

Personnel Economics: A Research Field Comes of Age

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The application of economic theory and principles to firms' human resource problems is commonplace today. Personnel economics has come a long way since its early days in the late 1970s and 1980s, when scholars developed its theoretical foundations. In this contribution and introduction to the special issue “Advances in Personnel Economics” of the *German Journal of Human Resource Management*, we want to illustrate the origins of the field, outline how personnel economics relates to other research areas, describe major developments in the field and address its future challenges.

The Origins of Personnel Economics

Arguably, the field dates back to Adam Smith who in 1776 in *The Wealth of Nations* pointed out a possible trade-off between wages of employees and non-monetary working conditions within a labor market equilibrium (Smith 1976). Trade-offs and an equilibrium-based analysis are also important features of modern theoretical approaches in Personnel economics. Employees choose jobs taking into account a variety of job characteristics, including initial compensation, training and information that workers receive on the job. They trade better attributes off against the higher effort that more rewarding jobs require. Firms decide whether to implement (costly) human resources (HR) practices in order to attract, motivate, and retain employees. In so doing, firms attempt to mitigate moral hazard and adverse selection problems. These considerations affect the choice of recruiting channels and worker selection procedures, which match employees to jobs with specific characteristics. Additionally, the provision of incentives, the structure of monetary and non-monetary rewards, including career-based

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incentives, performance evaluation, team creation and job design are all part of personnel economics as it attempts to understand the complex aspects of internal labor markets (see Doeringer & Piore 1971). Indeed, there is early precedent for these issues being considered as important in labor markets. Slichter (1920, 1928) was one of the first economists to explore internal decision making of firms and to contrast that with outcomes of anonymous markets.

Personnel Economics and Related Fields

Personnel economics is related to other research fields (see Figure 1). The origins of the field of personnel economics are in labor economics. In his Presidential Address to the Society of Labor Economists in 1998, Lazear described Personnel Economics as a branch of labor economics distinctive for its "use of economics to understand the internal workings of the firm" (Lazear, 1999: 200). Whereas most of research in labor economics explores efficiency of labor markets at a higher level of aggregation, personnel economics examines welfare within an employment relationship and focuses on interactions between employees and firms, managers and subordinates, or among colleagues (Lazear & Oyer 2013). As compared to traditional human resources management (HRM), personnel economics is characterized by applying three core principles of economics. First, personnel economics focuses on firms and workers as rational maximising agents, continually interacting with one another within and beyond the firm. Indeed, it has been argued that "the success of personnel economics is in large part a result of simply assuming maximisation because doing so allows the analyst to express complicated concepts in relatively simple, albeit abstract, terms" (Lazear, 2000: F612). Second, it operates in a framework informed by the concept of equilibrium. Third, because personnel economics is economics in the most standard sense, it allows for welfare comparisons. In the purest cases, competitive equilibrium results in efficiency, and so in personnel economics, the attempt by workers to maximise utility, coupled with the firms' efforts to maximize profits results in positive welfare outcomes (Lazear & Shaw 2007). For some years now, personnel economics has also incorporated non-standard preferences, which is the subject of much of behavioral economics. For example, personnel economists now consider extensions of the individuals' utility function where the assumption of a purely egoistic *homo oeconomicus* is replaced by an alternative, but still maximizing view of *homo reciprocans* (see, for example Backes-Gellner et al. 2008, Dohmen et al. 2009 and Dohmen (2014). This work extends personnel economics

to consider intrinsic motivation and fairness considerations, social preferences for equity or equality and gender differences in decisions and behavior.

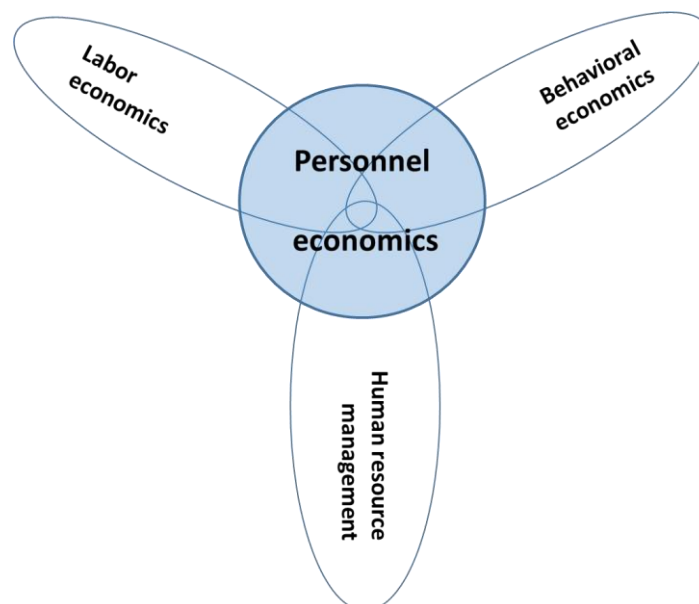


Figure 1: Personnel Economics and Related Fields

Personnel Economics is also related to Industrial Relations (when considering the role of works councils, unions and other labor market institutions – see Kaufmann (2010)), Industrial Organization (when considering interdependencies between and competition among firms and HR issues) and Organizational Behavior (when considering attitudes and behavior of employees).

Development of Personnel Economics over 30 years

Personnel economics first came to prominence in 1987 when the *Journal of Labor Economics* published a special supplement entitled "The New Economics of Personnel" containing 10 articles. Personnel economics started as a mainly theoretical field, but became more empirical in the 1990s (Lazear 1999). Since then researchers have increasingly made use of new data and have exploited a large number of firm-based data sets. These case studies do not qualitatively describe the situation of a firm, but rather analyze personnel records or other HR data quantitatively using sophisticated econometric techniques. This approach, known as insider econometrics, involves "empirical studies of how management matters" (Ichniowski & Shaw

2009). Scholars are also using country-wide linked employer-employee data sets to explore more general relationships than the firm-based data are capable of doing. The “administrative” datasets have allowed a larger set of questions to be analyzed because the worker can be examined in the context of the entire firm, its growth rates, its other employees, its management and how variations in these factors affect outcomes. The data also permit researchers to study how the characteristics of workers affect the performance of the firm and to do so in a more general fashion than the firm based datasets.

Nonetheless, a certain degree of endogeneity usually remains and personnel economics is particularly attentive to addressing causal identification. Lab experiments were among the first methods used to explore treatment effects in a controlled setting with the aim of identifying clean causal relations. Currently, more and more field experiments are being performed in an attempt to overcome the limitations of lab experiments, particularly external validity. Field experiments create exogenous variation by randomizing employees or teams of employees into different HR treatments. Typically, a research question is posed first and then an experiment is designed that can create exogenous variation of the sort that answers the question. There is feedback: Empirical insights have suggested enhancements to theory, for example by revealing the importance of social preferences or norms that were originally neglected.

Future Challenges for Personnel Economics

The future of Personnel Economics is not without challenges. The growing number of scholars entering the field together with the increase in topics covered make it increasingly difficult to define the boundaries of the field. On the one hand, that is a strength. The prevalence of more researchers, more questions and more findings is symptomatic of a rich scholarly discipline. Still, the field will not preserve its own identity automatically. The discipline seems to have no problems attracting young scholars and PhDs in economics departments, business schools and, indeed, in social science more widely. Besides, the identity of the field is not a value per se. A possible problem in unambiguously classifying certain contributions according to research areas is secondary to progress of knowledge and advancement of science. Until recently, certain HR relevant topics have been discussed in the rather separate spheres of the economics and management literatures. Perhaps personnel economists will help to bridge these gaps.

In which directions will personnel economics go in the future? It has already been suggested that there is scope for additional research on hiring, sorting and selection (Lazear & Oyer 2013). There are at least four additional promising directions:

First, it is important to consolidate knowledge to encourage useful validation while avoiding unnecessary duplication. Part of the difficulty lies in the nature of knowledge production. A particular study may add only incrementally or not at all to the sum total of what we know about causal relations. This problem is not unique to personnel economics. For instance, it is often difficult to discern the state of the art in welfare-to-work evaluations when findings appear so context-specific and are not readily related to the existing body of knowledge. One particularly valuable way to assist with consolidation is to foster replication - replication using the same data but potentially different analytical techniques - but also replication across time and place to test the external validity of findings. Several very basic issues in personnel economics have been explored in only a handful of studies. Take, for instance, the longer-run effects of pay-for-performance. Lazear (2000b) is one of the few studies that examine the effects of pay-for-performance beyond the typical short timeframe of a few hours to a couple of weeks. It is also important to collect evidence from a much broader set of occupations and sectors for a variety of topics than people in the field have currently done, and to consider broader international evidence.

Second, Personnel economics (and perhaps the firms themselves) would benefit from more field experiments. Although randomisation is by no means a solution to all evaluation problems (Deaton & Cartwright 2016) it does provide opportunities to understand causal relationships inside the firm. Firms are often resistant to engaging in experimentation, for fear that changes may have long-lasting and adverse consequences for profit. Personnel economists must address the question of how we persuade firms to take evaluation seriously when they decide whether to adopt or discontinue a policy.

Third, it seems worthwhile to explore in more detail, in what way and why HR policies differ within and between firms. Possible characteristics of differentiation within the firm are attitudes of employees, but also the business units', functional areas' culture or differences between hierarchical levels. Additionally, there may be a number of equivalent or nearly-equivalent approaches to maximizing profits and this may help explain why firms choose different practices. To the extent that this interacts with other agents or firms and yields multiple

equilibria, it might be useful to consider the role of the firm in networks and the competitive situation more intensively.

Fourth, how do we "scale up" from the micro to the macro? Here one needs to move beyond the transactions between firm and workers and consider the institutions beyond the firm - the state, industry confederations, trade unions - and the role they play, for instance, in the costs and benefits of human resource management practice adoption.

This Special Issue

Further evidence that personnel economics is thriving comes with the four papers presented in this Special Issue. All four papers use field data, but cover a wide variety of topics.

The paper by *Samuel Mühlemann, Harald Pfeifer* and *Felix Wenzelmann* is the first in the literature to estimate the costs of recruiting apprentices. The authors use German establishment data and the paper provides a good example of a personnel economics study that has both a practical focus and yet maps out general empirical regularities. The authors are able to determine the cost of selecting and employing apprentices, to identify the factors that explain heterogeneity in those costs across firms, to understand the role of works councils, and to do so by relying on competition for recruits across firms. The study's timing is particularly prescient from both the a firm and a policy perspective given the sizeable changes that are taking place in the German labor market as the native youth population declines and the migrant labor force increases.

Anders Frederiksen studies job satisfaction and employee turnover. He describes a mechanism for using personnel data and information from anonymous job satisfaction surveys to predict employee quits. Anonymity is essential to avoid responses that are strategic. Frederiksen illustrates this rationale in a simple example of a cooperation game with a prisoner's dilemma situation. He argues that an effective way to overcome the cooperation problem may be to delegate the implementation of job satisfaction surveys to a third party. His empirical study is based on company data from 2004 and 2010 with about 90,000 observations over 18,000 individuals. Frederiksen is able to show that reliable job satisfaction information from an external consulting firm is useful in predicting employee turnover. This contribution documents

in a very convincing way how theoretical considerations in personnel economics together with a careful empirical analysis can help to improve real world decision making in firms.

The paper by *Tom McKenzie* and *Alasdair Rutherford* on career concerns and shared values, which builds on the theoretical work by Holmström (1982, 1999), is the first in the literature to investigate empirically how employees' motivation stemming from career concerns interacts with motivation from sharing the values of their employer. It is a nice example of how recent research in behavioral and experimental economics can inspire a fresh look at matched employer-employee data. The authors use overtime work as a proxy for and exploit a question on shared values with the employer in the UK Workplace Employment Relations Survey. In line with the prediction by standard theory that career concerns incentives are strongest at the start of an employee's career, the authors find that employees work less overtime the longer their tenure. Employees who agree with the statement that they share many of the values of their employer put in about 20 percent more overtime work than those who do not agree. The novel finding of the study is that shared values appear to make career concerns less relevant. Overtime declines with tenure for employees who do not strongly share the values of their employer, but do not decline with tenure for employees with shared values.

Last, *Andrew Seltzer* presents an insightful analysis of implicit contracts and acquisitions. His work builds on data from a historical case study, namely, the hostile takeover of the Bank of South Australia in 1892 by the Union Bank of Australia during the first great wave of mergers. Seltzer uses data from personnel records, which detail complete career histories of workers in both companies before and after the merger. He investigates the conjecture that shareholders may benefit from a hostile takeover as money is redistributed from workers to the shareholders. Seltzer finds that the lifetime earnings of older workers at the Bank of South Australia declined as a result of the merger and, moreover, that they had a higher probability of losing their jobs, that specific human capital was lost because some branches were closed, that the wage profile was flatter for the remaining career and that the pension was reduced. One interpretation of the results is that the Union Bank of Australia renegotiated potential implicit contracts with former employees of the Bank of South Australia after the merger. Seltzer's study is an excellent example of an econometric study of a data set with detailed information on individual employees analyzing some fundamental ideas from Lazear's earlier work.

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