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Comment

Frank Levy

The authors have written an interesting chapter addressing an important question: To what extent does a nation's earnings inequality reflect market forces versus weak labor market institutions? In the United States, the question is quite timely. Recent discussion of labor market institutions includes potential increases in the minimum wage, the number of workers covered by overtime pay, and whether California Uber drivers are Uber employees or independent contractors—an issue that will eventually extend to other parts of the "gig" economy (Office of the President, n.d.; Memoli 2016; Isaac and Singer 2015).

As the authors note, their chapter is the latest in a substantial body of research on the market/institution question. In this literature, a central methodology involves using decomposition to assess whether earnings inequality is better explained by a nation's wage dispersion or its distribution of skills. Consider, for example, inequality in the US earnings distribution compared to earnings inequality in each of two counterfactual distributions:

- The earnings distribution created by valuing the US distribution of workers at different educational (skill) levels with, say, German wages rates for workers at those educational levels.
- The earnings distribution created by valuing the German distribution of workers at different educational (skill) levels with US wage rates for workers at those educational levels.

These comparisons suggest the dispersion of US wage rates (skill prices), rather than the US skills distribution, is the main source of US earnings inequality. Many authors interpret this wage rate dispersion as reflecting relatively weak US labor market institutions (e.g., Paccagnella 2015). Leuven, Oosterbeek, and van Ophem (2004), however, challenged this interpretation, arguing that a large dispersion of relative wages may arise from not only weak labor market institutions but from a shortage of skilled workers relative to the country's demand.

In this chapter, Broecke, Quintini, and Vandeweyer address the institutions/market question using numeracy scores from the internationally administered PIAAC tests, a potentially better measure of adult skills than the standard years of schooling measure. The authors are not the first to use the PIAAC data in this way (Paccagnella 2015; Pena 2014), but they have access to scores from a larger sample of countries than previous studies and they are the first to analyze the PIAAC data that adjusts for the Leuven,

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Oosterbeek, and van Ophem critique. Their analysis establishes three main points:

- A country's net supply of numeracy skills (i.e., supply minus projected demand at different skill levels) has modest power in explaining cross-country differences in the 90–10 earnings gap.
- The modest explanatory power is the average of significant power in explaining the 90–50 gap and no power in explaining the 50–10 gap.
- Even in skills regressions explaining the 90–50 gap, adding variables that describe labor market institutions significantly increases explanatory power.

The authors' arguments are convincing and my comments focus on how their work might be extended.

The first line of inquiry involves cross-country differences in industrial structure. By constructing the net-supply numbers, the authors' estimates implicitly capture cross-country variations in the demand for labor skills. It would be useful to explore the demand side further by examining differences in industrial structure.

Stijn Broecke was good enough to send me tabulations of the industry of employment for persons in the 45th–55th percentiles of the earnings distribution and the 90th percentile and above. Figure 7C.1 shows the industry composition for the 90th percentile and above in the United States versus all other countries in the chapter's sample—that is, the comparative industry sources of high earnings.

Compared to the average of other PIAAC countries, the top earnings decile of workers in the United States shows significantly smaller shares of workers in manufacturing and education industries with relatively equal pay. Conversely, the top US earnings decile shows relatively large shares of workers in finance, professional-scientific-technical activities (presumably including lawyers)—industries with significant earnings inequality—and two other industries, one of which is health and social work activities, which includes physicians. A next step would involve exploring whether industries with relatively high levels of pay in the United States also have relatively high levels of pay in other countries. If they do, this suggests that one source of inequality may be an industrial structure that emphasizes industries that themselves pay wages that are relatively high or low.

A second line of inquiry involves utilizing the one-digit PIAAC occupational data. As part of their analysis, the authors attempt to use net supplies of medium- and low-skilled workers to explain cross-country variation in the 50–10 ratio. Here, however, they can find no relationship.

A possible explanation for the lack of a relationship is the hollowing out of the occupational structure of the kind proposed by Autor, Levy, and Murnane (2003) and Goos, Manning, and Salomons (2014), among others. In this story, some combination of computer-based technical change

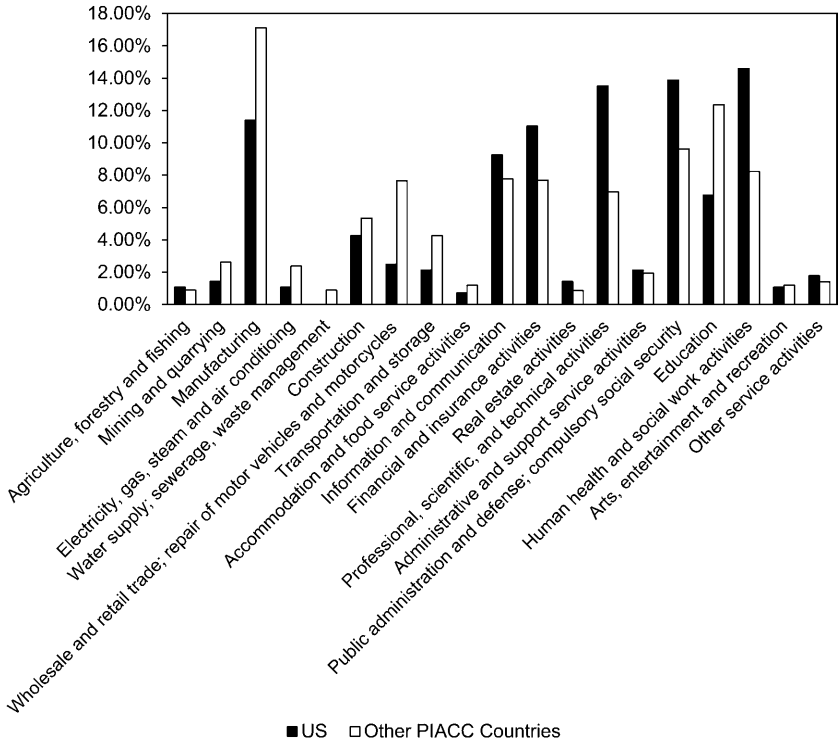

Fig. 7C.1 Industrial composition of 90th–100th earnings percentiles: United States, other PIAAC countries

Source: Tabulations of OECD Survey of Adult Skills (PIAAC 2012).

and offshoring eliminate highly structured jobs that largely occur in the middle of the earnings distribution. The immediate result is the displacement of medium-skilled workers. To the extent these workers lack the skills to move up in the earnings distribution, they move down where they compete with less skilled workers for available jobs. This pattern of displacement could account for the chapter's finding of people with both low and middle numeracy skills occupying similar low-paying jobs. It may be that comparing occupational distributions at the 10th and 50th earnings percentiles can shed some light on the relevance of this explanation.

Beyond the exploration of demand, the chapter could usefully remind the reader of the difficulty in distinguishing market factors from institutional factors. The current chapter improves on the standard wage/skill decompositions described above by starting with a regression that uses only a country's net supplies of high- and low-skilled workers to explain the 90–10 earnings difference. The authors then examine how this regression changes when institutional variables are added. The results suggest that institutional vari-

ables are important—net skill supplies are only statistically significant when institutional variables are included in the regression. But there is significant multicollinearity among the institutional variables suggesting that specific labor market institutions may be the endogenous results of culture as much as strictly exogenous policies.

As another example of the difficulty in attribution, the authors show that an individual's skill attainment can explain much of the cross-country earnings gap between individuals whose mother had tertiary education and individuals whose mother had lower secondary education. In proximate terms this is a skills story, but as the authors acknowledge, it might be in part a genetic story and it could be an institutional story. In particular, the OECD Skills Outlook for 2013 points out this relationship:

> Social background has a strong impact on skills in some countries. . . . In England/Northern Ireland (UK), Germany, Italy, Poland and the United States, social background has a major impact on literacy skills. In these countries more so than in others, the children of parents with low levels of education have significantly lower proficiency than those whose parents have higher levels of education, even after taking other factors into account. (OECD 2013, 30)

The quote underlines the obvious: an adult's skills may reflect the education to which he (she) had access—that is, their country's institutions.

Finally, it would be interesting to see the authors speculate a little on how the relationships they examine might change in the future. The current chapter makes the standard assumption that industrial economies will continue to experience stable or increasing demands for skill. There is, however, some evidence suggesting the demand for skills may be weakening. Beaudry, Green, and Sand (2013) discuss a declining demand for cognitive skills after 2000. David Autor and Brendan Price, applying a task framework, show a declining intensity of analytical tasks after 2000 (personal communication). My work with Alan Benson and Krishna Esteva shows lower rates of return to college in 2010 than in 2000 (Benson, Esteva, and Levy 2013).

This slowdown has many potential explanations, but a possibility worth considering is the slowing rate of population growth and, in particular, labor force growth (figure 7C.2).

For the last half century, demographic discussions in labor economics largely focused on the baby boom cohorts. Because of the baby boom, adequate population and growth—enough to simulate investment in new capital equipment—was taken for granted.

That may be changing. The slow recovery from the 2008 recession involved weak macroeconomic policy, but it also raised the possibility that slow population growth in the United States and other countries was creating a significant policy headwind. Larry Summers noted this possibility in

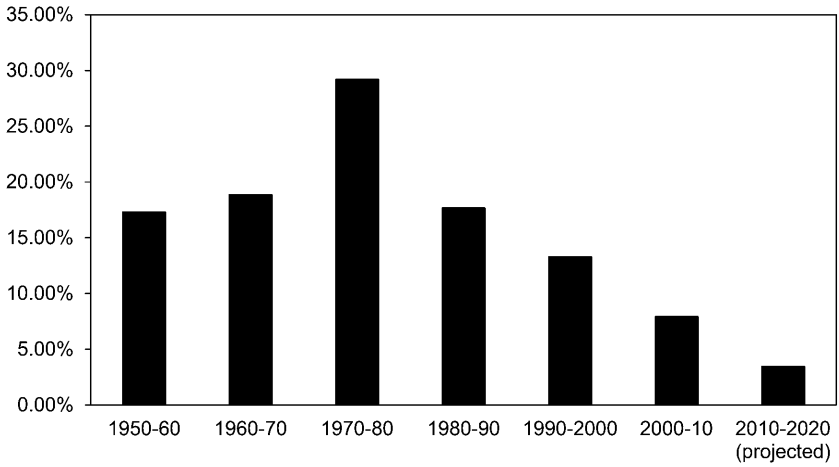

Fig. 7C.2 Labor force growth per decade, 1950–2020

talking about secular stagnation, something that had not been much thought about since World War II.

In the labor force per se, slow population growth has combined with the baby boomers' retirement. As a result, labor force growth between 2000 and 2010 was the lowest in the last sixty years, and growth for 2010–2014 projected over a decade is significantly slower still.

I appreciate that many other factors are involved in determining labor demand numbers, but it is worth exploring whether the combination of slow force growth and an aging population exert systematic effects on the demand for labor that help to shape what may be a slowdown in the demand for bachelor's degrees versus other levels of education.

In conclusion, Broecke, Quintini, and Vandeweyer have made good use of the PIAAC data to advance the discussion of skills versus institutions in explaining cross-country earnings inequality. My hope is that they will further develop this work to give us a better understanding of what remains a central economic issue.

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