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Higher Wages for Low-Income Workers Lead to Higher Productivity

by [Justin Wolfers](#) and [Jan Zilinsky](#) | January 13th, 2015 | 09:41 am

Under what circumstances can raising the pay of low-skilled workers at large corporations lead to general improvements in productivity? Last month, Aetna informed the Institute of its plan to raise wages of its lower-paid workers. With this natural experiment in mind, Justin Wolfers and Jan Zilinsky decided to explore literature and theory on how pay increases influence productivity. The following note summarizes their findings for major private-sector companies in the United States in general (and does not address the implications for Aetna itself or for any specific company or sector).

Economists have long argued that increases in worker pay can lead to improvements in productivity—indeed, that it can actually be profitable to pay workers higher wages. As Alfred Marshall, the father of modern economics, argued almost 125 years ago, “any change in the distribution of wealth which gives more to the wage receivers and less to the capitalists is likely, other things being equal, to hasten the increase of material production.” Since then, economists have compiled rich data validating Marshall’s hypothesis that paying higher wages generates savings:

Higher wages motivate employees to work harder. [Janet Yellen \(1984\)](#) [pdf] suggested that higher wages create the conditions for workers to be more productive, pointing to “reduced shirking by employees due to a higher cost of job loss; lower turnover; an improvement in the average quality of job applicants and improved morale.” Among the studies documenting this point are [Levine \(1992\)](#), [pdf] which analyzed a sample of large (mostly Fortune 500) manufacturing companies, and [Holzer \(1990\)](#), [pdf] which used data from a national sample of firms finding that “high-wage firms can sometimes offset more than half of their higher wage costs through improved productivity and lower hiring and turnover cost.” [Reich et al. \(2003\)](#) [pdf] surveyed employers at the San Francisco airport after a broad-based increase in wages and found that the employers of the majority of affected workers reported that their overall performance had improved. [Mas \(2006\)](#) [pdf] analyzed the case of New Jersey police officers who were granted a wage increase of 17 percent, and who were 12 percent more productive in clearing cases than those who were refused the increase.

Higher wages attract more capable and productive workers. The evidence that higher wages attract more high quality applicants for new jobs is voluminous. [Dal Bó et al. \(2013\)](#) show that offering higher salaries yielded an applicant pool with a higher IQ and with personality scores and motivation that made them a better fit for the advertised jobs. Moreover, the first firm to offer higher wages is more likely to attract and retain more productive workers.

Higher wages lead to lower turnover, reducing the costs of hiring and training new workers. [Reich et al \(2003\)](#) [pdf] calculated that typical turnover costs exceed \$4,000 for each worker and that an increase in wages at the San Francisco airport led to a decline in turnover of 34 percent, yielding turnover-related savings of \$6.6 million per year. [Dube et al. \(2007\)](#) [pdf] found that when a San Francisco living wage ordinance raised wages among low-paid workers, those workers were more likely to stay with their employers. Reich and his coauthors also documented a stunning turnover rate of nearly 95 percent per year among security screeners in mid-2000, which fell to 18.7 percent when pay improved. [Fairris et al. \(2005\)](#) [pdf] examined evidence from Los Angeles, finding that when employers were directed to offer higher wages, the decline in worker turnover yielded savings equal to around one-sixth of the cost incurred.

Higher wages enhance quality and customer service. The [Reich et al. \(2003\)](#) [pdf] study also found that almost half of employers reported improvements in customer service following a wage rise for low-wage workers, and indeed, higher wages at the San Francisco airport led to shorter airport lines. [Cowherd and Levine \(1992\)](#) found that an increase in the pay of lower-level employees relative to management increased the quality of production. Using data from more than 500 retail stores, [Fisher et al. \(2006\)](#) [pdf] found a positive relationship between customer satisfaction and the payroll level of

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associates and managers in the store. Higher wages were also associated with employers having more knowledge about the inventory.

Higher wages reduce disciplinary problems and absenteeism. [Cappelli and Chauvin \(1991\)](#) [pdf] documented that in plants where pay was higher relative to the local labor market, fewer disciplinary actions were required. Likewise, nearly half of those employers surveyed by [Reich et al. \(2003\)](#) [pdf] reported a decrease in disciplinary issues following a wage rise. [Zhang et al. \(2013\)](#) [pdf] showed in a survey of Canadian firms that absenteeism was less likely when wages were higher. [Pfeifer \(2010\)](#) found a similar result in a large German survey.

Firms with higher wages need to devote fewer resources to monitoring. High-paying firms have been found to create a culture of hard work in which employees monitor their coworkers, reducing the need to hire supervisors. [Rebitzer \(1995\)](#) found that low-wage maintenance workers needed more supervision in the petrochemical industry. [Groschen and Krueger \(1990\)](#) showed that more highly paid nurses were also supervised less. [Georgiadis \(2008\)](#) found that in residential care homes in the United Kingdom “higher wage costs were more than offset by lower monitoring costs.”

Workers excessively concerned about income security perform less well at work. A variety of recent experiments have demonstrated this proposition. [Mani et al. \(2013\)](#) recruited buyers in a shopping mall and asked them to think about their finances. Researchers observed that the performance of poor subjects on a cognitive test deteriorated if they were asked to imagine a large emergency expenditure (a \$1,500 car repair), but no such deterioration was observed for well-off subjects. [Mullainathan and Shafir \(2013\)](#) assessed a range of related experiments, finding that mental tasks that simulate the constant stress of poverty led people to act in compulsive and improper ways. Indeed, the [World Bank Development Report \(2015\)](#), [pdf] citing numerous field studies, recognizes that poverty taxes people’s mental capacities and self-control.

Other mechanisms by which higher wages can yield offsetting benefits include:

- Higher wages are associated with better health—less illness and more stamina, which enhance worker productivity.
- Greater job satisfaction can result in less conflict between employers and labor groups.
- Enhanced reputation with consumers (compare the reputations of Costco and Walmart).

All of these positive effects may interact to yield even larger aggregate effects, as the productivity of one worker often raises the productivity of their coworkers. [Mas and Moretti \(2009\)](#) [pdf] offer persuasive data on this point, showing that productive cashiers motivate their coworkers to work faster.

Disclosure: Aetna is a supporter of the [Peterson Institute](#) [pdf], and its CEO, Mark Bertolini, is a member of the Institute’s Board of Directors. Aetna has not participated in the preparation of this analysis, and neither Aetna nor its employees has reviewed its conclusions, in keeping with Institute research and publication practices.

References

Bó, Ernesto Dal, Frederico Finan, and Martín A. Rossi. 2013. Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service. *Quarterly Journal of Economics* 128, no. 3: 1169–218.

Cappelli, Peter, and Keith Chauvin. 1991. An Interplant Test of the Efficiency Wage Hypothesis. *Quarterly Journal of Economics* 106, no. 3: 769-87.

Cowherd, Douglas M., and David I. Levine. 1992. Product Quality and Pay Equity between Lower-Level Employees and Top Management: An Investigation of Distributive Justice Theory. *Administrative Science Quarterly* 37, no. 2: 302–320.

Dube, Arindrajit, Suresh Naidu, and Michael Reich. 2007. The Economic Effects of a Citywide Minimum Wage. *Industrial and Labor Relations Review* 60, no. 4: 522–43.

Fairris, David, David Runsten, Carolina Briones, and Jessica Goodheart. 2005. *Examining the Evidence: The Impact of the Los Angeles Living Wage Ordinance on Workers and Businesses*. UCLA Institute for Research on Labor and Employment. University of California, Los Angeles.

Fisher, Marshall L., Jayanth Krishnan, and Serguei Netessine. 2006. *Retail Store Execution: An Empirical Study*. Operations and Information Management Department, Wharton School, University of Pennsylvania.

Georgiadis, Andreas. 2008. *Efficiency Wages and the Economic Effects of the Minimum Wage: Evidence from a Low-Wage Labour Market*. CEP Discussion Paper No. 857. London: Centre for Economic Performance, London School of Economics and Political Science.

Groschen, Erica L., and Alan B. Krueger. 1990. The Structure of Supervision and Pay in Hospitals. *Industrial and Labor Relations Review* 43, no. 3: 134-S–46-S.

Holzer, Harry J. 1990. Wages, Employer Costs, and Employee Performance in the Firm. *Industrial and Labor Relations Review* 43, no. 3: 147–64.

Levine, David I. 1992. Can Wage Increases Pay for Themselves? Test with a Production Function. *Economic Journal* 102: 1102–115.

Mani, Anandi, Sendhil Mullainathan, Eldar Shafir, and Jiaying Zhao. 2013. Poverty Impedes Cognitive Function. *Science* 341, no. 6149: 976–80.

Mas, Alexandre. 2006. Pay, Reference Points, and Police Performance. *Quarterly Journal of Economics* 121, no. 3: 783–821.

Mas, Alexandre, and Enrico Moretti. 2009. Peers at Work. *American Economic Review* 99, no. 1: 112–45.

Mullainathan, Sendhil, and Eldar Shafir. 2013. *Scarcity: The New Science of Having Less and How It Defines Our Lives*. New York: Picador.

Pfeifer, Christian. 2010. Impact of Wages and Job Levels on Worker Absenteeism. *International Journal of Manpower* 31, no. 1: 59–72.

Rebitzer, James B. 1995. Is There a Trade-Off between Supervision and Wages? An Empirical Test of Efficiency Wage Theory. *Journal of Economic Behavior and Organization* 28, no. 1: 107–129.

Reich, Michael, Peter Hall, and Ken Jacobs. 2003. *Living Wages and Economic Performance: The San Francisco Airport Model*. Institute of Industrial Relations, University of California, Berkeley.

World Bank. 2015. Poverty. In *World Development Report 2015: Mind, Society, and Behavior*. Washington: World Bank.

Yellen, Janet L. 1984. Efficiency Wage Models of Unemployment. *American Economic Review* 74, no. 2: 200–205.

Zhang, Wei, Huiying Sun, Simon Woodcock, and Aslam Anis. 2013. Valuing Productivity Loss Due to Absenteeism: Firm-level Evidence from a Canadian Linked Employer-Employee Data. Paper presented at the 12th annual meeting of the Canadian Health Economists' Study Group, Manitoba, Canada.

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