Research

Does Compensation Lag Behind Productivity?

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OVERVIEW

It is frequently asserted that growth in labor productivity is outpacing growth in compensation. This suggests that the economy is not properly compensating workers, and is one of the key reasons many believe it necessary to raise the minimum wage, expand overtime pay coverage, mandate paid family leave, and increase union membership. We examine this assertion and find that it is based on faulty statistical analyses that employ misleading tactics by comparing labor market data that are not directly comparable. In particular, these claims are based on an analysis that:

- Compares labor productivity of the entire economy to compensation for private sector production and nonsupervisory workers

- Uses two different price indexes, one to measure real productivity and another to measure real compensation.

After accounting for these issues, we find that real compensation has grown closely with labor productivity over the last fifty years.

INTRODUCTION

While advocating for policies like raising the minimum wage and expanding overtime pay coverage, many assert that compensation has not grown with labor productivity. They claim that since the 1970s there has been a stark divergence between the growth in worker pay and the growth in labor productivity. According to the Economic Policy Institute (EPI), productivity has grown eight times faster than worker compensation in recent years, as productivity rose 64.9 percent and hourly compensation only grew 8.2 percent from 1979 to 2013.[1] Taken at face value, these numbers are alarming. They suggest that rewards from productivity growth are going almost exclusively to company profits and those workers at the top, while regular workers are neglected. Fortunately, the putative trend is based on a number of analytical flaws, such as comparing labor productivity of the entire economy to compensation for private sector production and nonsupervisory workers. The result is a story that simply is not true.

COMPARING THE PURPORTED TREND TO REALITY

Over the last few years, charts similar to Figure 1 have become increasingly prominent in labor market policy discourse.

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Figure 1 is a reconstruction of a graph featured in a 2014 EPI paper.[2] Graphs similar to Figure 1 have been featured prominently by EPI, unions, and a presidential campaign, which use it to justify policies like raising the minimum wage, expanding overtime pay coverage, and increasing union membership. Figure 1 compares the growth in real hourly compensation to real labor productivity over time. The former represents what workers receive from the economy and the latter illustrates the value of what they produce in it every hour. According to the chart, the two metrics began to diverge during the 1970s and growth in labor productivity has been outpacing growth in hourly compensation ever since. As a result, since 1964 real labor productivity has increased 114.5 percent and real hourly compensation has only risen 15.8 percent.

Using official productivity and compensation data in the Bureau of Labor Statistics (BLS) multifactor productivity tables, we compared the growth in real productivity to the growth in real compensation since 1964.[3] As shown in Figure 2, the official data tell a completely different story.

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While Figure 1 suggests that growth in real productivity and real compensation diverged during the 1970s, official data show that real compensation has followed productivity quite closely. In fact, a noticeable divergence does not occur until around 2005, which results in a much smaller productivity-compensation gap. From 1964 to 2013, real labor productivity of private sector workers grew 180.4 percent while growth in the real compensation received by those same workers tracked closely behind at 161.1 percent.

How could two measures of the same phenomenon be so different? In the following, we show step-by-step how the illustration of labor productivity and compensation in Figure 1 differs from official labor statistics.

STEP 1: FIGURE 1 COMPARES PRODUCTIVITY FOR THE ENTIRE ECONOMY TO COMPENSATION FOR WORKERS IN THE PRIVATE SECTOR

EPI calculated the growth in labor productivity for the entire economy and compared it to growth in compensation for only workers in the private sector. It did this by analyzing unpublished BLS productivity data. If the goal is to compare compensation and labor productivity in the private sector, then it is much more appropriate to compare growth in private sector compensation with growth in private sector productivity. Figure 3 below inserts into Figure 1 the official BLS measure of real private sector labor productivity (output per hour) located in the multifactor productivity tables.

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It is important to note that official labor productivity data do not account for the depreciation of capital. This can create an imperfect comparison between productivity and compensation: the replacement of capital as it loses value contributes to overall output, but it does not contribute to any rise in national income or translate into higher compensation for workers.[4] Therefore, we likely overestimated the actual growth of labor productivity in the private sector. EPI's measure of labor productivity, on the other hand, does account for capital depreciation, which actually reduces the real growth in labor productivity over time. So by not accounting for capital depreciation, the official private sector data in Figure 3 actually widen the gap between compensation and productivity growth. Since 1964, labor productivity net depreciation grew 114.5 percent and total labor productivity in the private sector grew 180.4 percent. From this point on, we use the official BLS measure of private sector labor productivity.

STEP 2: FIGURE 1 COMPARES LABOR PRODUCTIVITY OF ALL WORKERS TO COMPENSATION OF PRODUCTION AND NONSUPERVISORY WORKERS

After replacing total economy labor productivity with private sector labor productivity in Figure 3, we run into another problem. In particular, Figures 1 and 3 compare growth in productivity for one group of workers to growth in compensation for another group of workers. Official productivity data, shown in Figure 3, represent labor productivity of all private sector workers, including highly paid managers. Compensation growth in Figure 3, however, only represents compensation for a portion of private sector workers. In particular, it represents compensation for production and nonsupervisory workers, who account for about 82 percent of the private sector workforce. The excluded 18 percent of the workforce consists of more highly compensated workers and supervisors. Thus, Figure 3 compares productivity for all private sector workers to a measure of compensation that excludes highly paid workers and has a downward bias.

As can be seen in Figure 4, tracking growth in real compensation for all private sector workers significantly closes the gap between productivity and compensation.

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As shown above, replacing real compensation for production and nonsupervisory workers with real compensation of all private sector workers, available in the BLS multifactor productivity tables, substantially raises the growth in compensation since the 1970s. Since 1964, real compensation for all private sector workers rose 70.3 percent, compared to just 15.8 percent for private sector production and nonsupervisory workers.

EPI asserts that it uses compensation for production and non-supervisory workers to analyze how typical workers' earnings are growing relative to labor productivity.[5] If this is indeed the goal, it would then be more appropriate to compare compensation for production and nonsupervisory workers to labor productivity for the

same group. However, since there is no official labor productivity data available for production and nonsupervisory workers, the best way to make a fair comparison is to use data representing the entire private workforce for both compensation and productivity.

STEP 3: FIGURE 1 USES TWO DIFFERENT PRICE INDEXES TO ADJUST PRODUCTIVITY AND COMPENSATION FOR INFLATION

Labor productivity for the entire economy (Figure 1) and the private sector (Figures 2, 3, and 4) is adjusted for inflation using the Implicit Price Deflator (IPD). In all of the charts, however, compensation is adjusted using the Consumer Price Index (CPI). In this context, it is misleading to use two different price indexes, one to measure real productivity and another to measure real compensation.[6] Since CPI generally estimates higher inflation than IPD, the two price indexes are not comparable. As a result, even after using average compensation for the entire private sector workforce, the real growth in compensation measured in Figure 4 likely overstates the gap between growth in productivity and compensation. In order to capture the actual gap, it is best to use one measure of inflation when comparing real growth in compensation to real growth in productivity.

So which price index should we use? The fundamental difference between IPD and CPI is that IPD measures changes in the prices of goods and services produced by businesses and CPI measures the change in prices of goods and services that are consumed in America, including those that are produced outside of the United States. According to Martin Feldstein, President Emeritus of the National Bureau of Economic Research, a "competitive firm pays a nominal wage equal to the marginal revenue product of labor, i.e., to the marginal product of labor multiplied by the price of the firm's product."[7] In other words, a worker's compensation is based on his or her benefit to the firm, which depends on the prices of the firm's products not the prices of the goods consumed by all Americans. Thus, IPD is far more appropriate because the price changes of goods businesses sell have a more direct impact on employee pay than do price changes of other consumer goods.

Figure 5 shows that simply adjusting compensation for inflation with IPD instead of CPI closes almost the entire remaining gap.

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When adjusted with CPI, real hourly compensation for all workers in the private sector increased by 70.3 percent since 1964. However, when adjusting compensation with IPD, it grew by 161.1 percent. The blue and red lines in Figure 5 are the same shown in Figure 2.

CONCLUSION

Clearly, methodology matters in this discussion. When the private-sector growth of productivity and total compensation are compared using all private sector workers and the same output price deflator, it is apparent that compensation and productivity have grown hand-in-hand. As a result, the assertion that regular workers do not benefit from economic growth is based on a faulty analysis that essentially underestimates the growth in real hourly compensation during the last half century. Most troubling, these assertions inspire misguided policies, such as raising the minimum wage or expanding overtime pay, which have been shown to provide minimal

benefit to those in need and often hurt the workers and families the policies aim to help.

[1] “Raising America’s Pay: Why It’s Our Central Economic Policy Challenge” Economic Policy Institute, available at http://www.epi.org/publication/raising-americas-pay/