

At a time of persistent unemployment, Nobel Laureate Chris Pissarides's search theory offers significant lessons for policy makers

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The 2010 Nobel Prize in Economics was awarded to Chris Pissarides of the LSE Centre for Economic Performance, jointly with Peter Diamond and Dale Mortensen, 'for their analysis of markets with search frictions'. As [Barbara Petrongolo](#) explains, their research has deeply enhanced our understanding of how labour markets work and how policy-makers should respond.

Most market transactions are characterised by various forms of imperfections or 'frictions'. The importance of these frictions in driving market outcomes is a key issue for understanding such diverse markets as those for a job, a house and a spouse. Search theory – for which Chris Pissarides, Dale Mortensen and Peter Diamond have been honoured with the [2010 Nobel Prize in Economics](#) – provides a versatile framework for understanding market outcomes in a variety of situations in which trade is complex. One key lesson of the theory is that with search frictions, not all markets will clear at all points in time – some buyers and/or sellers remain unmatched.

While a given market may have buyers and sellers who can in principle agree on a price, this may be insufficient for immediate trade to take place. Both buyers and sellers may need to invest in a costly and time-consuming process of search to locate and assess matching partners, and they eventually need to agree to enter a transaction rather than wait for better trading opportunities.

Another important implication of search theory is that when access to information is costly and trade opportunities are infrequent, not all traders may trade at the same market price, leading to dispersion in prices. Finally, market outcomes may be inefficient if individuals engage in 'too much' or 'too little' search, in which case policy intervention may improve on what can be achieved through markets alone.

By far the most influential application of search theory has been to the labour market, and it has led to the development of what is now recognised as the leading model of 'equilibrium unemployment'. This is the area in which Chris Pissarides, former director of CEP's [macroeconomics programme](#), made his main contributions to search theory. His seminal work on the functioning of labour markets with frictions appeared in a number of articles in the late 1970s and 1980s, and was later organised in a unified framework in a [book](#) that has become a key reference in modern labour market analysis.

The central idea is that trade in the labour market is uncoordinated, time-consuming and costly for both firms and workers. Workers need to spend time and resources to find suitable job opportunities; and firms need to spend time and resources to locate and screen job applicants. While the idea that trade in the labour market is complex is widely accepted these days, when search models of unemployment were first developed, they implied a clear break with the perfectly competitive view of equilibrium in the labour market, which hinges on frictionless trade.

In a perfectly competitive labour market, firms and workers meet costlessly and trade at a single wage, and any excess labour supply is absorbed instantaneously through a fall in the equilibrium wage. Most economists would argue that the functioning of the labour market is far more complex than this. In particular, the competitive model fails to explain such stylised facts as persistent unemployment, wage differentials among otherwise similar workers and the co-existence of unemployed workers and job vacancies.

An important implication of job search frictions is that existing jobs produce 'rents'. This means that

if an employer and a worker are separated for reasons outside of their control, at least one (and often both) of them is worse off. Rents give employers some degree of market power over their employees, which means that unlike in the perfectly competitive model, small wage cuts do not induce all employees to quit their jobs, simply because better paid jobs elsewhere in the economy are hard to find. As a corollary, workers of similar quality may be paid different wages if employed in different firms.

Search models have also been used to understand how aggregate shocks are transmitted to the labour market via the response of job creation and job destruction, and how shocks drive cyclical fluctuations in unemployment. Chris Pissarides has made the two key contributions in this area.

The first is his seminal [search-theoretic analysis of the dynamics of unemployment, vacancies and real wages](#), which illustrates the asymmetric behaviour of unemployment following positive and negative shocks. He shows that the rise in unemployment in a recession will be faster than its fall in an expansionary phase, because while an adverse shock results in an immediate increase in job separations, a positive shock only leads to a gradual fall in unemployment because the hiring process is time consuming.

The second key contribution is his [most famous article, written jointly with Dale Mortensen](#). This work illustrates how firms respond to shocks to aggregate productivity in making their decisions about creating new jobs and ending existing job matches – and thus produce cyclical fluctuations in job flows and unemployment.

The core theoretical work on labour markets with search frictions has been accompanied by a number of contributions focusing on policy analysis and empirical evidence. It has become common practice in the literature to adopt a search framework to analyse the impact of unemployment compensation, hiring and firing costs, minimum wages, and taxes on unemployment and the wage distribution. Empirical work has addressed the implications of search models for individual labour market transitions, aggregate job and worker flows, unemployment dynamics and the wage distribution.

The work of Chris Pissarides and his fellow Nobel laureates has deeply influenced the view of modern labour markets of both academics and policy-makers and has stimulated several continuing streams of work at CEP. As many countries are facing the consequences of the most severe recession of the post-war era, the latest Nobel Prize is an award to research on fundamental economic issues that are both at the core of the well being of society at large and very high on the policy agenda of the moment.

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