
We analyze adverse selection in the used-car market using a new approach that considers a car as having some parts with symmetric information and other parts with asymmetric information. Using Consumer Expenditure Survey and Consumer Reports data, we find adverse selection corresponding to the engine, transmission, and, during colder months, air-conditioning. We find sorting corresponding to the vehicle body, and, during warmer months, air-conditioning. Our quantification exercises indicate that adverse selection significantly reduces trade volume and quality in the secondhand market.

Beautiful Lemons: Adverse Selection In Durable-Goods Markets With Sorting

With Henry Schneider

We document a basic characteristic of adverse selection in secondhand markets for durable goods: goods with higher observed quality may have more adverse selection and hence lower unobserved quality. We provide a simple theoretical model to demonstrate this result, which is a consequence of the interaction of sorting over observed quality between drivers with different quality valuations and adverse selection over unobserved quality. We then offer empirical support using data on secondhand prices and repair rates of used cars from the Consumer Expenditure Survey, and discuss a number of implications for everyday advertising and consumer questions.

Employee Bonding and Turnover Efficiency

In this paper, I revisit the role that bonding contracts, such as pension or minimum employment terms, have on employee turnover. I focus on efficiency of such bonds as well as the necessary contractual structure that it must have in competitive labor markets. I develop a two stage turnover model that, in the absence of bonding contracts, results in inefficiently high quit rates. I find that bonding contracts only reduce turnover if they are structured effectively; the agent who sets the workers' wages must not have claim on the bond should the worker decide to quit. This finding is consistent with previous empirical literature that suggests that pensions given at larger companies have a greater effect on turnover and total compensation than pensions offered at smaller companies. I then show how bonding may be more or less important based on
the amount of firm specific learning by doing inherent to that job. Finally, I compare the predictions of this model to the vast empirical literature on pensions and tuition reimbursement plans.

**Turnover and Promotion**

We build an infinite-horizon turnover model to address the relationship between turnover, promotion and wages. This paper is among a new set of turnover models that incorporate private worker taste shocks to produce non-degenerate endogenous turnover. Firms are deeply concerned with the costs of employee turnover. However, traditional labor economic theory is ill equipped to justify this concern. We explain how firms capture rent from its continual relationships with an employee. Consistent with empirical studies, we find that an employee's turnover rate will decrease once promoted. This paper also generates new empirical predictions as well as other well established wage and employee turnover dynamics.

**Asymmetric Information and Wage Signals: The Need for Formal Pay Systems**

The role of rigid bureaucratic wage rules within organizations has been a puzzle for some time. This paper provides an explanation for the use of these formal pay systems using two intuitive yet somewhat novel labor market assumptions. First, turnover is induced through wages and private worker non pecuniary taste shocks. Second, wage offers by current employers are a signal of worker ability. In this model, such asymmetry induces even higher turnover compared to full information over worker ability. This increased turnover reduces the expected welfare of the worker. I show how formal pay systems such as pay scales and budgets can mitigate this problem and reduce inefficient turnover. I also provide testable predictions in order to distinguish the wage signaling model from the symmetric information model.

**Optimal Durability vs. Planned Obsolescence in the Textbook Market**

We revisit the idea that textbook publishers revise frequently in order to "kill off" the market for used books. While a popular idea, conflicting durable good models suggest alternatives to planned obsolescence. To address this particular case, we develop a model of the textbook
market that generates unique empirical predictions for each of the three most relevant theories to the textbook industry. We then compare these predictions to empirical findings, such as the effect of the stock of used books on prices and revision, as well as the common practices of durability reductions and leasing; to determine which one best describes the market. The theories we model are: optimal durability, quality differences and time inconsistency. Of these models, quality differences, which generate planned obsolescence, best fits the stylized facts.