quality of the urban environment. While it has been recognized for some time that continued growth is often harmful to the quality of the environment, this consequence has generally been accepted as a necessary trade-off to providing—among other things—a viable and fiscally sound municipal government. Results of this study indicate, however that declining environmental quality and fiscal imbalance may be complementary products of continued urban growth.

---

[5]Besides malfeasance, William J. Baumol, "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis," *American Economic Review* LVII, (June 1967), pp. 415-26, argues that a significant part of fiscal imbalance is due to the technologically nonprogressive nature of municipal government activities. That is, wage increases are not offset by productivity increases.