Cornell University
ILR School

ILRReview

Volume 64 | Number 1 Article 4

9-30-2010

The Theoretical Foundation of Industrial Relations and Its Implications

Bruce E. Kaufman
Georgia State University, ecobek@langate.gsu.edu

Follow this and additional works at: http://digitalcommons.ilr.cornell.edu/ilrreview

The Theoretical Foundation of Industrial Relations and Its Implications

Abstract
The author identifies the core principle that forms the theoretical and policy foundation for the field of industrial relations—that labor is embodied in human beings and is not a commodity—and argues that the field's two central dependent variables are labor problems and the employment relationship. Next, he uses this core principle, along with complementary ideas from institutional economics, to develop a theoretical framework that not only explains the nature of the employment relationship and labor problems but also reveals shortcomings in related theories from labor economics and human resource management. Finally, this framework is used to derive the "fundamental theorem" of industrial relations, demonstrate that optimal economic performance occurs in a mixed economy of imperfect labor markets and organizations, and show that a certain amount of labor protectionism promotes economic efficiency and human welfare.

Keywords
Theoretical Foundation, Industrial Relations, Neoclassical Labor Economics

This article is available in ILRReview: http://digitalcommons.ilr.cornell.edu/ilrreview/vol64/iss1/4

THE THEORETICAL FOUNDATION OF INDUSTRIAL RELATIONS AND ITS IMPLICATIONS FOR LABOR ECONOMICS AND HUMAN RESOURCE MANAGEMENT

BRUCE E. KAUFMAN*

The author identifies the core principle that forms the theoretical and policy foundation for the field of industrial relations—labor is embodied in human beings and is not a commodity—and argues that the field's two central dependent variables are labor problems and the employment relationship. Next, he uses this core principle, along with complementary ideas from institutional economics, to develop a theoretical framework that not only explains the nature of the employment relationship and labor problems but also reveals shortcomings in related theories from labor economics and human resource management. Finally, this framework is used to derive the "fundamental theorem" of industrial relations, demonstrate that optimal economic performance occurs in a mixed economy of imperfect labor markets and organizations, and show that a certain amount of labor protectionism promotes economic efficiency and human welfare.

From the commercial point of view, children are not particularly valuable and fish are. – Rheta Dorr (1912: 45)

The world of zero transaction cost turns out to be as strange as the physical world would be without friction – George Stigler (1972: 12)

The industrial relations field as a formal entity in the social sciences goes back to the early 1920s in North America, the late 1940s in the United Kingdom, and one to two decades later in most other countries and regions. As an identifiable area of writing and research, its roots extend far back into the nineteenth century. Over this period, researchers have attempted to identify the core principles that distinguish the subject of industrial relations from other labor fields and build upon these principles theories and models that explain key labor/employment outcomes and processes. Sidney and Beatrice Webb, John R. Commons, and Lujo Brentano began this task in, respectively, Britain, the United States, and Germany at the end of the nineteenth century, and succeeding generations of scholars have followed suit up to the present day. The most notable exemplars include contributions by Kelly

* Bruce E. Kaufman is Professor of Economics and Senior Associate of the W.T. Beebe Institute of Personnel & Employment Relations at Georgia State University in Atlanta, Georgia; Senior Research Fellow of the Centre for Work, Organization and Wellbeing, Business School, at Griffith University in Brisbane, AU; and Principle Research Fellow of the Work and Employment Research Unit, Business School, at the University of Hertsfordshire in Hatfield, UK.

Industrial and Labor Relations Review, Vol. 64, No. 1 (October 2010). © by Cornell University.
0019-7939/00/6401 $05.00

(1998), Budd (2004), Müller-Jentsch (2004) and Piore and Safford (2006), along with the "classics" such as Dunlop (1958) and Fox (1974).

The record in developing a unique base of industrial relations (IR) theory, with its associated body of tools and concepts, is mixed, but on balance surely disappointing. Despite the century of effort as well as numerous books and articles on the subject of IR theory, there is relatively little impact or presence of this theorizing in the literature of the last two decades.[1] In this paper I strive to move the project of IR theory building and tool development another step forward.

In particular, I hope to make five contributions to IR theory. First, I use historical analysis to identify the field's core theoretical and normative principle—the proposition that *labor is embodied in human beings and is not a commodity*. Second, I use this principle to develop a theoretical explanation for the twin "dependent variables" of industrial relations, the *employment relationship* and its attendant *labor problems*. Third, I develop this theoretical explanation using concepts from institutional economics (IE), American IR's intellectual home base, and in so doing help meld "original" and "new" versions of IE. Fourth, I use the theoretical framework as a platform for a wide-ranging critique of neoclassical labor economics and, to lesser degree, human resource management. Fifth, I utilize this framework to deduce new concepts and hypotheses about the employment relationship, including delineation of the field's "fundamental theorem."

[1] Osterman, Kochan, Locke and Piore (2001: vii) argued, for example, that the analysis and conclusions in *Working in America* are guided by an "institutional perspective," but that articulating this perspective is hampered by "the absence of a coherent intellectual framework." Similarly, the British University Industrial Relations Association, in reaction to the disbanding of the IR unit at Keele University, issued *What's the Point of Industrial Relations?* (Darlington 2009). The main rationales advanced for preserving the field are that IR "has fundamental moral and practical importance" and that it provides a "critical social science" perspective on work and employment (pp. 53–54). The idea that IR provides something useful in the theory area is not mentioned in any of its fourteen chapters.

Conceptions of Industrial Relations

The subject domain and key features of industrial relations must first be delineated. A number of researchers and scholars have defined and conceptualized industrial relations in articles, chapters and books, making an in-depth review unnecessary here (see Ackers and Wilkinson 2003; Adams and Meltz 1993; Colling and Terry 2010; Edwards 2005; Heery, Bacon, Blyton, and Fiorito 2008; Müller-Jentsch 2004; Whalen 2008a; Whitfield and Strauss 1998). Two points deserve highlight, however, as a bridge to the theorizing that follows.

The first highlight is that industrial relations has been defined both broadly and narrowly. The original (pre-World War II) IR paradigm made the core subject of study the *employment relationship* and positioned itself as a critique and alternative to the labor theory of classical/neoclassical (orthodox) economics (Kaufman 2004a). Considerably more so in the United States than elsewhere, early IR also included not only collective bargaining and union studies but also in equal measure the study of personnel/human resource management and labor/employment law. After World War II (WWII), most IR academics continued to pay lip service to this broad definition, but in practice they increasingly narrowed the focus of the field to *trade unions* and *collective forms of workforce governance* (Adams 1993; Whitfield and Strauss 1998). In recent years, a number of scholars have argued that the IR field should return to the broader employment relationship definition (e.g., Kochan 1998; Edwards 2005; Heery et al. 2008), a position that informs the theory developed here.

The second highlight is that the IR field has not yet settled on what represents its core organizing principle or concept, which also makes theorizing difficult. Here is a small sampling of opinions drawn from the literature: rules of the workplace (Dunlop 1958); job regulation (Flanders 1965); social regulation of production (Cox 1971); the employment relationship as structured antagonism (Edwards 2005); social regulation of market forces (Hyman 1995); process of capitalist production

and accumulation and the derived political and social class relations (Caire 1996); conflict of interests and pluralist forms of workplace governance (Kochan 1998); class mobilization and social justice (Kelly 1998); the advancement of efficiency, equity, and voice in the employment relationship (Budd 2004); collective representation and social dialogue (European Industrial Relations Observatory 2002); and representation and political regulation of different interests (Eberwein, Tholen, and Schuster 2002).

All of these propositions have merit. Historical analysis reveals, however, that at the time of the founding of the IR field, another proposition was paramount.

The Core Principle of Industrial Relations: What History Reveals

Industrial relations originated as a response to the worldwide "Labor Problem" (or "Social Question") that emerged and grew in ferocity in industrializing countries in the period roughly spanning 1870–1920 (Kaufman 2004a). The overarching goal of American IR founders was to solve the Labor Problem but within the context of a democratic capitalist economic system—indicated in the remark by Commons (1934a: 143) that his life objective was "to save capitalism by making it good."[2] Early industrial relations was thus positioned as a "middle way" program between *laissez-faire* capitalism and socialist revolution. The IR diagnosis of the Labor Problem was that it grew out of the dysfunctional and inhumane aspects of competitive *laissez-faire* capitalism and traditional labor management methods. The IR solution was a pragmatic, incremental but cumulatively substantial reform, reengineering and re-balancing of the institutions of capitalism in order to bring more stability, efficiency, justice, and human values to the employment relationship.

This labor reform project met many obstacles and objections. In the world of ideas, the most important was orthodox classical and neoclassical economics (Fine 1956; Jacoby 1990; Rodgers 1998). This body of theory, largely imported from Britain but secondarily from France, was widely accepted, hence establishing it as "orthodox." The most widely accepted lesson of orthodox economics at this time was the principle of *free trade* (Knight 1967); second on the list was *Say's Law* (Kates 1998)—the contention that a free-market system automatically returns to an equilibrium position of full employment. Free trade applied first and foremost to international exchange of goods between countries, but the principle was extended with only negligible qualification to domestic and factor markets, including, most importantly, labor markets. Competition, along with the doctrine of compensating wage differentials, was regarded as sufficient to protect the workers' interests in labor markets and "if they [workers] are cheated in the exchange, they have nobody to blame but themselves" (Perry 1878: 200). Likewise, Say's Law (i.e., a persistent demand-deficient glut is impossible in a competitive economy) is a macroeconomic theory but its implications were applied to labor markets and, in particular, the notion that the free interplay of demand and supply adjusts wages up and down until labor resources are fully and efficiently employed.

These points are fundamental to understanding the origins of industrial relations and its core principle. In particular, both premises require for their theoretical demonstration and validity that labor be treated as a *commodity* in a *competitive* market. A modest excursion into the history of thought is useful to demonstrate this contention; it also brings back into view the

[2] In Britain, Sydney Webb and Beatrice Webb, also co-founders of the IR field, were Fabian socialists and sought a gradual replacement of capitalism, which thus appears to contradict this proposition. However, the IR field was born in America in the early 1920s and I therefore give the American position precedence. Apropos the theme of this paper, the Webbs founded the London School of Economics expressly to provide a home for development of an alternative type of social/historical economics just as Commons used Wisconsin as a home for institutional economics. IR in my interpretation is the labor studies subfield of this social–institutional type of economics. Therefore, I make economics the base of industrial relations; in Europe and Latin America, however, economics plays a distinctly secondary role and the center of IR is instead located in sociology and labor law. The theoretical framework developed here has ample space for the latter perspectives.

intellectual foundations of the IR field now mostly forgotten.

The orthodox position was established by Léon Walras in his *Elements of Pure Economics* (1954), the birth place of neoclassical general equilibrium (GE) theory. He claimed the focus of economic science is *market exchange* and "our task then is to discover the laws to which these purchases and sales tend to conform *automatically*. To this end, we shall suppose that the market is *perfectly competitive*, just as in pure *mechanics* we suppose, to start with, that machines are perfectly *frictionless*" (p. 84, emphasis added). Walras acquired this vision of economics from watching stocks being traded on the Paris exchange, but rather than model trade in stocks *per se*, he adopted the more general concept of a *commodity*. The term "commodity" is at once generic and critically important to the model of perfect competition: the essence of perfect competition is that prices and quantities are entirely market-determined. This outcome depends critically on the assumption that the goods or services traded are homogeneous—the property of commodities such as shares of stock and bushels of wheat.

When Walras came to factor markets, he proceeded to model labor as just one more of N commodities for which price and quantity are determined by demand, supply, and competitive bidding in a perfect market. This treatment became standard in the literature and remains so today among many economists.[3] One additional example from the history of thought is apropos on this point.

In the *Principles of Economics*, Alfred Marshall (8th ed., 1920) first asserted the general case that "the normal value of everything, whether it be a particular kind of labor or capital or anything else, rests, like the keystone of an arch, balanced in equilibrium between the contending pressures of its two opposing sides; the forces of demand press on the one side, and those of supply on the other" (p. 526). When Marshall applied this theory to labor, he noted, "the habit of some economists… of treating labor simply as a commodity and regarding the labor market as like every other market" (p. 336). Although he concluded as a matter of real life that the human aspect of labor markets makes them considerably less perfect than most commodity markets and that individual workers as a consequence often bargain at a disadvantage, he asserted, nonetheless, that this divergence between a human and commodity market is for purposes of theory inconsequential. Therefore, Marshall concluded, "the differences between the two [are] not fundamental from the point of view of theory" (p. 336).[4]

These examples illustrate that a *commodity* model of labor and a frictionless *demand/supply* (DS) or "buy low, sell high" view of the employment relationship was at the core of early neoclassical labor economics (NLE). The theory of DS capitalism provided, in turn, an intellectual rationale for a *laissez-faire* and unregulated regime of free trade in labor, unilateral and harsh labor management practices, and a commercial "dollars and cents" ethos that regards the output of canned fish as more valuable than the health of the children producing it, as the Dorr epigraph suggests.

The founders of industrial relations concluded that the unbalanced free trade labor market model was a large contributor to the Labor Problem and, therefore, sought to reform and reengineer it. Since the orthodox economic theory of the day blocked the way, they sought to develop an

[3] Addison and Hirsch (1997: 127) observed, for example, that "the standard competitive model views labor markets as not fundamentally different in kind from product or other markets." Moreover, in microeconomic theory, the production function is $Q = f(x_1, x_2, \ldots, x_n)$ with labor treated identically to the other x_i factors. The basis of IR is the proposition this theory is mis-specified because labor is unique from other inputs; if not the case then a field devoted to employment relations would be an empty space like fields for "capital relations" and "land relations."

[4] Like Adam Smith, Marshall introduced significant qualifications to the competitive model, including important social and institutional elements. These elements have been given highlight and analytical treatment by modern theorists, such as Akerlof, Samuelson, Solow and Stiglitz. Dunlop (1984) claimed these models are congenial to IR whereas the competitive/imperialistic approach of the Chicago School is not.

alternative. Here we find the roots of IR. Germany in the late nineteenth century had the best university system in the world and more professorial chairs of political economy than any other nation (Wittrock 1993; Tribe 1995). The Germans, however, had become disenchanted with English orthodox economics, thinking it was too abstract, individualized, static, biased toward *laissez-faire*, and Anglo-centric; they sought, therefore, to pioneer a new model (Riha 1985). I refer to it as "historical/social economics" (HSE); Schumpeter (1954) labeled it "economic sociology."[5]

With regard to policy, German economists (e.g., List 1841) took the heterodox position that some degree of market protection promotes the national welfare more so than unabridged free trade. Of particular interest to American labor reformers, HSE provided theoretical support for Germany's pioneering programs in the 1880s of accident, unemployment, and old age social insurance. These programs were widely regarded in the United States as an opening wedge for socialism (a charge leveled today against universal health insurance—a program the American institutionalists began to lobby for in the 1910s) and outside the pale of good economics and wise social policy (Fine 1956; Rodgers 1998). *Laissez-faire* in labor was the rule, evidenced by the fact the United States did not even have a national child labor law until 1938.

HSE jumped the Atlantic in the 1880s and came to America, first from Germany and then later from England, primarily from the writings not only of Sydney Webb and Beatrice Webb but also of John Hobson, Cliffe Leslie, R.H. Tawney, and others (Ely 1884; Koot 1987). In the 1910s HSE spawned the American school of institutional economics and its labor subfield, industrial relations (Champlin and Knoedler 2004; Rutherford 2001). The strong influence of the German tradition on Wisconsin labor scholars is well illustrated in this passage from McCarthy's (1912: 30–31) book *The Wisconsin Idea*. In it, he explained that

> German professors have come repeatedly to Wisconsin and have been surprised by the German spirit in the university. Therefore it is only natural that the legislation of Wisconsin should receive an impetus from men who believe that laws can be constructed as to lead to progress and at the same time preserve to the fullest all human betterment; that the advice of scholars may be sought; that what has made Germany happy and prosperous may be duplicated in America… If Wisconsin is a prosperous state today, there is no doubt that it is largely because of German ideas and ideals, early instituted in the state.

The two men who most deserve to be considered forefathers of early American industrial relations are economists Richard Ely and Henry Carter Adams. Both men did their graduate work in economics at German universities. Ely (1886) wrote the first proto-industrial relations book in America, titled *The Labor Movement in America*. In his chapter entitled "The Economic Value of Labor Organizations," he anticipated the masterful and more in-depth treatment Sydney Webb and Beatrice Webb gave in their chapter in *Industrial Democracy* (1897) entitled "Trade Union Theory." In opposition to orthodox economics, Ely asserted that labor organizations are often a benefit to the economy because they balance what is otherwise a "one-sided determination of the price and conditions of labor… [and] the almost unlimited control of the employer over…his employees" (p. 100). Adams, in his influential essay entitled "The Relation of the State to Industrial Action" (1887: 78, 88), is apparently the first person to use the term "industrial relations." He proceeded to set out the *leitmotif* of what would become the field of industrial relations, arguing that "it should be the purpose of all laws, touching matters of business, to maintain the beneficent results of competitive action while safeguarding society from the evil consequences of unrestrained competition"

[5] Durkheim (1895) defined sociology as the study of social institutions, and he and other early sociologists (e.g., Weber, Parsons) treated markets as one such institution. Early IR founders, such as the Webbs, Ely, and Commons, were part sociologists and sought to integrate social and institutional elements into economics. Dunlop (1958) credited Parsons as a major source of ideas for his industrial relations systems theory.

(p. 86). Note here the heterodox idea that competition can be excessive and destructive.

Ely, Adams, and other rebels sought to create a new type of economics that would be more realistic, relevant, and receptive to institutional reform (Jacoby 1990). They also wanted to craft a closer connection between economics and the other social sciences, making it less physics-like and more human. Toward this end, Ely took the lead role in founding the American Economics Association, broadly modeled on the German and HES-dominated *Verein für Sozialpolitik* (Society for Social Policy).[6] This new school later coalesced into institutional economics. Ely brought John R. Commons to Wisconsin in 1904, and Commons made Wisconsin the center in the United States for the study of labor. Moreover, Commons became the founder of labor economics (broadly defined) and a co-founder of American industrial relations, personnel/human resource management (HRM), academic labor law, and institutional economics (Kaufman 2007a, 2008b). Industrial relations, in effect, was founded by Commons and associates as the labor subfield of IE; institutionalism and IR dominated labor economics until the 1960s; and the two served as major intellectual sources for the "labor protection" program of the New Deal and development of the American welfare state.[7]

This "new economics" of labor—that is, industrial relations—was based on a number of alternative ideas and methods found in HSE.[8] Historical investigation reveals, however, that one principle stands out as the foundation upon which the IR field, in both its positive and normative aspects, is based. Stated in the affirmative, this core principle of industrial relations asserts that *labor is embodied in human beings*; stated in the negative, it asserts *labor is not a commodity*. In the 1910s and 1920s, the positive way to state this principle was often to refer to labor as the *human factor* (Kaufman 2008b). Budd (2004) recaptured the human dimension of labor when he titled his book *Employment with a Human Face*; numerous other IR scholars (e.g., Kochan and Katz 1988; Edwards 2005; Isaac 2007) also emphasize labor's human dimension.

Rejection of the "labor commodity" principle and "demand/supply" concept of employment was widespread among labor reformers and early founders of industrial relations. The International Labor Organization (ILO), for example, was born in the same period (1919–1920) as the new field of industrial relations, which sprang from the same HSE intellectual roots and social concerns with the Labor Problem (Kaufman 2004a). In fact, the statesmen who crafted the Treaty of Versailles, which created the ILO, were intent on ending two kinds of warfare that they regarded as a mutual threat to democratic capitalism: political warfare and industrial warfare. Thus, it is instructive that the first of nine principles enumerated in the Constitution of the ILO reads: "Labor should not be regarded as a commodity or article of commerce."

Early IR academics uniformly rejected the labor commodity principle. Ely (1886: 99) declared that "the machine which yields its services to man is itself a commodity, and is only a means to an end, while the laborer who parts with labor is no longer a commodity in civilized lands, but is an end in himself, for man is the beginning and termination of all economic life." Likewise, the Webbs (1897: 842) observed this incongruity, writing, "The capitalist is very fond of declaring that labor is a commodity, and the wage contract a bargain of purchase

[6] IR came to Japanese universities after World War II largely from America (Kaufman 2004a) but the roots go back to the 1890s when Noburo Kanai did graduate work in economics in Germany, brought back the ideas of HSE and "social policy," and took the lead in founding the Japanese Social Policy Association.

[7] In this regard, Boulding (1957: 7) explained, "Commons was the intellectual origin of the New Deal, of labor legislation, of social security, of the whole movement in the country toward a welfare state." Commons and IE were also "proto-Keynesians" in the 1920s, and in the 1940s they integrated Keynes into a "social Keynesian" model of labor markets. This model was later the object of attack by Chicago School economists.

[8] Kerr (1994: 71), for example, asserted that he and fellow IR colleagues were "in the current of the mainstream of social economics." He cited Schumpeter and Keynes as major influences.

and sale like any other. But … why is the workman expected to touch his hat to his employer, and to say 'sir' to him without reciprocity, when the employer meets on terms of equality the persons … from whom he buys his raw material or makes the other bargains incidental to his trade?"

Not surprisingly, another early group who wanted to replace a commodity theory of labor with a human conception was trade unionists. Said an English labor leader, "notwithstanding all the teachings of political economists, all the doctrines of supply and demand, they [the Miner's Federation] said there was a greater doctrine over-riding all these, and that was the doctrine of humanity" (quoted in Webb and Webb 1897: 589). Likewise, the American Federation of Labor declared the Clayton Act of 1914 "Labor's *Magna Carta*," when the unions succeeded in inserting a provision in it that stated "the labor of a human being is not a commodity or article of commerce."

Perhaps more surprising, progressive business people also condemned the labor commodity theory and sought to replace it with a human theory. Indeed, it was businessmen, including John D. Rockefeller, Jr. in the United States and Montague Burton in the United Kingdom, who provided the funds necessary to institutionalize industrial relations initially in both American and British universities (i.e., the Princeton IR Section in 1922; the three Burton IR chairs in the mid-1930s).

Two examples from the historical literature illustrate the critical position progressive business people took toward the labor commodity theory. One of the first published documents to use the industrial relations term in the title is *Report on Industrial Relations*, issued by the Merchants Association of New York (1919). The *Report* lists "three features of our industrial system, which are not compatible with satisfactory industrial relations" and cites as one of them: "The law of supply and demand as the determining factor in fixing wages and conditions of employment." The *Report* continues, "Many of the results of this economic law are unfair and prejudicial to the interests of both employers and employees, and are socially undesirable" (p. 6). In a similar vein, a British employer observed, "the majority of works and factories are still conducted on the '*laisser-faire*' principles of the Manchester school of economists. The teaching of this school results in paying the worker the smallest possible wage, and in making none but the legally necessary provisions for his social or physical comfort. Under these conditions of employment, the usual relation between employers and employed is one of antagonism" (Kershaw 1903: 334).[9]

Theoretical Foundation: Overview

Having identified the core principle of early industrial relations, I want to use this principle to construct a theoretical foundation for the field. This foundation is intended to do two innovative things: first, to identify and then provide a theoretical explanation for the two central research foci of the field (the employment relationship and its attendant labor problems); and, second, to demonstrate that IR's chief present-day competitors (neoclassical labor economics on one side and human resource management on the other) have deep conceptual flaws and in important respects do *not* adequately explain the employment relationship.

As I explain below, of these two rivals the more serious and fundamental threat comes from neoclassical labor economics; hence NLE receives the bulk of the attention and almost exclusively so in the next two sections. In particular, the object of analysis and criticism is the *core* of neoclassical labor economics—that is, the model of a perfectly

[9] The labor law field has also been sympathetic to "labor protectionism" and has also claimed a semi-autonomous position relative to ordinary contract and tort law (like IE labor economics does with respect to price theory). This position rests on the unique "human" nature of the labor contract. Bruère (1929: 458) claimed, for example, that "the thing which distinguishes the labor contract from all contracts involving property alone is that it expresses the state's concerns in the workman as a human being and a citizen" (see also Commons and Andrews 1936: 504–05). The labor law field also became the focus of a Chicago-led counter-revolution through the "law and economics" movement (Hovenkamp 1990; Kaufman 2009).

competitive labor market (Kniesner and Goldsmith 1987).[10] Since the late 1950s this approach to labor economics has been most closely identified with the Chicago School—which Reder (1982: 12) described as grounded on the proposition that "in the absence of sufficient evidence to the contrary, one may treat observed prices and quantities as good approximations to their long-run competitive equilibrium values." This DS model, supplemented by the theory of compensating wage differentials, still provides the baseline used by NLE researchers to evaluate the effect of institutional interventions in labor markets, such as the minimum wage, collective bargaining, and occupational safety and health (Boeri and Ours 1958; Neumark and Wascher 2008), and it provides the grounds on which these researchers typically arrive at skeptical-to-negative conclusions. Consider, for example, Stigler's (1982) assertion that "one evidence of professional integrity of the economist is the fact that it is *not* possible to enlist good economists to defend…the minimum wage laws" (p. 60; emphasis in original). Another exemplar was Harris and Stein's (2009) observation that "the neoclassical economic model therefore leads to the conclusion…[that] accommodations [required by law for people with disabilities] are inherently inefficient" (p. 344).

The following theoretical discussion builds on the *employment systems* framework in Kaufman (2004b), along with ideas and concepts from the original HSE/IE, Karl Marx, and Ronald Coase. Linkages to branches of modern mainstream labor economics, such as on imperfect and social labor markets, incomplete contracts, moral hazard and principle-agent problems, will be evident and are in many respects complementary to the IR perspective on employment relationships. Also evident will be linkages to theorizing in more overtly non-neoclassical traditions, such as economic sociology, labor process and post-Keynesian theories, the French *régulation* school, and German social market economics.

In keeping with the historical roots of original industrial relations, the resulting theory—certainly in its policy implications—is a middle way between NLE and Marxist/radical economics (and sociology). In this respect, industrial relations accepts and uses various component parts of NLE; at a paradigm level, however, IR cannot be integrated into the Walrasian DS structure of standard economics (a prime mission of modern NLE) and is fundamentally heterodox because it denies the central propositions of the Walrasian DS core.[11] This core maintains that a competitive market economy is self-regulating; tends toward full

[10] The definition of "neoclassical" is important. In IE, economics is about the noun *economy* (Commons 1950; Kaufman 2004c), Adam Smith is the father, and "neoclassical" connotes a Walrasian-type flexible price theory of a competitive market economy, described by Boyer and Smith (2001) as "a sparse model of maximizing behavior in the face of competition and constraints" (p. 212). The First Fundamental Welfare theorem holds that a competitive economy via the "invisible hand" reaches an optimum of efficiency. Becker (1976) and followers, building on Robbins (1932), define economics by the verb *economize* (e.g., incentives and consequent resource allocations), argue that economics is largely defined by its approach and set of tools (e.g., maximization, equilibrium, model-building), in effect elevates Jeremy Bentham to a "father" of economics(i.e., Bentham-inspired constrained utility maximization or "rational choice" theory takes over more of the "heavy lifting" from competitive price theory), and argue this approach is applicable to all aspects of market and non-market behavior. The former notion of NLE omits social and institutional elements; the latter includes them. A drawback of the "method" definition is that NLE becomes a mélange of models with no common core of predictions or restrictions outside the law of demand and claims that outcomes are somehow efficient (Lazear 2000; Boyer and Smith 2001).

[11] IE/IR does not reject NLE tools such as maximization, marginalism and equilibrium. Rather, the position is that NLE tools and models are useful in a subset of economic relations where the requisite continuity, completeness, convexity and stationarity conditions hold. They are not universally applicable, however, because historical, social, and institutional elements violate them (i.e., create a non-integral mathematical space; see Potts 2000). Maximization, for example, requires a closed set but fundamental uncertainty creates gaps; likewise, management systems operate as an asymmetrical power and rationing device, making the equilibrium concept (i.e., stable balance of forces) inappropriate. The downside of IE is less mathematical tractability and more indeterminacy; the upside is room for important features of a human economy, such as entrepreneurship, path dependency, and strategy.

employment; leads to efficient utilization of resources; and in labor markets sets wages, employment, and work conditions at efficient and fair (non-exploitative) levels. Conversely, industrial relations can be conceived of as an effort to construct a multidisciplinary and quasi-heterodox type of social labor economics based on a more realistic model of the human agent, centered not on an exchange of commodity labor inputs in competitive markets but on the exchange and use of human labor power in an employment relationship embedded in imperfect markets and hierarchical firms and surrounded by an institutional infrastructure of laws, cultures, social/ethical norms, and historical traditions (Kaufman 2004b, Figure 1).

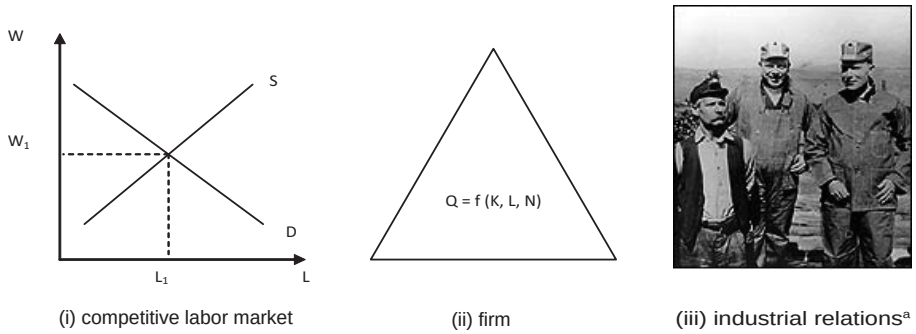
In this model, a market economy—most particularly the labor market—is not self-regulating or efficient and thus requires guidance, coordination, and control by the government and other human institutions—leading to what Commons (1934b) called a "managed equilibrium." Similarly, *laissez-faire* markets lead to considerable instability, waste, conflict and substandard conditions for labor and are outperformed in real life by some version (not necessarily European) of a "social market economy," that is, a competitively organized economy but with social buffers and protections (Tribe 1995). Industrial relations is thus a "social labor economics;" it is equally a "political economy" of labor. That is, IR recognizes: first, that labor markets and employment relationships are politically constructed; second, that core economic concepts (e.g., demand/supply curves, production functions, price, efficiency) can only be specified once a regime of property rights is established by a sovereign authority; third, that the regime of laws and property rights determines "whose interests count" and therefore the distribution of benefits and costs of economic activity; and fourth, that the Invisible Hand, though powerful and often constructive, must be guided, regulated, and supplemented by the Visible Hand of the state (Commons 1950; Solow 1990; Hyman 2008).

The place to begin formalization of this theoretical discussion is Figure 1. Panel (i) depicts a perfectly competitive labor market. This is the classic representation of the NLE "labor-as-a-commodity" theory. The demand curve D and supply curve S determine the equilibrium wage W_1 and employment level L_1 in the external labor market (ELM). Just as the quantity variable Q in a product market DS diagram represents some uniform physical entity (e.g., bushels of wheat of the same grade), the variable L in the labor market diagram also represents a uniform quantity of labor services, measured in discrete physical units such as number of workers or work hours.

Panel (ii) depicts a firm or other production unit (plant, mill, and so on), depicted as a hierarchical system of command and control with the chief executive officer and other top managers at the peak of the pyramid and the employees at the bottom. The firm is where production takes place, depicted by the production function relating the level of output Q to the level of factor inputs capital (K), labor (L), and natural resources (N). The labor input is first allocated and coordinated in the firm's internal labor market (ILM) and then converted into work and output in the production function or "labor process."

Panel (iii) is a photograph taken in 1915 at the Colorado Fuel & Iron Co. (CF&I). It portrays the owner, John D. Rockefeller, Jr. (right), with one of his coal miner employees (left), and Rockefeller's Canadian industrial relations consultant, William Lyon Mackenzie King (middle). The historic and symbolic significance of this photograph has been explained elsewhere (Kaufman 2004a), but suffice it to say here that if there is a "birth photo" of early IR in the American context, this is it. (British readers can substitute Burton for Rockefeller.) The theoretical significance is that the photo represents the human essence of industrial relations and, in particular, how the new science and practice of industrial relations, represented by King in the middle, stands between the warring employer and employee on the (metaphorical) right and left and restores industrial peace (removes "frictions"), creates a more efficient and equitable employment relationship, and saves

Figure 1. The Industrial Relations System



[a] L to R: Archie Dennison, Mr. King, and Mr. Rockefeller. Photo permission granted by Rockefeller Archive Center.

capitalism from destruction by its radical enemies or internal dysfunctionalities.

Before proceeding to discuss Figure 1 further, it is important to point out one inescapable but rarely articulated insight. It is why neoclassical economics in its Walrasian core has *fatal* consequences for the survival and growth of the IR field (and vice versa). For this reason, the two paradigms are, in pure form, incommensurate and opposed.

Industrial relations rests on the proposition that labor problems are an inherent outcome of the employment relationship (Barbash 1984). It further rests on a policy program that endeavors to ameliorate or solve these labor problems through a mix of institutional interventions, social re-engineering, and humanist ethical practices in labor and other markets (Osterman, Kochan, Locke and Piore 2001). The more one subscribes to the competitive NLE model, the less validity and merit these parts of industrial relations have, to the extent that in a state of perfect competition IR becomes an *empty space*.

It is not happenstance that the term "labor problems" was widely used as the title for labor economics texts (e.g., Watkins 1922) in the pre-1960 era since the American labor field was dominated by institutional economists who subscribed to this idea (McNulty 1980).[12] After 1960, however, the Chicago School and NLE (aka, modern labor economics) decisively displaced institutionalism and quickly banished the concept of labor problems with its implications of sub-optimality and need for intervention and concomitant receptivity to government and unions (Reder 1982; Freedman 2008; Kaufman 2010a). Increasingly, outcomes such as unemployment, discrimination, occupational segregation, rigid wages, and internal labor markets were depicted as efficient equilibrium solutions generated by rational choice, competition, and demand and supply. As an example, Boyer and Smith (2001: 211) observed in their historical review of NLE that "it is the view of neoclassical labor economists that layoff unemployment is not inconsistent with economic theory," in part because "jobseekers could be seen as rationally *choosing* unemployment" (p. 210, emphasis in original).

Given the competitive and efficient re-interpretation of these once-thought labor problems, it is then an easy step in modern

[12] The phrase "labor problems," like "industrial relations," now has a dated connotation. A better expression might be "employment problems," with "employment relations" (ER) replacing IR. The ER expression dates back to the 1920s but has only recently caught on. Although broader, it still does not capture the field's territory, which is work; the structure, management, governance, and outcomes of the employment relationship; and the quality of work life.

NLE—particularly when the theory of the second best (Lipsey and Lancaster 1956) is ignored—to conclude that labor regulation and industrial relations are not only unnecessary but most often harmful. Thus, Wachter (2004: 165) observed that "policy cannot improve on those [competitive] outcomes" and where imperfections occur "the optimal solution is to make the market more competitive." Similarly, if, in a model or policy argument an IR scholar gives special consideration to the human rights and interests of workers, NLE critics dismiss it as a normatively tainted and non-scientific value judgment.[13] Industrial relations maintains, on the other hand, that in modeling workers as commodities it is NLE that makes a normative and biased assumption. In this spirit, Stiglitz (2000: 3) remarked that "it might seem as if the fundamental propositions of neoclassical economics were designed to undermine the rights and position of labor." One way NLE does this is by making social welfare a function of consumption goods but not the quality of work life—a logical assumption if labor is regarded as a commodity production cost to be minimized.[14]

In the context of Figure 1, what I am saying is that if we choose to theorize the employment relationship using the competitive market model in panel (i), then for all intents and purposes there is no need for the field and practice of industrial relations in panel (iii)—it can simply disappear with no loss in social welfare (actually, there is a gain!). That is, in the theoretical world of perfect competition, demand and supply, without friction or cost, optimally allocate resources to their most efficient use, all sides gain from trade, contracts and commitments are perfectly enforced, and labor and capital are paid their marginal contributions to production. These are, of course, theoretical predictions and not literal statements of fact; nonetheless, the hypothesis maintained by NLE proponents is that these predictions represent in most situations useful *first approximations* to behavior of aggregates of people in real world markets (Reder 1982).

More specifically, DS establishes the optimal configuration of all terms and conditions of employment, including not only the wage rate but also hours of work, pace of work, safety and health conditions, and non-wage benefits. Thus, competitive labor markets lead to a Pareto optimal outcome in which it is not possible to make one person better off without reducing the welfare of another, which may be rephrased as "the best possible state of the world"—given existing technology, preferences, and factor endowments. Evidently, in a theoretical best possible state of the world no "labor problems" exist to study and any institutional intervention in the market is preordained to lower efficiency. In the real world, labor problems may exist, but they are generally spotty and small, often explicable as optimizing and efficient adaptations to frictions and imperfections, and in other cases likely to have distinctly man-made origins, such as the misguided policies and practices of unions and governments (Friedman and Friedman 1990; Lazear 2000). Labor problems, therefore, have no theoretical place in NLE, and government mandates are always viewed with skepticism; at an empirical level, significant waste, exploitation, coercion, blocked choices, and unfairness are denied or rationalized away in terms of being significant social

[13] In his critique of Osterman, Kochan, Locke, and Piore (2001), Neumark (2002: 722–23; emphasis in original) claimed, "perhaps owing to my training as an economist, I become uncomfortable when conclusions stemming from equity concerns are intermingled with conclusions that are supposed to emerge from objective analysis. While we have specialized knowledge [on]…. how labor markets *do* work, we are on a level playing field with laypersons in discussing how labor markets *should* work. I would have thought the same is true of those with an 'institutional' perspective." In response, IE argues that fairness requires inclusion in theory because it is an important determinant of work outcomes; normatively, since distributive and procedural justice clearly matter to people to neglect fairness is to then take a biased and normative "only more GDP counts" position. Yes, fairness is subjective, but so is utility and opportunity cost and thereby efficiency.

[14] The Dorr epigraph is again apropos. If fish are in short supply but child workers are readily available, the efficient market outcome is to have firms invest a large amount to reduce fish spoilage but to do little to reduce child spoilage. Society cannot be oblivious to relative resource costs; however, weighing human life on the same pecuniary scale as fish is a hugely normative-laden assumption.

concerns, thus obviating a need for a field such as industrial relations to study and fix these problems.

The mortal threat to industrial relations from the competitive model goes even further. For example, not only do demand and supply eliminate all labor problems, but they also render ineffective and unnecessary all of IR's problem-solving tools, such as worker representation and trade unions, labor law and social insurance, progressive employee management, and government macroeconomic stabilization policy. As Samuelson (1957) observed with respect to labor markets, and the Coase Theorem more generally suggests, an implication of perfect competition is that "institutions don't matter" (or "institutions are a veil"). That is, a competitive labor market efficiently allocates resources independently of the specification of property rights, other institutional rules and mechanisms, and social structure (Furubotn and Richter 2005: 12–14).[15] This means that labor demand and supply handle all aspects of HRM (e.g., DS set wages, provide a workforce, encourage workers to get training, motivate work effort through the threat of termination and unemployment), keep the macro-economy at full employment (Say's law), solve all conflicts of interest without labor law (via private bargaining), and obviate the need for unions to prevent exploitation and injustice.[16]

In terms of Figure 1, the message of the competitive model is that DS in panel (i) optimally perform everything and the Mackenzie Kings of industrial relations (e.g., IR professors, HR managers, union leaders, labor lawyers, mediators, central bank chairs, government safety inspectors) in panel (iii) have nothing to do and no value to contribute in maintaining equilibrium in the employment relationship. Panel (iii) again effectively drops out of the diagram. Not only is industrial relations redundant, but it is a detriment to the social welfare to the extent that King and colleagues interfere with DS. The message of NLE, therefore, is that the firm and employment relationship are, as a realistic matter, comprised of human beings, such as those pictured in panel (iii), but for the purpose of understanding and predicting the operation and outcomes of the employment relationship, the human aspect of these people can be neglected in theory-building without substantive harm (per Alfred Marshall's dictum).[17]

Given this introduction, I now want to explore features of Figure 1 more deeply, first by offering a more detailed analysis of the labor market and, second, by doing

[15] Institutions are social constructs (formal and informal) that define the rules of the game, specify agents' constraints and opportunities, and influence preferences (through norms, and so on). The standard view is that NLE is about labor markets and IR is about labor institutions (principally unions) and the former can proceed independently of the latter (e.g., Hamermesh and Rees 1984). The IE position holds that all labor markets and employment relationships are "institutionalized" (or "organized") and as one moves away from spot markets, the substantive importance grows. Thus, in the NLE view IR applies only (or mostly) to the 8 percent of the unionized U.S. private sector; in the IE view, it is competitive NLE that occupies this niche domain (of mostly spot labor exchange) and IR remains completely viable even if union density is zero.

[16] Deakin and Wilkinson (2005: 278) observed, for example, "in a world of zero transaction costs, there is, strictly speaking, no *economic* function for law to perform" (emphasis in original). This applies equally well to other institutions, making competitive price theory in effect a "non-institutional" economics. Institutions structure and segment labor markets, leading Kerr (1950, 1954) to claim NLE price theory is mostly applicable to "unstructured" labor markets while IR covers "structured" markets. Becker (1976: 5), however, argued persuasively that all social structure can be explained by economic considerations alone (à la economic imperialism), thus effectively marginalizing IR's "institutional" approach and making all manner of structured labor markets (e.g., internal labor markets) consistent with a Pareto efficient invisible hand story (Lazear 2000). In this paper, I argue that the Beckerian thesis is logically untenable in a human economy with positive transaction cost, implying "social structure matters"—as long claimed by IE/IR.

[17] The NLE "mechanical" theory of economics is well illustrated by this statement of Nobel laureate James Buchanan, made in reaction to the finding of Card and Krueger (1995) that a higher minimum wage in some regressions increased employment in New Jersey fast food restaurants. He argued that "just as no physicist would claim that 'water runs uphill,' no self-respecting economist would claim that increases in the minimum wage increase employment" (quoted in Leonard 2000: 137). The IR response is that human beings run up hill and the minimum wage in a human economy can be accommodated in other ways than by cutting jobs. NLE looks at negative static allocative efficiency effects; IE brings in positive dynamic efficiency effects.

the same for the firm (more generally, a production unit). This division is convenient for expository purposes; moreover, it captures the central components of the employment relationship—the *firm* and associated internal labor market and labor process where employers coordinate, motivate, and direct employees in the act of production, and the *labor market* external to the firm where demand/supply match up firms and workers and delimit the terms on which property rights to labor services are bought and sold.

Labor Market Theory

At the heart of neoclassical microeconomics, and thus at the heart of the orthodox paradigm, is the model of perfect competition. As every person familiar with economics recognizes, modern NLE now extends far beyond the competitive model and theorizes a whole host of imperfect market problems and non-market institutions and behaviors (Lazear 2000; Boyer and Smith 2001; Levitt and Dubner 2005; Boeri and Ours 2008). Recognizing this, however, does not mean that modern labor economics has abandoned the competitive model. Manning (2003: 11) asserted, for example, that "currently, labor economics consists of the competitive model with bits bolted onto it when necessary to explain away anomalies." Likewise, Lucas (2007) argued that "about 99% of all successful applied economics is still based on the idea of a competitive equilibrium" (quoted in Samuelson and Barnett 2007: 64). And in the same vein, Solow (1990: xvi) observed that "in today's preferred style the labor market is usually modeled as just clearing or, more subtly, producing efficient contracts." Thus, the competitive model still forms the core of the neoclassical research program, but it is now surrounded by a large and constantly expanding protective belt of disparate and often mutually inconsistent models and theories—now more frequently called "mainstream" than neoclassical—that in various ways relax or abandon key competitive assumptions. Indeed, a noticeable "institutional turn" is evident in modern labor economics (Blau and Kahn 1999; Freeman 2008).

Though a welcome development from an IR perspective, the construction of modern NLE nonetheless leaves a critic of the paradigm, or proponent of an alternative paradigm, in a close to no-win situation. That is, critique the core competitive model and you are beating a simplistic dead horse economists no longer take seriously; argue that policies such as minimum wage laws and unions are good for economic welfare and out comes the competitive DS diagram to show the critic does not understand economic principles.[18] With due regard to this conflicted situation, I proceed to examine the competitive model for three reasons. First, it continues to provide the central theoretical device economists use to think about employment relationships; second, it is this model that all generations of industrial relationists have rejected as seriously misleading; and, third, doing so yields new insights, tools, and ways of thinking.

The competitive model necessarily assumes that labor is homogeneous—that is, it is a *commodity* (Polanyi 1944; Prasch 2003) What I am arguing here is that a critical analysis of this assumption leads to two important conclusions: first, it is the neoclassical model that is the "empty space" when it comes to a logical and insightful explanation for the employment relationship and, second, modifying this assumption so that the labor factor is modeled as "substantively human" yields an IE-based theory that *does* explain not only the existence of the employment relationship but also its key features.[19]

[18] Modern NLE becomes nearly impervious to outside criticism because any alleged inefficiency or deviant observation can be "explained" by a new model. This procedure, besides introducing considerable *ex post* rationalization, also obfuscates identification of how real world labor markets operate. To illustrate, to the best of my knowledge, no article in the *Journal of Labor Economics* since its inception (1983), nor in any of the 53 chapters in the *Handbook of Labor Economics* (Ashenfelter and Card 1999), provides an empirically based description of a representative labor market in action or examination of how labor markets and DS actually set wages. Markets become disembodied diagrams, statistics, and equations.

[19] "Substantively human" means an abstract model that maintains fidelity to fundamental properties of real human beings. Bounded rationality (BR) is

First, it is important to examine the NLE competitive model. If labor is differentiated, then the supply curve of labor becomes upward sloping, necessarily so since firms are no longer indifferent to which unit of labor they purchase. It is *existentially impossible* for labor *not* to be differentiated since the labor service purchased by the employer is embodied in and inseparable from the employee who sells it (a form of indivisibility not present with commodity suppliers of wheat, oil, and so on), implying the employer and employee of necessity have a personal and typically ongoing *relation* (an "industrial relation") rather than a one-time market-mediated anonymous exchange. Just as no well-defined product supply curve exists for an imperfectly competitive firm (e.g., a monopolist), no conventional labor demand curve exists for a firm in an imperfectly competitive labor market (e.g., a monopsonist; Fleischer and Kniesner 1980: 198). Thus, on the plane of pure logic, if we follow early IR and hold to the proposition that labor is not a commodity, then the implication is perilous for NLE—that is, in panel (i) *one-half of the DS model deconstructs and disappears.*

On the empty shell of neoclassical DS theory is the foundation for IR theory. Since DS in the external labor market cannot provide a determinate wage/employment outcome, the firm through management fiat and HRM policy—possibly modified by government regulation or union negotiation—must close the terms of the wage/employment bargain. Thus, industrial relations asserts that wage rates, rather than being solely market-determined as assumed in the core version of NLE, are always and everywhere *managed/administered prices,* albeit shaped and constrained by market forces to varying degrees (Taylor and Pierson 1957; Kaufman 1988; 2008c).[20] Since employers are wage-setters and have a modicum of market power, industrial relations also recognizes that wages and other terms and conditions of employment are likely to be set to serve the interests of employers, such as wages below the competitive level for infra-marginal workers (Manning 2003; Erickson and Mitchell 2007). Both the Webbs and Commons referred to this imbalance in wage determination as "labor's inequality of bargaining power" (Kaufman 2010b).[21] Workers are also often not paid their marginal product and feelings of unfairness can creep into the employment relationship (Budd 2004). Part of the intellectual framework of IR, therefore includes concepts such as administered and bargained wages, inequality of power, and distributive inequity; part of the normative framework of traditional IR includes the assessment that these problems can be reasonably resolved through institutional reform of capitalism, rather than its elimination, as labor radicals propose (Braverman 1974; Hyman 1975).

There are numerous other cleavages between NLE and IR with regard to competitive labor markets that in each case degrade the former and strengthen the latter. Below I outline several.

If labor is human, then labor supply is volitional, as originally emphasized by Marx (1935) in his distinction between units of *labor* and effective *labor power.* Whereas the

described by Commons (1934b) as self-interested and purposeful behavior constrained by stupidity, ignorance, and passion (see Kaufman 1999b). BR is the key to IE since it leads to positive transaction cost (TC) from which flows incomplete contracts and all the rest. The IE demand in theorizing is "substantive realism" (empirically informed and congruent priors at strategic places), not the hugely successful but equally bogus straw man of "descriptive realism" (Friedman 1953). IE theory looks to behavioral and experimental economics for empirically valid generalizations (Kaufman 1999a).

[20] NLE claims to have a theory of a "market-determined" wage, but it has no such thing. The competitive DS model (two equations with two unknowns) yields an equilibrium point in price/quantity space, but has no (consistent) equations that describe the bidding process that moves the market to equilibrium (the wage is parametric, so no agent can bid it up or down). Walras invented a fictional auctioneer to solve this problem. Since no auctioneer exists, and demand and supply are inanimate forces, the human beings that most likely set wages are managers, implying that firms have market power and wages are administered prices.

[21] From an NLE perspective, it appears contradictory to foster competition in product markets through the Sherman Act anti-trust law but to foster cartels in labor markets (unions) through the Wagner Act labor relations law. In IE these policies are consistent—both protect the weaker party (consumers, workers).

BTUs from a ton of coal and the tensile strength of a steel beam (both commodities) are determinate, the work effort of human beings is discretionary and highly variable—ranging from zero (sleeping on the job) to some maximum that differs from person to person (Boyer 2002; Bowles 2004). Hence, the well-defined neoclassical labor demand curve develops a potentially large area of indeterminacy since a given unit of labor purchased by the firm (e.g., the time of one worker) may yield in production a highly variable marginal product, depending on the amount of labor power (physical, mental, emotional effort) supplied, an outcome itself highly contingent on IR factors such as supervision, morale, and fairness.[22] The relationship between wage and marginal product is thus highly variable in a human economy; moreover, if work effort responds positively to an increase in the wage the labor demand curve may become upward sloping at places, thus further calling into question NLE propositions such as the law of demand and law of one price. These anomalies, long noted by IR scholars (e.g., Dunlop 1984), have recently received formal analytical representation in game theory, efficiency wage models, and post-Keynesian theory (Akerlof 1990; Solow 1990; Miller 1991; Lavoie 2006; Bulow and Summers 1986).

The human essence of labor also means that labor demand and supply curves are not independent functions, wages are likely to have a large degree of rigidity, and labor markets are no longer self-regulating (Solow 1990; Bowles 2004; Kaufman 2007a). A leftward shift of the labor demand curve, for example, may cause a leftward shift of the labor supply curve if layoffs and wage reductions are perceived as unfair and workers therefore reduce labor supply (Levine 1993). Likewise, firms are reluctant to cut wages in a situation of excess labor supply since doing so harms morale and often reduces work effort and productivity more than proportionately (Bewley 1999; Fehr and Falk 1999). Persistent unemployment may therefore result, not due to minimum wage laws, unions or other such institutional impediments (the usual NLE story), but from the hard-wired though analytically inconvenient facts of human nature.[23] Industrial relations and Keynesian economics thus have a close intellectual link, starting with the influence Commons' ideas had on Keynes' *General Theory* (Whalen 2008b; Kates 2008).[24]

The human essence of labor opens up yet other insights. Commons (1934b) argued that *ownership* and *property rights* are the foundation of institutional economics. Applied to labor markets, it is important to keep in mind that firms typically own the capital and land inputs but *rent* labor. In a world of perfect competition this distinction is irrelevant (the "institutions are a veil" proposition) since market forces ensure equal terms and conditions for labor in either contractual mode; in the real world of imperfect competition, however, economic rationality leads firms to give more attention and care to the resources they own than to the ones they rent. S. Webb (1912) observed, for example, that street railway companies took better care of their horses than their workers; similarly,

[22] Readers may object that I attribute fairness to IR when NLE also includes it (Boyer and Smith 2001). The "theory" version of NLE cannot include fairness without sacrificing competitive equilibrium and the first welfare theorem (because interdependent utility functions introduce an externality); in the modern "method" version of NLE, however, numerous models include fairness. Consistent with the position taken in this paper, Rees (1993: 243) explained that "the neoclassical theory of wage determination, which I have taught for 30 years . . . , has nothing to say about fairness."

[23] The idea that firms are the source of wage rigidity due to morale and efficiency considerations was widely recognized by early IE/IR writers (e.g., Slichter 1920), in part because they talked to business people (also see Bewley 1999), but Friedman (1953) later convinced economists this procedure is "bad method" and the findings untrustworthy. As Dunlop (1944) also observed, wage cuts principally come not from excess supply (unemployment) in the labor market, as portrayed in the DS diagram, but from competitive threats to firm survival in the product market—again suggesting firms control the wage.

[24] IE denies that a market system is self-equilibrating. For example, Leiserson (1931: 3) quoted a banker's newsletter: "The time-tested laws of supply and demand must be allowed a free hand [to cure the Depression]." He then asked, "Would any sensible person nowadays say that the time-tested law of gravitation must be allowed a free hand—to sink ships, to drop bridges, or to topple skyscrapers?"

in recessions employees (rented labor) are discharged by the millions with society left to bear the cost of labor maintenance (a social subsidization of capital and implicit tax on labor) whereas firms if at all possible keep and maintain idle or partially utilized facilities and equipment (their owned capital).

Given the IE emphasis on ownership, Commons (1934b: 55) made the *transaction*—the legal transfer of property rights—the fundamental unit of economic activity. The implication for theory is that in the labor market, such as panel (i), what is bought and sold (the variable L on the horizontal axis of the usual DS diagram) are units of labor (e.g., work hours) but what enters the production function is likely to be quite different, not only due to the distinction between labor and labor power but also due to the incomplete nature of the employment contract (Simon 1951; Marsden 1999; Kaufman 2010b).

For a labor market to be perfectly competitive and yield an efficient outcome, all margins on the labor service sold by the employee must be completely specified, priced and delivered to the employer, which only happens if all dimensions of the property rights are fully covered in a complete and fully enforceable contract. Any un-priced dimension of a property right creates an externality-like problem. Perfect competition, therefore, requires complete contracts, and complete contracts arise, in turn, only in a state of zero transaction cost (Dow 1997).[25] In IE theory, zero transaction cost (TC) means exchange in markets takes place without cost or friction, which is exactly the Walrasian competitive model. It is this assumption that makes market exchange the preferred mechanism for allocating and coordinating economic activity; that allows NLE to eliminate all institutions except the market as active forces; and that makes wages and other outcomes independent of custom, social norms, and equity concerns. Positive TC and incomplete contracts, however, create an opening for other non-market institutions to play a role in the coordination and regulation of the labor exchange, and, hence, a multi-disciplinary role for other academic fields related to the study of labor (Whalen 2008a); they also create an opening for a divergence between the private and social cost of labor, harmful firm practices for workers, and a rationale for institutional intervention (Stabile 1993). Indeed, the IR implication is that externalities and contracting problems are *inherent* to labor markets, rather than a special case as in NLE, and institutions are essential—rather than inimical—to achievement of economic efficiency.

There is yet one more theoretical conundrum for the NLE commodity model of labor demand/supply. Since perfect markets are always the lowest (zero) cost coordinating device, Coase (1937) demonstrated that economic activity will devolve into a market structure that may be labeled "perfect decentralization," or what Commons called "extreme individualism" (Commons, 1934b: 108; Kaufman 2003a). In this economy, all coordination takes place through markets, implying firms disaggregate into single person entities, such as independent contractors and family farms. That is, multi-person firms rely on management to coordinate labor resources in internal labor markets, but this is inefficient since external labor markets do it at zero cost, causing all firms to vertically dis-integrate (or dis-agglomerate) into the lowest unit of aggregation, a sole proprietor-type operation. Single person firms, however, by definition have no employees and, thus, no employment relationship to study. Nor do they have a labor demand curve since they obtain labor services from other *firms* (e.g., independent contractors) selling labor services in the form of *intermediate goods* in *product* markets (Kaufman 2007b, 2008c). Therefore, we again find that a deeper analysis of the labor commodity DS model reveals serious logical contradictions—not only does Coasian logic suggest the neoclassical DS diagram (again) deconstructs but it also reveals that in a world of perfect competition (zero TC)

[25] The transaction cost idea still lives on the fringes of labor economics, illustrated by its complete omission from leading NLE textbooks and only a single reference in the five volumes of the *Handbook of Labor Economics* (Ashenfelter and Card 1999).

the employment relationship—the central dependent variable in industrial relations—disappears and has by the strict application of logic no theoretical existence.

The reader may question one or more of the points raised here; my claim, however, is that considered as a whole these IE arguments provide a powerful critique of the logical foundation of the commodity labor DS model. In a sentence, the model has a deep logical contradiction. If we accept the model of perfect competition in labor markets and attendant demand/supply diagram, then *the employment relationship disappears*. If, instead, we postulate positive TC so the theory can accommodate an employment relationship, then *labor markets are always and everywhere imperfect* and the demand/supply diagram disappears.[26] Note, first, that this critique of NLE is far more fundamental and damaging than the usual market failure argument, such as monopsony and externalities, since the former calls into question the very existence of the competitive model while the latter only questions its range of applicability. Further, note that the Commons/Coase emphasis on positive TC also provides industrial relations with a theoretical foundation for explaining not only the existence of an employment relationship but also features of this relationship, such as the boundary line between external and internal labor markets, the structure of alternative types of firm-level employment systems, and the structure of national-level industrial relations systems (Williamson, Wachter, and Harris 1975; Osterman 1987; Marsden 1999; Katz and Darbishire 2000; Hall and Soskice 2001). Further, while NLE takes the existence of labor markets as an exogenous "given" (i.e., "assume a competitive labor market"), IE/IR theory is more general because it makes the size, existence and structure of labor markets endogenous and, in fact, a mirror image (a "dual") of the size, existence and structure of firms, given that the two coordination modes vary inversely with TC.[27]

The reader may also wonder if all of this discussion is simply an arcane theoretical squabble or a rehash of old and mostly forgotten debates. But clearly it is not. The logical consistency of a theory is important for evaluating its scientific status; that is, the less internally consistent the more *ad hoc* a theory becomes and the less credibility it carries.[28] The IR claim, therefore, is that NLE lacks a strong *micro foundation*, which is exactly the same critique that Chicago-type "new classical" economists have vigorously used to attack the scientific status of the Keynesian model. But equally important, a theory's logical consistency affects its applicability and credibility for policy analysis. Here the implications of the foregoing line of argument are equally profound and the stakes higher.

Conservative free market economists and proponents of neoliberalism have since the early 1980s occupied the theoretical high ground in labor policy debates precisely because the competitive DS model has become the accepted benchmark for

[26] IR does not deny "supply and demand" or counsel throwing-out the DS diagram. It suggests, on one hand, that labor DS is more often adjusted through quantity and quality dimensions than price (akin to the quantity-adjusting "Keynesian cross" model of aggregate DS) and that disequilibrium and excess supply are the norm in labor markets. On the other, IR recognizes that the flexible price DS model provides a useful pedagogical and comparative static device and well explains certain aspects of labor markets.

[27] Because managers determine the boundaries and internal structure of firms, they likewise influence the reciprocal boundary and structure of external labor markets. Thus, managers are "market makers," and just as wages are (partially) administered to promote firms' interests, so are the labor markets themselves, albeit constrained by large collective action problems (thus employers' associations, local personnel groups, and so on).

[28] The competitive model can also be evaluated regarding empirical prediction. The IE/IR position (e.g., Thurow 1983; Dunlop 1984) is that it often fails this test, at least without significant amendment. NLE economists tend to fall back on the law of demand as an example of the theory's predictive ability but this is also weak. First, Becker (1962) demonstrated the law of demand is a fact of scarcity and not a unique prediction of neoclassical theory (it holds true at a global level even if people act irrationally); second, evidence (Doucoliagos and Stanley 2009) indicates a modest increase in the wage is often associated with no statistically significant decrease in labor demand; and, third, the crucial test of NLE is not the law of demand but the market-equilibrating role of wages—a prediction NLE notably shies away from examining.

policy evaluation.[29] It is obvious that when the competitive model is the basic frame of reference—exemplified by the ubiquitous use of the DS diagram in mainstream analyses of trade unions, minimum wages, mandated benefit programs, and international labor standards—then IR scholars and other proponents of these measures necessarily face a steep uphill battle. That is, since the debate commences from what is in effect a "guilty-until-proven-innocent" position, the critics of these institutions merely have to draw a DS diagram and point out as their first move the well known negative implications whereas the proponents face the far more difficult task of demonstrating why market failures or social concerns are so large and serious as to merit intervention. Seriously impugning the theoretical integrity of the DS model, therefore, is not simply a theoretical nit-pick; rather, it is the key to creating a more level playing field in debating labor policy by replacing the model of *perfect* competition in *commodity* labor markets as the general case with models of *imperfect* competition in *human* labor markets (Stiglitz 2004). This was *the* central motive that led Lester, Kerr, Dunlop and other neo-institutional labor economists to found the Industrial Relations Research Association (IRRA) shortly after WWII (Kaufman 1993). Its chief purpose was to promote a "social science" approach to labor/employment economics, yielding models closer to imperfect reality and less reflexively opposed to labor protection measures.

Viewed in this light, Stigler of the Chicago School—an ardent defender of the competitive model, critic of labor market regulation, and *bête noire* of the post-war labor neo-institutionalists—might take as cold comfort just how prescient he was concerning the destructive consequence of transaction cost for orthodox price theory (the second epigraph). Defenders of Stigler and NLE, of course, may well point out that competitive price theory can be modified to incorporate transaction cost, or any other deviation/extension discussed here, and that the modern NLE has anyway moved far beyond the competitive model (Boyer and Smith 2001). These claims can be readily ceded without impairing the fundamental proposition of industrial relations—that the competitive DS model and its free trade and *laissez-faire* implications are seriously flawed when applied to many aspects of labor markets and employment relationships. If modern NLE indeed no longer ascribes to the competitive model and the labor DS diagram as core theoretical constructs, except possibly as broad-brush heuristic devices for textbooks or analysis of long-run trends, then IE and IR have effectively triumphed in a century-long battle, albeit with little analytical contribution of their own and with success mostly provided by methods and models from the latest generation of non-competitive mainstream economic theorizing. If, on the other hand, NLE proponents continue to believe that the competitive model, DS diagram, and invisible hand story well explain and predict most labor/employment outcomes and provide an accurate and impartial evaluation of institutions and policy initiatives, then the battle lines remain in place. What modern NLE cannot do and remain transitive is *have it both ways*.

Theory of Firms, Production, and HRM

The discussion so far has centered on the theoretical and empirical aspects of the competitive labor market model in panel (i). Equally important and the other half of the story are similar aspects of the orthodox treatment of the firm and production process in panel (ii). The employment relationship, after all, is composed of markets *and* firms and both price *and* command methods of resource allocation (Simon 1951; Marsden 1999; Kaufman 2004b). This part of the paper provides further critique of NLE; it also provides an entrée to my critique of modern IR's other academic competitor, human resource

[29] Chicago School "market fundamentalism" (Freedman 2008) gained a deep hold post–1970 partly because of its analytical advances and partly because neoliberal economies performed relatively well. This view is certain to be seriously dented, however, by the 2008–2010 economic crisis. Policy makers are desperately stanching the deflation that orthodox theory says is the market's route back to full employment.

management.

Because the microeconomic core of NLE treats labor as a commodity, its theory of the firm and production is an unduly simplistic and incomplete abstraction and therefore critically flawed for understanding many aspects of employment relationships. Much the same objection was raised by early industrial relationists to Frederick Taylor's theory of scientific management (Taylor 1911; Hoxie 1915; Commons 1919: 7–16). Here, workers were modeled much as machines (or stimulus-response mechanisms) to be manipulated and controlled by managers who, versed in the scientifically revealed "one best way" of managing organizations, could then achieve the highest level of enterprise efficiency. This managerial approach also seemed sound in theory but proved to yield its own harvest of labor problems. Viewed from this perspective, industrial relations is meant to be not only a critique and reformulation of orthodox labor market theory but also a critique and reformulation of engineering-oriented production and management theories. In both cases, the fundamental point of departure is the same: labor is a *human* factor and the employment relationship is a *human* relation. In management, this proposition was the starting-off point of Elton Mayo and the "human relations" school (a 1940s–1950s branch of IR).

In institutional economics and industrial relations, firms are more than production functions; they are also *governance structures*, or what Commons (1950) referred to as an "industrial government." In NLE, and a subset of what is called "new institutional economics" (NIE), the governance structure idea does not lead to a rationale for institutional intervention or management reengineering of the firm's employment system. The reason is that competition is presumed to force firms to adopt a governance structure and set of internal HRM practices that are efficient (Williamson 1985; Lazear 2000); competition also ensures that these rules and practices are fairly implemented and enforced (Dow 1997). Moreover, competitive firms have no power over workers (Alchian and Demsetz 1972; Lazear 2001), and if workers are dissatisfied, they can voice their displeasure at zero cost by quitting (voting with their feet).[30]

From an IR perspective, the governance of the traditional capitalist firm is likely to be neither efficient nor fair and it is certainly not democratic (Webb and Webb 1897; Weiler 1990; Kaufman 2007b). Similarly, IR argues that governance systems are not properly evaluated only on the basis of efficiency and, therefore, other important welfare goals, such as fairness in the workplace and opportunities for human development, should also be considered (Budd 2004; Budd and Scoville 2005; Kaufman 2005).

The inefficient and non-democratic nature of employment in traditional firms is an inevitable consequence of positive transaction cost, imperfect labor markets, and the legal power given employers to determine unilaterally how they manage their business. Firm owners are, in effect, "industrial monarchs" with relatively unrestricted rights to hire, fire, and pay as they see fit—constrained in an unregulated labor market only by the workers' imperfect threat of exit (Leiserson 1922; Derber 1970). The exit threat is made imperfect by mobility costs, a reserve of unemployed job seekers in most years, and in many cases quickly exhausted financial resources. Naturally, when firms enjoy the advantage in legal and market power they use this power to design and administer the workforce governance system to promote their interests. This often takes the form, as in any political monarchy lacking formal checks and balances, of unilaterally determined and administered rules, arbitrary and sometimes unfair administration of justice, lack of representation and participation in decision-making, and banishment without right of appeal. Thus, with external

[30] Alchian and Demsetz (1972: 777) explained, "[the firm] has no power of fiat, no authority. . . . Telling an employee to type this letter rather than file that document is like telling a grocer to sell me this brand of tuna rather than that brand of bread." Similarly, Lazear (2001: 613) claimed, "Firms hire workers in a competitive labor market and cannot simply take advantage of them."

exit impeded and internal voice under-supplied (partly a public goods form of market failure), the worker's inequality of power in ELMs is mirrored in a similar power imbalance in ILMs (Freeman and Medoff 1984; Bowles 2004; Kaufman 2009). This tilted system of political governance is unproblematic for commodity inputs but hardly so for human inputs, with deep ramifications for efficiency, fairness, and elemental human rights (Blainpain 2001; Gross and Compa 2009).[31]

The IE/IR focus on firms as governance structures leads to another important concept: the internal labor market. Early IR theorists, such as Commons (1919) and Slichter (1920), discussed internal employment systems, but the ILM term and theory was developed later (Kerr 1954; Dunlop 1966; Doeringer and Piore 1971). IE provides a distinct way to think about ILMs that diverges from standard economics (Jacoby 1990).

The methodological imperative of NLE when presented with a new problem or issue is to put it into a maximization/equilibrium framework, derive an efficient solution, and advance some argument that reconciles it with the paradigm's invisible hand story.[32] This method has led to many interesting models and insights. Nonetheless, IE/IR argues that in important ways this approach to theorizing ILMs is flawed and incomplete. First, ILMs cannot be reconciled with a competitive invisible hand economy since they arise partly from large transaction costs (e.g., due to firm-specific human capital), which necessarily tilt the economy toward imperfect competition. Second, NLE provides no logically defensible explanation for why ILMs yield efficient outcomes. The standard argument is that competitive forces pressure firms and managers to adopt efficient practices, but this argument is a logical *non sequitur* since, as just noted, competitive pressures are necessarily partially obstructed by transaction costs. Further, these same transaction costs create principle-agent problems within firms, and thus managers have both the incentive and slack to sacrifice efficiency—efficiency being of most value to shareholders—in favor of outcomes that promote their own interests (e.g., salaries with a large monopoly rent). And, third, ILM outcomes may be "equilibrium" solutions in the narrow sense of a solution to a constrained maximization problem, but they are not equilibrium outcomes in the broader sense of a demand/supply balance as in external labor markets. A principal reason firms set up ILMs is to promote greater work effort, and to do so they deliberately ration rewards and opportunities for advancement through non-price means, in effect creating an internal situation of persistent excess demand (as opposed to the Beckerian equilibrium-based human capital theory of on-the-job training).[33]

[31] Fundamental to NLE is the idea that "all sides gain from trade," implying more trade improves efficiency and human welfare up to the optimum where everything is tradable. Human rights, however, are restrictions on trade since they create a claim that certain "property rights"—such as sale of one's body for slavery or sex or one's vote in political elections—are indivisible with human personhood and cannot (or should not) be alienated for trade. It is a fair statement to say, therefore, that enlargement of human/labor rights has come only over the indifference-to-opposition of neoclassical economics. The ILO, for example, pushes nations to adopt improved "decent work" labor standards but, as one economist (Gillingham 2000: 244) observed, "Economic theory provides little support for ILO methods."

[32] For example, Lazear (2001: 612) wrote, "Adam Smith's early notion of the invisible hand makes its way into personnel economics"; "almost all theories in personnel economics are consistent with some notion of equilibrium"; and "personnel economics assumes that the worker and the firm are rational maximizing agents."

[33] A concrete illustration is NLE tournament theories of managerial compensation (Neilson 2007). Non-equilibrium rationing exists since all the contenders would take the job (e.g., CEO) at the going wage but only one gets it. Further, since the size of the prize is set by managers, wage rates as claimed in IE are an administered price (and not just by a little). Likewise, the motivation comes from a Veblen-like relative wage comparison. One then wonders, if wages are an administered price, then how can labor markets be self-regulating? Moreover, in a tournament model, compensation in the current job is not a function of current performance but past performance, so what happens to the presumed link between marginal productivity and pay? The principle-agent problem ("separation of ownership and control" in IE) permits executive "insiders" to reward themselves with tournament salaries far higher than efficient levels, leading to soaring CEO pay.

IE/IR has a separate theory about ILMs. It starts with the Commons/Coase distinction regarding alternative modes of economic coordination. Production in an economy necessitates a division of labor, and an insight of IE is that it can be organized and coordinated by one of two different mechanisms. The first is *competition* among autonomous actors in external markets using demand/supply and prices; the second is *cooperation* among interdependent coworkers inside hierarchical firms organized and fostered by management-constructed human resource management practices. The former embeds labor contracting in an individual bargaining relationship; the latter embeds it in a group administrative relationship. Commons (1934b) captured this dichotomy by distinguishing between "bargaining" and "managerial" (or "administrative") transactions; in the NIE this dichotomy is called "make vs. buy." Make vs. buy is represented in Figure 1 by the ELM in panel (i) and the firm and associated ILM in panel (ii).

In real-life economies, production is coordinated by both competition and cooperation and yields a "mixed economy;" for theorizing, however, IE fruitfully points out that the possible combinations range from "all markets" and "all competition" to "all organization" and "all cooperation."[34] One end of this spectrum is anchored by the model of perfect decentralization (described above) where production disagglomerates to single-person firms and competition through markets performs all coordination of the division of labor. At the other end the economy is a model of "perfect centralization;" that is, production agglomerates from a host of individual firms to the highest possible level—i.e., one giant national-sized "firm," "team," or "workers' cooperative" run by a system of top-down national management ("central planning"). Here cooperation displaces competition and managers using HRM and other tools coordinate the entire division of labor (Kaufman 2003a). The first option is a perfectly competitive economy à la Walras where the ELM = 100%; the second is the "economy as one big unitarist factory" à la Lenin's macro model of Taylor's scientific management (Scoville 2001; Stiglitz 2004) in which the ILM = 100%. In the former, efficiency is maximized through the market and the Invisible Hand; in the latter, the Visible Hand of management attains the same result. Brought to light here is the heterodox insight that it is really perfect information, *not* perfect competition, that is strategic to Pareto optimality and the first welfare theorem (Potts 2000).

The implication of the previous analysis is that the relative role of cooperation, ILMs, and HRM increases as multi-person firms grow in number and size, hence the first task is to explain the determinants of firm size. The answer suggested by Coase (1937) is that firms grow when the cost of market exchange becomes more expensive; that is, firm size is a positive function of TC. A second factor, heavily discounted by Williamson (1985) and others in the NIE community but endorsed by Commons (Commons 1950; Kaufman 2003a), is technological in nature; that is, firm size also grows as economies of scale and other internal efficiencies make in-house production cheaper than external purchase.[35] Given this, the second task is to identify the important "independent variables" that determine the size of transaction costs and internal production efficiencies. Williamson (1985) argued that asset specificity (e.g., firm-specific human capital) is the principal variable; based on

[34] Neoclassical economics covers only one-half of the spectrum of economic organizational forms, i.e., from competitive to monopoly markets. It omits (or assigns to comparative economic systems) macro command forms and assigns to management departments the "micro" version of economic planning—the *firm* (Galbraith 1967). Central planning at Wal-Mart produces an annual "GDP" three times larger than Cuba's.

[35] NLE of course recognizes scale economies but then has to omit them from the competitive model lest they disrupt competitive equilibrium. With constant returns to scale, however, firm size is indeterminate (single person firms and giant firms have equal unit costs) except for *ad hoc* restrictions, such as limits to management coordination (but with perfect information?). IE provides a determinate account of firm size.

Commons' work, I expanded this list of variables to five: degree of bounded decision-making; degree of complementarity among objects in agents' utility functions; degree of complementarity among inputs in firms' production functions (e.g., asset specificity); degree of incompleteness/indivisibility in property rights; and extent of government-mandated restrictions on exchange of property rights (the "political economy" dimension) (see Kaufman 2003b). As the latter four variables become larger, TC and internal economies grow, firm size increases, and ILMs proliferate; in the limit, the economy goes to the corner solution of all ILM[36] (see Kaufman (2003a).

ILMs vary, of course, in their breadth, structure, and formalization, and a fruitful theory of ILMs must account for this variation. IE/IR does it through the concept of *employment systems* (Osterman 1987; Begin 1991; Marsden 1999), which is a more firm-level version of Dunlop's (1958) concept of an "industrial relations system." An employment system (ES) is the configuration of structures, policies, programs, and practices that firms adopt to obtain and dismiss, develop, motivate, coordinate, and govern the labor input ("human resources") in the manner that best achieves organizational goals. The proposition of industrial relations is that interactive variation in the external environment of firms, their internal structure and organizational characteristics, and their organizational goals and strategies lead the owners/executives to craft a finite number of distinct ES configurations or "HRM architectures" (Lepak and Snell 1999).

The ES idea in the IR field dates back to Commons (1919), who distinguished five models, including the "commodity" (DS) model, the "machine" (scientific management) model, and the "goodwill" (high commitment) model.[37] Another influential typology in IR was developed by Kerr (1954); also relevant are models of labor control developed in the labor process literature (e.g., Edwards 1979). The ES configuration that has most captured attention in recent years is the high performance (or high involvement) work system (HPWS)—an HRM intensive system that employs a package of employment practices such as teams, extensive cross-training, broad jobs, performance-based pay, employee involvement, job security, and an egalitarian organizational culture to achieve superior productivity and profits (Frost 2008; Boxall and Mackay 2009).

Part of the efficiency gain from ILMs comes from engendering distinctly human aspects of labor, such as commitment, morale, and trust. I quoted above a British employer who observed that with a commodity "buy-low-sell-high" philosophy of employment "the usual relation between employers and employed is one of antagonism." This viewpoint identifies one crucial defect of a commodity/machine model of labor: the emergence of an adversarial low-trust "prisoner's dilemma" form of employment relationship and consequent poor firm performance (Commons 1919; Fox 1974; Thompson and Newsome 2004). The reason

[36] Larger bounded decision-making creates greater contract incompleteness and higher TC; larger complementarity (interdependency) in utility functions means fewer principle-agent problems and greater internal efficiency; larger complementarity (non-separability) in production functions creates scale/team economies and greater internal efficiency; greater indivisibility in property rights increases TC; and greater legal restraints on exchange raise TC. These five factors form a "periodic table of economic organization" (Kaufman 2003a, Table 1) that explains basic permutations in economic organization.

[37] Ironically, today IR is considered a union-centered field with a somewhat anti-management normative stance (Godard and Delaney 2000). When IR was born in the early 1920s, however, the major reasons were first, to study and promote the solution of the Labor Problem through new models of progressive management and employee voice (hence the leading role of Rockefeller, Jr. and other corporate liberals) and, second, to provide a strategic dimension to personnel management (Kaufman 2001, 2008b). Until IR and HRM split apart in the 1960s, IR provided most of the research authorities on personnel systems and the authors of the best-known personnel texts (e.g., authors such as Yoder, Heneman, Myers, and Strauss) as well as provided the external and strategic dimension. From 1960–1980, personnel management was dominated by "micro" behavioral scientists (principally I-O psychologists) and thus was very inward and individualist-looking. Strategic HRM was therefore invented post-1980 in part to perform IR's missing function.

early twentieth-century business people became involved in industrial relations, accordingly, was to discover and implement new labor management practices and workforce governance structures that would increase firm performance by fostering positive employment relations, high trust, and the most desired of all workplace behaviors—*cooperation* in production (King 1918; Rockefeller 1923; Kochan, Katz, and McKersie 1986; Kaufman 2003b, 2008b).

Cooperation and fairness are moot issues in the orthodox competitive model because workers are perceived as commodities, work effort is locked in through complete contracts, and utility functions are individualistic; indeed, introducing cooperation and fairness into the model creates an externality problem and competitive ELMs are no longer efficient. IR takes a different perspective. In real-world economies, cooperation and fairness are important active components to higher firm productivity and performance and do not just automatically occur. Rather, they have to be created through far-sighted managers, progressive HRM practices, and supportive institutions (Osterman, Kochan, Locke and Piore 2001; Heckscher and Adler 2006).[38] At the same time, IR also recognizes that taking the long view in employment relations and using progressive HRM brings with it significant fixed and variable costs (e.g., more HR staff, employment security, above-market wages and benefits, employee voice), reduces management discretion, and circumscribes its short-run power (Barbash 1984). Further, the ability of firms to cover these costs depends critically on profitability, competitive position in the industry, state of the macro economy (boom or depression), and so on.

Firms must therefore weigh the extra profit contribution (the marginal revenue product) of increased cooperation and fairness against the extra cost; simultaneously, they must also examine the cost/benefit ratio of alternative ways to achieve a given level of "cooperation" (e.g., using control techniques, such as time clocks and assembly lines, or commitment techniques, such as employee participation and good benefits). Out of these calculations emerge a decision about what kind of ES to have. Some firms (e.g., small retail stores) find that maximum profit comes from a "simple" ES with a largely informal and bare-bones HRM program and considerable exposure to the external labor market; others (e.g., poultry processing plants) maximize profit with a "factory" ES featuring tightly controlled behavior through finely divided jobs, assembly line production methods, standardized HRM classifications, and a hire-and-fire discipline; still others (e.g., semi-conductor manufacturers) adopt a "commitment" ES that maximizes profit by eliciting high work effort, organizational learning, and good citizenship behavior through a large measure of job autonomy and self-direction, extensive opportunities for training and advancement, job security, and mutual-gains pay.

The result is that firms sort into a distribution of employment practices and relations, typically showing an approximate bell-shaped pattern (Kaufman 2010c). At the bottom are firms (e.g., "low road" employers, sweatshops) offering very unattractive jobs, utilizing little HRM, exploiting or ill-treating their workers in various ways, and hence engaging in a highly adversarial (win-lose) employment relation. In the middle of the distribution are the bulk of firms; they are decent places to work, have a partially-developed ILM, and utilize some degree of formalized and professional HRM practices, resulting in a "part conflict–part cooperation" (mixed-motive) employment relation. Toward the top of the distribution are the firms rated "the best places to work" because they provide secure, challenging, and well paid jobs, well developed ILMs and HRM programs, and a plethora of commitment practices, thus creating a unitarist (win-win)

[38] Commons (1934b: 6) opened *Institutional Economics* on this theme, asserting that "efficiency . . . overcomes scarcity by coöperation. But coöperation does not arise from a presupposed harmony of interests [the Invisible Hand] as the older economists assumed. It arises from the necessity of creating a new harmony of interests [through human-devised institutions, such as stabilized markets and progressive HRM]—or at least order, if harmony is impossible—out of the conflict of interests among the hoped-for coöperators."

employment relation.[39] This distribution then shifts left and right over the short-run with the business cycle (left during recessions and depressions, right during booms) and typically to the right over the long-run with advancements in technology, management science, laws, and social norms.

NLE has no account of ILMs and their structural, spatial and temporal variation that matches the account provided by IE/IR; indeed, in several respects its account is contradictory (as described above). HRM is in a somewhat better position because its theoretical explanation for alternative HRM architectures parallels in a number of respects the ES account in IR and to significant degree (usually unacknowledged) is derived from it.[40] When more closely examined, however, the HRM literature, like NLE, also suffers from serious mis-specification, albeit of an opposite nature.

In NLE, "more markets" and "more competition" are predicted to lead to higher economic performance (the first welfare theorem), leading to the Walrasian corner solution of 100% ELM. Conversely, ILMs are portrayed as introducing "distortions" and "wedges" in a competitive market (Neilson 2007). In the HRM literature, management theorists posit just the *opposite*. That is, based on the "resource based view of the firm" (see Allen and Wright 2007), the maintained hypothesis is that "more HRM" and "more ILM" lead to higher firm performance—a proposition that might be called HRM's "first fundamental performance theorem."[41] Conversely, an "externalized" employment system is regarded as the low-road option with high turnover, low skill development, and lack of loyalty and commitment (Delery and Doty 1996). Illustrative of the HRM field's "more HRM → higher-performance" perspective, Huselid (1995: 644) posited that "all else being equal, the use of high performance work practices and good internal fit should lead to positive outcomes for all types of firms." Similarly, a recent meta-analysis of ninety-two empirical HRM-performance studies (Combs, Liu, Hall and Ketchen 2006: 504) specified the maintained hypothesis as: ΔPerformance/ΔHRM > 0.[42] Not only is the sign on the HRM variable assumed uniformly positive, but its quantitative size is also apparently quite large given the conclusion of Becker and Huselid (2006: 907) that, "the effect of a one standard deviation change [increase] in the HR system is 10-20% of a firm's market value."

Closer consideration suggests, however, that the HRM–firm performance hypothesis is highly problematic. If it were correct, firms should expand their HRM and ILM systems because they add to profits. Why, then, haven't they already done this and thus driven the return of additional HRM to zero? Further, if extrapolated to its logical conclusion, the "more HRM → more profit" hypothesis implies that firms should expand in size and gradually move the economy toward the Taylorist/Leninist

[39] The terms "best practice" and "high performance" are often applied in the HRM literature to this top echelon of "HRM intensive" firms. Doing so attaches an unwarranted normative evaluation to this model; furthermore, the only metric in a capitalist economy for measuring "best practice" and "high performance" in firms is "highest return on capital," which could equally well be the sweatshop model.

[40] IR's founding role and contribution to HRM was very large through the 1950s (Kaufman 2001; 2008b). The term "human resource management" is traceable to IR scholar E. Wight Bakke's *The Human Resource Function* (1958); the term "human resource" as applied to labor goes back to Commons (1919: 129).

[41] The resource-based view of the firm (RBV) posits that external sources of competitive advantage (e.g., scale economies, proprietary technology) have largely eroded and the remaining best option is to use HRM practices to develop a highly skilled/committed workforce that competitors cannot easily purchase or copy. This is an "internal" source of competitive advantage and one that promotes management-centric models.

[42] HRM theorists also introduce contingent factors that modify what Huselid (1995) called the "main effect" of HRM on performance (see Delery and Doty 1996; Boxall and Purcell 2008); the relationship thus may not be linear but it is almost always presumed to remain positive. Just as NLE "tries to have its cake and eat it too" by devising models that "explain" all market and non-market outcomes and at the same time claim the economy operates according to (largely) competitive invisible hand standards, so too does HRM, but in an opposite manner. On one hand, HRM (Delery and Doty 1996) promulgates models that contain both "low HRM" and "high HRM" ESs (thus covering all bases); however, the literature posits that only one model—the advanced HRM model—is in fact highest performing.

corner solution of 100% ILM and 0% ELM.[43] Not only is no such tendency observable but it also directly opposes the maintained hypothesis of NLE (ΔPerformance/ΔELM > 0).[44]

The Value-Added of Industrial Relations

The two central components of the employment relationship are labor markets and firms; since labor economics studies the former and HRM studies the latter, why have a field of industrial relations?[45] This is not a rhetorical question since the field has suffered a substantial long-term decline in many countries and now inhabits a small and marginalized position in the United States (Jarley, Chandler, and Faulk 2001). With the help of the theoretical framework presented here, along with Figure 2, I provide an answer.

Figure 2 illustrates how economic performance (the vertical axes) of the "employment sector" (the sphere occupied by labor markets and HRM systems) varies with different combinations of markets and management. The horizontal axis measures strength of labor market competition (Competition) from left to right (0% →100%) with the right-hand end point representing the economy of perfect decentralization and ELM = 100%; moving from right to left, it measures strength of intrafirm manager and employee cooperation (Cooperation), with the left-hand end point representing the perfect centralization economy of ILM/HRM = 100% .

The two upward-sloping lines, NLE and HRM, graph the "fundamental theorems" of each field; that is, the line NLE depicts the "more competition (ELM) → higher-performance" theorem of labor economics and the line HRM depicts the "more cooperation (ILM) → higher-performance" theorem of human resource management. The former predicts that economic performance is maximized at point B at the Walrasian corner solution of perfect competition and all ELM; the latter predicts that performance is maximized at point A at the Taylor/Lenin corner solution of perfect cooperation (or "perfect unitarism") and all ILM. For a given state of technology and set of factor endowments, points A and B are identical (i.e., they are on the same production possibility frontier); the only difference is in one case an omniscient auctioneer perfectly coordinates the outcome through markets and in the other an omniscient manager/planner does the same (both with zero TC) through command and administration (Stiglitz 2004).[46]

Obviously, both fundamental theorems cannot be true at the same time. The power of the IE/IR theory presented here is that it demonstrates *neither is true* given one—and only one—precondition: that the model of the human agent has some degree of *bounded decision-making* (Kaufman 2003a, Table 1). Given this condition, the economy features positive TC, an employment relationship, and incomplete labor contracts.

Positive TC leads to a "mixed" or "industrial relations" economy featuring

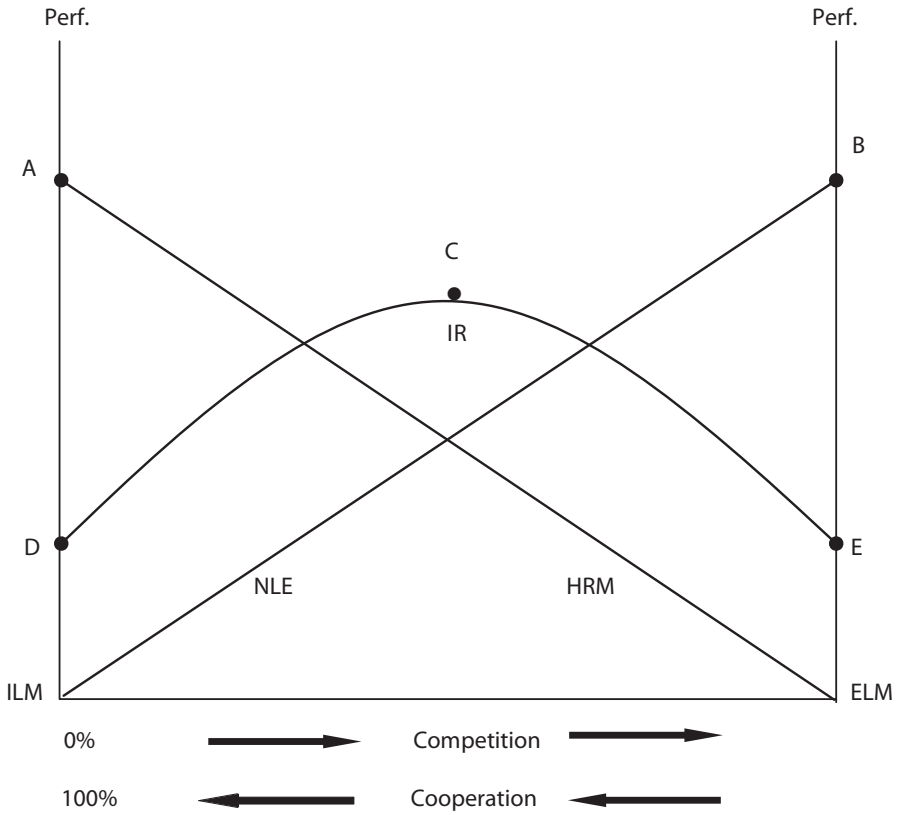
[43] This conclusion is not explicitly stated by HRM researchers. Strauss (1968) noted that the OB theory HRM is built on is "optimistic, even utopian" (p. 266) and I am simply developing the logic to its fullest.

[44] Theory in HRM (like NLE) is partly crafted to serve a normative purpose; in this case, to raise the long-time marginal position and low status of the HRM field. For example, Wright, Dunford, and Snell (2001: 72) observed, "Growing acceptance of internal resources as sources of competitive advantage brought legitimacy to HR's assertion that people are strategically important to firm success."

[45] This matter is made increasingly urgent since both fields now claim jurisdiction over the employment relationship. Neilson (2007: 1) claimed, for example, that "personnel economics is the study of the employment relationship"; similarly, Ferris et al. (1995: 1) defined human resource management as "the science and practice that deals with the nature of the employment relationship."

[46] The intersection point of the two lines has no behavioral or predictive significance as presented here; however, the diagram points the way to a formal model in which each firm chooses employment practices (e.g., method/form of compensation) based on a Coasean comparison of the marginal performance gain/resource cost of shifting from external to internal coordination (and vice versa). For expositional simplicity, the NLE and HRM intercepts are located at zero. Also note in the diagram that IR has no functional role to play at either corner solution of "perfect markets" and "perfect organization" because no labor problems exist—consistent in the latter case with the Marxist claim that IR is redundant in a fully socialist economy.

Figure 2. The Optimal Mix of ELMs and ILMs in NLE, HRM, and IR



both ELMs and ILMs, and a mix of competition and cooperation and adversarial and unitarist employment relations. With bounded decision-making (i.e., limited brains, emotional distortions, imperfect information, fundamental uncertainty), the economy's effective set of resource endowments is lower, which reduces the maximum feasible level of economic performance. More importantly, however, it also creates positive TC and thus fundamentally changes the relationship between performance and the strength of ELMs/ILMs. The inverse U-shaped line marked "IR" shows that economic performance is maximized at a "Commons/Rockefeller" interior solution at Point C. At point C, the economy features a mix of ELMs and ILMs, cooperation and competition, and adversarial and unitarist employment relationships. The maximum performance point will vary left or right across firms, industries, nations, and time periods in response to macroeconomic conditions, workers' characteristics (education, gender, etc.), variation in the five determinants of economic organization from IE theory described earlier (e.g., complementarities in utility and production functions), and other such factors that collectively influence the extent and nature of TC and economies of internal versus external production, giving rise in turn to different configurations of employment systems at

both a micro and macro level.

Four additional insights deserve brief mention. First, it is evident why both NLE and HRM regard IR as an unattractive, obstructive, and performance-sapping activity. At the level of core theory, HRM and NLE (particularly the latter) look at the employment sphere through the rose-colored glasses of, respectively "perfect unitarism" and "perfect markets." Accordingly, these models of a perfect/utopian world predict a performance level of Points A and B when the best that IR can promise with its mix of imperfect and sometimes protectionist institutions is Point C. Industrial relations thus looks like a distinct drag on performance and something to be supported and excited about only for social justice or other normative/political grounds. But, if HRM or NLE actually got their wish and the economy was indeed "all ILM" or "all ELM," performance with *real people* would not be the predicted maximum at Point A or B but Point D or E as given by the vertical intercepts of the IR function (as explained below). The distances A–D and B–E thus represent the *theory-reality gap* in HRM and NLE.[47]

The second insight concerns why point C on the IR function is the highest performing combination of ELM and ILM and, correlatively, why maximum ILM/ELM are inferior. IR posits a real world of imperfect people; thus capitalism and all its institutions are imperfect. Two of these imperfect institutions are the employer–employee relationship and wage method of compensation (payment per unit of time)—the methods in capitalism that acquire and allocate labor for production across the market/firm interface. Being imperfect, these institutions inevitably generate numerous and sometimes serious *labor problems*. The employment relationship, in particular, is problem-prone because its two central coordinating modes—prices in markets and management command in organizations—and its two central coordinating methods—individual competition and group cooperation—conflict and thus threaten to undermine each other. In particular, if market competition is unchecked and unregulated, it will undercut cooperation in production (a form of negative externality); hence, a central task of every IR system is to put appropriate and efficiency-enhancing constraints on markets. In effect, IR "constructs cooperation" through appropriately designed and operated institutions—including measures for labor protection and employee voice—in order to escape a prisoner's dilemma "low performance/high conflict" outcome (Miller 1991).

Put another way, as the force of competition in external labor markets becomes stronger (as in "financial capitalism") wage/employment instability increases and short-run cost-cutting pressure grows, both of which undercut firm viability and cooperation inside firms. Workers, for example, withdraw cooperation and erect protective barriers (including unions) in direct proportion to perceived employment insecurity (Perlman 1928; Polanyi 1944); likewise, firms see fewer reasons to foster cooperation and cut back expensive fixed-cost investments in HRM and positive employer-employee relations (e.g., stable wages, secure jobs, health insurance, pensions). Conversely, as the force of cooperation becomes stronger in internal labor markets, workers become more immobile and firms face less pressure to minimize cost, both of which undercut market efficiency and competition. Workers, for example, become complacent and develop an entitlement mentality; likewise, managers have less motivation to hold down labor cost, pursue innovation, and adopt flexible employment practices

[47] Indicative of the size of the theory-reality gap in NLE is Rees's (1993) statement: "I began to find myself in a series of roles in which I participated in setting or controlling wages and salaries. . . ..In none of those roles did I find the theory I had been teaching for so long to be the slightest help. The factors involved in setting wages . . . seemed to be very different than those specified in the neoclassical theory" (pp. 243-44). In HRM Rynes Giluk, and Brown (2007: 987) observed, "the gap between science and practice is so persistent and pervasive that some have despaired of its ever being narrowed." Also see Dunlop (1977).

(Bardwick 1991).[48]

IE/IR predict, therefore, that all ILM or all ELM lead not to points A or B (predicted high performance) but to points D or E (actual low performance) because of a contradictory mismatch between cooperation and competition. An improvement in performance may be obtained by moving away from these corner solutions and to the IR interior solution at Point C with a mix of ELM and ILM and cooperation and competition.[49]

The third insight is that IR has its own "fundamental theorem," which posits the following: *highest economic performance and human welfare are reached with a mix of markets and hierarchical organizations*; a *balance of competition and cooperation; and a juxtaposition of individual initiative and profit-making on the one hand and social responsibility and government regulation on the other* (also see Budd 2004).[50] Importantly, people in their role as employees are also most likely to maximize their well being in this intermediate zone.[51] A corollary and highly revisionist and heterodox conclusion for economic theory also flows from IR's fundamental theorem. It implies that the NLE first fundamental welfare theorem is incorrect in any economy in which people are less than omniscient beings ("gods") and that with positive TC the optimal efficiency level occurs in an economy of *imperfect competition*. In an economy of imperfect competition, in turn, some degree of labor protection for workers is both consistent with and sanctioned by "good economics."

The fourth insight provides another perspective on the "value-added" question of IR. Figure 2 indicates that the core parts of NLE and HRM are fundamentally mis-specified because the former is far too market-centric and therefore unduly neglects the role of organizations and management whereas HRM suffers from the opposite problem. The contribution of IR is to serve as the connective and integrative bridge between the two; in effect, NLE and HRM are "partial equilibrium" theories of labor markets and internal labor management systems; IR provides the "general equilibrium" theory that demonstrates how the interaction between the market and production systems mutually determine employment outcomes.[52] Viewed from a GE angle,

[48] All employment-related practices and outcomes are potential "dependent variables" for IR quantitative analysis; what makes this statistical research distinctively "IR," according to the model presented here, are five things. The first is that the regression equation be derived from, or at least interpretable as, a reduced form solution of the competition (ELM) and cooperation (ILM) functions facing each employer (implying independent variables are included that reflect the multidisciplinary role of both market and organizational/social considerations); the second is that behavioral relations exhibit contingency, complementarity, and heterogeneity across alternative employment systems; the third is that behavioral relations are consistent with or incorporate effects of bounded rationality, human agency, social interdependency, incomplete contracts and market/organizational failures; the fourth is that recognition is given to the long-run endogenous relationship between market and organizational structure variables; and, the fifth is that the performance maximizing level of an employment practice for firms should occur at an intermediate level somewhere between ELM and ILM = 100% (an interior solution).

[49] The IR function is also a "competition-cooperation frontier."

[50] The spirit of this theorem is contained in the earlier-cited quotation from Henry Carter Adams (1887); it is also enunciated by Commons (1935: 223), who pointed out that "the problem is to give to profit its due place but to restrain its excesses without destroying its initiative." IE and Keynesian economics are both "pro-capitalism" in the sense they seek to save the system from being destroyed by its excesses.

[51] NLE assumes competitive markets are a "plus" for workers relative to nonunion imperfect markets since they offer higher wages, greater protection against substandard conditions, and more choices and mobility. From an IE/IR (and HRM) perspective, job satisfaction is likely higher in imperfect labor markets in which firms have ILMs with secure jobs, attractive wages and benefits, and internal voice. In addition, these firms can offer a better package because ILMs and cooperation create a larger pie to split. Thus, a testable hypothesis is whether workers' utility (job satisfaction) is higher around Point C or rightward with more ELM.

[52] By this standard, Freeman and Medoff (1984) and Card and Krueger (1995) are "one-half" industrial relations. Both identify one or more labor problems (e.g., sub-optimal firm efficiency; below competitive wages) and both construct a theory to explain them. However, in the former, the human dimension of labor plays a strategic role only in the ILM (the role of voice) but not in the ELM (a competitive market); in the latter, the human role plays a strategic role in generating monopsony in the ELM (employee turnover) but plays no similar role in the ILM and

one implication is that institutional labor economics has two separate parts: the first is "labor market" economics (current-day NLE), and the second is "management economics" (current day HRM, called by Commons "administrative economics"). The value-added of IR comes from the simultaneous consideration of these two disparate and partially incommensurate components. For IR to prosper, however, this must translate into concrete and insight-producing theorizing that spans the market/organizational interface; it cannot be achieved simply by adding some "market" and "management" chapters in a labor textbook or including some NLE and HRM papers on a conference program. IR cannot evade "Samuelson's Dictum:" "it takes a theory to kill a theory; facts [and criticism] can only dent the theorist's hide" (Samuelson 1951: 323).[53]

Conclusion

The theoretical framework presented here makes five contributions to the industrial relations field. First it has yielded many useful points of critique regarding the theoretical shortcomings and normative biases of IR's two principal competitors, modern labor economics and human resource management. Second, the framework has generated numerous insightful ideas, concepts and hypotheses about the employment relationship that are missing or incorrectly specified in NLE and HRM, including a statement of the IR field's fundamental theorem and identification of its two central dependent variables. Third, this framework has demonstrated why a certain degree of imperfect competition and labor protection policies are good for society, the economy, and workers. Fourth, it has revealed as a core principle of industrial relations the interdependence and tension that exists between the structure and performance of, respectively, external labor markets and the internal production systems of firms. And, fifth, this theoretical framework has demonstrated the explanatory power of institutional economics and, in particular, its ability to yield a bona fide theory of industrial relations. These contributions help lay to rest claims such as Becker's (1971: viii) that "there is only one kind of economic theory" (p. viii); Smith and Boyer's (2001: 201) that IE is merely "descriptive economics"; and Hyman's (2004: 265) that "it is futile to seek a theory of industrial relations."

Above and beyond these particular contributions, this paper has helped to identify what is the unique and value-added *employment relations approach* that distinguishes the IR field from others. In particular, this approach embodies:

- a subject domain that covers the totality of the employment relationship. That is, IR encompasses all aspects of *work*, the *structure, management and governance of the employment relationship*, and the *quality of work life*, as well as all the behaviors, outcomes, and problems that arise from employment;
- a corpus of theory based on a *human/social conception of labor and the human agent;* the strategic interdependence that exists between *imperfect markets and competition and imperfect organizations and cooperation*; the structuring/guiding role of *institutional forces* emanating from the state, society, history, and employer and employee organizations; and a *systems perspective* that organizes employment relationships into discrete models/patterns;

production system. Both mostly utilize NLE method—the place (analytical model-building) where to most economists NLE's comparative advantage is largest but which is gained only by making important relations (e.g., the worker's utility function, the firm's labor demand curve) continuous and complete when more realistic but less tractable assumptions yield different and stronger sub-optimal implications.

[53] Blanchflower and Oswald (1994: 368) argued that industries and nations exhibit a "wage curve" (the wage rate and unemployment rate are inversely related), and that this is opposite the prediction of DS theory. As they explained on the last page of their book, "The way to convince theorists of the value of data is, presumably, to show them image-breaking facts" (p. 368). The IE/IR field has 90 years of experience suggesting this is probably a vain hope, implying the wage curve needs a theory. Candidates are "imperfect" bargaining and efficiency wage models (cited by these authors); following IE/IR, another place to look is the production system (e.g., successful entrepreneurship creates prosperous industries, employment growth, and higher wages).

- a welfare function that includes not only consumers' interests and economic efficiency but also *workers' interests* and distinctly *social/humanistic goals*, such as procedural and distributive justice; protection of basic human rights (e.g., freedom from child labor, discrimination, involuntary servitude; freedom of association); provision of elemental democratic procedures at work (e.g., participation, representation, due process, voice); and opportunities for human self-development and self-actualization at work;
- a method that welcomes abstraction, formalization, and mathematics, but insists on *empirically informed/congruent priors* at strategic places; recognition that significant parts of the employment world *violate marginalist conditions* of divisibility, completeness, continuity and stationarity; and a *holistic/integrative approach* that draws from and endeavors to meld theories, concepts and techniques from all the disciplines that touch on the employment relationship.

Everyone in industrial relations recognizes that labor inevitably possesses the characteristics of a commodity since it is valuable and is traded in markets; their point of departure is to insist that labor is also distinctively and uniquely human and this fact is of strategic importance for theorizing about the employment relationship and formulating and implementing practice and policy.[54] Barbash (1989: 46), quoting Commons, made exactly this point: "The labor problem begins with 'the peculiar nature of labor as a commodity.' Unlike other commodities, labor has a 'soul.'" The fact that labor "has a soul" transforms labor markets and management systems and both work fundamentally differently than mechanical theories suggest. Thus, the motto of industrial relations, as Commons framed it, is this (1919: 17): "The commodity theory of labor . . . is not false, it is incomplete"; six decades later, Dunlop (1984: 23) restated it thus: "The competitive model, or economic considerations alone, are not an adequate tool unassisted by . . . industrial relations tools and concepts. " The failure of IR has been its inability to better fill this gap with more of these "tools and concepts." The contribution I have tried to make here is to point a way forward.

[54] Two universities dominated American labor economics in the twentieth century—Wisconsin in the first half and Chicago in the last half. Lucas (in Klamer 1984: 36) stated, regarding Chicago, "[i]n the tradition of Friedman and Lewis, it is hard to think about labor markets without supply and demand." The Wisconsin approach partially supplants and modifies demand/supply and at the same time gives greater emphasis to other social and institutional factors by substituting the term "employment relationship" for the term "labor market" in the Lucas quote. Given that a high-performance employment relationship and competitive labor market partially conflict, the Wisconsin recommendation is to opt for the former on the grounds that a high-performance employment relationship is of greater strategic importance and utility to achieving the prosperity and happiness of a nation's people than is a competitive labor market.

REFERENCES

Ackers, Peter, and Adrian Wilkinson. 2003. *Understanding Work and Employment: Industrial Relations in Transition*. Oxford: Oxford University Press.

Adams, Henry. 1887. "Relation of the State to Industrial Action." *Publications of the American Economic Association*, Vol. 1, pp. 465–549.

Adams, Roy. 1993. "All Aspects of People at Work: Unity and Division in the Study of Labor and Labor Management." In Roy Adams and Noah Meltz, eds., *Industrial Relations Theory: Its Nature, Scope and Pedagogy*, pp. 119–60. Metuchen: Scarecrow Press.

____, and Noah. Meltz. 1993. *Industrial Relations Theory: Its Nature, Scope and Pedagogy*. Metuchen, Scarecrow Press.

Addison, John, and Barry Hirsch. 1997. "The Economic Effects of Employment Regulation: What Are the Limits?" In Bruce E. Kaufman, ed., *Government Regulation of the Employment Relationship*. Ithaca: Cornell University Press, pp. 125–78.

Akerlof, George. 1990. "The Fair Wage-Effort Hypothesis and Unemployment." *Quarterly Journal of Economics*, Vol. 105, pp. 255–84.

Alchian, Armen, and Harold Demsetz. 1972. "Production, Information Costs, and Economic Organization." *American Economic Review*, Vol. 72, No. 4, pp. 777–95.

Allen, Mathew, and Patrick Wright. 2007. "Strategic Management and HRM." In Peter Boxall, John Purcell, and Patrick Wright, eds., *Oxford Handbook of Human Resource Management*, pp. 88–107. Oxford: Oxford University Press.

Ashenfelter, Orley, and David Card. 1999. *Handbook of Labor Economics*. Amsterdam: Elsevier.

Barbash, Jack. 1984. *The Elements of Industrial Relations*. Madison: University of Wisconsin Press.

_____. 1989. "John R. Commons: Pioneer of Labor Economics. *Monthly Labor Review*, Vol. 112, No. 5, pp. 44–9.

Bardwick, Judith. 1991. *Danger in the Comfort Zone*. New York: AMACON.

Becker, Brian, Mark Huselid. 2006. "Strategic Human Resources Management: Where Do We Go From Here?" *Journal of Management*, Vol. 32, No. 6, pp. 898–925.

Becker, Gary. 1962. "Irrational Behavior and Economic Theory." *Journal of Political Economy*, Vol. 70 (February), pp. 1–13.

_____. 1971. *Economic Theory*. New York: Alfred Knopf.

_____. 1976. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.

Begin, James. 1991. *Strategic Employment Policy: An Organizational Systems Perspective*. Englewood Cliffs: Prentice-Hall.

Bewley, Truman. 1999. *Why Wages Don't Fall During a Recession*. Cambridge: Harvard University Press.

Blanpain, Roger. 2001. *Labor Law, Human Rights, and Social Justice*, New York: Kluwer Law International.

Blau, Francine, and Lawrence. Kahn. 1999. "Institutions and Law in the Labor Market." In Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*, Vol. 3A, pp. 1399–1461. New York: North-Holland.

Blyton, Paul, Nick Bacon, Jack Fiorito, and Edmund Heery. 2008. *The Sage Handbook of Industrial Relations*. London: Sage.

Boeri, Tito, and Jan van Ours. 2008. *The Economics of Imperfect Labor Markets*. Princeton: Princeton University Press.

Bowles, Samuel. 2004. *Microeconomics: Behavior, Institutions and Evolution*, Princeton: Princeton University Press.

Boxall, Peter, and John Purcell. 2008. *Strategy and Human Resource Management*, 2nd ed. New York: Palgrave Macmillan.

_____, and Keith Macky. 2009. "Research and Theory on High-Performance Work Systems: Progressing the High-Involvement Stream." *Human Resource Management Journal*, Vol. 19, No. 1, pp. 3–23.

Boyer, George, and Robert Smith. 2001. "The Neoclassical Tradition in Labor Economics." *Industrial and Labor Relations Review*, Vol. 54, No. 2, pp. 199 –223.

Boyer, Robert. 2002. "Perspectives on the Wage-Labor Nexus." In Robert Boyer and Yves Saillard, eds.. *Regulation Theory: The State of the Art*, pp. 73–9. London: Routledge.

Braverman, Harry. 1974. *Labor and Monopoly Capital*. New York, Monthly Review Press.

Bruère, Robert. 1929. "Industrial Relations." In Harlow Person, ed., *Scientific Management in America*, pp. 455–72. New York: Harper & Bros.

Budd, John. 2004. *Employment with a Human Face: Balancing Efficiency, Equity, and Voice*. Ithaca: Cornell University Press.

_____, and James Scoville. 2005. *The Ethics of Human Resources and Industrial Relations*. Champaign: Labor and Employment Relations Association.

Bulow, Jeremy, and Lawrence Summers. 1986. "A Theory of Dual Labor Markets with Application to Industrial Policy, Discrimination, and Keynesian Unemployment." *Journal of Labor Economics*, Vol. 4, No. 3, Part 1, pp. 376–414.

Caire, Guy. 1996. "Forces et Faiblesses de L'approach Française des Relations Industrielles: Mise en Perspective Historique." In Gregor Murray, Marie-Laure Morin, and Isabel Da Costa, eds., *L'état des Relations Professionelles*, pp. 24–63. St. Nicholas: Octares.

Card, David, and Alan Krueger. 1995. *Myth and Measurement: The New Economics of the Minimum Wage*. Princeton: Princeton University Press.

Champlin, Dell, and Janet Knoedler. 2004. *The Institutionalist Tradition in Labor Economics*. Armonk: M. E. Sharpe.

Coase, Ronald. 1937. "The Nature of the Firm." *Economica*, Vol. 4, pp. 386–405.

_____. 1988. *The Firm, the Market, and the Law*. Chicago, University of Chicago Press.

Colling, Trevor, and Michael Terry. 2010. "Work, the Employment Relationship, and the Field of Industrial Relations." In Trevor Colling and Michael Terry, eds. *Industrial Relations: Theory and Practice*, 3rd ed., pp. 3–25. London: Wiley.

Combs, James, Yongmei Liu, Angela Hall, and David Ketchen. 2006. "How Much Do High-Performance Work Practices Matter? A Meta-Analysis of Their Effects on Organizational Performance." *Personnel Psychology*, Vol. 59, No. 3, pp. 501– 28.

Commons, John. 1919. *Industrial Goodwill*. New York: McGraw-Hill.

_____. 1921. "The Opportunity of Management." In John R. Commons, ed., *Industrial Government*, pp. 263–72. New York: Macmillan.

_____. 1934a. *Myself*. Madison, University of Wisconsin Press.

_____. 1934b. *Institutional Economics: Its Place in Political Economy*. New York, Macmillan.

_____. 1935. "Communism and Collective Democracy." *American Economic Review*, Vol. 25, No. 2, pp. 212–23.

_____. 1950. *The Economics of Collective Action*. Madison: University of Wisconsin Press.

_____, and John Andrews. 1936. *Principles of Labor Legislation*, 4th ed. New York: Harper.

Cox, Robert. 1971. "Approaches to the Futurology of Industrial Relations." *Bulletin of the Institute of Labor Studies*, Vol. 8, No. 8, pp. 139–64.

Darlington, Ralph. 2009. *What's the Point of Industrial Relations? In Defense of Critical Social Science*. Manchester: British University Industrial Relations Association.

Deakin, Simon, and Frank Wilkinson. 2005. *Law of the Labor Market: Industrialization, Employment, and Legal Evolution*. New York: Oxford University Press.

Delery, John, and D. Harold Doty. 1996. "Modes of Theorizing in Strategic Human Resource Management: Tests of Universalistic, Contingency,

and Configurational Performance Predictions." *Academy of Management Journal*, Vol. 39, No. 4, pp. 802–35.

Derber, Milton. 1970. *The American Idea of Industrial Democracy, 1865–1965*. Urbana: University of Illinois Press.

Doeringer, Peter, and Michael Piore. 1971. *Internal Labor Markets and Manpower Analysis*. Lexington: Lexington Books.

Dorr, Rheta. 1912. "When is a Factory Not a Factory?" *Hampton Magazine*, (Feb.), pp. 34–9.

Doucoliagos, Christos, and T.D. Stanley. 2009. "Publication Selection Bias in Minimum-Wage Research? A Meta-Regression Analysis." *British Journal of Industrial Relations*, Vol. 47, No. 2, pp. 406–28.

Dow, Gregory. 1997. "The New Institutional Economics and Employment Regulation." In Bruce E. Kaufman, ed., *Government Regulation of the Employment Relationship*, pp. 57–90. Madison, WI: Industrial Relations Research Association.

Dunlop, John. 1944. *Wage Determination Under Trade Unions*. New York: Macmillan.

_____. 1958. *Industrial Relations Systems*. New York: Holt.

_____. 1966. "Job Vacancy Measures and Economic Analysis." In National Bureau of Economic Research, *The Measurement and Interpretation of Job Vacancies*. New York: NBER, pp. 27–47.

_____. 1977. "Policy Decisions and Research in Economics and Industrial Relations." *Industrial and Labor Relations Review*, Vol. 30, No. 3, pp. 275–82.

_____. 1984. "Industrial Relations and Economics: The Common Frontier of Wage Determination." In *Proceedings of the Thirty-Seventh Annual Meeting*, Madison: Industrial Relations Research Association, pp. 9–23.

Durkheim, Emile. 1895 [1938]. *Rules of the Sociological Method*, 8th ed. Glencoe, IL: Free Press.

Eberwein, Wilhelm, Jochen Tholen, and Joachim Schuster. 2002. *The Europeanization of Industrial Relations*. Burlington, VT: Ashgate.

Edwards, Paul. 2005. 'The Employment Relationship and the Field of Industrial Relations." In P. Edwards, ed., *Industrial Relations: Theory & Practice*, 2nd ed, London, Blackwell, pp. 1–36.

Edwards, Richard. 1979. *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*, New York, Basic Books.

Ely, Richard. 1884. *The Past and Present of Political Economy*. Baltimore: Johns Hopkins University Press.

_____. 1886. *The Labor Movement in America*, New York, Thomas Crowell.

Erickson, Christopher, and Daniel Mitchell. 2007. "Monopsony as a Metaphor for the Emerging Post-Union Labor Market." *International Labor Review*, Vol. 146, No. 3–4, pp. 163–87.

European Industrial Relations Observatory. 2002. *Towards a Qualitative Dialogue in Industrial Relations*. Dublin: EIRO.

Fehr, Ernst, and Armen Falk. 1999. "Wage Rigidity in a Competitive Incomplete Contract Market." *Journal of Political Economy*, Vol. 107, No. 1, pp. 106–34.

Ferris, Gerald, Darold Barnum, Sherman Rosen, and James Dulebohn. 1995. "Toward Business-University Partnerships in Human Resource Management." In Gerald Ferris, Sherman Rosen, and Darold Barnum, eds., *Handbook of Human Resource Management*, pp. 18–41. New York: Blackwell.

Fine, Sidney. 1956. *Laissez-faire and the General Welfare State*. Ann Arbor: University of Michigan Press.

Flanders, Allan. 1965. *Industrial Relations: What is Wrong with the System? An Essay on Its Theory and Future*. London: Farber & Farber.

Fox, Alan. 1974. *Beyond Contract: Work, Power, and Trust Relations*, London: Allen & Unwin.

Freedman, Craig. 2008. *Chicago Fundamentalism: Ideology and Methodology in Economics*. Hackensack, NJ: World Scientific.

Freeman, Richard. 2008. "Labor Market Institutions Around the World." In Paul Blyton, Nick Bacon, Jack Fiorito, and Edmund Heery, eds., *The Sage Handbook of Industrial Relations*, pp. 640–58. London: Sage.

_____, and James Medoff. 1984. *What Do Unions Do?* New York: Basic Books.

Friedman, Milton. 1953. "The Methodology of Positive Economics." In Milton Friedman, ed., *Essays in Positive Economics*, pp. 3–43. Chicago: University of Chicago Press.

_____, and Rose Friedman. 1990. *Free to Choose*. New York: Harcourt Brace.

Frost, Ann. 2008. "The High Performance Work Systems Literature in Industrial Relations." In Paul Blyton, Nick Bacon, Jack Fiorito, and Edmund Heery, eds., *The Sage Handbook of Industrial Relations*, pp. 420–33. London: Sage.

Furubotn, Erik, and Rudolf Richter. 2005. *Institutions and Economic Theory*, 2nd ed. Ann Arbor: University of Michigan Press.

Galbraith, John. 1967. *The New Industrial State*. Boston: Houghton-Mifflin.

Gillingham, John. 1999. "The Many Lives of the International Labor Organizations (ILO)." In Richard Tilly and Paul J.J. Welfens, eds., *Economic Globalization, International Organizations and Crisis Management*, pp. 237–54 . *New York: Springer*.

Godard, John, and John Delaney. 2000. "Reflections on the 'High Performance' Paradigm's Implications for Industrial Relations as a Field." *Industrial and Labor Relations Review*, Vol. 53, No. 3, pp. 482–501.

Gross, James, and Lance Compa. 2009. *Human Rights in Labor and Employment Relations*. Champaign, IL: Labor and Employment Relations Association.

Harris, Seth, and Michael Stein. 2009. "Workplace Disability." In Kenneth Dau-Schmidt, Seth Harris, and Orly Lobel, eds., *Labor and Employment Law and Economics*, pp. 342–60. Northampton, MA: Edward Elgar.

Hall, Peter, and David Soskice. 2001. *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, Oxford, UK: University of Oxford Press.

Hamermesh, Daniel, and Albert Rees. 1984. *Economics of Work and Pay*, 3rd. ed. New York: Harper & Row.

Heckscher, Charles, and Paul Adler. 2006. *The Firm as a Collaborative Community: Reconstructing Trust in the Knowledge Economy*. Oxford: Oxford University Press.

Heery, Edmund, Nick Bacon, Paul Blyton, and Jack Fiorito. 2008. "Introduction: The Field of Industrial Relations." In Paul Blyton, Nick Bacon, Jack Fiorito, and Edmund Heery, eds., *The Sage Handbook of Industrial Relations*. London: Sage, pp. 1–32.

Hovenkamp, Herbert. 1990. "The First Great Law and Economics Movement." *Stanford Law Review,* Vol. 42, pp. 993–1058.

Hoxie, Robert. 1915. *Scientific Management and Labor.* New York: Appleton.

Huselid, Mark. 1995. "The Impact of Human Resource Management Practices on Turnover, Productivity, and Corporate Financial Performance." *Academy of Management Journal*, Vol. 38, No. 3, pp. 635–72.

Hyman, Richard. 1975. *Industrial Relations: A Marxist Introduction.* London: MacMillan.

_____. 1995. "Industrial Relations in Theory and Practice." *European Journal of Industrial Relations*, Vol. 1, No. 1, pp. 17–46.

____. 2004. "Is Industrial Relations Theory Always Ethnocentric? In Bruce E. Kaufman, ed., *Theoretical Perspectives on Work and the Employment Relationship*, pp. 265–92. Champaign, IL: Industrial Relations Research Association.

_____. 2008. "The State in Industrial Relations." In Paul Blyton, Nick Bacon, Jack Fiorito, and Edmund Heery, eds., *The Sage Handbook of Industrial Relations.* London: Sage, pp. 258–83.

Isaac, Joe. 2007. "Reforming Australian Industrial Relations." *Journal of Industrial Relations*, Vol. 49, No. 3, pp. 411–35.

Jacoby, Sanford. 1990. "The New Institutionalism: What Can It Learn From the Old?" *Industrial Relation,* Vol. 29, No. 2, pp. 316–40.

Jarley, Paul, Timothy Chandler, and Larry Faulk. 2001. "Maintaining a Scholarly Community: Casual Authorship and the State of IR Research." *Industrial Relations*, Vol. 40, No. 2, pp. 338–43.

Kates, Steve. 2008. "American Economics and the Crafting of the *General Theory.*" Presented at the 2008 History of Economic Thought Society Conference, Toronto. Melbourne, AU: RMIT.

Katz, Harry, and Owen Darbishire. 2000. *Converging Divergences: Worldwide Changes in Employment Systems.* Ithaca: Cornell University Press.

Kaufman, Bruce E. 1988. *How Labor Markets Work: Reflections on Theory and Practice by John Dunlop, Clark Kerr, Richard Lester, and Lloyd Reynolds.* Lexington: Lexington Books.

_____. 1993. *The Origins and Evolution of the Field of Industrial Relations in the United States.* Ithaca: ILR Press.

_____. 1999a. "Expanding the Behavioral Foundations of Labor Economics." *Industrial and Labor Relations Review*, Vol. 52, No. 3, pp. 361–91.

_____. 1999b. "Emotional Arousal as a Source of Bounded Rationality." *Journal of Economic Behavior and Organization,* Vol. 38, No. 2, pp. 135–44.

_____. 2001. "Human Resources and Industrial Relations" Commonalities and Differences." *Human Resource Management Review*, Vol. 11, No. 4; pp. 339–74.

_____. 2003a. "The Organization of Economic Activity: Insights from the Institutional Theory of John R. Commons." *Journal of Economic Behavior and Organization*, Vol. 52, no. 1, pp. 71–96.

_____. 2003b. "The Quest for Cooperation and Unity of Interest in Industry." In Bruce E. Kaufman, Richard A. Beaumont, and Roy B. Helfgott, eds., *Industrial Relations to Human Resources and Beyond: The Evolving Practice of Employee Relations Management*, pp. 115–46. Armonk: M.E. Sharpe.

_____. 2004a. *The Global Evolution of Industrial Relations: Events, Ideas, and the IIRA.* Geneva: International Labor Organization.

_____. 2004b. "Employment Relations and the Employment Relations System: A Guide to Theorizing." In Bruce E. Kaufman, ed., *Theoretical Perspectives on Work and the Employment Relationship*, pp. 41–75. Champaign, IL: Industrial Relations Research Association.

_____. 2004c. "The Institutional and Neoclassical Schools in Labor Economics." In Dell Champlin and Janet Knoedler, eds., pp. 13–38. *The Institutionalist Tradition in Labor Economics*, Armonk, NY: M.E. Sharpe.

_____. 2005. "The Social Welfare Objectives and Ethical Principles of Industrial Relations." In John Budd and James G. Scoville, eds., *The Ethics of Human Resources and Industrial Relations*, pp. 23–59. Champaign, IL: Labor and Employment Relations Association.

_____. 2007a. "The Institutional Economics of John R. Commons: Complement and Substitute for Neoclassical Economic Theory, *Socio-Economic Review*, Vol. 5, No. 1, pp. 3 –46.

_____. 2007b. "The Impossibility of a Perfectly Competitive Labor Market." *Cambridge Journal of Economics*, Vol. 31, No. 5, pp. 775–88.

_____. 2008a. "Paradigms in Industrial Relations: Original, Modern, and Versions In-Between." *British Journal of Industrial Relations*, Vol. 46, No. 2, pp. 314–39.

_____. 2008b. *Managing the Human Factor: The Early Years of Human Resource Management in American Industry.* Ithaca: Cornell University Press.

_____. 2008c. "The Non-Existence of the Labor Demand/Supply Diagram, and Other Theorems of Institutional Economics." *Journal of Labor Research*, Vol. 29, No. 3, pp. 285–99.

_____. 2009. "Labor Law and Employment Regulation: Neoclassical and Institutional Perspectives." In Kenneth G. Dau-Schmidt, Seth D. Harris, and Orly Lobel, eds., *Labor and Employment Law and Economics*, pp. 3–58. Northampton, MA: Edward Elgar.

_____. 2010a. "Chicago and the Development of Twentieth Century Labor Economics." In Ross B. Emmett, ed., *The Elgar Companion to the Chicago School of Economics,* pp. 128–51. Northampton, MA: Edward Elgar.

_____. 2010b. Institutional Economics and the Minimum Wage: Broadening the Theoretical and Policy Debate." *Industrial and Labor Relations Review*, Vol. 63, No. 3, pp. 427–53.

_____. 2010c. "Theorizing the Firm's Demand for Human Resource Management Practices." *International Journal of Human Resource Management*, Vol. 21, Nos. 4–6, pp. 615–36.

Kelly, John. 1998. *Rethinking Industrial Relations: Mobilization, Collectivism, and Long Waves.* London: Routledge.

Kerr, Clark. 1950. "Labor Markets: Their Character and Consequences." *American Economic Review,* Vol. 40, pp. 278–91.

_____. 1954. "The Balkanization of Labor Markets." In E. Bakke, ed., *Labor Mobility and Economic Opportunity.*

New York: Wiley, pp. 92–110.
_____. 1994. "The Social Economics Revisionists: The 'Real World' Study of Labor Markets and Institutions." In Clark Kerr and Paul D. Staudohar, eds., *Labor Economics and Industrial Relations: Markets and Institutions,* 66–108. Cambridge: Harvard University Press.
Kershaw, J. 1903. "Methods of Bringing Employers and Employees into Closer Accord." *Engineering Magazine*, pp. 329–41.
King, William. 1918. *Industry and Humanity.* Toronto: University of Toronto Press.
Klamer, Arjo. 1984. *The New Classical Macroeconomics: Conversations with New Classical Economists and Their Opponents.* Brighton: Wheatsheaf Books.
Kniesner, Thomas, and Aarthur Goldsmith. 1987. "A Survey of Alternative Models of Aggregate U.S. Labor Markets." *Journal of Economic Literature*, Vol. 25, pp. 1241–80.
Knight, Frank. 1967. "Laissez Faire: Pro and Con." *Journal of Political Economy*, Vol. 75, No. 6, pp. 782–95.
Kochan, Thomas. 1998. "What is Distinctive about Industrial Relations Research?" In Keith Whitfield and George Strauss, eds., *Researching the World of Work*, pp. 31–50. Ithaca: ILR Press (an imprint of Cornell University Press).
_____, and Harry Katz. 1988. *Collective Bargaining and Industrial Relations,* 2nd ed. Homewood, IL: Irwin.
_____, _____, and Robert McKersie. 1986. *The Transformation of American Industrial Relations.* New York: Basic Books.
Koot, Gerald. 1987. *English Historical Economics, 1870–1926.* Cambridge, UK: Cambridge University Press.
Lazear, Edward. 2000. "Economic Imperialism." *Quarterly Journal of Economics,* Vol. 115, No. 1, pp. 99–145.
_____. 2001. "The Future of Personnel Economics." *Economic Journal*, Vol. 110 , pp. F611–39.
Lavoie, Marc. 2006. *An Introduction to Post-Keynesian Economics.* New York: Palgrave-Macmillan.
Leiserson, William. 1922. "Constitutional Government in American Industry." *American Economic Review*, Vol. 12, No. 1, supplement, pp. 56–79.
_____. 1931. "Effects of Depressions on Employment and Wages." Chicago: University of Chicago Press.
Leonard, Thomas. 2000. "The Very Idea of Applying Economics: The Modern Minimum-Wage Controversy and Its Antecedents." In Roger Backhouse and Jeff Biddle, eds., *Toward a History of Applied Economics,* pp. 117–44. Durham: Duke University Press.
Lepak, David, and Scott Snell. 1999. "The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development." *Academy of Management Review*, Vol. 24, No. 1, pp. 31–48.
Levine, David. 1993. "Fairness, Markets, and Ability to Pay." *American Economic Review*, Vol. 83, No. 5, pp. 1241–59.
Levitt, Steven, and Stephen Dubner. 2005. *Freakonomics.* New York: Harper Collins.
Lipsey, Richard, and Kevin Lancaster. 1956. "The General Theory of the Second Best." *The Review of Economic Studies*, Vol. 24, No. 1, pp. 11–32.
List, Friedrich. 1841. *The National System of Political Economy.* London: Longman, Greens.
Manning, Alan. 2003. *Monopsony in Motion.* Princeton, Princeton University Press.
Marsden, David. 1999. *A Theory of Employment Systems.* London, Oxford.
Marshall, Alfred. 1920. *Principles of Economics*, 8th ed., London, Macmillan.
Marx, Karl. 1935. [1847]. *Wage Labor and Capital.* New York: International Publishers.
McCarthy, Charles. 1912. *The Wisconsin Idea.* New York: Macmillan.
McNulty, Paul. 1980. *The Origins and Development of Labor Economics.* Cambridge: MIT Press.
Merchants Association of New York. 1919. *Report on Industrial Relations*, New York.
Miller, Gary. 1991. *Managerial Dilemmas.* Cambridge, Cambridge University Press.
Müller-Jentsch, Walther. 2004. "Theoretical Approaches to Industrial Relations." In Bruce E. Kaufman, ed., *Theoretical Perspectives on Work and the Employment Relationship*, pp. 1–40. Madison: Industrial Relations Research Association.
Neilson, William. 2007. *Personnel Economics.* Upper Saddle River, NJ: Prentice-Hall.
Neumark, David. 2002. "Drawing the Lines." *Industrial and Labor Relations Review*, Vol. 55, No. 4, pp. 716–23.
_____, and William Wascher. 2008. *Minimum Wages.* Cambridge: MIT Press.
Osterman, Paul. 1987. "Choice of Employment Systems." *Industrial Relations*, Vol. 26, No. 1, pp. 46–67.
_____, Thomas Kochan, Richard Locke, and Michael Piore. 2001. *Working in America: A Blueprint for the New Labor Market*, Cambridge: MIT Press.
Perlman, Selig. 1928. *A Theory of the Labor Movement.* New York, Sentry.
Perry, Arthur. 1878. *Elements of Political Economy.* New York: Scribner's.
Piore, Michael, and Sean Safford. 2006. "Changing Regimes of Workforce Governance, Shifting Axes of Social Mobilization, and the Challenge to Industrial Relations Theory." *Industrial Relations*, Vol. 45, pp. 299–325.
Polanyi, Karl. 1944. *The Great Transformation.*, New York: Farrar and Reinhart.
Potts, Jason. 2000. *The New Evolutionary Microeconomics: Complexity, Competence, and Adaptation.* Northampton, MA: Edward Elgar.
Prasch, Robert. 2003. "How is Labor Distinct from Broccoli? Some Unique Characteristics of Labor and Their Importance for Economic Analysis and Policy." In Dell P. Champlin and Janet T. Knoedler, eds., *The Institutionalist Tradition in Labor Economics*, pp. 146–58. Armonk, NY: M.E. Sharpe.
Reder, Melvin. 1982. "Chicago Economics: Permanence and Change." *Journal of Economic Literature*, Vol. 20, pp. 1–38.
Rees, Albert. 1993. "The Role of Fairness in Wage Determination." *Journal of Labor Economics*, Vol. 11, No. 1, Part 1, pp. 243–52.
Riha, I.J.F. 1985. "German Political Economy: The History of an Alternative Economics." *International Journal of Social Economics*, Vol. 12, No. 3/4/5, pp. 2–248.
Robbins, Lionel. 1932. *The Nature and Significance of Economic Science.* London: Macmillan.
Rodgers, Daniel. 1998. *Atlantic Crossings: Social Politics*

in a Progressive Era. Cambridge: Harvard University Press.

Rutherford, Malcolm. 2001. "Institutionalism Then and Now." *Journal of Economic Perspectives*, Vol. 15, pp. 173–94.

Rynes, Sara, Tamara Giluk, and Kenneth Brown. 2007. "The Very Separate Worlds of Academic and Practitioner Periodicals in Human Resource Management: Implications for Evidence-Based Management." *Academy of Management Journal*, Vol. 50, No. 5, pp. 987–1008.

Samuelson, Paul. 1951. "Economic Theory and Wages." In David McCord Wright, ed., *The Impact of the Union*, pp. 312–42. Freeport, NY: Books for Liberty Press.

_____. 1957. "Wages and Interest: A Modern Dissection of Marxian Economic Models." *American Economic Review*, Vol. 47, pp. 884–912.

—, and William Barnett. 2007. *Inside the Economist's Mind: Conversations with Eminent Economists*. Oxford: Blackwell.

Schumpeter, Jospeh. 1954. *History of Economic Analysis*. New York: Oxford University Press.

Scoville, James. 2001. "The Taylorization of Vladimir Ilyich Lenin." *Industrial Relations*, Vol. 40, No. 4, pp. 620–26.

Simon, Herbert. 1951. "A Formal Theory of the Employment Relationship." *Econometrica*, Vol. 19, No. 2, pp. 293–305.

_____. 1982. *Models of Bounded Rationality*, Vol. 2. Cambridge: MIT Press.

Slichter, Sumner. 1920. "Industrial Morale." *Quarterly Journal of Economics*, Vol. 35 (November), pp. 36–60

Solow, Robert. 1990. *The Labor Market as a Social Institution*, New York, Blackwell.

Stabile, Donald. 1993. *Activist Unionism: The Institutional Economics of Solomon Barkin*, Armonk, NY: M.E. Sharpe.

Stigler, George. 1972. "The Law and Economics of Public Policy: A Plea to Scholars." J*ournal of Legal Studies*, Vol. 1 (January), pp. 1–12.

_____. 1982. *The Economist as Preacher and Other Essays*. Chicago: University of Chicago Press.

Stiglitz, Joseph. 2000. "Democratic Development as the Fruits of Labor." *Perspectives on Work* Vol. 4, pp. 31–38.

_____. 2004. *Whither Socialism?* Cambridge: MIT Press.

Strauss, George. 1968. "Human Relations—1968 Style." *Industrial Relations*, Vol. 7, pp. 262–76.

Streeck, Wolfgang, and Kozo Yamamura. 2001. *The Origins of Nonliberal Capitalism: German and Japan in Comparison*, Ithaca: Cornell University Press.

Taylor, Frederick. 1911. *The Principles of Scientific Management*. New York: Harper.

Taylor, George, and Frank Pierson. 1957. *New Concepts in Wage Determination*. New York: McGraw-Hill.

Thompson, Paul, and Kristie Newsome. 2004. "Labor Process Theory, Work, and the Employment Relation." In Bruce E. Kaufman, ed., *Theoretical Perspectives on Work and the Employment Relation*, pp. 133–62. Champaign, Industrial Relations Research Association.

Thurow, Lester. 1983. *Dangerous Currents: The State of Economics*. New York: Random House.

Tribe, Kenneth. 1995. *Strategies of Economic Order: German Economic Discourse, 1750–1950*. Cambridge: Cambridge University Press.

Wachter, Michael. 2004. "Theories of the Employment Relationship: Choosing Between Norms and Contracts." In Bruce E. Kaufman, ed., *Theoretical Perspectives on Work and the Employment Relationship*, pp. 163–94. Champaign: Labor and Employment Relations Association.

Walras, Léon. 1954. *The Elements of Pure Economics*. Homewood: Irwin. (Original work published 1874. Trans. William Jaffé).

Watkins, Gordon. 1922. *Introduction to the Study of Labor Problems*. New York: Crowell.

Webb, Sidney, and Beatrice Webb. 1897. *Industrial Democracy*, London, Longman, Greens.

Weiler, Paul. 1990. *Governing the Workplace*. Cambridge: Harvard University Press.

Whalen, Charles. 2008a. *New Directions in the Study of Work and Employment*. Northampton, MA: Edward Elgar.

_____. 2008b. "John R. Commons and John Maynard Keynes on Economic History and Policy: the 1920s and Today." *Journal of Economic Issues* Vol. 42, No. 1, pp. 225–42.

Whitfield, Keith, and George Strauss. 1998. *Researching the World of Work: Strategies and Methods in Studying Industrial Relations*. Ithaca: Cornell University Press.

Williamson, Oliver. 1985. *The Economic Institutions of Capitalism*, New York, Free Press.

Wittrock, Björn. 1993. "The Modern University: The Three Transformations." In Sheldon Rothblatt and Bjorn Wittrock, eds., pp. 303–62. Cambridge: Cambridge University Press.

Wright, Patrick, Benjamin Dunford, and Scott Snell. 2001. "Human Resources and the Resource Based View of the Firm." *Journal of Management*, Vol. 27, No. 6, pp. 701–21.