

County Changes in Per Capita Personal Income



Recently, the U.S. Bureau of Economic Analysis released data on the personal income of each county in the nation. Three simple numbers tell a story that deserves attention by Hoosiers:

1. **Total personal income (TPI)**¹ includes wages, salaries, employer-paid benefits, self-employment income, dividends, interest, rent, and transfer payments (social security, welfare, federal employee and military retirement) adjusted for commuting patterns; it represents the income of persons living in the county regardless of where they work.
2. **Total population (POP)** is a residence-based number of all persons whether or not employed, and does include workers who reside in other counties; and
3. **Per capita personal income (PCPI)**¹ is simply personal income (1) divided by total population (2).

Per capita personal income (PCPI) is often accepted as the best available measure of economic well-being. But as a number derived from two other numbers,

PCPI is difficult to evaluate. For example, when income remains constant while population falls, per capita income rises. Is this an indication of improved economic health? When children leave because they can not find jobs locally, income can be stable as their parents continue to work. PCPI will rise but the community may be in decline.

If population rises faster than total personal income, PCPI falls. Yet, a thriving county may have an influx of families with children. Thus, the movements of PCPI are ambiguous and require careful examination. Before we look into the county level detail, let's consider Indiana in a national perspective.

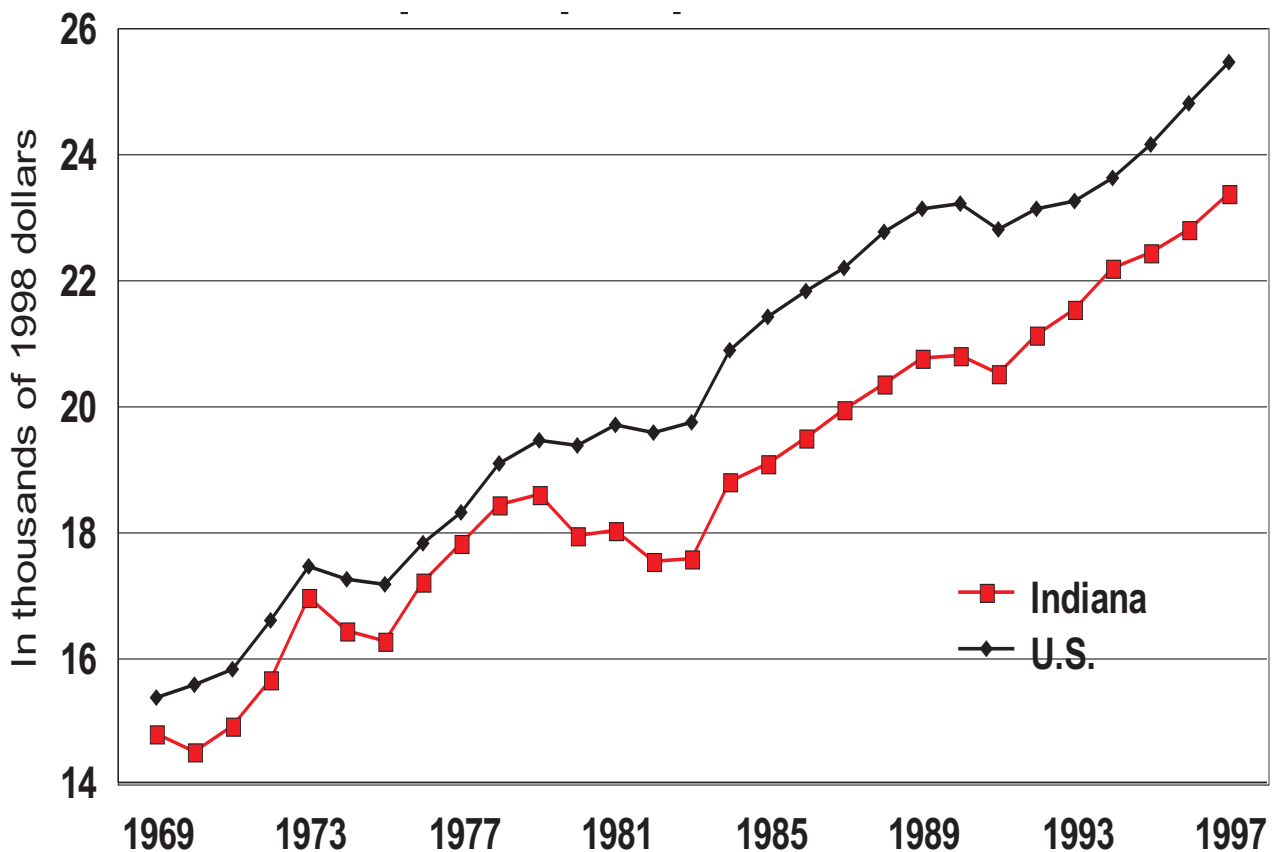
Indiana and the U.S.

Since 1969, PCPI for Indiana has been below the national level. As **figure 1** shows, Indiana has seen steeper downturns than the nation. In 1969, the Hoosier state had a per capita personal income of \$14,815 (in 1998 dollars) which grew to \$23,388 by 1997. Our compound annual growth rate was 1.64% over these 28 years, compared with the nation's 1.82%. This slower rate of growth increased the spread between Indiana and the nation (left scale). In 1969, Indiana was \$556 below the

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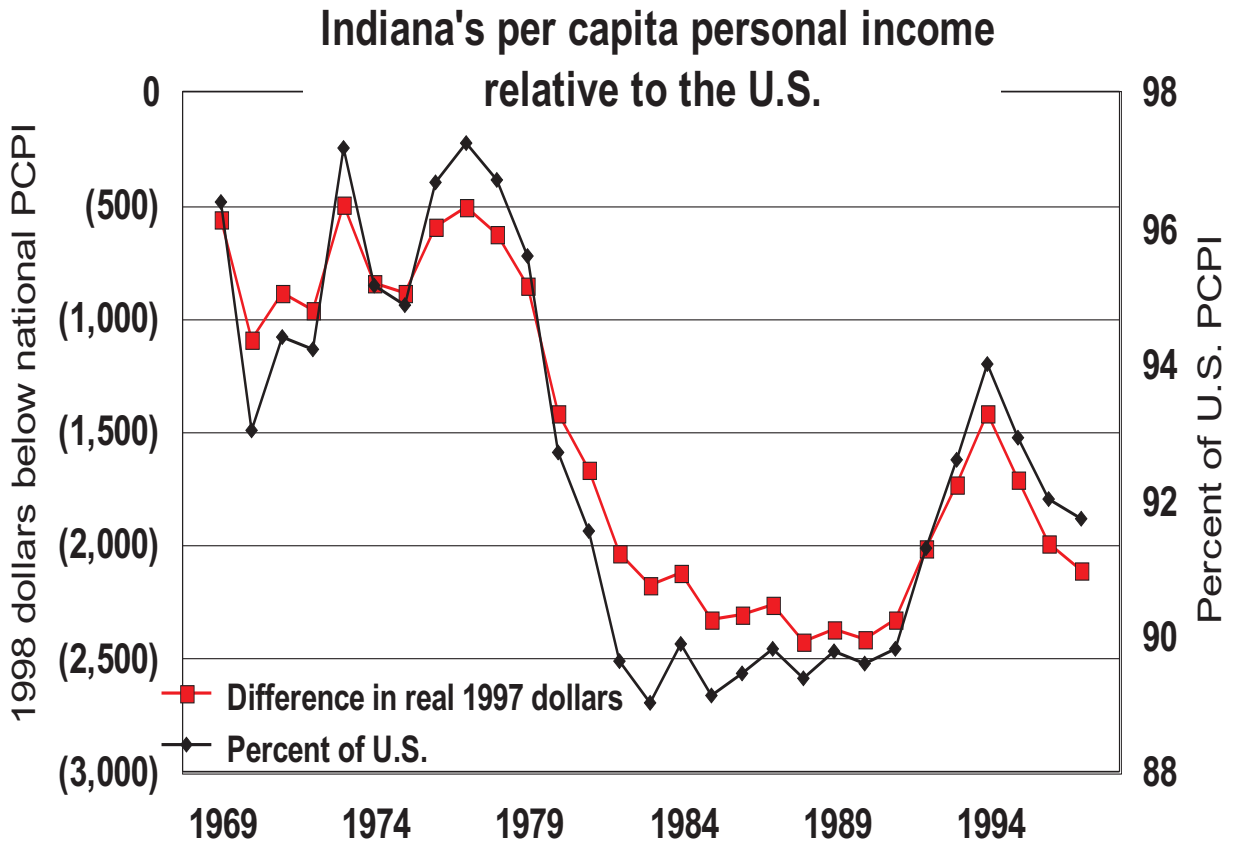
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Figure 1
Real Per Capita Personal Income, 1969-1997 (Indiana vs. U.S.)



nation's PCPI (see figure 2). The gap increased to more than \$2,500 in the mid-1980s and was \$2,103 in 1997. From a position 96.38% of the U.S. (or 3.62% below the nation's PCPI), Indiana fell to 91.75% in 1997.

Figure 2



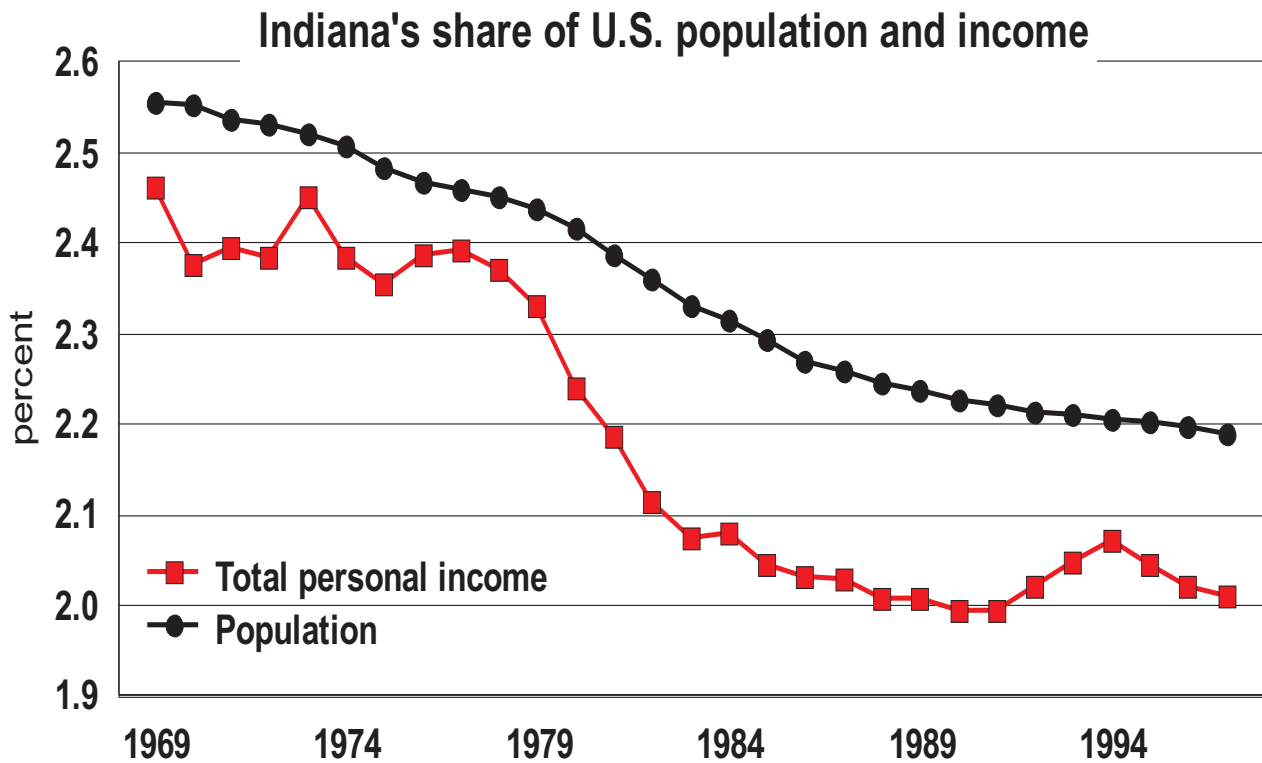
Did Indiana decline in PCPI relative to the nation because of an income deficiency or an excess of population? **Table 1** shows Indiana's compound annual rates of growth in both income and population failed to keep pace with the nation. But we were further behind in the rate of income growth than in population growth (-.75 vs. -.55). Thus, our per capita personal income grew slower than the nation and our PCPI, relative to the nation, fell. In effect, had our population growth kept pace with the nation, and our total personal income not improved, our PCPI would have been \$3,143 (13.4%) lower than the \$23,388 we actually achieved.

Table 1
Compound Annual Growth Rates, 1969-1997

	Total real personal income	Population	Real per capita personal income
United States	2.87	1.02	1.82
Indiana	2.12	0.47	1.64
<i>Difference (IN-U.S.)</i>	<i>-0.75</i>	<i>-0.55</i>	<i>-0.18</i>

As a slow growth state, Indiana's share of both America's population and total personal income declined over the period, as seen in figure 3. In 1969, Indiana had 2.55% of the nation's population and 2.46% of its total personal income. By 1997, we were down to 2.19% of population and 2.01% of income. We realized only 1.09% of the U.S. population growth during those years and 1.63% of the income growth.

Figure 3



County per capita personal income

Level of income Indiana's 92 counties can be compared to the state or to the nation. In 1969 we had 11 counties with PCPI above the national level. We peaked in 1973, that great year for high farm prices, when 24 Indiana counties exceeded the nation's PCPI. In 1997, only eight Hoosier counties were above the national level. **Figure 4** shows those eight counties plus another 11 counties that exceeded the state level in 1997. Of the 73 counties below the state level, 37 had managed to improve their position relative to the state in those 28 years. Another 32 saw their position relative to the state deteriorate; four counties held steady.

There is evidence of growing disparity in the per capita personal income of Indiana counties. Hamilton has reigned as our state's highest income county throughout the period. It was 17% ahead of the state in 1969 and

had surged to 56% over the Indiana PCPI by 1997. In 1969, Owen and Crawford counties tied for last place, 32% below the state. By 1997, Starke county held last place, 39% below the state.

The ratio between the highest and the lowest counties in Indiana is shown on the left axis in **figure 5**. Where Hamilton county residents, on average, had \$1.66 for each dollar held by citizens of Owen and Crawford counties in 1969, that advantage grew to \$2.34 over Starke county in 1997.

In terms of 1998 buying power, the right axis in **figure 5**, the gap between the richest and the poorest counties rose from \$6,849 to \$20,820 over 28 years, an average real increase of 4% per year. Thus in relative and absolute terms, the PCPI disparity among Indiana counties has been increasing.

Growth rates For the entire period, 1969 to 1997, no county declined in PCPI, although Newton achieved only a 0.5% compound annual rate of growth. Hamilton led all counties with a 2.7% rate in PCPI, well ahead of

Figure 4
County Per Capita Personal Income

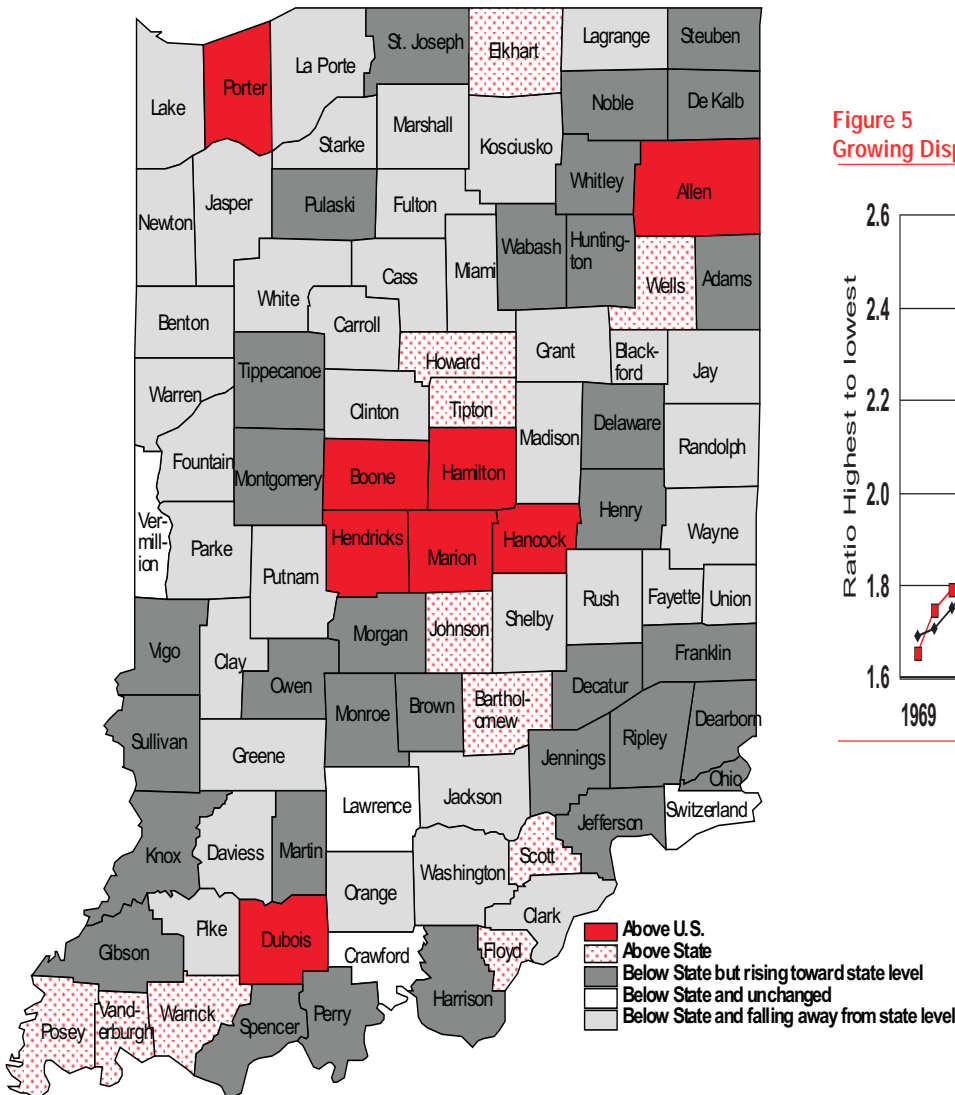
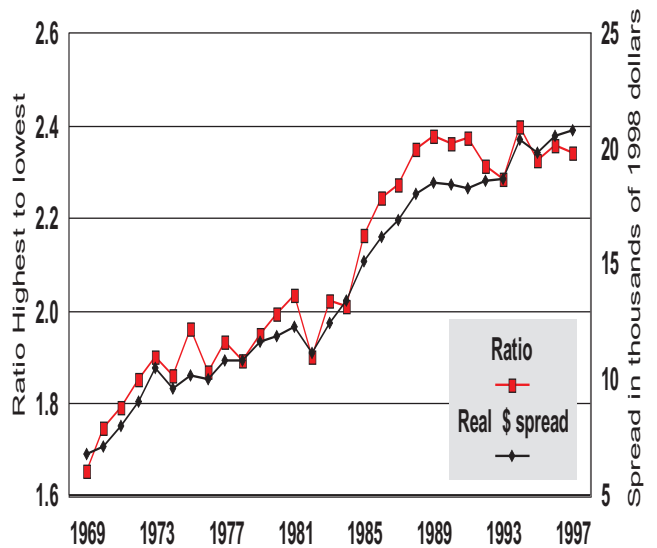


Figure 5
Growing Disparity in Real Per Capita Personal Income



second place Boone county (2.3%) (see figure 6). Not surprisingly, Hamilton enjoyed the highest compound rate of personal income growth (6.7%) which was offset by a state-leading 3.9% rise in population.

Warrick county, which ranked second to Hamilton in both total personal income growth (4.19%) and in population growth (2.21%), managed only 9th place in PCPI growth (1.93%). In 10th place was neighboring Vanderburgh at 1.89%. But, in contrast to Warrick, Vanderburgh had a slight loss in population (-0.03%),

ranked 73rd) to go with a modest growth in total personal income (1.86% ranked 51st). Population decline leads to higher levels of, and a higher growth rate in, per capita personal income (see box 1).

PCPI increased in 22 counties only because their income gains were not overwhelmed by their population losses. To view a positive growth rate in PCPI without looking at the underlying forces leads to misinterpretation. For example, in figure 6, Daviess and Jay counties

Box 1

The Arithmetic of PCPI Growth

- A. If total income grows **faster** than population, per capita personal income will **increase**
- B. If total personal income grows **slower** than population, per capita personal income will **decrease**
- C. If total personal income and population grow at the **same rate**, per capita personal income will be **unchanged**

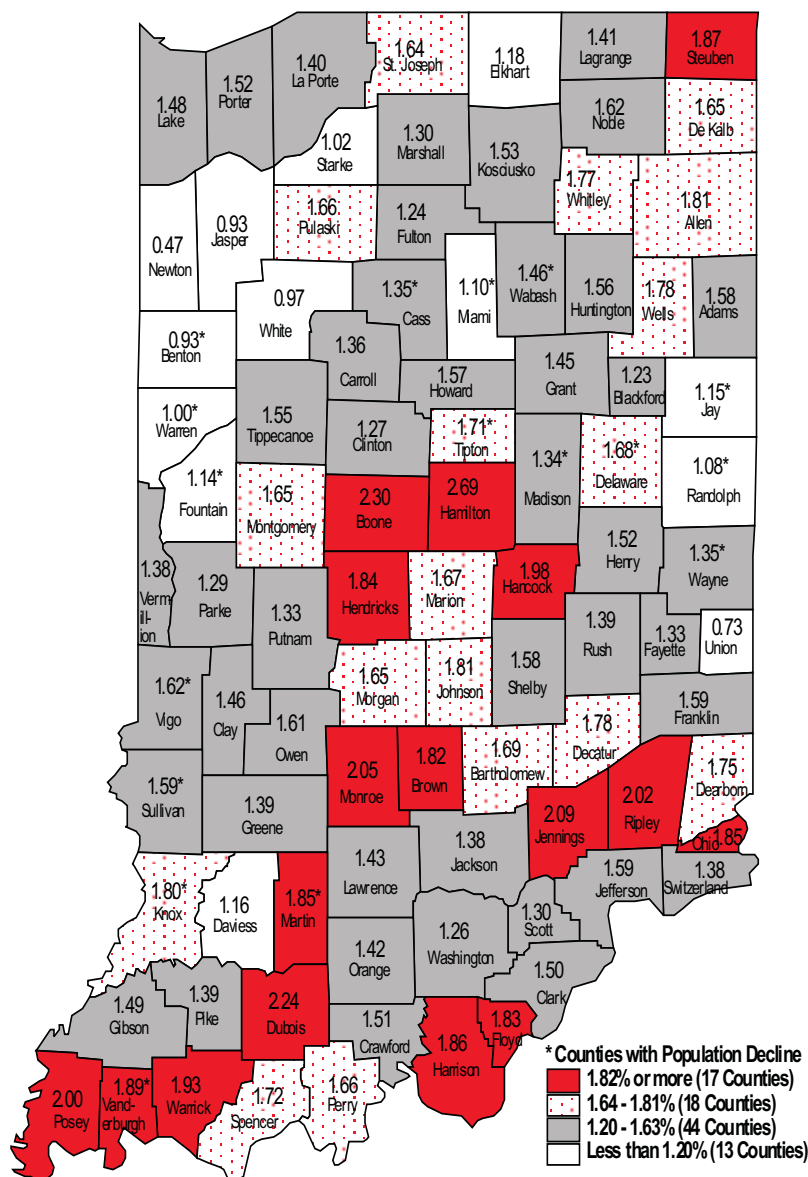
The rate of change in population has a small additional influence on the growth rate of per capita personal income:

$$pcpi = (tpi - pop) / (1 + pop)$$

where

- pcpi= % change in per capita personal income
- tpi= % change in total personal income

Figure 6
Indiana County Growth Rates



have comparable growth rates in PCPI. Daviess was a growing county with an advance of 1.45% in total personal income and 0.29% growth in population, and thus a 1.16% growth rate in PCPI (81st in the state).

Compare that with Jay county where the PCPI growth rate of 1.15% (82nd) was almost identical to Daviess county. Jay county's total income grew by only 0.86%, but the PCPI growth rate was aided by a 0.29% decline in population. Despite the fact that both counties had nearly the same rates of growth in PCPI, it seems reasonable to say that Daviess county outperformed Jay county over the period.

A Final note

There are many questions which these data raise, including:

- Is population attracted to places with high per capita income?
- Does the pattern of population growth (fast, erratic, slow, smooth) have an affect on the rate of growth in income or population?
- What factors contribute to high or low income levels: Interstates? Manufacturing? Services? Retired people? But attempts to answer those questions must wait for future issues.

Notes

¹All dollar figures in this report are in *real* terms, that is, adjusted for price changes and expressed in 1998 dollars.