

## INDIANA'S ABILITY TO SUPPORT LIBERALLY HIGHER EDUCATION: ANALYZED AND COMPARED WITH THAT OF MICHIGAN, WISCONSIN, MINNESOTA, IOWA, ILLINOIS, AND OHIO.

STEPHEN S. VISHER, Indiana University.

Indiana is at the center of the highly productive, populous eastern half of the nation. This half contains about nine-tenths of the nation's population, does over nine-tenths of the manufacturing and produces more than four-fifths of the mineral wealth. Indiana extends from Lake Michigan to the Ohio River and is crossed by all the chief east-west railroads. It lies in a region favored by having a good climate, much smooth land and fertile soil. It has no unproductive areas adjacent, except at the northwest corner (Lake Michigan). It is distinctly more fortunately located than are Wisconsin, Minnesota, and Iowa, which are decidedly more remote from markets and the center of population (which is in Indiana) and are crossed by far fewer great railroads, and have, except Iowa, large unproductive areas adjacent (the Great Lakes or the northern wildernesses). Michigan's location, except the southern part, is also less favorable than that of Indiana for the same reasons. Illinois may be slightly better located than Indiana in that it has more north-south railroads crossing it and includes more of the interior coal field, but it is farther from the great eastern markets. Ohio is nearer those markets than Indiana but is farther from the region of surplus food supplies and imports much food, by rail.

**Area.** Indiana is the smallest of the north central states. Ohio is one-ninth larger; Illinois, Michigan, Iowa and Wisconsin are each about 50 per cent larger; and Minnesota and Missouri are twice as large. Small area, however, is no proof of poverty. Superiority in resources, location, climate or population can more than offset the handicaps of small area. Superiority in a combination of these conditions is sure to do so. Numerous examples might be given. Contrast, for example, England and arid North Africa, over 100 times as large. The well endowed north central states show much less contrast, but fortunate Indiana has two and a half times the wealth and three times the population per average square mile which Minnesota has. In spite of Indiana's smaller size, she contains about 50 per cent more improved land than Michigan or Wisconsin and almost exactly as much as Minnesota or Ohio, and she has more people than Wisconsin, Minnesota or Iowa.

Furthermore, in many items of wealth such as quality and number of population, amount of manufacturing and many other sorts of work, area is of minor importance. In other items such as excellence of transportation and communication, small area is an asset. The state's

extremes are less remote from the capital, from the institutions of learning, and from other points in the state to which the people wish to go.

The people of a small compact state can be more readily served by a few centrally published newspapers or other moulders of opinion than can those in a larger state. Hence smaller states present greater solidarity, and, as Ratzel and Semple have pointed out, greater progressiveness, if wisely led. Small area also means that fewer miles of improved roads are required.

The one great activity which is most clearly related to area is general agriculture. Leadership in agricultural production requires large area, and a small state is bound to trail behind larger states in total output unless superior in climate, soil or methods. This condition often leads to erroneous ideas as to the true agricultural wealth of small states. Indiana's agricultural wealth will be considered later.

**Soil.** The soil of Indiana is chiefly of glacial origin, as is that of most of the area of the north central states. However, a much smaller part of the state is excessively sandy than is true in Michigan or Wisconsin, or excessively rocky than is true in Wisconsin or Minnesota. A smaller share of the soil of the state is too damp (marshy) in Indiana than in Ohio, Michigan, Wisconsin or Minnesota. In average fertility the soil of Indiana is inferior to that of Iowa and much of Illinois, but is richer than that of the cooler and the wetter states, Ohio, Michigan, and Wisconsin. In very sandy sections of Michigan and Wisconsin and stony areas of Minnesota the soil is so infertile now, after having been burnt over, that little will grow on it except weeds, brambles, and small hardy trees of little value. In contrast nearly all of Indiana's soil is deep and of lasting fertility. Thus, in soil, Indiana is one of the most fortunate of the states.

**Relief.** In relief or ruggedness, Indiana also compares well with other north central states. It has less rugged land, proportionately, than Ohio, Illinois, Wisconsin, or Minnesota, and only a little more than Iowa or Michigan. (Much of Michigan's smooth land, however, is very sandy.) The smoothness of most of Indiana is highly favorable to the construction and maintenance of roads, railroads and streets. It thus favors communication, transportation, and manufacturing as well as agriculture.

**Forests.** In forest wealth, Indiana compares favorably with most north central states. Conditions for forest growth are exceptionally favorable, as is proved by the original superiority of her hardwood forests. The original forest is practically gone, but the cut of lumber in the last year available (1923) was 189,000,000 board feet, seven times that in Illinois and 20 times that in Iowa. It was also larger than that of Ohio. Although Michigan cut more lumber, much of it was unsuited to her needs, so that her excess of import over export was greater than in Indiana; this was also true of Illinois, Ohio and Iowa. Furthermore, most of these states are more remote from the southern source of lumber.

**Minerals.** Indiana is vastly ahead of the other north central states, except Ohio and Illinois, in coal, oil and gas. Wisconsin and Minnesota have none of these, Michigan has only a little coal and Iowa no oil. Indiana has an enormous tonnage of coal, more favorably situated in respect to the state's center of population and chief city than is the case in Illinois, Ohio and Iowa. This reduces the cost of haulage or of electrical transmission of the power developed by super-power plants near the mines. In non-metals, aside from fuels, Indiana is exceeded in production by Ohio and slightly by Illinois. Indiana surpasses the other north central states in both resources and production. In metals, Indiana resembles Ohio, Illinois, Iowa, Wisconsin, and many other states in producing none, or practically none. Indiana leads the world in the production of cut limestone.

**Climate.** Indiana's climate differs in certain important respects from that prevailing in certain other north central states. Indiana is in the corn belt whereas Michigan, Wisconsin and most of Minnesota are too cool for the extensive production of corn, one of the best crops. These more northern states receive enough snowfall often to interfere rather seriously with communication and transportation and often experience enough cold to be distinctly benumbing to man. They also receive less sunlight in winter because of their shorter days and greater cloudiness. In all of these respects Indiana is more fortunate than these three more northern states. There is little climatic contrast between Indiana, Ohio and Illinois, but the rainfall of Illinois is somewhat more uncertain than in Indiana, and this is notably the case in Iowa.

**Agricultural Wealth.** It is widely recognized that Indiana is a good agricultural state, but because of her small size, and consequent inability to lead in total production, her true standing is not fully realized. In proportion to area, Indiana is surpassed by not more than two or three states, and by only especially choice bits of the rest of the world. In total value of all crops, when comparative size is considered, Indiana is surpassed only by Iowa and Illinois, and by them only slightly. In the gross value of all farm products, which includes farm animals, Indiana is surpassed only by Iowa, in proportion to area.

In the production of leading crops, Indiana ranks very high. In average corn production (four recent years) per square mile, Indiana is surpassed in all America only by Iowa and Illinois, and only slightly by them; in wheat production, only by Kansas, North Dakota and Illinois (slightly); in hay production, by Ohio, Iowa (5 per cent), Wisconsin (5 per cent) and by some eastern states; and in oats production, by Iowa, Illinois and slightly by Minnesota and Wisconsin. These four crops, and cotton, are the chief American crops. In their production, Indiana has a high average position. Iowa, which specializes in corn, oats and hay, excels in these but produces almost no wheat; Illinois excels slightly in corn, oats and wheat; and Wisconsin excels in hay and oats but produces little corn or wheat. No other state surpasses Indiana in two of these four chief northern crops, when comparative area is considered.

The agricultural wealth of an area depends not alone on average yields but also upon the certainty of yield and the average price received at the farm. Certainty of yield depends chiefly upon climatic dependability, and the price chiefly upon market conditions. Indiana has a larger local market for her farm products than other north central state, except Ohio, and hence prices for farm products average higher at the farm in Indiana than in the other states, except Ohio.

In reliability of yield, Indiana is also notably fortunate. The rainfall from year to year is comparatively dependable and destructive frosts, hail and floods are relatively rare, although by no means lacking. Hence crop yields vary less from year to year than is the case in most states or parts of the world. The U. S. Department of Agriculture has recently investigated this significant matter and reports that, in the 15 years 1910 to 1924, the fluctuation in composite yields was but 25 per cent in Indiana. That is to say, the yield in the best year averaged 25 per cent greater than in the poorest year. In contrast with Indiana's 25 per cent, the range was 38 per cent in Illinois, 44 per cent in Minnesota, 46 per cent in Iowa, and 53 per cent in Missouri. The only north central state having as small a range as Indiana was Ohio (23 per cent). The comparative dependability of farming in Indiana is a very great asset indeed. Farming is a big enough gamble in Indiana. Yet in Iowa there is almost twice the uncertainty. The superiority of Indiana in this regard goes far to counter-balance the somewhat higher average yields of Iowa, a result of somewhat richer soil.

**Population.** Indiana, with a population of 3,000,000 in 1920, ranked eleventh among the states in total population and tenth in population per square mile. At that time other nearby states had the populations indicated (millions): Ohio 5.8, Illinois 6.5, Michigan 3.7, Wisconsin 2.6, Minnesota 2.4, Iowa 2.4. Thus Indiana had more population than three of the eight and almost the average for the group.

Hoosiers generally seem to feel rather discouraged about their state, fearing that the state must relinquish its position on the front rank of the states. What can be the basis for this pessimism? It may be that many people, seeing Indiana surpassed in total population, total wealth and size of her universities by near-by, larger, more populous states, have concluded that these conditions prove poverty and inferiority. They do not realize, perhaps, that Indiana is as favored by nature as almost any of the states, that the fact that Indiana is smaller than its neighbors only masks its wealth, and furthermore that large size and population have their serious drawbacks. Another reason why many Hoosiers have the impression that Indiana is falling behind is the large exodus from the state, and the cruel insinuation in the oft-repeated phrase "Indiana is a good state to have come *from*." The exodus from Indiana, however, is perhaps more an indication of strength than of weakness. The large rural population has contributed thousands to the rapidly growing cities. All over the world young people are leaving the farms for the cities. But the fact that Indiana has a relatively large rural population, and few great

cities, is no proof of inherent inferiority. City life is attractive, but costly. No American cities are self-perpetuating so far as native American population is concerned. The cities receive people but give forth too few. The strength of any land is not in its tenements or apartments but in its owned homes. Indiana had a smaller percentage of its population living in rented homes than Ohio, Illinois or Missouri, and a larger percentage of unencumbered homes than any other of the five east-north central states.

Since neither the quality of the land nor the exodus of Hoosiers is an adequate basis for pessimism about Indiana, perhaps inferiority of the people themselves is the basis. But there are many bits of evidence indicating high quality rather than inferiority. Indiana has the smallest percentage of foreign born and children of foreign born of any of the north central states. It has a smaller percentage of negroes than Ohio or Illinois. It had in 1920 a smaller percentage of illiteracy than Illinois, Michigan, Ohio or Wisconsin. A recent report of the U. S. Bureau of Education reveals that Indiana had a larger percentage of its children graduating from high schools and attending institutions of higher learning than any other state east of the Mississippi River. Indiana has produced a notable number of leaders. Every Hoosier knows that Hoosiers have contributed much to literature. Riley, Lew Wallace, Eggleston, Joaquin Miller, Moody, Ade, McCutcheon, Tarkington, Nicholson, Gene Stratton Porter and others are honored the world over. Less widely known, but no less respected by competent judges are many Hoosier leaders in science, including Calkins, Slipher, Merritt, Kraus, Eigenmann, Coulter, Berkey, Wiley, Bryan and many others. About 50 of the leading 1,000 "starred" men of science were born in Indiana, which is a good proportion. Painters with international reputations who were born in Indiana include Chase, DeHaven, Garber and Steele. Eads is honored by all engineers, and Wilbur Wright shares with his Ohio born brother credit for the airplane. Also numerous notable executives, city superintendents, and presidents of railroads, banks, big businesses and colleges were born in Indiana.

Indiana has likewise taken a leading role in the consolidation of schools, in the improvement of roads, in the winning of a fairer place for labor (consider Zueblin, Debs, Green). All these are evidences of good quality and not inferiority of stock. Hence there appears to be no real reason for exceptional pessimism.

**Occupations.** The people of every diversified region earn their living and their tax money in a variety of ways. In so far as a state's ability to support higher education is concerned, it makes a good deal of difference as to the proportions of the workers engaged in different types of activities. If one activity occupies a large share of the workers, the state's prosperity will suffer when the demand for that product decreases, or conditions are unfavorable for that product, be it automobiles or corn.

All of the north central states are relatively fortunate in the diversity of activities and in the widespread markets for their products. They are not likely to suffer sharp slumps. But in this fortunate

group of states, Indiana is perhaps at the top. It is a great agricultural state, but only 30 per cent of the people are on farms. A larger percentage, such as is present on farms in Iowa, Minnesota, Wisconsin and Missouri is probably undesirable, because of the lesser efficiency and prosperity of farmers. About 32 per cent of Indiana workers are engaged in manufacturing. This may be contrasted with 20 per cent for Iowa, 22 per cent for Minnesota, 25 per cent for Missouri, 33 per cent for Wisconsin, and 42 per cent each for Michigan and Ohio. It is likely that the latter percentages (42 per cent) are less desirable than Indiana's ratio. About one-fifth of Indiana's workers are engaged in transportation and communication, a larger percentage than in the other near-by states, because Indiana has most miles of track, most miles of wires and most traffic in proportion to area and population. About one-fifth of the workers in Indiana are engaged in trade, probably about the same percentage as in the other states. In mining and quarrying, Indiana's 3.2 per cent is greater than that of Michigan, Wisconsin, Iowa or Minnesota with their lesser mineral resources, or than Ohio with its large industrial population. The percentage in Illinois is practically the same as in Indiana, as is also true of manufacturing.

**Manufacturing.** In value added by manufacturing (in 1919) Indiana's total was over three times that of Iowa, over twice that of Minnesota, one-half more than that of Missouri, and greater than that of Wisconsin. It was 40 per cent of that of Illinois, and 35 per cent of that of Ohio.

In manufacturing, Indiana is likewise characterized by diversification. No industry or small group of related industries dominates the state. Hence the prosperity of manufacturing is more stable and assured than in Michigan, for example, with its dependence upon the automobile industry, or in Ohio with steel and rubber making up such a large share. The chief industries of Indiana with the percentage of all persons engaged in industry were as follows: railroad shops and the construction of railroad cars, 10.7; iron, steel and products, 9.6; automobiles, bodies and parts, 9.3; foundry and machine shop, 6.8; furniture, 4.8; electrical apparatus, 4.2. This leaves more than half of all industrial workers for the hundreds of lesser industries. The fundamental character and diversity of these chief industries is indicative of sustained ability to pay taxes.

**Wealth.** From time to time the Federal Government has compiled estimates of the wealth of the states. The last estimates were for the last day of 1922. They showed that Indiana, with \$2,942.00 per capita, had a slightly smaller per capita wealth than Ohio (\$3,045), Illinois (\$3,295), Minnesota (\$3,443), or Iowa (\$4,274), but that it surpasses slightly Michigan (\$2,883) and Wisconsin (\$2,887). In the percentage of increase in per capita wealth between 1912 and 1922, Indiana with 52 per cent far exceeded Illinois (25), Iowa (24), and Minnesota (37). Ohio showed the largest gain (65.7 per cent). In wealth per square mile, Indiana far exceeded all of these states except Illinois and Ohio. The figures are, in thousands of dollars per square mile, Indiana 245,

Minnesota 105, Wisconsin 143, Iowa 188, Michigan 199, Illinois 347, Ohio 465.

It is thus seen that in reported wealth Indiana compares very favorably with most near-by states. Moreover, special conditions have led to an exceptional increase in the proportion of unreported wealth.

The wealth of Indiana as revealed by the tax assessors has been decreased by the undue failure to report property at its full valuation or to report intangibles. One cause of this is the general property tax imposed by the constitution of 1852. Most of the taxes of Indiana have been raised by the general property tax with no graduation of tax rates, whereas in other north central states large shares are obtained from income, corporation, inheritance and other taxes. For example, in 1922, Ohio, Illinois and Iowa raised only about one-third of their income from property taxes, and Minnesota only about one-fourth. Further, in those states, property is classified, and the more intangible types are taxed at a low rate, so that there will not be much inducement not to report them. Recently, to be sure, Indiana has raised a significant fraction by a gasoline tax, but this is too recent to affect the 1922 estimates of wealth. The fact that nearly all the taxes have been raised by the general property tax without classification of property thus has made the rate high. Another influence decreasing reported value is the prohibition by the constitution of a state debt. While other states have reduced, for the present, their tax levies by borrowing extensively, Indiana has been compelled to raise more money now. A third way in which the reported wealth has been decreased is by the mortgage exemption. Because the property tax rate is so high, many small property holders have taken out mortgages, to reduce their taxes, and have invested the money in tax exempt or unreported securities.

The fact that Indiana has relatively few large cities with their large industries and ready tax money has likewise increased the tax rate, and hence the tendency to reduce valuations and not to report intangibles. Intangibles are entirely omitted from the 1922 federal estimate of wealth.

For these reasons it is certain that Indiana's wealth is considerably greater than shown by the tax assessors. If the difference is only 30 per cent instead of the 20 per cent assumed by the makers of the 1922 estimate, Indiana's per capita rate is higher than Ohio or Illinois, as well as that of Michigan, Wisconsin and Missouri. Another indication that Indiana is not poorer relatively than Ohio and Illinois is that as much money is spent, per capita, for automobiles, telephones and apparently for luxuries and outside investments. Yet, at the last available report, the amount of actual money in Indiana was reported as only one-fourth that in Illinois, instead of one-half, as should be expected. This certainly is suggestive of a failure to report in Indiana!

In reported total wealth, Indiana exceeds Minnesota and Wisconsin. If the unreported wealth in Indiana is proportionately as great as various conditions suggest, Indiana may also surpass Iowa and Michigan. The greater wealth in Ohio and Illinois is not great enough to more than offset their greater population, as already noted.

The total reported wealth of the other states should be reduced by the amounts of their state debt, which in 1923 were as follows: (millions) Iowa 15; Minnesota 20; Illinois 26; Ohio 30; Michigan 69. Also, as mortgages are not deducted in statements of total wealth, and most of the farm mortgages of Iowa are held by easterners, they should be deducted. Nearly one-half of Iowa's wealth is her farm property. Two-thirds of the farms are mortgaged, and the mortgages subtracted nearly 30 per cent of their value. Thus, it appears that the real wealth of Iowa's people is notably less than reported, and probably distinctly less than the true total wealth of Indiana. Of the north central states, Indiana and Ohio have the smallest percentage of mortgaged farms, and in Indiana mortgages make up the smallest ratio to the value.

**Summary and Conclusions.** Indiana clearly is one of the most fortunate of the states in regard to location, climate, relief, soil and natural resources. It is distinctly above the average of the north central states. In wealth per average square mile it far exceeds all of the other north central states except Illinois and Ohio; in wealth per capita it clearly exceeds Michigan, Wisconsin and Missouri, and probably also Illinois and Ohio, which states have a smaller percentage of unreported wealth (Indiana's general property tax and constitutional bar against state debt lead to a high general property tax rate, and hence to exceptional failure to report all wealth). In percentage of increase in per capita wealth 1912 to 1922, Indiana exceeds Illinois, Iowa and Minnesota and is only slightly behind Michigan, Wisconsin and Ohio. In total reported wealth, Indiana exceeds Minnesota and Wisconsin, and in true total wealth probably also Iowa and Michigan. The population of Indiana is greater than that of Wisconsin, Iowa or Minnesota, and only slightly less than that of Michigan. It is almost the average for the states between which comparisons are being made. Indiana has an exceptionally large percentage of its population graduating from high school and hence especially interested in higher education. Yet in Indiana there are only two universities offering considerable graduate work, one of which (Purdue) has given no doctorates. In Ohio there are six advanced institutions, including three state supported universities; in Illinois there are, besides the well-supported state university, the University of Chicago and Northwestern University. Iowa and Michigan each have two state-supported institutions offering much graduate work.

The most direct result of this disparity in facilities for higher education in Indiana and in neighboring states is in the number of people leaving this state to seek higher education. In 1923, 4,353 graduates of Indiana high schools attended outside institutions taking out of the state on the average about \$1,000 apiece, a total of about \$4,350,000 or nearly twice as much as the appropriations that year to both Indiana and Purdue Universities. On the other hand, only about 2,175 students came into Indiana from outside of the state. It thus appears that Indiana would be ahead financially if, by expending \$2,000,000 a year additional on her universities, she attracted as many outsiders to Indiana as went outside for higher training. Other north central states have

succeeded in attracting more students than they send out. The loss to Indiana by the present situation is real. Not only is over \$4,350,000 of money spent elsewhere, but many of the students who graduate from outside institutions do not return to Indiana, and hence Indiana loses their services, and the investment she had made on their elementary and high school education. Unless Indiana's universities are notably improved, the loss will continue, and increase. Already Michigan, Ohio, Wisconsin, Minnesota and Iowa each have two or three times as many graduate students as Indiana, and Illinois 14 times as many. The same general situation obtains in respect to professional students.

It appears, therefore, in conclusion, that in respect to location, climate, topography, soil, resources, quality of people, dependability of income, per capita and total wealth and in certain other respects, that Indiana is at least as able to support higher education as is Wisconsin, Minnesota, Iowa, or Michigan. This means an appropriation for Indiana's two universities of at least the average made by these four states, namely, \$5,440,000 annually, which is \$244,000 more than twice the present Indiana appropriation (\$2,598,173). The appropriation for the normal schools must likewise be doubled in order to reach the level of the other states of this group. Furthermore the damage done by the large deficiencies in appropriations during the past decade should be corrected, so far as possible, by a large emergency appropriation for badly needed repairs, books, equipment and building.

Finally, Indiana is very rich in numerous ways, at least as rich as the average seven north central states under consideration and hence is able liberally to support higher education. The present appropriation must be more than doubled merely to equal the average made by the four poorer states of the seven. And Indiana can afford to be a leader. If the state's great resources and other advantages are to be wisely used, there is need for many well trained men and women.

