The distinction between supply-side and demand-side theories of involuntary unemployment leads to a further distinction between classical and Keynesian unemployment. Classical unemployment—which includes frictional unemployment and supply-side involuntary unemployment—is determined on the supply side of the economy and is unresponsive to variations in aggregate demand. Classical unemployment is often associated with the concept of a natural rate of unemployment or a nonaccelerating inflation rate of unemployment (NAIRU). Keynesian unemployment, meanwhile, is determined on the demand side of the economy and does respond to variations in aggregate demand.

It is possible in principle for voluntary and involuntary or classical and Keynesian unemployment to exist within the same economy. However, economists disagree as to what extent observed unemployment is voluntary, involuntary, classical, or Keynesian, and hence on the extent to which these categories, and the theories of unemployment associated with them, are useful for explaining the stylized facts outlined earlier.

POLICY IMPLICATIONS

The policy implications of unemployment depend greatly on the theorized causes of unemployment. For example, if unemployment is a product of individual choice (i.e., a voluntary condition), it would not appear that any form of policy intervention is merited. Even if unemployment is entirely frictional, however, it may be prudent to use public policy to reduce unemployment—including voluntary unemployment—by improving the process whereby employers and employees are matched. In this case, supply-side, microeconomic policies designed to affect the choices or attributes of job seekers are appropriate. Unemployment insurance programs might be altered to influence the propensity of those searching for work to accept job offers, or training programs might be established in an effort to imbue the unemployed with the sorts of skills required by currently vacant jobs. If unemployment is involuntary and Keynesian, however, an altogether different approach to policy intervention is required. In this case, macroeconomic policies (such as a reduction in interest rates or an increase in government spending) are needed to raise aggregate demand in order to remedy the deficient demand for goods and hence the deficient derived demand for labor that is the ultimate cause of unemployment. As with the theories of unemployment from which these policy interventions derive, the appropriate policy response to unemployment is—and will likely remain—a subject of controversy among economists.

SEE ALSO *Keynes, John Maynard; Lucas, Robert E.; Marx, Karl; Natural Rate of Unemployment; Underemployment; Voluntary Unemployment*

BIBLIOGRAPHY

Cornwall, John, and Wendy Cornwall. 2001. *Capitalist Development in the Twentieth Century: An Evolutionary-Keynesian Analysis*. Cambridge, U.K.: Cambridge University Press.

Davidson, Carl. 1990. *Recent Developments in the Theory of Involuntary Unemployment*. Kalamazoo, MI: Upjohn Institute for Employment Research.

Friedman, Milton. 1968. The Role of Monetary Policy. *American Economic Review* 58 (1): 1–17.

Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan.

Lawlor, Michael S., William A. Darity, Jr., and Bobbie L. Horn. 1987. Was Keynes a Chapter Two Keynesian? *Journal of Post Keynesian Economics* 9 (4): 516–528.

Lucas, Robert E., Jr. 1978. Unemployment Policy. *American Economic Review* 68 (2): 353–357.

Mark Setterfield

UNEMPLOYMENT, DISCOURAGED

SEE *Discouraged Workers.*

UNEMPLOYMENT, INVOLUNTARY

SEE *Involuntary Unemployment.*

UNEMPLOYMENT, NATURAL RATE OF

SEE *Natural Rate of Unemployment.*

UNEMPLOYMENT RATE

There are two dimensions of the unemployment rate that sit uneasily with each other. First, national statisticians produce the "official" unemployment rate that policy makers, lobby groups, and media commentators use to summarize the state of the labor market. Second, economists attempt to explain the unemployment rate using

microeconomic and macroeconomic models, which do not correspond directly with the statisticians' framework. The various explanations of unemployment remain highly contested.

DEFINING AND CALCULATING THE UNEMPLOYMENT RATE

Prior to the Great Depression, limited efforts were made to collect labor market data. For example, the gainful worker framework in the United States used the ten-year census to enumerate employment activities with little attention being paid to unemployment. A worker was defined as "a person who works for money" (Smuts 1960, p. 71).

The mass unemployment in the 1930s created a demand for a broader enumeration system, and the modern concept of the labor force framework emerged after World War II (1939–1945) in response. This framework is made operational through the International Labour Organization (ILO) and the conference of International Labour Statisticians. These conferences develop procedures (definitions) for generating national labor force data (see http://laborsta.ilo.org/ for sources and methods). National statistical agencies implement these definitions in periodic sample surveys (usually monthly) and publish labor force estimates. The application of these definitions varies from country to country.

Figure 1 sketches the labor force framework. The labor force concept has two components: (a) criteria defining activity—specifically, willingness and search; and (b) a time period for assessing activity. The working-age population (persons above fifteen years, although some countries exclude those above sixty-five years) dichotomizes into active (the labor force) and nonactive (not in the labor force). The labor force divides between employment and unemployment. A person is considered employed if he or she works at least an hour during the survey week. A person not working and actively searching for and willing to work is classified as being unemployed.

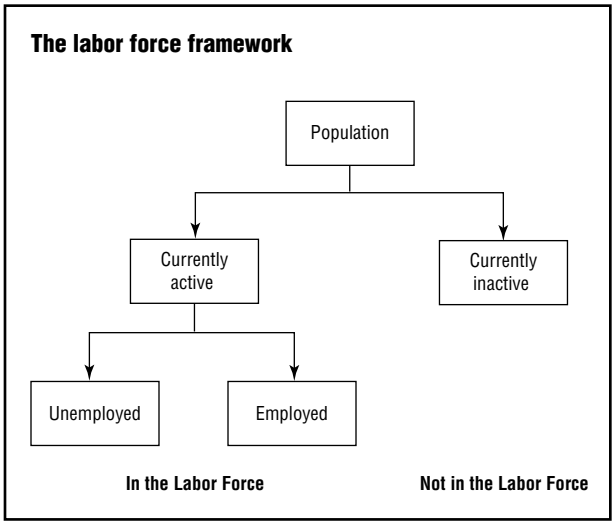

Figure 1

The official unemployment rate is the number of unemployed persons as a percentage of the labor force. While a rising rate usually indicates the economy is wasting resources and sacrificing income by not utilizing willing labor, it may also reflect a strengthening economy if the labor force is growing faster than employment.

International comparisons are difficult because countries vary the ILO definitions. However, the Organization for Economic Cooperation and Development (OECD) publishes standardized unemployment rates that reflect common definitions, and the U.S. Bureau of Labor Statistics publishes labor force statistics that convert foreign aggregates into estimates consistent with U.S. definitions.

HOW USEFUL IS THE OFFICIAL UNEMPLOYMENT RATE?

The official unemployment rate's ability to portray accurately the condition of the labor market is challenged because it is a narrow measure of labor underutilization. Critics call for broader measures to be published. There are many issues relating to the labor force concept itself, including whether unpaid workers should be included in the labor force and whether defense personnel and persons who are institutionalized should be included in the working-age population. Decisions made by national statistical agencies with respect to these cohorts influence the size of the labor force estimate and in turn the unemployment rate estimate.

In this section we concentrate on the issues arising from marginal workers and underemployment. Total labor underutilization (wastage) of willing labor resources arises for a number of reasons that can be divided between two broad functional categories: (a) unemployment or its near equivalent, which includes the official unemployed under ILO criteria and those classified as being not in the labor force on search criteria (discouraged workers), availability criteria (other marginal workers), and more broadly still, those who take disability and other pensions as an alternative to unemployment (forced pension recipients). These workers share the characteristic that they are jobless and desire work if vacancies were available. They are, however, separated by the statistician on other grounds; (b) suboptimal employment relations, where workers are classified as being employed but suffer "time-related underemployment," such that there are insufficient hours of work. Suboptimal employment also arises from an "inadequacy of the employment situation" when

skills are wasted, income opportunities denied, and/or workers are forced to work longer than they desire.

The official unemployment rate captures only a portion of this wastage. Broadening the concept of labor wastage involves recognizing other cohorts within the working-age population that share some similarities with the official unemployed.

First, focus on the rise of underemployment in many countries is increasing. While both sources of underemployment ("time-related" and "inadequacy of the employment situation") are possible to measure, in practice, estimates of time-related (or visible) underemployment are more easily obtained. Involuntary part-time workers face constraints similar to those confronting the unemployed. As estimated underemployment has risen around the globe, the official unemployment rate measured as the percentage of persons in the labor force not employed underestimates the extent of labor wastage. Governments that extol the virtues of employment growth generated under their watch rarely express it in terms of full-time equivalents and thus rarely admit that, in part, people are shifting from unemployment to underemployment.

Second, workers who are not working but have abandoned active search because they perceive there are insufficient job opportunities are classified as not in the labor force. These "hidden unemployed" or discouraged workers are similar to the official unemployed because they would accept a job offer immediately. They are also unlike others who are not in the labor force such as retirees.

A broad rule of thumb is that the true labor underutilization rate (including underemployment and hidden unemployment) is estimated by doubling the official unemployment rate.

We can consider two other working-age population cohorts that are less attached to the labor force but who nonetheless, by their size, provide some guide to the potential labor resources available to any country. First, persons who desire work but are unable to start immediately and are not actively searching are called marginal workers and are excluded from the labor force. But with some institutional changes (such as improved child or aged care) this cohort would accept immediate offers of employment. Second, in many countries the number of disability pension recipients has increased. These persons are excluded from the labor force on activity grounds. The increasing trend is arguably the result of health professionals and/or governments easing their interpretations of what constitute a disability when job prospects are low. Given that many of these persons are at the bottom of the labor queue (especially older males), pushing them out of the labor force reduces the unemployment rate and is thus politically beneficial in times of recession. In recent years, in strong employment-growth countries (for example, Australia) new measures have been introduced to induce this cohort back into the labor force in recognition that their disabilities may not preclude some capacity to work.

The justification for considering the broader underutilization concepts relates to the concept of labor efficiency. An economy that cannot provide enough hours of work to match the preferences of the available labor supply and/or institutional structures to maximize the participation of its potential labor resources is less efficient than one that can achieve these goals.

THE COSTS OF UNEMPLOYMENT

Is high unemployment a problem? Involuntary unemployment imposes heavy costs on the economy in the form of forgone output of goods and services and associated income. Economists typically ignore the social costs of unemployment. Unemployment also exacerbates social ills such as crime, family breakdown, and physical and mental health problems. Human capital (skills) atrophies when unemployment persists.

Strong spatial impacts reinforce the loss of income that accompanies unemployment. As a region's unemployment rate rises, more mobile workers (the youth and educated) leave such that skills are lost, making it hard to attract new business investment.

Many economists (mostly those who advocate a voluntarist conception) claim that unemployment is not a significant policy problem because it reflects the normal functioning of the labor market whereby job seekers use spells of unemployment to search for information about the career prospects that are available to them before settling into a career path. They specifically note that high youth unemployment is merely information-seeking behavior.

Focusing on short unemployment spells may be misleading given that many workers drop out of the labor force when they cannot find a job. Further, the transition by youth from a sequence of casual jobs to a higher paying career-oriented job is largely confined to those who combined schooling with casual employment while they acquire the skills necessary to satisfy entry into the chosen career path. While the casual work may have provided them with generic skills such as punctuality and grooming, the issue remains that those locked into the casual labor market and not combining work with schooling do not make such career transitions. Instead they sequence through a range of dead-end, low-paying jobs interspersed with spells of unemployment. For them unemployment provides no information.

WHAT CAUSES UNEMPLOYMENT?

Economists have used various taxonomies to help explain unemployment but remain in deep disagreement about its

causes. A major debate during the Great Depression centered on the extent to which unemployed individuals were acting voluntarily (classical position) or whether macroeconomic spending deficiencies imposed systemic constraints (lack of jobs) on individuals who become involuntarily unemployed (Keynesian position). Marx had earlier provided analysis supporting the demand-deficient explanation. In his 1936 *General Theory*, Keynes turned this idea into a full-blooded rejection of classical employment theory, and Keynesian theory subsequently dominated macroeconomics until the mid-1970s. It provides the most accessible unemployment taxonomy for the layperson by distinguishing between frictional, structural, and cyclical unemployment.

Jobs are continuously being created and destroyed as industries grow and wane, and these processes generate huge flows of workers moving between jobs. So even when demand for goods and services is strong, there will be a coincidence of unfilled vacancies and unemployed persons. This unemployment is called frictional because it arises from frictions that accompany job turnover. Workers take time to find and move to new jobs, and firms take time to locate required labor. While it clearly represents an irreducible minimum level, there is some confusion between this level of unemployment, which is likely to be low, and the concept of natural rate of unemployment, which is explained below. Both have been referred to as the irreducible level of unemployment.

Keynesian theory considers firms' supply output and hires workers in response to the demand for goods and services. Demand-deficient or cyclical unemployment arises when the demand for labor overall (indicated by unfilled vacancies) drops below the number of workers who desire employment. The lack of jobs is experienced across all regions and industries. Cyclical unemployment reflects a systemic failure, with individuals powerless to improve their job prospects. Most economists agree that cyclical fluctuations in unemployment are caused by changes in the demand for labor rather than shifts in workers' attitudes to work. As a result, most would agree that mass unemployment is involuntary. The policy solution to demand-deficient unemployment is to use expansionary fiscal and/or monetary policy.

The concept of structural unemployment sits uneasily within this framework. It reflects a mismatch between the requirements of available jobs and the characteristics of job seekers and arises even if there is no overall demand deficiency. This mismatch could be in terms of skills and/or locations and is of concern because the retraining and relocation of labor take time and resources. Structural mismatch may arise as changes in industry composition, reflecting changing consumer spending patterns, cause regional dislocation as growing industries seek new labor skills and declining industries shed skills. Adjustment is slow because the social settlement (where people live) is less mobile than the economic settlement (where jobs are created).

Technological change also creates skill obsolescence and a demand for new skills. A particular variant of this idea is found in the emergence in the 1970s of the deindustrialization literature, which focused on manufacturing decline (and to some extent the decline of mining) and the simultaneous rise of services. The amorphous concept of globalization is interwoven into these discussions to explain job loss in particular regions and industries as a result of employment being "exported" to lower cost regions and countries. If there is structural unemployment, expansionary policies will come up against bottlenecks and invoke inflationary impulses. Instead, training and mobility incentives are required to ease the mismatch. In this sense, structural unemployment is a microeconomic problem.

However, the boundaries between cyclical and structural causes are blurred. For example, theories of hysteresis conclude that the current state of the economy reflects where it has been. Accordingly, cyclical fluctuations create structural imbalances, which can be reversed through macroeconomic expansion. For example, recession generates skill obsolescence as old capital is scrapped and/or long-term unemployment causes skills to atrophy. This structural problem is reversed as the economy resumes growth because firms lower their hiring standards and provide training opportunities as a way around perceived skill shortages.

Clearly, the idea that individuals can experience involuntary outcomes underpins this taxonomy and overlaps with the voluntary/involuntary taxonomy that was central to the "Keynes versus Classics" debates in the 1930s and persists today. The Great Depression spawned macroeconomics as a new and distinct field of study, and center stage was the concept of involuntary unemployment, which challenged the neoclassical orthodoxy. The neoclassical competitive model postulated that the equilibrium unemployment rate is determined by the intersection of labor supply and demand, both functions of the real wage. As labor supply reflects workers' preferences between labor and leisure (real wage is the opportunity cost of leisure) and labor demand reflects the marginal productivity of labor (profit-maximizing firms equilibrate the real wage with the marginal product), flexible real wages guarantee full employment. At the full employment real wage, any firm can find a suitable worker and any worker can find a suitable job. Any observed unemployment is deemed voluntary (worker preference for leisure). When the real wage is above the full employment level, the resulting unemployment is caused by real wage rigidi-

ties such as excessive legislated minimum wages and trade unions wage setting power.

This type of unemployment is termed classical and is solved by real wage cuts to restore the equilibrium level where labor demand equals labor supply. During the Great Depression, the government tried neoclassical remedies without success. In the 1930s, Kalecki and Keynes, building on the earlier work of Marx, challenged this dominant view. They saw mass unemployment as a systemic failure in demand for goods and services—that is, cyclical. Deficient effective demand causes firms to lay off workers. Neoclassical remedies would exacerbate this Keynesian unemployment because real wage cuts reduce worker incomes, further eroding effective demand. As firms adjusted to the lower activity by producing and employing less, an exogenous force in the form of expansionary fiscal and/or monetary policy was needed to push the economy toward higher activity levels.

Keynesian unemployment is involuntary because an individual unemployed worker cannot improve his or her job prospects in the face of employment rations imposed by deficient effective demand. This concept challenges the centerpiece of neoclassical theory known as Say's law, which holds that aggregate demand always absorbs production, given price flexibility. Keynes showed that even with flexible prices, unemployment would persist until the deficient demand was eliminated. This observation underpinned the so-called Keynesian revolution that dominated the next thirty years of policy making. The period of full employment up until the mid-1970s gave policy makers confidence that the business cycle had been tamed.

Neoclassical economists argue that the concept of involuntary unemployment is implausible because it implies irrational behavior by individuals. Why would workers not simply accept lower real wages? Keynesians respond by arguing that workers prefer higher money wages at each real wage level because they have large nominal commitments (such as mortgages). Resisting a money wage cut was rational even if real wages were falling (via general price-level rises) because nominal commitments could be maintained. Keynesians also argue that workers are unable to engineer a real wage cut by accepting a lower money wage because the lower costs would lead to competitive price-cutting with no guarantee of a lower real wage. But this was moot because even if real wages fell, firms would still not hire if the cheaper labor produced goods and services that could not be sold (given deficient demand).

The major policy challenge for Keynesians in a period of full employment was inflation as economies approached full capacity. A vast literature has emerged since the late 1950s examining the relationship between the unemployment rate and inflation—the so-called Phillips curve (Phillips 1958). Policy makers came to believe that they faced a stable trade-off between the twin evils of unemployment and inflation and sought to choose the combination that maximized social welfare.

The challenge to the Keynesian macroeconomic consensus was ignited by the "monetarist" contributions of Friedman (1968) and Phelps (1967). They disputed the existence of a stable Phillips curve that could be exploited using aggregate demand policy. For example, the misperceptions hypothesis (Friedman 1968) considers that workers possess less short-run information than employers about the relationship between relative and absolute price levels. Accordingly, workers can be induced to supply more labor than is optimal given their preferences for as long as they are confused about their real wage level. They thus believe that a nominal wage rise is a real wage rise and supply more labor accordingly. Once they learn the truth, they withdraw this supply and equilibrium is restored. So any policy-induced reductions in the unemployment rate bought by tricking workers into supplying more labor than was optimal would evaporate. The long-term implication was that there is a "natural" unemployment rate that reflects the underlying microeconomic structure of labor supply and labor demand, and any attempts by fiscal and monetary authorities to drive unemployment below this equilibrium generate ever increasing rates of inflation.

The essence of all supply-side explanations is that workers quit when times are bad despite all evidence to the contrary. The pro-cyclicality of quitting challenges the very core of the neoclassical labor market model.

However, the rising inflation associated with the Vietnam War and the oil price hikes in the early 1970s provided a fortuitous empirical backdrop to the growing backlash against Keynesian demand management policies. While there was scant empirical support to associate rising inflation with the mechanisms that underpinned the natural rate hypothesis, the revival of Say's law was broadly accepted by economists and policy makers.

Keynesians such as Clower (1965) and Leijonhufvud (1968) provided resistance to the natural rate hypothesis by showing that no market signals accompanied mass unemployment such that firms would hire more workers, even though these workers had notional demands for their products. The problem was that without income these demands were not effective. The market coordination implicit in Say's law failed in these situations, leaving the economy stuck in an under-full-employment equilibrium.

By the 1970s, the "new labor economics" reinstated neoclassical notions of voluntarism in explaining unemployment, a view that still dominates labor market policy today. Accordingly, unemployment arises from workers'

need to search for new jobs and jobless spells are voluntary, maximizing strategies in pursuit of career improvement. Workers balance the costs of search (time and forgone earnings) with the gains in future earnings that emerge from successful search. Importantly, welfare benefits are seen as subsidizing search and encouraging long-term unemployment.

The reality is that while most job search activity is done on the job, many unemployed workers experience frequent spells of unemployment interspersed with low-skill, low-paid employment. Segmented labor market theory uses this observation to argue that structural rigidities, principally due to hiring policies of employers, discriminate against disadvantaged groups and confine them to marginal jobs and status (Doeringer and Piore 1971).

MODERN DEBATES ABOUT CAUSES OF AND REMEDIES FOR UNEMPLOYMENT

The breadth of the acceptance of the new labor economics by economists and policy makers was expressed in the influential 1994 OECD Jobs Study, which provided a policy blueprint for economic policy reform aimed at reducing unemployment following the deep recession in 1991. Its theoretical foundations can be found, for example, in Layard, Nickell, and Jackman (1991), LNJ for short. While, economists such as LNJ mimicked the traditional neoclassical concern about trade union power and legislated minimum wages, they also focused on welfare payments as a cause of persistent unemployment. They argued that the provision of unemployment assistance subsidized inactivity by reducing the intensity and effectiveness of job search. As a result of this subsidy, the wage necessary to induce the worker to abandon unemployment and accept work (the so-called reservation wage) is higher. Further, various government charges on employment (such as superannuation and termination payments) drive a wedge between what the worker receives and what the firm pays, which discourages firms from increasing employment. It was also argued that the long-term unemployed had deficient skills and required retraining to improve their employability.

The Jobs Study concluded that long-term unemployment was the outcome of government intervention, other institutions (such as trade unions), and/or negative attitudes to work of the unemployed that created rigidities in labor supply. The Jobs Study advocated extensive supply-side reform with a particular focus on the labor market to eliminate rigidities that were inhibiting the capacity of economies to adjust, innovate, and be creative. Governments variously adopted the reform agenda. It was typically accompanied by a narrowing of the focus of monetary policy to inflation control, which used unemployment as an instrument to achieve price stability rather than as a policy target. Further, governments adopted fiscal conservatism (for example, the Stability and Growth Pact in Europe) to passively support their inflation-first monetary policy emphasis. Policy makers believed that disinflation policy would allow the economy, after an adjustment phase, to settle at the natural rate optimum, and as a consequence they did not worry about any alleged "short-run" negative impacts of disinflation on unemployment. They considered that the micro focus of the Jobs Study would ensure there were no impediments to reaching this supposed natural rate.

However, high unemployment persisted in many countries during the 1990s, which prompted critics of the OECD position to say that governments had been encouraged to abandon full employment in favor of full employability. The critics said that unemployment existed long before unions had grown and welfare transfers operated. They also said that it was implausible to interpret the mass unemployment of the Great Depression as a sudden labor supply withdrawal.

In recent years, partly in response to the reality that active labor market policies have not solved unemployment and have instead created problems of poverty and urban inequality, some notable shifts in perspectives are evident among supporters of the OECD approach. Various econometric studies sought to establish the empirical veracity of the OECD Job Study relationships between unemployment, real wages, welfare payments, and the like. They also sought to evaluate the effectiveness of active labor market program spending. Many construct their analyses in ways that are most favorable to the null that the OECD view is valid. The overwhelming conclusion to be drawn from this literature is that there is no consensus view (see Freeman 2005; Baker, Glyn, Howell, and Schmitt 2005).

In the face of the mounting criticism and empirical argument, the OECD has now significantly shifted its position. In the 2004 *OECD Employment Outlook*, it admitted that the evidence underpinning the neoclassical relationship between real wages and unemployment was fragile. In the 2006 *OECD Employment Outlook*, which followed a comprehensive econometric study of employment outcomes across twenty OECD countries between 1983 and 2003, the OECD (2006) found that:

- There is no significant correlation between unemployment and employment protection legislation;
- The level of the minimum wage has no significant direct impact on unemployment; and
- Highly centralized wage bargaining significantly reduces unemployment.

These conclusions undermine the basic causality in the Jobs Study. They also confound those who have relied on the OECD's previous work, including the Jobs Study, to push through harsh labor market reforms, retrenched welfare entitlements, and policies aimed at reducing the role of trade unions.

Internationally, sentiment is growing that paid employment measures must be a part of the employment policy mix if unemployment is to be reduced. The lack of consideration given to job creation strategies in the unemployment debate stands as a major oversight. Recognition is growing that programs to promote employability cannot, alone, restore full employment and that the national business cycle is the key determinant of regional employment outcomes (Mitchell 2001; Peck 2001).

SEE ALSO *Business Cycles, Real; Natural Rate of Unemployment; Underemployment; Unemployable; Unemployment*

BIBLIOGRAPHY

Baker, D., A. Glyn, D. Howell, and J. Schmitt. 2005. Labor Market Institutions and Unemployment: A Critical Assessment of the Cross-Country Evidence. In *Fighting Unemployment: The Limits of Free Market Orthodoxy*, Chapter 3, ed. D. Howell. Oxford: Oxford University Press.

Clower, R. J. 1965. The Keynesian Counterrevolution: A Theoretical Appraisal. In *The Theory of Interest Rates*, eds. F. H. Hahn and F. P. R. Brechling. 103–125. London: Macmillan.

Doeringer, P. B., and M. J. Piore. 1971. *Internal Labor Markets and Manpower Analysis.* Lexington, MA: Heath.

Freeman, R. 2005. Labour Market Institutions Without Blinders: The Debate over Flexibility and Labour Market Performance. *International Economic Journal* 19 (2): 129–145.

Friedman, M. 1968. The Role of Monetary Policy. *American Economic Review* 58: 1–17.

Hauser, P. M. 1949. The Labor Force and Gainful Workers-Concept, Measurement, and Comparability. *American Journal of Sociology* 54 (4): 338–355.

Layard, R., S. Nickell, and R. Jackman. 1991. *Unemployment, Macroeconomic Performance and the Labour Market.* Oxford: Oxford University Press.

Leijonhufvud, A. 1968. *On Keynesian Economics and the Economics of Keynes: A Study in Monetary Theory.* New York: Oxford University Press.

Mitchell, W. F. 2001. The Unemployed Cannot Find Jobs That Are Not There! In *Unemployment: The Tip of the Iceberg*, eds. W. F. Mitchell and E. Carlson, 85–116. Sydney, Australia: CAER/UNSW Press.

Organisation for Economic Cooperation and Development. 1994. *The Jobs Study.* Paris: OECD.

Organisation for Economic Cooperation and Development. 2006. *Employment Outlook: Boosting Jobs and Incomes.* Paris: OECD.

Peck, J. 2001. *Workfare State.* New York: Guilford.

Phelps, E. S. 1967. Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time. *Economica* 34: 254–281.

Phillips, A. W. 1958. The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957. *Economica* 25: 283–299

Smuts, R. W. 1960. The Female Labor Force: A Case Study in the Interpretation of Historical Statistics. *American Statistical Association Journal* 55(289): 71–79.

William Mitchell

UNEMPLOYMENT, VOLUNTARY

SEE *Voluntary Unemployment.*

UNEQUAL DEVELOPMENT

SEE *Unequal Exchange.*

UNEQUAL EXCHANGE

The liberal theory of free trade based mainly on the theory of comparative advantage is regarded as a win-win situation without any limitations. During the 1950s, however, development theorists presented a challenge to this well-established neoclassical theory. The theory of *unequal exchange* is a reaction to the naïve theory of comparative advantage. It provides a Marxist notion of the exploitation that is embedded in the comparative advantage theory.

The development of the theory of unequal exchange has followed several directions. First, some writers, including Andre Gunder Frank in *Capitalism and Underdevelopment in Latin America* (1967), argued that comparative advantage is not a natural endowment; rather, it is created by historical power relations through the exploitation of nations.

Second, some researchers examined the distributional inequalities of trade. Thus, the Prebisch-Singer thesis reveals that the terms of trade work against developing countries. This well-known issue of dependency theory was systematically developed in the 1950s (Ghosh 2001).

Third, on the basis of assumptions of the restricted mobility of labor and the perfect mobility of capital, Arghiri Emmanuel (1969) formally developed the theory