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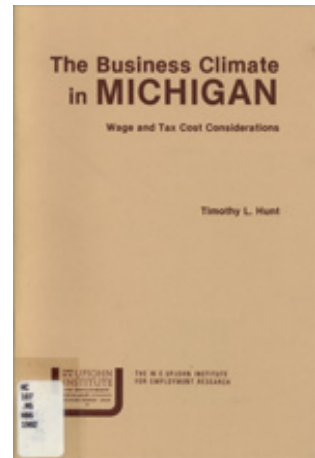
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# The Business Climate: Costs Approach

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## **II. The Business Climate: Costs Approach**

The notion of a business climate is necessarily vague since any decision to locate or expand a plant is a complex one. One approach has been the development of a ranking technique based on the estimated costs of doing business in each state. Two studies which have used this cost-centered approach are reviewed in this section, after which a number of limitations are noted.

In both 1979 and 1980, Alexander Grant and Company, a Chicago based accounting firm, developed a manufacturing business climate ranking for the 48 states of the continental U.S. in cooperation with the Conference of State Manufacturers Associations (COSMA).<sup>3</sup> Michigan was ranked last in the composite business climate rankings of both of the Grant studies.

The most recent Grant study based its ranking on 18 factors. These factors were chosen by the member associations of COSMA as those most significant to manufacturing firms when measuring the relative attractiveness of different states. Most of the factors are cost centered, with low values considered to be favorable except for the net worth of the state unemployment compensation fund per covered worker, state disbursements for highways per highway mile, and

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3. *A Study of Manufacturing Business Climates of the Forty-eight Contiguous States of America, 1979* (Chicago: Alexander Grant and Company, 1980); and *A Study of Manufacturing Business Climates of the Forty-eight Contiguous States of America, 1980* (Chicago: Alexander Grant and Company, 1981).

vocational educational expenditures per capita. The latter two criteria are clearly exceptions to the cost orientation of the study and were included to measure a state's commitment to improving the training of the workforce and to measure the quality of the state's transportation system which in turn, according to the Grant study, affect the quality of life.<sup>4</sup>

All states were ranked in each of the 18 categories relative to one another. Since the factors are not directly comparable, the values for each factor were adjusted or standardized on a scale of 0 to 100, with 100 being the best, using the range of each factor as the standardizing criteria. The composite business climate score for each state was arrived at by summing the 18 standardized factor values for that state after they were weighted by the estimated importance of each factor in the business climate. The weights were determined by a survey of the 38 COSMA state associations in which they were asked to rank eight of the most important factors. Each factor was assigned one point each time it was mentioned and additional points depending on its rank order position. The weight for 16 of the factors was arrived at by dividing the total points for each factor by the total points for all factors. Two factors were assigned weights arbitrarily.

Earlier, the Fantus Company, a business location consulting firm, had undertaken a 1975 business climate analysis for all 48 states of the continental U.S. on behalf of the Illinois Manufacturers Association.<sup>5</sup> Michigan was ranked 45th of the 48 states evaluated in the Fantus study.

The Fantus study based its ranking on 15 factors deemed important to firms locating a business. As in the Grant study, the 15 factors evaluated are cost centered, but they are

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4. *A Study of Manufacturing Business Climates, 1980*, p. 5.

5. Fantus Company, *Comparative Business Climate Study* (Chicago: Illinois Manufacturers Association, 1975).

largely limited to state and local tax or legislative factors. In the Fantus study, the composite business climate scores were sums of the individual factor rankings, 1 through 48, for the states. Thus, if a state were lucky enough to be first in all 15 categories, then its composite business climate score would be 15. Notice that in contrast to the Grant study, this procedure of summing the ranks gives equal importance to each factor in arriving at the composite business climate score.

Both of the Grant studies and the Fantus study recognize clearly that there are other factors besides costs which affect the location decisions of manufacturers such as proximity to markets and the quality of life. However, there remain a number of other limitations to both of these cost-centered studies.

First, there is the problem of duplication in the individual factor criteria leading to redundancy in the data. In the Fantus study, even though per capita state debt was already included as one of the factor variables important in determining a state's business climate, a measure for per capita state *and* local debt is included as well. Also, in that same study, personal income taxes, per capita total state taxes, and per capita total state and local taxes, are measured as three separate and important influences in determining a state's business climate. But notice that personal income taxes are one component of both of the other two variables, and clearly per capita state taxes are measured once again as part of per capita state and local taxes. Such duplication of measurement is difficult to accept because it puts undue weight on individual variables.

A second limitation involves the actual data selected to measure the variables. For instance, the average weekly manufacturing wage and the percentage change in that wage are two of the variables important in determining the business climate in both of the Grant studies. The actual data

selected to measure this variable in the 1980 Grant study was the average weekly wage as of December 1979, a monthly average, while the 1979 study measures the same variable but uses data for August 1978, another monthly average.<sup>6</sup> The utilization of monthly estimates of the average weekly wage instead of yearly estimates of the average weekly wage is unfortunate because the monthly wage data are particularly susceptible to seasonal variations peculiar to each region. There are also other regional-specific factors such as strikes, natural catastrophe, etc., which have completely unpredictable effects on short term measures of wages. Such regional seasonality and other regional “shocks” are much less pronounced in the yearly estimates.

A third limitation can be found in the manner in which the individual factor scores are standardized. As stated earlier, that adjustment or standardization is necessary to facilitate the summation of unlike factors across the states. The Fantus study uses the rankings of the states, 1 to 48, directly, while the Grant study uses the range of the variables to create a ratio scale of 0 to 100. Unfortunately, the Fantus approach fails to utilize any information at all about the distribution of the individual factor values except the rankings themselves, when more information is available, while the utilization of the range in the Grant methodology attaches maximum importance to extreme values in the distribution rather than to typical values of the distribution. The preferred procedure is to construct index numbers using the mean or average value of each variable and then possibly to restate the index numbers as standardized Z values.<sup>7</sup>

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6. U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings* (Washington: Government Printing Office, March 1980), p. 115; and U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings* (Washington: Government Printing Office, November 1978), p. 109.

7. For an explanation of standardized Z values, see B. W. Lindgren, G. W. McElrath, and D. A. Berry, *Probability and Statistics* (New York: Macmillan, 1978), p. 122.

Finally, it is interesting to note that there is considerable variability in the composite business climate rankings in the 1980 and 1979 Grant studies. Four states "improved" their business climate ranking by nine or more ranking positions, while the business climate in five other states "deteriorated" by nine or more ranking positions. This variability in the rankings is disturbing because presumably the business climate in a state is a long run phenomena and not subject to dramatic short run fluctuations. No doubt some of this variability is due to the problems already discussed.

In summary, the Fantus study and both of the Grant studies are valuable attempts to estimate the business climate for manufacturing industries. Both utilize primarily a cost-centered approach. The limitations of the studies are due to redundancy of the selected variables, procedures of data selection, and the manner of standardization of the data.