

Occupational Change in Europe: How Technology and Education Transform the Job Structure. By Daniel Oesch. New York: Oxford University Press, 2013. 208 pp. ISBN 978-0-19-968096-2, \$72 (Cloth).

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What types of jobs are becoming more important in our economies, and what causes these changes? This timely book by Daniel Oesch attempts to tackle these questions for five European countries (Britain, Denmark, Germany, Spain, and Switzerland), over 1990 to 2008. For each country, Oesch analyzes changes in the structure of employment and uses a supply-demand-institutions (SDI) logic to interpret these changes. The SDI framework follows that of the “canonical model” of labor markets. Such a model attributes changes in skill-upgrading and the skill premium to shifts in the relative demand for skilled workers due to technological progress and globalization; to shifts in the relative supply of skilled workers due to changes in educational attainment growth rates and immigration; and to labor market institutions such as collective bargaining and minimum wages. Despite its simplicity, the SDI framework has proved to be extremely successful in explaining skill-upgrading in employment as well as changes in the skill premium over time. The SDI framework therefore is a natural starting point to discuss recent changes in relative occupational employment and wages. The author does this by using an easy-to-follow methodology and by drawing on a literature of related work from the fields of sociology and labor economics.

The main empirical methodology used in the book to analyze occupational employment and wage changes is that of aggregating occupations into wage quintiles. That is, for each country, occupational employment is divided into five equally sized groups according to initial occupational wages. The key descriptive conclusion arrived at is that there has been strong occupational “upgrading” in all countries studied—the average occupation has become better-paid and higher-skilled.

This conclusion is consistent with a large literature that finds an increased relative demand for skilled workers in advanced nations’ economies. The main cause for this demand increase has long been argued to be technological progress, which is biased in favor of skilled workers, and is known as the Skill-Biased Technological Change (SBTC) hypothesis. The evidence in favor of this hypothesis is covered in the book, in particular the observation that relative employment and relative wages of skilled workers have increased simultaneously, indicative of an increased relative demand for skill.

Oesch then goes beyond the basic SDI framework by considering a more nuanced view of the SBTC hypothesis, which has been proposed by Autor, Levy, and Murnane (2003, *Quarterly Journal of Economics*): the routinization hypothesis. This hypothesis argues that the impact of technology on labor demand is more accurately described by considering what types of occupational tasks are performed in different jobs: to the extent that these tasks are “routine,” meaning codifiable, technology can replace labor in these tasks. Many of these routine tasks are performed in middling jobs, such as production and craft work as well as clerical support. Nonroutine tasks, however, cannot (as yet) be performed by computers: workers are likely to be complemented by technology in abstract nonroutine tasks (performed in managing and professional occupations, for instance), while technology neither substitutes nor complements labor in manual nonroutine tasks (such as those performed in lower-paid personal service occupations like cleaners or drivers). Besides upgrading, this leads to increased kurtosis in the occupational skill distribution, typically called “job polarization” in the literature.

Indeed, the author presents strong evidence in favor of the routinization hypothesis also: in all countries under consideration, relative labor demand strongly shifted against routine tasks, and job polarization can be observed in all countries from 1996 onward. One of the focal points of the book is then to examine whether occupational changes are best described by the SBTC (upgrading) “or” routinization hypothesis (polarization).

We believe this juxtaposition is misguided, however, as routinization does not preclude upgrading, nor, for that matter, SBTC. Indeed, the routinization hypothesis is equivalent to the SBTC hypothesis to the extent that nonroutine tasks are performed by skilled workers. Thus, the routinization hypothesis captures the impact of technology in a more general way by explicitly differentiating between tasks, a job characteristic, and skills, a worker characteristic. This better reflects the fact that, as Oesch himself points out, the impact of technological progress on the occupational structure may differ across time periods. A case

in point made throughout the book is how, during the first Industrial Revolution, many skilled crafts workers were replaced by machinery that could be operated by unqualified labor: clearly, this observation is at odds with SBTC. The routinization hypothesis, however, could account for this: some of the tasks that could be automated at the time were typically performed by skilled artisans. In order to analyze the labor demand effects of technological progress on the occupational job structure, the more relevant questions to ask, therefore, concern what tasks can be automated today, and what types of workers perform these tasks. Yet the book's methodology of analyzing employment share changes along quintiles is ill-suited for answering these questions. Despite making cross-country comparisons practical, it also blurs the explanatory power of any drivers (whether demand-, supply- or institution-driven) that are occupation-specific by the country-specific aggregation into quintiles. For that reason, the typical methodology in the literature has instead been to use regression techniques to estimate coefficients that are informative about the relative changes in (structural) equations formally derived from canonical SDI or more novel Ricardian models (discussed below).

Changes in labor supply are the second major factor for understanding occupational change. The author documents these changes in terms of skill supplies and immigration. Most striking has been the large increase in skill supply across all countries under study, caused by a rise in educational attainment, as well as an increase in the average worker's work experience due to aging populations. Also shown in the book is how migrants have predominantly taken up low-paid work while native workers, and particularly native women, have moved up the occupational ranks. An interesting contribution in this context is an analysis of occupational mobility: here, the book documents that the average age in middling jobs is increasing relative to low- and high-paid jobs in all countries. What is lacking from the book's supply-side analysis, however, is to consider the reallocation of workers across different tasks following recent technological progress. To conceptually separate skills from tasks, Acemoglu and Autor (2011, *Handbook of Labor Economics*) introduce a Ricardian framework of the labor market that goes beyond the canonical SDI logic that the book adheres to. This Ricardian framework assumes that firms demand tasks as inputs and that workers have different task productivity schedules that depend on the skills these workers supply to the labor market. Importantly, what happens to relative wages in this Ricardian framework following routinization depends on how workers reallocate to tasks based on their comparative advantage. Contrary to this insight, Oesch argues that the routinization hypothesis unambiguously predicts relative wages of the lowest-paid workers to increase relative to wages of middling workers: however, this is an overly simplistic representation of this hypothesis, ignoring the aforementioned effects of worker sorting across tasks. Indeed, the book's own evidence of aging middling jobs would suggest a composition effect where middling jobs are increasingly left to the workers with the highest occupation-specific human capital, who would be expected to earn higher wages, all else equal.

Last, the author takes on the ambitious challenge of examining the role of wage-setting institutions. There is little doubt that labor market institutions are important in explaining part of the quantitative differences in occupational changes between countries, and certainly play a role in determining wages for low-paid jobs. Concerning this latter role, the book documents how the socioeconomic literature has often argued in favor of a pervasive trade-off between employment and wages for low-skilled workers. Little evidence, however, supports such a trade-off and, in one of the book's most interesting contributions, the author provides several convincing explanations as to why this could be the case (e.g., the supply of unskilled workers has decreased at least as fast as its demand since countries educated their workforce; technologies could be endogenous such that higher wages for low-wage workers also shifts their demand curve out; or there could be wage polarization from routinization). Despite no trade-off being found, the labor market prospects of the low-skilled still deserve policy attention: a related, broader concern mentioned throughout the book is the potentially harmful effects of de-standardization of the work contract, which could erode some of the benefits obtained from an upgraded occupational structure and will hurt low-skilled workers disproportionately.

To conclude, the book is an interesting read, providing a general overview of the main drivers of occupational change. In this, the book fulfills its promise of helping policymakers and the public at large to frame and organize their thoughts about this important topic. We agree with the author's major finding that governments should take action that lead to

occupational upgrading at both ends of the labor market to reap the benefits of ongoing technological change.

Maarten Goos
Associate Professor
University of Leuven

Anna Salomons
Assistant Professor
Utrecht University

Inequality in the Workplace: Labor Market Reform in Japan and Korea. By Jiyeoun Song. Ithaca, NY: Cornell University Press, 2014. 248 pp. ISBN 978-0-8014-5215-4, \$49.95 (Cloth).

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Jiyeoun Song's *Inequality in the Workplace* is a study about labor market reforms in Japan and Korea over the past few decades. She compares these two economies, focusing on why these seemingly similar cases diverged in their trajectories of labor market transformation. The author identifies puzzling differences between Japan's liberalization targeted at labor market outsiders and Korea's labor market reform aimed at all workers. Such divergent directions of labor market change, however, brought about similar outcomes in these two economies. Both Japan and Korea are now characterized by high levels of inequality and dualism with significant segments of workers experiencing deteriorating conditions in job security, wages, and social protections.

Song explains such varying paths and outcomes of labor market transformation from an institutional perspective and advances two central arguments. First, she demonstrates that the existing institutional arrangements of the labor market shape the pattern of labor market change by 1) setting the boundaries of the reform trajectories, and 2) affecting the political and economic calculations of key reform actors (p. 5).

Labor market institutions as the central explanatory condition in this study are represented by the level of institutionalization and the coverage of employment protection. In Japan, where a majority of the workforce is covered by the institutionalized practice of employment protection, labor market insiders, employers, and policymakers form a political coalition for selective reform that mainly targets outsiders. This means workers who are considered "insiders" continue to enjoy the persistence of protection at the expense of the rest of the workers who are covered by few protections (p. 6). In contrast, Korea has a less institutionalized practice of employment protection that covers only a small portion of the workforce, namely the *chaebol* workers. Under such institutional configurations, employers and policymakers promote comprehensive labor market reform for all workers.

The second argument Song advances in the book is how the configuration of industrial relations (centralized versus decentralized) affects the consequences of labor market transformation, that is, the degree of increasing labor market inequality along the lines of employment status and firm size. Under centralized industrial relations represented by encompassing business associations and labor unions, employers and workers demand social protection programs, which eventually alleviate the rapid rise in labor market inequality. Neither Japan nor Korea falls under this rubric. Instead, they are characterized by decentralized industrial relations, under which narrowly organized employers and unions focus on their own economic interests at the firm and workplace level, thus increasing labor market dualism. In short, this book demonstrates the resilience of labor market institutions in Japan and Korea where insider privileges at the workplace are reinforced and labor market reforms result in widening economic disparity between insiders and outsiders.

Song's *Inequality in the Workplace* makes a significant contribution to our understanding of the politics of labor market reform in under-researched places such as Japan and Korea. In a broader theoretical perspective, this comparative study also highlights the effects of preexisting institutions and the policy outcomes they bring about over several decades. Despite these