Special Topic: Productivity, Compensation, and Inflation

Some important arithmetic.

Fifteen years ago there was a rare display of excitement at the annual meeting of the American Economic Association. Increasingly, economists were taking the view that information-based technologies (e.g., computers and the internet) were significantly accelerating the economy's aggregate productivity growth rate and improving our long-term economic prospects.

The scenarios proposed by the optimists verged on the surreal. A one percentage point increase in the annual productivity growth rate would add \$8 trillion to the U.S. economy over the next ten years. That could significantly boost household income, pay off a chunk of the national debt, and still keep inflation under control.

Of course, the U.S. economy has subsequently stumbled down a different path. But the unmet promises of the information age are only partially to blame. The Nasdaq stock market crash in 2000, two overseas wars, an enormous housing bubble that triggered the Great Recession, and generally bad economic policy have also contributed to the economy's dismal performance in recent years.

There is a simple though not always precise analytical framework that describes the general state of the economy and the role of productivity. Paul Samuelson and William Nordhaus in their textbook *Economics* call it "The Logic of Wage-Price Arithmetic."

For example, if hourly compensation grows at a 5 percent annual rate and labor productivity increases at a 2 percent rate, prices will rise at a 3 percent rate, more or less:

> Inflation = compensation growth - productivity growth

The years between 1960 and 1973 could be the poster child for a healthy economy. Hourly compensation climbed rapidly (5.5 percent per year), but robust productivity growth (3.0 percent) kept inflation in check (3.2 percent). Real compensation, defined as nominal compensation adjusted for inflation, rose at a hearty clip (2.3 percent).

The cost of the Vietnam War and the energy crisis in 1973 weighed heavily on the economy over the next two decades. Compensation growth accelerated (6.1 percent per year), but productivity growth plummeted (1.4 percent). Consequently, the inflation rate soared (5.8 percent), causing real compensation growth to ground to a virtual halt (0.3 percent).

The New In-

formation Age,

which lasted

from 1995 to

2010, made

significant im-

provements to

rebounded (2.6 percent per

the economy.

Productiv-

ity growth

U.S. Productivity, Compensation, and Inflation

Annual Percent Change			
	Output per Hour	Hourly Compensation	Consumer Price Index
1960-73	3.0	5.5	3.2
1973-95	1.4	6.1	5.8
1995-10	2.6	3.9	2.4
2010-13	0.8	2.2	2.2
1960-13	2.1	5.1	4.0



year), the inflation rate fell (2.4 percent), and real hourly compensation growth increased (1.5 percent).

But in this case the "wage-price arithmetic" gives a misleading impression of economic conditions. Despite good productivity gains, real Gross Domestic Product expanded at just half speed between 2000 and 2010. In fact, because output grew no faster than labor productivity, the economy failed to create a single new job on net during the decade. The U.S. unemployment rate soared from 4.0 percent to 9.6 percent and the number of underutilized workers (unemployed people, labor force drop-outs, and part-time workers desiring full-time job) ballooned from 10 million to 26 million.

It is not clear that the current economic recovery has helped matters much. In 2013, the jobless rate dropped to 7.4 percent and the underutilized workforce fell to 22 million. However, between 2010 and 2013, labor productivity gains slowed to a snail's pace (0.8 percent per year). At the same time, employers put a lock on real hourly compensation (0.0 percent). The low inflation rate (2.2 percent), which is normally a desirable characteristic of the economy, simply reflected the weak economy.