CHRISTOPHER A. PISSARIDES: SCIENTIST AND PUBLIC CITIZEN

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In 2010 the Nobel Committee cited Chris Pissarides for path-breaking work on labor markets. Together with co-laureates Peter Diamond and Dale Mortensen, he developed a new paradigm that emphasizes the role of search by workers for jobs and by employers for workers. This body of work, called the DMP model from the surname initials of its inventors, has led to a much deeper understanding of unemployment and of the policies needed to face the economic challenges of labor shortages, job loss and low employment.

Search theory is a new paradigm because it describes markets very differently from the competitive theory invented by Adam Smith in the *Wealth of Nations*. Large numbers of relatively small, anonymous buyers and sellers populate the Adam Smith world. Nobody is big enough to influence the direction of the market, and everyone trades at the same market price. Unfettered competition prevents wholesalers and other middlemen from inflating that price, and forces sellers to accept the minimum profit that will keep them in business.

Everything functions like clockwork in Adam Smith's economy. Competition guarantees that only the most talented producers stay in business, earning modest profits, and serving consumers at the lowest possible price. Every buyer finds a seller and every seller finds a buyer at the same market price—quickly and painlessly. No unsold inventories ever exist. Home sellers do not need to wait, fruit does not spoil at greengrocer displays, deep discounts are not necessary to move unsold merchandise. In a world of peace, strong property rights and, as Smith puts it, "tolerable administration of the laws", economic outcomes are so good that they seem to be guided by the "invisible hand" of Divine Providence. Markets work perfectly all the time. And if they sometimes

cause excessive inequality in income or wealth, all we need to do is to transfer some income from rich to poor and let markets work their magic again.

Search theory in general, and the DMP model in particular, injects a dose of healthy realism into this rosy scenario which has very little to say about price dispersion, unused factories, unsold homes, jobless workers, over-the-counter financial transactions, and even less about occasional large-scale failures in our economic system like the Great Depression in the 1930's and the Great Recession of the last four years. Why do coffee shops in the same neighborhood of the same city charge different prices for the same cup of coffee? Why did home builders in Las Vegas and Madrid build a few years ago whole city blocks of apartment buildings that now stand empty? What explains the behavior of individual home sellers who prefer to keep their property on the market for a year or more rather than lower their asking price to sell immediately? It is questions like these that motivate Chris's work over the last thirty years.

Most important among those is to understand the economic forces behind the *Beveridge Curve.* Named after the British economist William Henry Beveridge (1879-1963), that curve describes the negative empirical correlation between unemployment and vacancies. Vacancies are typically high when the rate of unemployment is low and vice versa, but neither one completely wins out. Each year millions of workers in the U.S. and elsewhere are jobless at the same time that companies offer millions of unfilled vacancies. Do workers want too much? Are employers offering too little? What does it take to match a job with a worker?

Diamond, Mortensen and Pissarides were pioneers in the study of markets with frictions like search costs, incomplete information, bargaining and external effects. None of these phenomena matter in Adam Smith's economy. Buyers and sellers in the DMP world are very different. They seek each other out, sometimes with success and sometimes without. If successful, they meet face to face, not as anonymous members of a trading herd. If they like what the other has to offer, they do not give each other a "market" deal. Instead, they bargain over wages and benefits in a manner that reflects their individual economic

power and the opportunities they expect to have if their meeting is unsuccessful. Similar jobs will pay different wages to different workers, and similar workers will receive different terms from different employers.

Everyone knows that it takes time, money and luck to find desirable trading partners. Employers have to advertise vacancies and interview candidates; workers read want ads and send out resumes. A meeting or interview does not always lead to a mutually desirable match. Success depends on what each partner knows about the quality of the other, on how many people are looking for jobs, and how many jobs are vacant. Every additional job seeker reduces by just a little every existing seeker's chance of finding work, and raises-- again by a little bit-- the chance of filling each available vacancy. That explains the shape of the Beveridge curve: vacancies fill easily and jobs are hard to find in bad economic times, and the opposite happens during good times.

In the United States the Beveridge curve seems to have worsened for workers with medium and long unemployment spells, starting in the 1990's and deteriorating over the Great Recession. Unemployment rates are now four percentage points above what the Beveridge relationship would have led us to expect in 2007. One explanation that comes out of the DMP framework is that good matches are now more expensive than before and, hence, anybody's chance of finding a job has gone down for every combination of unemployment and vacancies. Economists describe this movement with the term *structural unemployment.* The deeper reason for it may be accelerating technical change and faster international capital movements that increase the uncertainty of job seekers and companies all over the developed world about the products and skills most likely to be favored in the global economy.

Does this mean that the current unemployment rates of near 10% in OECD countries are too high? Probably so but we are not sure. A useful analogy to keep in mind is hotel occupancy. Does an establishment with a 90% occupancy rate have too many empty rooms? Most hotelkeepers in the world would be ecstatic to have 10% of their rooms temporarily "unemployed" and no problem keeping them clean and tidy. Why are workers any different? Why are our

societies unwilling to tax job holders and pay job seekers for as long as it takes them to find decent jobs. The most common answer economists give to this question relates to *moral hazard*: high unemployment benefits discourage job finding activities and lead job seekers to reject offers they might have accepted if job benefits were smaller or expired earlier.

The DMP model concludes that generous jobless benefits reduce search activity, prolong unemployment spells and raise the average rate of unemployment. That seems to be one important reason why the European Union has had a higher unemployment rate than the United States over the last thirty years; higher income taxes is another. Strong empirical evidence supports the search theory prediction that more income security discourages employment.

These conclusions seem to force every civilized society into an unpleasant choice between income maintenance and job creation. What is the socially desirable rate of unemployment? How much should we protect our jobless citizens, and for how long? Is the right unemployment rate still 5 to 6% as most economists thought until a few years ago, or has it jumped to the 8-10% range we are experiencing now?

DMP have given us valuable suggestions on this central issue in economic policy. The first one is that observed unemployment rates may be higher or lower than what society desires because job seekers reject too many jobs or settle for the first offer that comes their way. Either of those mistakes can happen when unemployed workers impose an "externality" on other job seekers because they change—by a tiny amount--- everyone else's chances of finding a job. Every additional job seeker and every additional resume he or she sends out diminishes the probability that other searchers will find a job, and improves every employer's chance of filling a vacancy. The first externality causes "congestion" in labor markets and typically raises the unemployment rate above its socially optimal value; the second one "thickens" the market and normally lowers the unemployment rate below what society desires.

Beyond his seminal contributions to the economic analysis of unemployment, Christopher Pissarides has been a dedicated teacher, a distinguished mentor to

younger economists, and an exemplary public citizen. His six-year stewardship in the University of Cyprus Governing Board (1989-1995) was instrumental in launching what has become the most successful institution of higher learning in Cyprus which he continues to serve to this day. And his seven-year tenure on the Bank of Cyprus Monetary Policy Committee (2000-2007) was crucial to his country's successful effort to join the European Union and adopt the euro.