

Income and Economy in Imperial County

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Imperial County is the fifth poorest county in the state, measured by per capita income. Although the county has a large agricultural sector, its role is diminishing, and it cannot be the source of low average incomes, in spite of the fact that it may generate highly unequal incomes. As a whole, agriculture generates more income per employed person than most other sectors of the economy. Other differences between the economic structures of Imperial County and the state, such as the share of employment in retail or services, also do not account for the differences in income. Most of the reasons for low per capita income probably stem from labor market and human capital variables. Among the most important are the high rate of unemployment, the low level of educational attainment, the very high proportion of the population that does not speak English, the relative youth of the population, and the significantly smaller share of the working age population that is part of the labor force.

Executive Summary

Imperial County is one of the poorest counties in the state of California. Contrary to what is probably a common belief, its relative poverty cannot be attributed to agriculture and its large number of seasonal agricultural workers. Agriculture, taken as a whole and combining both farm income and farmworker income, actually generates above average incomes on a per capita basis. Incomes in farming may be unequal between farmers and seasonal migrant workers, but the presence of agriculture is not the cause of low average county income.

Between 1976 and 1985, employment growth stagnated in the county, and the income gap between the state and the county widened significantly. Since 1985, county employment growth has been above the state level, but not by a sufficient margin to reduce the unemployment rate or to prevent a further divergence between county and state incomes. Imperial County created many new jobs in the late 1980s and the 1990s, but it did not share in the relative wealth that swept up the rest of the state, particularly after the state's recovery from the recession of the early 1990s.

The causes of Imperial County's lagging income growth are not difficult to understand. The single most important factor is probably the county's relatively low levels of educational attainment. For example, as of 1990, 46.8 percent of the county adult population did not have a high school diploma, compared to 23.7 percent of the state. Similarly, 9.6 percent of the county had a college degree or more, while 23.4 percent of the state had a Bachelor's degree or beyond. Education does not automatically translate into higher incomes, but the educational attainment of a population determines what types of businesses locate in a region as well as the business plans of existing firms.

Education is no guarantee of prosperity, but the lack of education is a guarantee of relative poverty.

In addition, several other factors are important to the explanation of the county's relatively low incomes. Among the key elements are:

- The higher county dependency ratio (share of the population too young or too old to work);
- The lower labor force participation rate (share of the working age population that wants to work);
- The share of the population that does not speak English;
- The much higher rate of unemployment (although the officially estimated rate is much higher than the “real” rate).

Taken together, these four factors, plus education, account for most of the difference between average per person income at the state and county levels. Nationally, the income gap between rich and poor widened between the mid-1970s and the late 1990s. Economists generally believe that the primary cause was technological change that favored skilled over unskilled workers. Given the skills, training, and education of Imperial County residents, one has to conclude that they are ill prepared to weather national trends—indeed, worldwide trends—that place a premium on education and discount heavily the economic value of unskilled labor.

Introduction

Imperial County is one of the poorest counties in the state. According to the United States Department of Commerce, its 1998 per capita income placed it 53rd among the states 58 counties (Newman, et. al., 2000).¹ Imperial County's per capita income of \$17,353 was 64 percent of the U.S. level (\$27,203), and 62 percent of the statewide California level (\$28,163).

A key task of any examination of the economy of Imperial County is to explain why its per capita income is as low as it is. Low is a relative term, however, so average California levels are used as a benchmark throughout this analysis. The next section provides a look at the trend over time in income. This is followed by a brief digression on the determinants of income, and an examination of the structure of Imperial County's economy. Finally, the rate of unemployment and several human capital variables are considered, including the labor force participation rate, the dependency ratio, and the level of educational attainment.

The results of the analysis point to several conclusions. First, while Imperial County is one of the most agriculturally oriented regions of the state, the role of agriculture has been diminishing over time. Agricultural incomes may be highly unequal in their distribution, but agriculture is not the source of low average incomes since it generates more income per employed person than most other sectors of the economy. Second, other differences between the economic structures of Imperial County and the state, such as the share of employment in retail or services, do not appear to account for the differences in income. Third, most of the reasons for low per capita income probably stem from labor market and human capital variables. Among the most important are the

high rate of unemployment, the low level of educational attainment, the very high proportion of the population that does not speak English, the relative youth of the population, and the significantly smaller share of the working age population that works or is looking for work.

The time trend of income

Over the last two decades, per capita income in Imperial County diverged significantly from the statewide level of per capita income (United States Department of Commerce, nd).² Divergence occurred in two stages, roughly from the mid-1970s to the mid-1980s, and again from the mid-1980s to the present. Figure 1 divides the years 1969-1998 into three periods. From 1969 to 1975, the average level of per capita income in Imperial County was 84 percent of the state level, from 1976 through 1985, it was 78 percent, and from 1986 to 1998 it was 68 percent. Figure 1 compares state and county per capita income levels, and Figure 2 shows the trend in the ratio of county and state income. The trend line in Figure 2 shows the rate of decline.

[Figures 1 and 2]

Some of the divergence between California's and Imperial County's per capita income may have been the result of lagging growth rates in employment, particularly between 1976 and 1985. Figure 3 shows the average annual percentage change in employment from 1969 to 1998. During the first period, when there was little deterioration in Imperial County's income relative to the state, the average annual rate of growth of employment was 3.8 percent per year which was significantly higher than the statewide rate of 2.2 percent per year (California Employment Development Department, nd). During the next period, from 1976 to 1985, the income gap between Imperial

County and the state began to widen significantly, and job growth was –0.2 percent per year in the county and 3.4 percent statewide. The lack of county level job creation seems significant since it occurred at the same time that the income gap opened. Nevertheless, in the subsequent period (1986-1998), jobs returned to a robust growth rate of 3.2 percent per year, compared to a statewide rate of 2 percent per, yet the income gap widened further. The most likely conclusion is that the rate of growth of jobs is probably not the key factor behind the gap between county and state incomes, although it may have played a role in the 1976-1985 period.

[Figure 3]

The determinants of income

As a first approximation, income in Imperial County is equal to the share of the value it creates in the goods and services it produces.³ While some of the incomes generated in the county may be paid to people living outside the county—commuters, farm owners, landlords, or corporations—the conceptual equivalency of the county's income and the county resident's share of the value of the output produced is a useful starting point for analyzing the causes of the county's relatively low income levels.

The determinants of the value of the output of a firm or a region or a nation can be broken into two components. The first component consists of the types of goods and services produced. In other words, at the level of a single enterprise, does a farm produce alfalfa or asparagus? At the level of the county, does the economy generate a large quantity of low value retail services, or does it produce high value financial services? These are questions about the economic structure of the economy and the types of production it undertakes.

A second component of the determinants of the value of the county's output is the quality and quantity of its inputs, and the available opportunities to put them to work. At the enterprise level, a farmer takes into account the quality of his soil and how much land he has available for planting. At the county level, the relevant questions focus on the availability of jobs, the quantity of labor and capital available to fill them, the quality of the available technology, and the skill levels of the labor force.

The structure of the county's economy

One possible explanation for the low incomes in the county is that its economy might be concentrated in sectors where output values are relatively low. For example, instead of high-value financial and business services, relatively greater numbers of the county's workforce might be concentrated in low-value retail services or some other relatively low-pay sector. This does not seem to be the case, however, as explained below.

Perhaps the most dramatic change in the structure of the economy over the last three decades has been the decline in the relative importance of agriculture.⁴ Measured in terms of both total income generated and total employment, agriculture is a smaller share of the economy today than it was in 1970, and the trend is downward. Figures 4 and 5 illustrate this point.

[Figures 4 and 5]

At the same time that agriculture was shrinking in relative importance, the income gap with the state widened. On the surface, this argues that the presence of a large agricultural sector is not the reason behind the income gap. Further evidence is found in agriculture's relative income and employment shares. In general, agriculture has

produced a larger share of total county income than its employment share. For example, 1998 earned income in agriculture was about 30 percent of total earned income, while the labor force in agriculture was only about 26 percent of the total labor force. In other words, while agricultural incomes may be unequally distributed (e.g., landowners and farmworkers), income per worker in agriculture is greater than in other sectors of the county economy. This pattern is illustrated in Table 1.

[Table 1]

Further analysis of the sectoral pattern of employment shows that the county is not disadvantaged by its economic structure. Table 2 compares the county to the statewide employment pattern. While there are some high wage sectors such as manufacturing and financial that are relatively smaller in the county than in the state, other sectors compensate. In particular, Imperial County has a relatively smaller service sector, and a much larger government sector. The latter pays much higher than average wages, and more than compensates for the relative lack of jobs in the manufacturing and financial services sectors.⁵

[Table 2]

While this analysis is perhaps too highly aggregated to make fine distinctions, it is hard to see how incomes might be lower in the county due to the structure of its economy. A more likely explanation lies in the subject area of job availability, and the quality and quantity of inputs, in particular labor inputs.

Labor and demography in Imperial County

The rate of unemployment is notoriously high in Imperial County. From 1995 to 1999, it averaged 29.6 percent (California Employment Development Department). It is

beyond the scope of this short essay to look at how this number is determined, but it seems at odds with a number of other realities in the county. For example, at the deepest point of the Great Depression of the 1930s, the unemployment rate in the United States hit 25 percent. At this rate of unemployment, breadlines form, new construction stops, no new investment occurs, retail shops are boarded up, large numbers of people lose their homes, and so on. None of these symptoms appear to be present in Imperial County. Rather, it seems likely that the methods used by the United States Bureau of Labor Statistics to measure local area unemployment are biased in the case of Imperial County.⁶

Nevertheless, even if the estimated unemployment rate is double the real rate, it is still very high. In 2000 for example, when the state's unemployment rate was 5.2 percent, the estimated county rate was 23.2 percent, more than four times higher. Using the labor and employment figures for 1998 (the most recent year of reported income for the county) a fall in the reported unemployment rate to 15 percent, would generate approximately 8,230 more jobs or about \$248 million in annual income. This would be a 10 percent increase in the county's total personal income. Note that this is a conservative estimate of the direct role the county's high unemployment rate plays in the determination of its relatively low income since it only assumes a reduction to 15 percent.

In addition to high unemployment, three characteristics of the population of Imperial County are important sources of income differences between it and the state: the human capital of the labor force, the age structure of the population, and the share of the working age population that chooses to work (labor force participation rate). Human capital refers to the skills, training, and education of the labor force. It is shorthand for all the characteristics of a worker that determine their ability to work, including education

and skills, but also including difficult to measure variables such as attitudes and energy levels. Table 3 compares the educational attainment of the county population, 25 and older, with the attainment of the state population. Data are drawn from the 1990 Census since the 2000 Census is not yet available except for population counts. Most notable is the 46.8 percent of the population without a high school diploma, nearly double the 23.7 percent at the state level. At the other end of the distribution, the county has 9.6 percent of its population with a college degree or graduate degree, compared to 23.4 at the state level (United States Census Bureau, nd).

[Table 3]

These differences in educational attainment are economically significant . In order to illustrate this, consider how Imperial County incomes might be different if the county population had the same levels of educational attainment as the state, but kept its current structure of production. Census (1990) estimates of the differences in earnings between people with different levels of education can be used to estimate the income effects of an increase in the average level of educational attainment for Imperial County residents. If education levels in the county were the same as overall state levels, and if incomes rose accordingly, then the average level of income per worker would be the same in the county as it is in the state.⁷ In other words, all of the differences (18 percent) in output per worker (\$30,098 in Imperial County and \$36,538 statewide) would disappear, and nothing would be left to be explained by the county's large retail sector or small manufacturing sector.

Of course, reality is more complicated than this, and while education causes income, it is equally true that income causes education in a complex feedback through the

economy and the family. The purpose of this simple and rather crude calculation is not to make the unrealistic claim that a change in the educational attainment of valley residents would automatically lead to higher incomes with no changes in occupations or employment. Rather, it is to give some sense of the economic penalty of low levels of education. Undoubtedly, an increase over time in the educational attainment of valley residents would create new kinds of jobs and occupations as a more educated labor force would attract different types of businesses to the region and create a different set of opportunities for businesses already located there. None of this would happen automatically, however, but the point remains that higher levels of educational attainment are necessary for higher incomes, even though they are not a guarantee of them.

Another human capital variable influencing the rewards to labor is the share of the population that does not speak English, or speaks it poorly. According to the 1990 Census, 10.8 percent of Californians speak no English, or speak English poorly, while in Imperial County the percentage is 25.5. The lack of language skills contributes to the linguistic isolation of large segments of the population and severely limits their economic options. While the 1990 figure is out of date at this point, the differences between the state and county have probably widened during the 1990s, based on the fact that Imperial County received a relatively larger share of the immigrant pool than any other county in the state. During the 1990s, international immigrants to the state raised the population by 7.6 percent but in the county, the number of international immigrants was equivalent to 17.5 percent of the 1990 population. Consequently, the share of the county's population that is linguistically isolated has probably grown since 1990.

Even if income per worker in the county was equal to the state average, a gap would remain between the county and the state in income per person. That is, while income per worker in 1998 was 18 percent lower in the county, income per person was almost 40 percent less.⁸ Changing the educational attainment of the population puts a dent in this, but does not eliminate it. Two other characteristics of the county population are relevant—the dependency ratio and the labor force participation rate.

The dependency ratio is measured as the share of the population too young or too old to work:

$$[(\text{population under 16})+(\text{population over 65})] \div (\text{total population}).$$

Imperial County's dependency ratio is 39 percent, compared to the statewide ratio of 35 percent. Imperial County has a smaller share of its population 65 and over, but quite a larger share under 16 (29 percent versus 25 percent). Consequently, since many men and women 65 and older still work, the dependency ratio probably understates the county's disadvantage. If the county had 5 percentage points fewer of its population under 16, and if that 5 percent chose to work, it would add another 6.4 percent to the county's per capita income.⁹

In addition to education attainment and the dependency ratio, a third important characteristic of the population is its labor force participation rate. The labor force participation rate is the share of the working age population that is either working or seeking work. It is calculated as

$$[(\text{population working})+(\text{population seeking work})] \div (\text{population ages 16-65}).$$

In 1999, the statewide labor force participation rate was 66.4 percent, while Imperial County's was 59.6 percent (United States Census Bureau, nd; California Employment

Development Department, nd). In other words, approximately 40 percent of the working age population is out of the labor force in Imperial County, while the statewide figure is 34 percent. Generally, people choose not to work or not to look for work because they are discouraged about their prospects of finding a job (due to a lack of skills, racial discrimination, physical disabilities, economic recession, or some other barrier), or they simply do not want to work (homemakers, students, retirees). To some extent, the high unemployment rate may be a causal factor in determining the labor force participation rate, since a region that lacks an adequate number of jobs also discourages potential workers from looking for work. Nevertheless, if the share of the working age population looking for work or working was the same as the rest of the state, it would add about 6,360 workers to the labor force. Assuming that 3 in 4 could find jobs at the average level of earnings per worker, this adds another 5.8 percent to the county's income.

Each of these three characteristics of the labor force—its educational attainment, the dependency ratio, and the labor force participation rate—interact with the unemployment rate in negative ways. For example, increases in educational attainment do little good if there is an inadequate supply of jobs.¹⁰ Similarly, high unemployment rates mean that even if a larger share of the population enters the labor force to look for work, a depressingly large number will not be able to find a job in a reasonable amount of time.

[Table 4]

Conclusion

Table 4 summarizes all the effects discussed in the paper. Taken as a whole, they conservatively account for almost two-thirds of the difference in per capita income

between the county and the state. That is, per capita income would rise from \$17,353 to approximately \$24,190, compared to the state level of \$28,163, in 1998. Given the assumptions of the calculations, and given that cost of living in Imperial County is probably less than the statewide average, the real gap between the county and the state would probably be less than the remaining 14 percent difference estimated here.

Not all of the changes examined are subject to control through policy changes. Dependency ratios, for example, or the share of the population that cannot speak English, can be influenced by policy, but they are largely outside the control of local policymakers. As long as population growth is fed by large numbers of international migrants, even variables such as educational attainment are outside the control of the current residents of the county. While it is undoubtedly the case that international immigrants add dynamism to the economy and create new sources of energy and opportunity, it is also true that many arrive from nonindustrial societies where they have not had the opportunity to prepare themselves for the industrial economy of the United States.

It is important to note that there is another way to look at these numbers, particularly with regards to international immigration. Since the majority of immigrants come from Mexico, where per capita and per worker incomes are significantly lower, there is an obvious improvement in their living standards. California has been the benchmark used to assess Imperial County incomes, but perhaps Baja California is a better standard. If so, then the exercise is to explain why Imperial County is so much better off in terms of per capita income than the average resident of Mexicali Valley, just across the international border.

Sources

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¹ Glenn County was 54th, followed by Lassen, Yuba, Del Norte, and Kings.

² Income data from the Department of Commerce's *Regional Economic Information System* is made available online by the Geospatial and Statistical Data Center at the University of Virginia: <http://fisher.lib.virginia.edu/>.

³ This follows from the fact that every good and service produced generates incomes of equal value. This follows from the fact that the price for a good or service can be broken into wages, rents, interest, profits, and dividends, plus the cost of intermediate inputs used to produce the output. Tracing the flow of money, the share of the price that goes to pay for intermediate inputs can be broken into the intermediate input producer's labor costs, profits, etc. In this way, each dollar of output is associated with a dollar of income.

⁴ The Department of Commerce separates the farm sector, which is direct farm production, from a sector labeled "Agricultural services, forestry, fishing and other." In Imperial County, the latter sector is dominated by agriculture related production. Consequently, both sectors should be included in agriculture.

⁵ Unlike manufacturing, service sectors produce intangibles. The production of a haircut, or banking services, or education, or prison guard services, may entail jobs with different levels of social status, but all of these activities are valued by the economy to the extent that we pay for them. In the sense of income and output, services are no different from manufacturing or construction or agriculture, regardless of whether they are produced in the public sector or the private sector.

⁶ Nationally, the unemployment rate is determined by telephone interviews with approximately 60,000 randomly selected households. Local unemployment rates are inferred through an entirely different methodology. First, state employment department (EDD in California) personnel estimate the local rate based on the number of new claims for unemployment insurance and other relevant data. Second, the state labor office uses a statistical model to estimate the state's unemployment rate. Third, the local (county) and state estimates are reconciled through a process that divides the state estimate into its county components in proportion to each county's share of the sum of all counties. It is this last step that often ends up doubling Imperial County's unemployment rate over the local estimate. There are several potential points of bias in this methodology (local estimate, state estimate, reconciliation of the two) and it is uncertain at what point the bias enters. It is also uncertain why the same bias does not occur in other California counties with similar demographic and economic characteristics.

⁷ According to the Census Bureau, if a worker with no high school is taken as the base, someone with a diploma earns 25 percent more, and someone with a college degree earns 2.15 times more. In order for the county to have the same educational attainment distribution as the state, it would have to move its college degree category from about 13 percent to 27.3 percent, its high school category from about 40 percent to 48.9 percent, and its percent in the less than high school category down from 47 to 23.7 percent. Given the implied changes in income, this would add about 18 percent to earned income (\$338,764,000), and completely eliminate the difference between the county and state levels of income per worker.

⁸ Income per person is (total income)/(total population) while income per worker is (total income)/(total number of workers). Since the share of the population that works is different in different regions, even if income per worker is the same in the county and the state, income per person will be different.

⁹ This assumes that 1 in 4 would be unemployed and unable to earn any income.

¹⁰ Although it is also the case that people with more education are less likely to be unemployed, and if they do lose a job, they stay unemployed for shorter periods of time. Education, apparently, aids people in dealing with the uncertainties of unemployment.