Trade Globalization, Economic Performance, and Social Protection: Nineteenth-Century British Laissez-Faire and Post–World War II U.S.-Embedded Liberalism

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Abstract How have market and state shaped the long-term coevolution of economic performance and social protection during the nineteenth century and post–World War II waves of globalization associated with British laissez-faire liberalism and U.S.-embedded liberalism? Under the impulse of seemingly ever-intensifying globalization, this question is emerging at the core of a novel body of political economy research that seeks to compare the two waves of globalization to draw useful lessons from the past. This research also reflects the concerns recently voiced by neoliberals and neointerventionists about the long-term stability and viability of post–World War II embedded liberalism. Satisfactory investigations of how market and state shape the long-term coevolution of economic performance and social protection in the two regimes remain lacking. Cointegration analyses of the two hegemonic powers that shaped the evolution of the two regimes—nineteenth-century Great Britain and post–World War II United States—demonstrate that the complementarity of market and state in embedded liberalism is associated with better long-term economic performance and social protection.

How have market and state shaped the long-term evolution of economic performance and social protection during the nineteenth-century globalization associated with British laissez-faire liberalism and the post–World War II globalization associated with U.S.-embedded liberalism?

The intensification of globalization has thrust this question to the core of an emerging body of political economy research that compares the two waves of globalization to draw lessons from the nineteenth-century wave and apply those

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lessons to the current wave.[1] This research strongly reflects the political tensions informing recent mass demonstrations against perceived economic and social costs of unfettered globalization.[2] It also reflects two major themes voiced in the popular press by neoliberals and neointerventionists: the long-term stability and viability of post–World War II embedded liberalism in a fast globalizing world; and fears of backlashes against globalization that are reminiscent of the nineteenth-century wave.[3]

Relying on neoclassical views of self-regulating economies, neoliberals privilege the intensification of unfettered globalization: they lament the inefficiency of state-steered embedded liberalism; fear politically driven protectionist backlashes against globalization; praise the efficiency of nineteenth-century laissez-faire in ensuring superior economic growth; and favor the reconstitution of market dominance as the ideal pathway to long-run growth, which best ensures full employment and social protection.[4] In contrast, neointerventionists fear the intensification of globalization: they lament the social inequalities associated with unfettered markets; denounce the social costs of nineteenth-century laissez-faire; also fear protectionist backlashes; but privilege political control of markets to ensure better economic performance—growth and employment—as well as social protection.[5]

Undoubtedly, these supposedly novel debates represent the resurgence of the interwar "ideology debate"—pitting Keynes and Polanyi versus Hayek and Von Mises—over the efficiency of market and state in shaping the long-run evolution of economic performance and social protection. The interwar debates concerned the long-term stability and viability of nineteenth-century laissez-faire and its replacement with embedded liberalism.[6] Today, after half a century of experiments with embedded liberalism, debates are about its long-term stability and viability and its replacement with novel forms of laissez-faire.[7] Nevertheless, systematic comparisons of the two regimes that satisfactorily assess the empirical adequacy of neoliberal and neointerventionist claims remain severely lacking.

1. See James 2002; Aghion and Williamson 1998; Bordo, Eichengreen, and Irwin 1999; and O'Rourke 1999.

2. See Bhagwati 2002; Broad 2002; Dollar and Kraay 2002; and Stiglitz 2002. Critiques of globalization span the ideological spectrum: (1) neoclassical economists who now believe that capitalism is subject to structural political conflicts over the requirements of global competitiveness and domestic social protection; see Stiglitz 2002; and Rodrik 1997; (2) new Keynesians reasserting that capitalism engenders periodic economic breakdowns; see Cornwall and Cornwall 2001; (3) third-way social philosophers and activists advocating political control of unfettered global markets; see Tonelson 2000; Gray 1998; and Giddens 1998; (4) disillusioned liberals criticizing the destructiveness of unregulated markets; see Soros 1998; and T. Friedman 1999; (5) communitarians advocating a world of self-sufficient closed communities; see Klein 2002; and Etzioni 1994; and (6) populists supporting protectionism as they blame globalization for long-term unemployment and increasing labor market inequalities; see Mény and Surel 2002; and P. Buchanan 1998.

3. See James 2002; Gilpin 2000; and Rodrik 1997.

4. See Lindsey 2002; Vasquez 2000; Lal 2000; and Micklethwait and Wooldridge 2000.

5. See Broad 2002; Gray 1998; and Greider 1997.

6. See James 2002; and Ruggie 1982.

7. See Gilpin 2000; and Ruggie 1997.

The political economy research focuses on a variety of related issues: for example, properties of globalization;[8] economic and political determinants of long-run growth;[9] wage and income convergence;[10] inequality and growth;[11] and backlashes against globalization.[12] Ultimately, however, such research fails to capture how market and state have shaped the coevolution of economic performance and social protection in each of the two regimes. I argue that there is an unsettling disjunction between theoretical claims about the long-run dynamics driving the two regimes and empirical evidence derived from neoclassical theories of short-run dynamics and statistical methodologies—such as means, correlations, and ordinary least squares (OLS)-based regressions. At best, such theories and methods can describe short-run stationary fluctuations, not long-run dynamics.[13] The utter neglect of persistent, nonstationary, dynamics of historical processes central to the debates—for example, trade and financial flows, gross domestic product (GDP), unemployment, government spending—triggers such disjunction. It also results in spurious findings that inform erroneous inferences about the long-run stability of regimes and unwarranted policy lessons.[14]

Nonstationarity, however, suggests alternative long-run stable dynamics if the persistent processes were cointegrated, or coevolving, around common stochastic trends driving the evolution of the two regimes.[15] This article adopts the theoretical and methodological framework of cointegration to evaluate the rival neoliberal and neointerventionist claims about how market and state shape the long-term coevolution of economic performance and social protection in the two regimes. Cointegration allows for the investigation of three crucial dimensions of long-run dynamics: (1) common stochastic trends, which capture system stability and rigidity; (2) cointegrated equilibrium relations coevolving stably around the common trends; and (3) adjustment mechanisms that maintain the relations in long-run equilibrium.

To investigate these long-run dynamics, this article develops a core multidimensional model rooted in the constructivist approach to international political economy.[16] The model links four historical processes that are central to political economy debates on the coevolution of economic performance and social protection in the

8. Baldwin and Martin 1999. Comparisons focus on globalization as an economic phenomenon: (1) nineteenth-century globalization is as encompassing; see Vasquez 2000; (2) post–World War II globalization is more encompassing; see Bordo, Eichengreen, and Irwin 1999; (3) trade and financial aggregates conceal features that render comparisons misleading; see Krugman 1995.

9. See Cornwall and Cornwall 2001; and Maddison 1995.

10. See Boyer and Drache 1996; and Williamson 1996.

11. See Aghion and Williamson 1998; and Williamson 1998.

12. See O'Rourke 1999; and Williamson 1998.

13. For a discussion of such disjunction, especially in economics, see Juselius 1999; Granger 1997; and Pesaran 1997.

14. See Nelson and Plosser 1982; and Granger and Newbold 1974. I discuss stationary and nonstationary dynamics below.

15. See Johansen 1995; and Engle and Granger 1991.

16. See Ruggie 1998; Wendt 1999; and Adler 2002.

two regimes: (1) trade openness, (2) real GDP, (3) unemployment, and (4) government spending.[17] In the context of constructivism, the research design relies on the ideal-typical comparison of the normative structures of social purpose of the two regimes.[18] Empirically, the comparison focuses on the normative structures of the hegemonic powers that spearheaded and influenced the evolution of the two regimes: Great Britain for nineteenth-century laissez-faire during the 1865–1913 period; and the United States for post–World War II embedded liberalism during the 1955–2000 period.

Cointegration analyses of the long-run dynamics of the hegemons challenge core neoliberal claims. First, unit root tests shatter claims about the greater flexibility of nineteenth-century laissez-faire: all four processes in both regimes exhibit nonstationary persistence, which implies similar rigidity. Second, cointegration tests challenge scenarios of regime instability foreboding the implosion of globalization: the presence of one common trend driving the long-run evolution of both regimes establishes the long-run stability of the two regimes. The one common trend also challenges claims about the greater rigidity of embedded liberalism: both regimes feature similar degrees of rigidity. Third, equilibrium relations refute claims about the economic inefficiency of the state in embedded liberalism and the efficiency of laissez-faire markets: state interventions in postwar United States are associated with better economic performance and social protection. Fourth, adjustment dynamics question beliefs that markets shape the dynamics of laissez-faire liberalism whereas the state shapes the dynamics of embedded liberalism: state interventions are necessary to maintain the equilibria both of nineteenth-century British laissez-faire and of postwar–U.S.-embedded liberalism. Ultimately, these findings question the wisdom of the neoliberal political project to reconstitute market dominance: novel laissez-faire worlds may yield inferior economic performance and social protection. Rather, as neointerventionists claim, political control of markets ensures superior economic performance together with better social protection.

The first section below traces the resurgence of the "ideology debate." The second section presents the four-dimensional model rooted in the constructivist theory of regimes. The third section justifies the comparative research design. The fourth section demonstrates the ubiquity of nonstationary dynamics. The fifth section outlines the VECM cointegration model. The next three sections provide tests of regime stability and rigidity (sixth); of equilibrium relations (seventh); and of adjustment dynamics (eighth). The final section discusses the implications of the research.

17. With regard to globalization, the analytic focus is on trade openness. Research in progress that builds on this core model investigates the coevolution of monetary regimes—the nineteenth-century gold standard and the postwar sequences of fixed, flexible exchange rates—and trade openness; see Eichengreen 1996; and Verdier 1998.

18. Weber 1949.

The 'Resurgence of the Ideology Debate': Efficiency of Market and State

The ideology debate between neoliberals and neointerventionists over the relative efficiency of market and state in shaping the coevolution of economic performance and social protection in embedded liberalism finds its roots in the highly unstable interwar period.[19] Between World War I and the Great Depression, the highly interconnected laissez-faire international regime that had been dominant in the second half of the nineteenth century imploded, and countries reverted to autarchic and near-autarchic nationalistic forms of economic management.[20] Interventionists such as Keynes and Polanyi, in contrast to economic liberals such as Von Mises and Hayek, challenged the long-run viability of nineteenth-century laissez-faire liberalism and laid the theoretical and political grounds for postwar embedded liberalism.[21]

The interwar debate hinged on diametrically opposite hypotheses that are central to contemporary debates: the trade-off or complementarity between market and state and between economic efficiency and social protection. The trade-off hypothesis, dominant in nineteenth-century laissez-faire, pitted efficient markets against inefficient state, and economic efficiency against inefficient social protection. Best captured by neoclassical formulations of Walrasian equilibria, perfectly competitive and self-regulating markets converged endogenously toward intertemporal equilibria of full-employment growth.[22] State interventions in the economy and society were unnecessary and inefficient: unnecessary because markets endogenously converged toward optimal economic and welfare equilibria; inefficient because they hampered spontaneous convergence toward equilibria.

Confronting the massive economic breakdowns, social unrest, and the final implosion of the global economy, Keynes and Polanyi questioned the trade-off hypothesis in favor of the complementarity of market and state: state interventions were necessary to ensure economic stability and social protection. Far from being self-regulating, laissez-faire markets were inherently self-destructive and generated severe economic and social instabilities that sparked backlashes against unfettered globalization, finally leading to its implosion.[23] Keynes traced instabilities to the "stickiness" of goods and labor markets and to the volatility of global financial

19. Hoover 2003.

20. See James 2002; and Simmons 1994.

21. See Keynes 1936, 1982; Polanyi 1957; Von Mises 1977; and Hayek 1944, 1966. A rich body of recent research has retraced the theoretical and policy relevance of the interwar debates; see Hoover 2003; Cochran and Glahe 1999; Allen 1998; Shearmur 1996; Mendell and Salee 1991; and Hayek and Caldwell 1995. However, the roots of the debates extend well into nineteenth-century British liberalism; see Coats 1971. Classical liberals—Smith, Malthus, Ricardo, Bentham, and Mill—shared a faith in the economic and welfare efficiency of unfettered markets and rejected that the state could ameliorate socioeconomic conditions. Social liberals—Green, Hobhouse, Hobson, and Bonsaquet—advocated legislation that provided protection against market dislocations.

22. Walras 1954.

23. This "apocalyptic" view of capitalism was widely shared at the time; see Schumpeter 1928.

markets. Capital controls and aggregate demand policies, via government spending, would contribute to economic stability in an open world economy. Polanyi traced instabilities to the social and political responses against the unprecedented historical experiment, spearheaded by nineteenth-century Britain, of disembedding capitalist markets from social relations. Re-embedding markets—global and domestic—required governments to assume broader economic and social responsibilities.

Hayek and Von Mises, instead, reasserted the validity of the trade-off hypothesis. Beyond the negative effects of the singular event of World War I, they traced the socioeconomic instabilities and the ultimate implosion of the laissez-faire regime to inefficient positive economic and social state interventions. Such interventions, which were associated with the emergence of "collectivism," undermined the spontaneous functioning of laissez-faire markets. In particular, as later research attempted to demonstrate empirically, inefficient monetary policies were the principal cause of the Great Depression.[24] Hence, only the unfettering of markets, by means of negative state interventions that bolstered market dominance, would ensure long-run, full-employment growth and the wealth necessary for social protection.

By the early 1960s, the "end of ideology debate" appeared to irreversibly sanction the complementarity hypothesis. In the context of the Keynesian-based Bretton Woods multilateral system, the historical compromise informing embedded liberalism seemed to successfully ensure global growth, full employment, and social protection.[25] The "end of ideology" captured a new balance between market and state: the political left had accepted the market as a central instrument of growth; the political right, the state as an instrument of growth and redistribution.[26] Political conflict was confined to valence issues, away from the interwar fundamental clashes over the proper relations between market and state.

Instead, by the early 1980s, following the breakdown of the Bretton Woods system, stagflations, and the intensification of globalization, the "resurgence of the ideological debate" under fierce neoliberal critiques weakened the postwar consensus on the long-term viability of embedded liberalism.[27] A first wave of attacks—especially from monetarist and new classical economists, social conservatives, and the Virginia school of public choice—challenged the complementarity hypothesis in the domestic arena: the inherently inefficient positive economic and welfare interventions, best captured by the historically unprecedented growth of the public sector, hampered long-term economic growth.[28] Negative interventions, à la

24. Friedman and Schwartz 1963.

25. See Marglin and Schor 1990; Ruggie 1982; and Shonfield 1969.

26. See Bell 1962; and Lipset 1960. In economics, the "end of the business cycle" captured the success; see Okun 1975.

27. See Ruggie 1982, 1997; and Keohane 1984b.

28. Monetarist and new classical critiques challenged the efficiency of economic stabilization; see J. Stein 1982; Sargent and Wallace 1975; and M. Friedman 1968. Demand-push neoconservative theorists argued that malignant interest groups formation triggered demands that overloaded the state bud-

Hayek, were necessary to achieve market deregulation and the withdrawal of the state from the economy and society.[29] Social inequality was deemed necessary to provide incentives for economic growth.[30] A second wave of critiques challenged the complementarity hypothesis in a fast globalizing world: international markets, especially financial, inexorably weakened the ability of the state to stabilize the economy and to provide social protection;[31] the welfare state, in particular, undermined international competitiveness.[32] Neo-Hayekean evolutionary theories predicted the irreversibility of unfettered globalization as well as the inevitability of convergence toward laissez-faire.[33]

More recently, however, several countercritiques have reasserted the complementarity between market and state. Endogenous growth theories claim that selected types of government spending are economically efficient.[34] In addition to investments on research and development, spending on human capital is particularly relevant. New political economy theories link social protection, especially reduction of poverty and inequality, to productive efficiency.[35] Claims that globalization inevitably leads to the retrenchment of the welfare state appear to be dubious, particularly in the context of postindustrialism.[36] The state continues to shape national adaptations to globalization.[37] The strategies and instruments of interventions used in embedded liberalism have changed but have not eroded the normative structure of social purpose that defines market-state-society relations.[38] These critiques have informed neointerventionist defenses of the capacity of embedded liberalism to ensure long-term economic stability and social protection.[39] Even self-professed neoclassical economists now maintain that laissez-faire liberalism is a threat to democracy and social stability: social protection is necessary to forestall backlashes against unfettered globalization.[40]

In historical context, the resurgence of the ideology debate represents a rupture with the postwar consensus on embedded liberalism. Neoliberals now explicitly admire the once discredited nineteenth-century laissez-faire and question the long-

get; see Olson 1982; and Crozier, Watanuki, and Huntington 1975. Supply-pull public choice theorists pointed to the fiscal irresponsibility of self-regarding politicians; see Mueller 2003; and J. Buchanan 1977.

29. Campbell and Pedersen 2001.
30. Aghion, Caroli, and Garcia-Penalosa 1999.
31. See Mishra 1999; Ohmae 1990; and Strange 1996.
32. Alesina and Perotti 1998.
33. See Vasquez 2000; Hayek 1996; and Fukuyama 1993.
34. See Aghion and Howitt 1998; and Barro and Sala-i-Martin 1999.
35. Aghion and Williamson 1998.
36. In "postindustrialism," structural changes in population aging, female labor participation, and skill-biased unemployment drive the growth of the public sector; see Pierson 2001; Iversen 2001; and Esping-Andersen 1999.
37. See Hirst and Thompson 1999; Weiss 1998; and Keohane and Milner 1996.
38. Ruggie aptly distinguishes between "norm transforming" and "norm governed" change; Ruggie 1998.
39. See Esping-Andersen 2002; Swank 2002; Garrett 1998; and Giddens 1998.
40. See Stiglitz 2002; and Rodrik 1997.

term viability of embedded liberalism established at Bretton Woods to replace the then-discredited laissez-faire liberalism.[41] Simultaneously, they praise the efficiency of nineteenth-century laissez-faire: it generated superior growth through more encompassing globalization, greater flexibility of global and domestic markets, and minimal state intervention. The policy lesson they advocate—"to go back to the future" by politically reconstituting global laissez-faire—rests on the promise that unfettered markets, as in the nineteenth century, will deliver sustained long-term growth.[42]

In contrast, mindful of Keynes's and Polanyi's critiques, neointerventionists fear the reconstitution of unfettered globalization: nineteenth-century laissez-faire might have created unprecedented wealth but the social costs associated with disembedded markets also triggered harsh backlashes against globalization.[43] Concerns about renewed backlashes against unfettered globalization inform an alternative policy lesson—"to go forward to the future" by enhancing political control over global and domestic markets to better ensure long-term economic growth, full employment, and social protection.

The Model: Centrality of Long-Run Dynamics

At the core, the ideological debate between neoliberals and neointerventionists is about the long-run dynamics—stability and viability—of the two international regimes. A model ought to capture the rival claims about long-run dynamics. The theoretical roots of such a model are best traced to constructivist theories of international regimes. A basic multidimensional model usefully captures core mechanisms through which market and state shape economic performance and social protection in the two regimes.

International Regimes: Structure and Dynamics

Tracing the model to constructivist regime theory is problematic: all major schools of international relations—realism, neoliberal institutionalism, and constructivism—disagree fundamentally on the causal relevance of regimes.[44] Realism attributes little importance to international regimes: they are instruments for hegemons to enhance their power in the anarchic international system. Neoliberal institutionalism attributes greater instrumental significance to regimes: given anarchy, they can reduce transaction costs in the interaction of states. Only in constructivism are regimes ontologically independent from configurations of interstate power and indeed can autonomously affect such power. By privileging a social ontology that

41. See Lal 2000; Hayek and Caldwell 1995; and Friedman and Friedman 1980.
42. The metaphor "to go back to the future" is borrowed from Bordo, Eichengreen, and Irwin 1999.
43. See Aghion and Williamson 1998; Williamson 1998; Gray 1998; and Rodrik 1997.
44. See Simmons and Martin 2002; and Hasenclever, Mayer, and Rittberger 1997.

rests on holism, norm-based behavior, socially constructed institutions, and historical contingency, constructivism explicitly considers how the normative structure of social purpose shapes the identity of regimes.[45] Such identity rests ultimately on authority relations defining the relationship of market and state to society and their contributions to economic performance and social protection.[46]

In the constructivist framework, international regimes emerge as stable and viable social institutions around which the long-run expectations of actors participating in the regime converge. Organizing principles of legitimate order and meaning shape the historical evolution—formation and transformation—of regimes. Market, state, and society represent three fundamental macro-structures of regimes. Authority relations define the legitimate orderings of market, state, and society. The two regimes—nineteenth-century laissez-faire and post–World War II embedded liberalism—represent distinct and historically contingent institutional configurations of authority relations.

Neoliberals and neointerventionists largely agree that diametrically opposite principles and authority relations inform the normative structures of the two regimes. Laissez-faire liberalism rests on market dominance over the state and on disembedding markets from society. Its central objective is economic growth through markets unfettered by positive state interventions. Growth determines the dynamics of unemployment. Growth also determines social protection via lower unemployment and higher living standards. Negative interventions of the laissez-faire state, à la Hayek, bolster market dominance. In contrast, embedded liberalism rests on the complementarity of market and state and on the social embedding of markets. Full-employment growth and social protection are both central objectives. Positive state interventions—stabilizing and welfare—in the international and domestic arenas, as in the multilateral Bretton Woods system, serve to achieve these twin objectives.

Neoliberals and neointerventionists, however, clash over how the distinctive organizing principles of the two regimes ensure their long-term stability and viability.[47] According to neoliberals, the institutional framework of laissez-faire liberalism generates stable long-run dynamics. Unfettered—that is, politically deregulated—markets endogenously adjust to shocks: they quickly clear and converge toward a long-run stable equilibrium characterized by full-employment growth. Instead, the institutions of embedded liberalism inevitably generate unstable, sticky, dynamics: inefficient state interventions in the economy and society hamper spontaneous convergence of markets toward long-run equilibrium. Mindful of Keynes, neointerventionists challenge the economic and welfare efficiency of laissez-faire liberalism: unfettered markets fail to clear and to converge toward the long-run equilibrium. Markets rather tend toward disequilibrium characterized by persistent and socially costly underemployment. Positive state interventions are necessary to ensure convergence toward full-employment growth and social protection.

45. See Adler 2002; and Wendt 1999.
46. Ruggie 1982, 1998.
47. Ruggie 1994, 1997.

The Multidimensional Model: Testable Hypotheses

Such disagreements over long-run dynamics inform the debates on the specific mechanisms by which market and state shape the long-run coevolution of economic performance and social protection in the two regimes. A simple multidimensional model, which focuses on the demand side of the economy, captures the basic relations at the core of such debates:

$$g = f_1(y, u) \quad f_{1.y} > 0, f_{1.u} > 0 \tag{1}$$

$$y = f_2(x, g, t) \quad f_{2.x} > 0, f_{2.g} \neq 0, f_{2.t} > 0 \tag{2}$$

$$u = f_3(x, y) \quad f_{3.x} > 0, f_{3.y} < 0 \tag{3}$$

where g is government spending as a ratio of GDP; y is the level of real GDP; u is the unemployment rate; x, trade, describes the openness of the economy; and t is a linear time trend capturing productivity shocks.[48] The model thus links the coevolution of economic growth, unemployment, and government spending in the context of trade regimes. As in established research, trade is analytically exogenous to the model.[49]

Equation (1) captures the evolution of the public sector. It links the dynamics of government spending (g) to shocks in GDP and unemployment—two crucial mechanisms of social protection. The positive spending-GDP relation operates via Wagner, or wealth, redistributive effects: spending increases as a proportion of national income.[50] The positive spending-unemployment relation captures welfare interventions that protect social strata exposed to labor market shocks, especially those linked to trade.[51]

Equation (2) captures economic growth—a crucial dimension of economic performance. It links the evolution of GDP (y) to shocks in trade, spending, and productivity. The positive GDP-trade relation describes the openness-growth con-

48. These processes, albeit in single-equation format, are central to the research on the post–World War II era; see Swank 2002; Iversen 2001; Huber and Stephens 2001; and Garrett 1998. They are also central to research on nineteenth-century laissez-faire; see O'Rourke and Williamson 1999; and Williamson 1998. However, the single-equation modeling obscures the complexity of dynamics stemming from feedbacks traversing the three equations.

49. The dimensionality, or complexity, of the model can be increased by introducing other historical processes: for example, (1) real wage, (2) investment, and (3) political institutions such as the organizational and political power of labor and parliamentary institutions. The increased dimensionality would not change the theoretical argument and the empirical predictions of this core model.

50. In the historical context of Bismarckian Germany, Wagner's original formulation of the growth of the public sector was rooted in the requirements of statism and militarism; see Wagner 1958; and Von Mises 1969.

51. For the postwar era, several theories have linked public sector expansion to the unemployment effects of economic openness: for example, for modernization, see Cameron 1978; for political-class conflict, see Garrett 1998; Esping-Andersen 1990; and Flora and Heidenheimer 1981; for the compromise of embedded liberalism, see Ruggie 1982; for adaptive responses of small but highly open economies, see Katzenstein 1985; for deindustrialization, see Iversen 2001; Rodrik 1997; and Wood 1994.

nection.[52] The GDP-spending relation gauges the effects of economic and social interventions on economic growth. The inequality sign ≠ indicates the disagreements between neoliberals and neointerventionists over the long-term efficiency of positive state interventions: the sign is positive, or growth inducing, for neointerventionists; negative, or growth dampening, for neoliberals.[53] The trend *t* describes technology-driven productivity shocks.[54]

Equation (3) captures a second crucial dimension of economic performance—unemployment. It links the evolution of unemployment (u) to shocks in trade and GDP. Trade, as in Heckscher-Ohlin models, induces socioeconomic dislocations best captured by unemployment.[55] GDP describes the business cycle trade-off between growth and unemployment.[56]

In this system, government spending plays the crucial role in determining the dynamics of the two regimes.[57] Regarding the laissez-faire regime, the model captures rival claims over the efficiency of unfettered markets in the presence of minimal state intervention. Neoliberals and neointerventionists share a basic agreement about the spending equation (g). Given the minimal state, small wealth and welfare effects do not engender a considerable long-run growth of government spending. Accordingly, g cannot shape significantly the dynamics of growth and unemployment. For neoliberals, self-regulating markets unencumbered by state interventions ensure quick convergence toward long-term full-employment equilibrium growth. Shocks are temporary, and any long-run dynamics are traceable to exogenous deterministic trends.[58] Instead, for neointerventionists, in Keynesian fashion, laissez-faire markets are sticky: they fail to clear quickly and yield suboptimal long-run equilibria characterized by long-term underunemployment. Thus, in the y equation, booms and busts in trade are persistent and generate

52. The theoretical literature posits the positive trade-growth link; see Obstfeld and Rogoff 1996. New growth theories for the postwar era focus on trade-induced positive effects of R&D, increasing returns to scale, and technological spillovers; see Aghion and Howitt 1998. Research on the nineteenth century also posits the positive link; see O'Rourke 2000.

53. Abrams 1999.

54. Aghion and Howitt 1998. Productivity shocks encompass shocks in investments.

55. Greenaway and Nelson 2001.

56. Sargent 1987.

57. In the context of constructivism, the focus on government spending is meant to capture two main dimensions of state intervention in the economy and society: (1) economic stabilization, and (2) social security/protection; Ruggie 1982. The objective of spending aimed at macroeconomic stabilization is to bring the economy toward full employment growth—which is itself a crucial component of social protection. The y and, via recursive substitutions, u equations capture this first dimension. The objective of social spending aims at minimizing the domestic social costs of economic openness stemming from adjustments to structural change in the international division of labor. The wealth (y) and welfare (u) effects in the g equation capture this second dimension. A narrower focus on social and welfare spending would miss the complexity of these multiple dimensions of social protection. Moreover, new growth theory demonstrates how difficult it is to disaggregate government spending in its economic and social components—for example, investment in physical and human capital, welfare, and even military; Aghion and Howitt 1998.

58. Aghion and Howitt 1998.

long-term fluctuations in economic growth. In the *u* equation, persistent booms and busts in trade and GDP generate long-term fluctuations in unemployment.

For embedded liberalism, the model captures the sharp divisions over the efficiency of the large public sector. Here, neoliberals and neointerventionists also share a basic agreement about the *g* equation: significant wealth and welfare effects have contributed to the historically unprecedented long-term growth of public spending. Wealth effects point to strong mechanisms of redistribution: vis-à-vis nineteenth-century laissez-faire, a greater proportion of national income goes toward government spending. Given the centrality of social protection, unemployment also represents a major mechanism of growth for spending. For neoliberals, the trade-off hypothesis predicts that the growth of the inefficient public sector dampens long-run growth and yields persistent unemployment. For neointerventionists, given the complementarity hypothesis, spending contributes to long-term growth, lower unemployment, and social protection.

Comparative Research Design: Inference from Hegemonic Powers to Regimes

How does one evaluate the empirical adequacy of the rival claims about the long-run dynamics of the two international regimes? A first crucial methodological decision concerns the appropriate research design and sample for valid inference. All theories of international political economy—realism, neoliberal institutionalism, constructivism—tend to rely on comparisons of the hegemonic powers to investigate the core properties of the two regimes.[59] A fundamental, but by no means uncontroversial, hypothesis supports the comparative design: hegemons influence the evolution—creation and maintenance—of regimes.[60] Thus, theoretical inference about the dynamics of regimes is drawn from their respective hegemons. Moreover, constructivist social theory, which in its critical version relies on Gramscian views of hegemony, suggests the comparison of the normative structures of the respective hegemons—nineteenth-century Britain and post–World War II United States. The logic of inference is that the relative dominance of market and state in

59. See Keohane 1984a; A. Stein 1984; and Ruggie 1982. Formally, the comparison involves regimes as ideal types. More precisely, it involves the class of ideal types based on particular historical phenomena, such as "the Protestant Ethic," and "modern capitalism," which appear only in specific historical periods and in particular cultural areas; Weber 1949. The polar regimes of nineteenth-century laissez-faire and post–World War II embedded liberalism represent such types. The analytic task is to identify the core features of these two polar types, which essentially relate to the normative structure of social purpose. The empirical task is to determine whether and how the normative structures of the hegemons—nineteenth-century Britain and post–World War II United States—approximate the properties of the two types.

60. Controversies concern: (1) differences in motives ascribed to hegemons in realist, liberal, and constructivist theories; (2) whether hegemons are necessary and/or sufficient for regime formation and maintenance; and (3) whether hegemons privilege an open international economy; Hasenclever, Mayer, and Rittberger 1997.

the hegemonic countries influences the evolution of regimes, and that the investigation of the normative structures of hegemons provides significant insights into the dynamics of regimes.[61]

Three specific claims legitimize the constructivist comparative design. The first justifies the comparison of the normative structures of hegemons: the normative structures of the hegemons exemplify those of regimes, thereby capturing their identity. Hegemons influence the evolution of regimes through the fusion of two principles that project their authority in the international system: (1) concentration of wealth and power, and (2) normative structure of social purpose. Resource concentration, central to realism, helps explain why a hegemon creates and maintains an international order based on its self-interest while enhancing global welfare. However, resource concentration does not capture the distinctiveness of laissez-faire and embedded liberalism. The normative structure does. The authority relations defining state-market-society relations in each hegemonic provide the legitimate social purpose in pursuit of which state power is employed in both the domestic and international arenas. Hence, comparison of the normative structures of hegemons best captures how market and state shape economic performance and social protection of regimes.

The second claim justifies the sample selection: the normative structures of nineteenth-century Britain and post–World War II United States capture the distinctiveness of the regimes of laissez-faire and embedded liberalism respectively. Resource concentration remains crucial to explain British and U.S. hegemony. Britain, under the impulses of the industrial revolution, colonization, and global trade and finance, developed the largest and most open economy.[62] As the paramount military power in a system of interstate hegemony, Britain also enforced its preferred rules of free trade and the gold standard by maintaining freedom of the seas.[63] The Pax Britannica ensured an international order of relative peace and security.[64] As for the United States, its large economy drives the world economy.[65] The United States also fulfills power criteria of hegemony: for example, acting as world police; establishing the Bretton Woods regimes of trade and finance; and providing investment and aid. The Pax Americana, too—debates on the decline of hegemony notwithstanding—has ensured an international order of relative peace and security.[66]

61. In this constructivist framework, the main objective of the research is to achieve a better understanding of the normative structures and causal macro-social mechanisms of the two political economy regimes, rather than the intersubjective dimensions of human consciousness and action; see Adler 2002; Wendt 1999; Gill 1993; and Ruggie 1982, 1998. Nevertheless, the research has a strong reflexive—practical and political—component: establishing the relative empirical congruence of the rival neoliberal and neointerventionist claims has significant implications for political discourse and political action.
62. See Maddison 1995; Floud and McCloskey 1994; and Kindleberger 1975.
63. See Hobsbawm 1990; and De Cecco 1984.
64. Gilpin 2000.
65. Obstfeld and Rogoff 1996.
66. Gilpin 2000.

Resource concentration alone, however, does not capture the laissez-faire identity of nineteenth-century Britain: its fusion with the normative structure that privileged self-regulating markets does. The authority relations instituted in the international regime reflected the domestic balance of British market-state relations that determined the dominance of market over society. Laissez-faire Britain privileged market forces both domestically and internationally: it limited positive state interventions in the commodity, currency, and labor markets; and it engaged in negative interventions to institute and safeguard self-regulating markets.[67] Likewise, for the United States, the fusion of resource concentration and a normative structure that privileges state steering of markets uniquely identifies embedded liberalism. The authority relations instituted in the regime reflect the domestic balance of U.S. state-society relations that rest on the dominance of state over market and on the subordination of market to society. From the New Deal to Bretton Woods and to the Great Society, the state has taken greater responsibilities to buffer the domestic economy and society from external shocks without sacrificing the benefits of economic openness.[68]

The third claim establishes the validity of inference from the comparison of hegemonic Britain and United States. Britain is the extreme representative of laissez-faire. This ideal status had long been noted in political economy: Britain exemplified the evolution of nineteenth-century global capitalism.[69] Other powers, such as France and Germany, differed in socioeconomic and political structures but were integrated in the global capitalism that Britain spearheaded.[70] This ideal status continues to inform the contemporary ideological debates on market and state: for neoliberals, laissez-faire Britain exemplifies the world to which to return; for Polanyi's "neointerventionist children," the world from which to escape.[71]

In contrast, vis-à-vis other industrial democracies, the United States is the weakest representative of embedded liberalism. It never had a significant socialist movement or labor party.[72] The social and economic reforms of the New Deal lacked a strong ideological basis, were modest in scope, and confronted strong opposition.[73] The Great Society saw its limitations in the small public sector and resid-

67. Three pieces of legislation institutionalized the principles of laissez-faire: (1) the Poor Law Amendment Act of 1834 facilitated the flexibility of labor markets; (2) the Peel's Bank Act of 1844 launched the gold standard monetary regime; and (3) the Anti-Corn Law Bill of 1846 and the Cobden-Chevalier Treaty of 1860 set in motion international trade; see Hobsbawm 1990; Taylor 1972; and Polanyi 1957.

68. The New Deal represented the U.S. reaction against the collapse of laissez-faire and the Great Depression; the U.S.-driven Bretton Woods regime sought to reconstruct the postwar international economic order while minimizing cost of social disruption generated by international integration; the Great Society programs added several layers of social protection; Ruggie 1982.

69. See Taylor 1972; Polanyi 1957; Keynes 1936; and Marx 1976.

70. Kindleberger 1975.

71. Lindsey 2002.

72. Lipset 1996.

73. Brinkely 1995.

ualistic welfare state.[74] Labor markets have remained the most flexible among the advanced industrial democracies.[75] The ideological attacks on the normative structure of embedded liberalism since the early 1980s have been strongest in the United States.[76] Indeed, the weakening consensus in the United States over the future of embedded liberalism is about the new order that should replace the New Deal state domestically and the Bretton Woods system internationally.[77] Yet, despite weak representativeness, the central hypothesis—the normative structure of hegemonic United States influences the identity of embedded liberalism—holds.[78]

Historical Persistence: From Nonstationarity to Cointegration

Testing the rival neoliberal and neointerventionist claims about the long-run dynamics of the two regimes requires a second crucial methodological decision: the choice of the appropriate statistical framework. Graphical analyses and unit root tests of the four processes in the model reveal that persistence, in the form of nonstationary random walk dynamics, drives the evolution of both Britain and the United States. Nonstationary persistence undermines established claims about the long-run dynamics of the two regimes. It also suggests that the framework of cointegration is necessary to investigate such dynamics.

Historical Processes: I(0) Stationary and I(1) Nonstationary Dynamics

Historical persistence hinges on the concepts of stationary and nonstationary series.[79] The properties of a series, z_t, are described usefully by an autoregressive process of order one—AR(1):

$$z_t = c + \beta t + \rho_1 z_{t-1} + \epsilon_t$$

where c is a constant; βt, a deterministic time trend; ρ_1, the autoregressive parameter describing persistence; ϵ_t, a random disturbance term. Table 1 summarizes the properties of stationary and nonstationary series. z_t is I(0) stationary, or integrated of order zero, if $|\rho_1| < 1$. This property establishes the time-independence of the (1) mean ($\mu = c/1 - \rho_1$), which captures the intertemporal equilibrium; (2) finite variance ($\sigma^2/(1 - \rho^2)$) describing the dispersion around the intertemporal equilibrium; and (3) quickly decaying autocovariances (γ_s) and autocorrela-

74. Esping-Andersen 1990.
75. See Kitschelt, Lange, Marks, and Stephens 1999; and Crouch and Streeck 1997.
76. See Ruggie 1997; and Pierson 1994.
77. See Stiglitz 2002; and Ruggie 1997.
78. Ruggie 1998.
79. Patterson 2000.

TABLE 1. *Properties of AR(1) processes*

	Stationary	*Nonstationary*	
		Drift-driven	*Drift-less*
μ: mean	$\mu = c/(1-\rho_1)$	$\mu = z_0 + c_0 t$	$\mu = z_0$
σ^2: variance	$\sigma^2/(1-\rho^2)$	$t\sigma^2$	$t\sigma^2$
γ_{t-s}: autocovariance	γ_s	$(t-s)\sigma^2$	$(t-s)\sigma^2$
ρ_1: autocorrelation	$\lvert\rho_1\rvert < 1$	$\rho_1 = 1$	$\rho_1 = 1$

Note: ρ_1 = first autocorrelation. z_0 = origin of historical series. t = time index starting at z_0. $t - s$ = time lags.

tions (ρ_s), which reveal the memory of historical processes. Accordingly, past shocks $\boldsymbol{\epsilon_i}$ do not cumulate historically but converge quickly toward the intertemporal equilibrium. The trend βt describes deterministic patterns of growth and decay, but its detrending yields stationary, temporary fluctuations.

Instead, z_t is a nonstationary random walk integrated of order one, or I(1), if $\rho_1 = 1$. This property establishes the time-dependence of the variance ($t\sigma^2$), which tends to infinity, and of covariances ($(t-s)\sigma^2$) and autoregressions $\rho_1 = 1$, which do not decay over the long run. With nonstationary dynamics, past shocks $\boldsymbol{\epsilon_i}$ cumulate permanently, or integrate, in the memory of historical series. Therefore, such series cannot have an intertemporal equilibrium to which they can converge. The absence of an intertemporal equilibrium is obvious for a drift-driven random walk, which exhibits a time-varying mean ($\mu = z_0 + c_0 t$): the drift $c_0 t$ captures cumulating patterns of growth/decay from the historical origin z_0.[80] For a drift-less random walk ($c = 0$), the mean is $\mu = z_0$, which is time invariant and corresponds to its origin z_0. Thus only stochastic shocks $\boldsymbol{\epsilon_i}$ shape the evolution of z_t, which unfolds with sticky waves around z_0. However, given stochastic waves, the mean of z_t does not describe a meaningful intertemporal equilibrium to which historical processes converge systematically and quickly.[81]

Nonstationary Persistence: Britain and the United States

Nonstationary persistence suggests that neoliberals commonly rely on neoclassical equilibrium models that associate market flexibility with stationary I(0) converging processes and sticky markets with nonstationary I(1) nonconverging

80. The intertemporal equilibrium is mathematically undefined: given $\rho_1 = 1$, $\mu = c/(1-\rho_1)$ yields $\mu = c/0$.

81. Such equilibrium is also mathematically undefined: given $\rho_1 = 1$, $\mu = c/(1-\rho_1)$ yields $\mu = 0/0$.

processes.[82] Thus, given highly flexible markets, nineteenth-century laissez-faire would be a stationary world: shocks are temporary, and historical processes quickly converge toward stable intertemporal equilibria. By contrast, given sticky markets, postwar embedded liberalism would be a nonstationary world: shocks are persistent, and sticky historical processes fail to converge quickly and systematically to equilibrium. By contrast, reliance on Keynesian disequilibrium models informs neointerventionist beliefs that markets in nineteenth-century laissez-faire are sticky and therefore generate unstable—that is, persistent, nonconverging, and hence nonstationary—dynamics.

Preliminary empirical evidence from Britain and the United States, shown in Figure 1, challenges any claims of converging stationary dynamics, particularly the neoliberal claims about nineteenth-century laissez-faire.[83] Simply, persistent random walk dynamics appear to be ubiquitous.

British trade exhibits long-memory stochastic waves of openness and implosion.[84] Instead, a drift, which may have fueled recent concerns about the intensification of globalization, drives U.S. trade. GDP exhibits clear drift-driven growth patterns in both countries. U.S. unemployment exhibits substantial persistence, which is associated with rigid labor markets. The higher frequency fluctuations in British unemployment may suggest more flexible labor markets, as neoliberals maintain. Yet long-memory swings typical of random walks may characterize its evolution, as neointerventionists contend. Lastly, upward sloping drifts ($c_0 t > 0$) also drive the growth of government spending in both countries, albeit with different strength and from significantly different initial historical conditions (z_0).[85] For Britain, z_0 in 1865 was about 6 percent of GDP; for the United States, z_0 in 1955 was about 16 percent. Drifts indicate that for the sample period the absolute growth of British public spending was roughly about 3 percent; in the United States, spending grew by about 15 percent.

Augmented Dickey Fuller (ADF) unit root tests lend support to the qualitative insights that all four processes are long-memory random walks.[86] ADF tests take the form

$$\Delta z_t = c + \beta t + \gamma z_{t-1} + \delta_1 \Delta z_{t-1} + \delta_2 \Delta z_{t-2} + \cdots + \delta_p \Delta z_{t-p} + \epsilon_t$$

82. See Aghion and Howitt 1998; Juselius 1999; and Sargent 1987.

83. For Britain, data are for the 1865–1913 period. The onset at 1865 eliminates the confounding effects of the Crimean War while capturing the free trade drives of the 1860s. Trade and government spending are from Mitchell 1998; real GDP, from Backus and Kehoe 1992; unemployment, from Mitchell 1988. For the United States, data for 1955–99 are from *Economagic* (www.economagic.com). The start at 1955 eliminates the effects of the Korean War. Trade is exports (EXPGS) plus imports (IMPGS) as a ratio of nominal GDP (GDPN). Government spending is federal expenditures (AFEXPND) net of federal grants in aid to state and local governments (AFGL) as a percentage of GDP. Real GDP is GDPC.

84. The implosion is associated with the Great Depression of 1873–96; Floud and McCloskey 1994.

85. Research has recognized such growth; see Lindert 2004; Tanzi and Schuknecht 2000; and Flora and Heidenheimer 1981. Public spending, as argued (see note 56 above), includes military spending for both Britain and the United States; see Hobsbawm 1990; and Hooks 1991.

86. Dickey and Fuller 1979.

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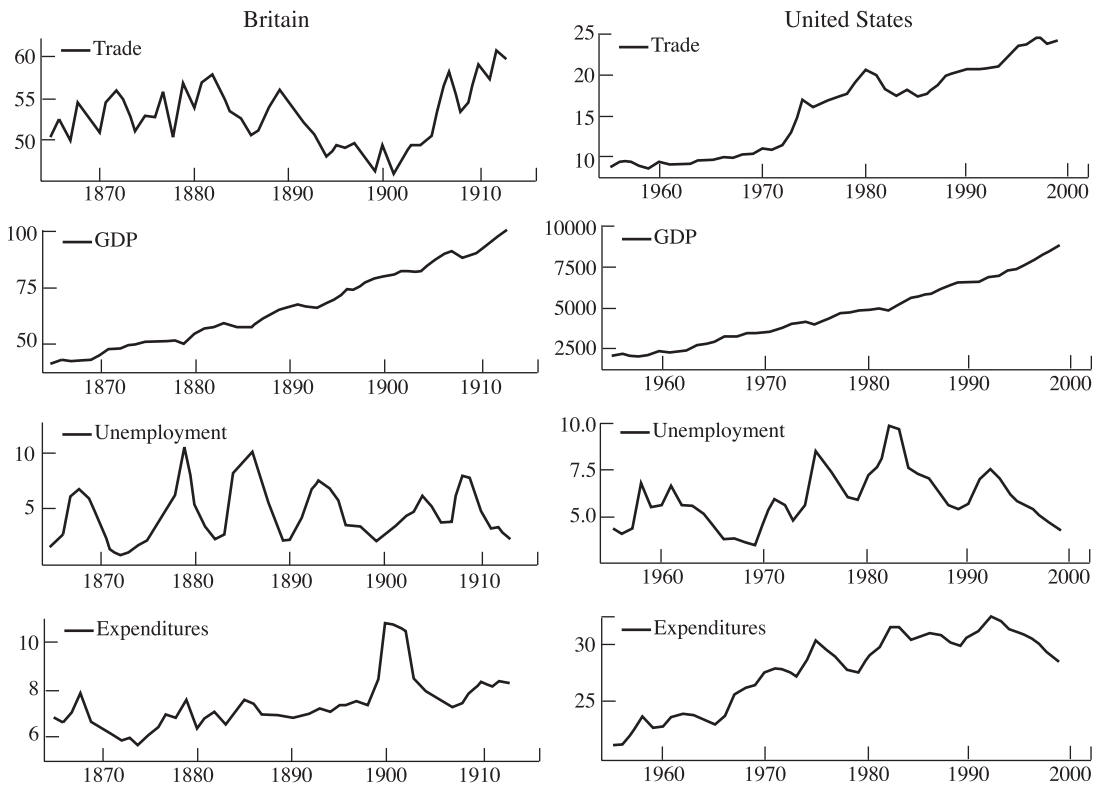

FIGURE 1. *Time series*

TABLE 2. *ADF unit roots tests*

	Nineteenth-century Britain					*Post–World War II United States*				
	c	β	γ	$t(\gamma)$	p	c	β	γ	$t(\gamma)$	p
$\Delta \mathbf{x}_t$	0.0	0	0.001	0.69	2.6 / 1.9	0.05	0	−0.01	2.1	3.5 / 2.9
$\Delta \mathbf{y}_t$	0.03	0	−0.003	0.03	3.5 / 2.9	0.09	0	−0.006	2.1	3.5 / 2.9
$\Delta \mathbf{u}_t$	0.0	0	−0.03	0.9	2.6 / 1.9	0.0	0	−0.001	1.0	2.6 / 1.9
$\Delta \mathbf{g}_t$	0.1	0	−0.1	2.0	3.5 / 2.9	0.3	0	0.03	1.4	3.5 / 2.9

Note: Variables are in logs. c = drift. β = deterministic time trend. $t(\gamma)$ = estimated t-statistics for the null H_0: $\gamma = 0$. p = MacKinnon one-sided p-values at 1 percent and 5 percent for N ≈ 50.
Source: MacKinnon 1996.

where z_t is a nonstationary I(1) process and Δz_t is its stationary I(0) change; δ_i capture higher-order correlations in lagged Δz_t that whiten ϵ_t; and βt describes the time trend. Given $\gamma = (\rho - 1)$, ADF tests evaluate two hypotheses: (1) the null of unit root (H_0: $\gamma = 0$), by which $\rho = 1$; and (2) the alternative of stationarity (H_1: $\gamma < 0$), by which $\rho < 1$. A random walk has a drift if $c \neq 0$, and no drift if $c = 0$. Table 2 shows the findings.[87] MacKinnon's critical values of the t-statistic for γ, $t(\gamma)$, fail to reject the null $\gamma = 0$: for the sample period, all four processes in both regimes appear to be I(1) random walks.

GDP is drift-driven in both countries ($c > 0$).[88] In postwar United States, trade is drift-driven, which validates concerns about the "acceleration" of globalization. In Britain, instead, trade is a pure random walk, which suggests that by the 1860s, and for the subsequent period up to World War I, trade had reached maximum expansion. In both countries, unemployment appears to exhibit drift-less random walk properties.[89] Government spending is drift driven in both countries. Both the bigger size of government spending at the onset (z_0) and the stronger drift-driven

87. Phillips-Perron tests yield similar results; Phillips and Perron 1988. Tests are performed in *Eviews*.

88. Established research corroborates the validity of these findings for the United States; Fatás 2000.

89. The nonstationary persistence of unemployment, and more generally of variables defined as shares, requires a distinction between conceptual and statistical properties; Patterson 2000, 285–99. With regard to statistical properties, shocks are better described as having permanent rather than transitory effects. Conceptually, however, economic theory finds it difficult to consider unemployment as I(1) nonstationary: its "random walk" is bounded between 0 and 1 and therefore has finite variance. Indeed, historically those boundaries are not reached or even approached. Nonstationary persistence emerges as a local, or sample-specific, property reflecting the effects of a big historical shock—such as the oil shock of the 1970s—and not the global property of unemployment unfolding in infinite time. In a long sample, say 200 years, there may be no significant trace of the local shock. Thus if tests indicate that the null $\gamma = 0$ cannot be rejected over the sample period, then the series is locally but not globally I(1). Current research on unemployment reflects the tension between theoretical and statistical properties. Neoclassical theory continues to treat unemployment persistence in terms of protracted, yet converging, deviations from natural equilibrium; Pissarides 2000. Nevertheless, unit root dynamics are considered to be consistent with unemployment hysteresis, by which unemployment has a permanent component and a path-dependent natural rate; see Papell, Murray, and Ghiblawi 2000; and

growth ($c = 0.3$) for the United States seemingly provide the rationale to neoliberal claims of the economic inefficiency of the public sector. Nevertheless, despite the significant institutional differences in the normative structures of social purpose, both regimes share one common property: nonstationary dynamics drive their long-run evolution. Shocks cumulate permanently to generate persistent patterns of historical inheritance.

Implications of Nonstationarity: Disjunctions Between Theory and Evidence

Nonstationarity in Britain challenges neoliberal claims about the stability of nineteenth-century laissez-faire that rest on neoclassical models of converging stationary dynamics. Nonstationarity lends support to neointerventionist claims, inherited from Keynes, about the stickiness of laissez-faire markets. Nonstationarity in the United States, especially of unemployment and government spending, would support neoliberal claims about the instability of embedded liberalism. However, the persistence, even hysteresis, of unemployment in both countries suggests that labor markets are sticky in both regimes. Ultimately, these claims of regime instability based on the nonstationarity of individual historical processes are mistaken. Random walks may exhibit stable long-run equilibria if, as a system, they are cointegrated—that is, coevolving historically around common stochastic trends.[90]

Nonstationarity also challenges the use of standard univariate statistics—most crucially algebraic means—to compare the levels, or magnitudes, of historical processes in the two regimes. For instance, it challenges neoliberal claims about the superiority of nineteenth-century laissez-faire such as the claim that higher levels of trade and smaller public sectors are associated with better economic performance. Means properly depict intertemporal equilibria of stationary processes; means of random walks are nonsensical.[91] Comparing means of nonstationary trade, GDP, unemployment, and government spending in the two regimes is mistaken.[92] Appropriate comparisons would focus on the historical origins z_0 and the drifts $(c_0 t)$ of series.

Lastly, nonstationarity invalidates claims of causal relations based on fashionable single-equations OLS regressions.[93] Such regressions at best would capture stationary relations. Given nonstationarity, they yield spurious findings and mis-

Blanchard and Summers 1986. In the context of cointegration, even if the roots were slightly lower than unity, the unit root model is a sound approximation because it provides a more reliable framework for statistical inference in a multivariate setting; Juselius 1999.

90. Engle and Granger 1991.

91. Note that the mean of stationary series $\mu = c/(1 - \rho_1)$ varies with the values of ρ_1. This property cautions against the uncritical use of algebraic means even for stationary processes.

92. The use of stationary growth rates is problematic because stochastic detrending obliterates long-term persistence, which is the crucial phenomenon under investigation.

93. See King, Plosser, Stock, and Watson 1991; and Granger and Newbold 1974.

taken causal inference. While explicit comparisons of how market and state shape economic performance and social protection in the two regimes are lacking, OLS techniques dominate within-regimes research.[94] Indirect comparisons of such findings to establish the superior empirical congruence of the trade-off and complementarity hypotheses would lead to misleading inference about the long-run dynamics driving the two regimes. A cointegration model in VECM form more properly captures the complexity of persistent historical dynamics.[95]

The Cointegration Model in VECM Form

The standard VECM model of long-run dynamics is

$$\mathbf{\Delta z_t} = \boldsymbol{\mu} + \mathbf{\Pi z_{t-1}} + \mathbf{\Psi D_t} + \mathbf{e_t} \quad \mathbf{e_t} \sim \mathbf{IN(0, \Sigma)}^{96}$$

where $\boldsymbol{z_t}$ is a vector of at most I(1) n variables in levels and $\boldsymbol{z_{t-1}}$ is its lagged vector; $\mathbf{\Delta z_t}$ is the vector of differenced, and hence I(0) stationary, variables in changes; and $\boldsymbol{D_t}$ is a vector of deterministic variables, such as time trends and step dummies, which capture policy interventions and regime breaks. This model captures three dimensions of long-term dynamics: (1) common trends, (2) equilibrium relations, and (3) adjustments.

Common Trends

Cointegration assumes stationarity of a set n of I(1) nonstationary variables in $\boldsymbol{z_t}$ by linear combination. The hypothesis of cointegration is formulated as a reduced rank of the $\mathbf{\Pi}$-matrix

$$\mathrm{H}_1(r)\colon \mathbf{\Pi} = \boldsymbol{\alpha\beta}'.$$

$\boldsymbol{\alpha}$ and $\boldsymbol{\beta}$ are $p \times r$ matrices of full rank, where r, the rank of $\mathbf{\Pi}$, is equal to the number of independent cointegrating vectors, and p is the number of common sto-

94. Dominance is clear in research on the postwar era; see Swank 2002; Huber and Stephens 2001; and Garrett 1998. It is also clear in research on the nineteenth century; see O'Rourke and Williamson 1999; Verdier 1998; and Williamson 1996.

95. Recent considerations of cointegration methods reveal the concern with historical persistence; see Iversen 2001; and Freeman et al. 1998. Otherwise, two strategies, both unsatisfactory, have been fashionable. One models the levels of variables with the inclusion of an AR(1) term controlling for persistence; see Swank 2002; and Garrett 1998. Controlling is noninformative about the properties of persistence. The other models stationary first-differences; see Alesina and Perotti 1998. Such strategy simply obliterates persistence.

96. Since the analytic focus is on long-run dynamics, the model omits the matrix $\mathbf{\Gamma_k \Delta z_{t-k}}$, which describes short-run fluctuations in the changes of variables that meander around the long-run relations.

chastic trends. The hypothesis implies that $\Delta \boldsymbol{z}_t$ is stationary, $\boldsymbol{z}_t$ is I(1) nonstationary, but $\boldsymbol{\beta}'\mathbf{z}_\mathbf{t}$ is stationary.[97]

The rank of $\boldsymbol{\Pi}$ suggests three main scenarios concerning system (1) stability, (2) instability, and (3) rigidity. A system is stable if $\boldsymbol{\Pi}$ has rank $0 < n - r < n$: the nonstationary processes are cointegrated and coevolve around one or more stochastic trends that drive the stable long-run evolution of the system. Instability occurs if $\boldsymbol{\Pi}$ has rank $n - r = n$: there are as many stochastic trends in the cointegration space as I(1) variables. Such trends evolve independently following unrelated historical logics, and thus fail to share a common history. Lastly, the higher the number of trends, but clearly less than n, the greater system rigidity: a system evolves historically in as many unrelated directions as there are trends.

Equilibrium Relations

The matrix $\boldsymbol{\beta}'\mathbf{z}_\mathbf{t}$ represents up to $(n - 1)$ stationary cointegrated relations describing the stable coevolution of nonstationary variables around common trends. The series share a history precisely because they evolve around such trends. The equilibrium relations represent long-term stationary associations between variables. They also represent long-run steady states ($\boldsymbol{\beta}'\mathbf{z}_{\mathbf{t}-\mathbf{1}} = \mathbf{0}$) toward which variables converge when shocks push them away from equilibrium. Disequilibrium ensues when ($\boldsymbol{\beta}'\mathbf{z}_{\mathbf{t}-\mathbf{1}} \neq \mathbf{0}$).

Adjustment Dynamics

The $\boldsymbol{\alpha}$ matrix describes the direction and speed of adjustments of variables in $\boldsymbol{z}_t$ to disequilibrium in the steady state of $\boldsymbol{z}_{t-1}$. Relations are in equilibrium at $\boldsymbol{\beta}'\mathbf{z}_{\mathbf{t}-\mathbf{1}} = 0$, and in disequilibrium when $\boldsymbol{\beta}'\mathbf{z}_{\mathbf{t}-\mathbf{1}} \neq \mathbf{0}$. In the presence of disequilibrium, the variables in the system adjust to restore equilibrium in the next period such that $\boldsymbol{\beta}'\mathbf{z}_\mathbf{t} = \mathbf{0}$. Larger $\boldsymbol{\alpha}_{ij}$ indicate faster adjustments. If $\boldsymbol{\alpha}_{ij} = \mathbf{0}$, the variables are weakly exogenous and do not adjust.

Deterministic Components

The matrix $\boldsymbol{\Psi}\mathbf{D}_\mathbf{t}$ describes the effects of deterministic components, such as trends and level-shifts, on the equilibrium relations. Especially when level shifts are observed, prior knowledge suggests that something special has happened in a given historical period, and that it should be modeled using dummy variables.

97. See Johansen 1995; and Engle and Granger 1991.

Stability and Rigidity of Regimes: Rank of Π and Common Trends

Are the regimes of laissez-faire and embedded liberalism stable in the long run? If they are stable, which of the two regimes exhibits greater rigidity? The first question—about regime stability—concerns whether the four nonstationary processes are cointegrated, that is, stably coevolving around one or more common trends. The second question—about regime rigidity—concerns the number of trends driving the nonstationary yet stable evolution of the regimes. Determining the rank of **Π** helps answer both questions.

The reliance of political economy theories on neoclassical models of stationary dynamics provides little guidance in determining the rank of **Π**.[98] Table 3 proposes a strong version of neoliberal and neointerventionist hypotheses about the stability of regimes for the four-dimensional ($n = 4$) model. Neoliberals claim regime stability for the laissez-faire regime. Hence, **Π** has rank $0 < n - r < 4$: the random walks are cointegrated and evolve around one or more stochastic trends. In contrast, neointerventionists, mindful of Keynes's critiques, claim system instability. Hence, **Π** has rank $n - r = 4$: with as many trends as variables, the random walks are not cointegrated and evolve in four unrelated directions. The opposite set of hypotheses would hold for embedded liberalism.

It is difficult, however, to fathom such an unstable social system in which historical processes evolve independently of one another. Therefore, a softer set of hypotheses assumes that both regimes are stable but differ in rigidity. For neoliberals, the institutions of embedded liberalism generate greater rigidities; hence, this regime would exhibit a higher number of trends. For neointerventionists, in contrast, the stickiness of laissez-faire markets generates greater rigidity, and hence a higher number of trends.

TABLE 3. *Rank of* Π*: Hypotheses*

	Laissez-faire	*Embedded liberalism*
Neoliberals	$0 < n - r < 4$	$n - r = 4$
Neointerventionists	$n - r = 4$	$0 < n - r < 4$

Note: n = number of variables in the model. r = number of cointegrating vectors. $(n - r) = p$ = number of common stochastic trends.

98. For a critique of the weak theoretical guidance, especially in economics, see Juselius 1999; Granger 1997; and Pesaran 1997.

TABLE 4. *Rank of* Π*: Findings*

Modulus for Britain		*Modulus for United States*	
Unrestricted	*Restricted*	*Unrestricted*	*Restricted*
0.8869	1.0000	0.9057	1.0000
0.4366	0.6702	0.8071	0.8448
0.4336	0.6702	0.8071	0.7376

Note: "Unrestricted" = eigenvalues without initial rank restriction. "Restricted" = rank restriction with $r = 3$. Only the largest three roots are reported.

Table 4 shows eingenvalue tests of the rank of **Π** for Britain and the United States. Tests refute the strong hypotheses of regime instability. They also refute the softer hypotheses of differences in rigidity.[99]

With one root at unity ($p = 1$), the eigenvalues of the companion matrix indicate that **Π** has rank $r = 3$: hence, one common trend ($n - r = 1$) spans the entire history of each regime—at least for the sample period. Implicitly, three equilibrium relations coevolve around such trends. The common trends capture the nonstationary, yet stable, evolution of the two regimes. The four nonstationary series are cointegrated and share a history because they evolve around the common trend. Thus, regardless of institutional differences in the relative dominance of market and state, both regimes exhibit long-run stability and similar rigidity. Hence, the neoliberal claims of instability and greater rigidity of embedded liberalism find no support. Each regime appears to represent a stable and viable historical experiment: one allegedly driven by unfettered markets; the other, by the complementarity of market and state.

Long-Term Equilibrium Relations (β_{ij}): Distinctiveness of Evolutionary Paths

Given regime stability, how do market and state shape the evolution of the equilibrium relations? The rank of **Π** suggests a four-dimensional model with three equilibrium relations that evolve around one stochastic trend. The multidimensional model cast in terms of cointegrated dynamics is[100]

99. Estimation is done in *PcFiml 10.0*; Doornik and Hendry 2000. Tests reject the null of serially correlated, non-normal, heteroskedastic vector residuals. The λ_{max} and *trace* rank tests are not appropriate with dummy variables.

100. This cointegration model has two dimensions: (1) that of the model, which is four-dimensional since it includes four endogenous variables ($n = 4$); and (2) that of the cointegration space, which in this model happens to have one common trend ($p = 1$) and three cointegrating vectors ($r = 3$). Had there been two common trends ($p = 2$), the four-dimensional model would have had two cointegrating vectors ($r = 2$).

$$\begin{bmatrix} \Delta x_t \\ \Delta y_t \\ \Delta u_t \\ \Delta g_t \end{bmatrix} = \begin{bmatrix} 0 & 0 & 0 \\ \alpha_{21} & \alpha_{22} & \alpha_{23} \\ \alpha_{31} & \alpha_{32} & \alpha_{33} \\ \alpha_{41} & \alpha_{42} & \alpha_{43} \end{bmatrix} \begin{bmatrix} \beta_{11} & 1 & 0 & \beta_{14} & \beta_{15} & 0 \\ \beta_{21} & \beta_{22} & 1 & 0 & 0 & 0 \\ 0 & \beta_{32} & \beta_{33} & 1 & 0 & \beta_{36} \end{bmatrix} \begin{bmatrix} x_{t-1} \\ y_{t-1} \\ u_{t-1} \\ g_{t-1} \\ t_t \\ d_t \end{bmatrix} + \begin{bmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \\ e_{4t} \end{bmatrix}$$

The $\boldsymbol{\beta}'\mathbf{z_t}$ matrix describes the three relations theoretically normalized to capture the evolution of GDP (y_{t-1}), unemployment (u_{t-1}), and government spending (g_{t-1}).[101] The time trend t_t in the cointegration space describes the long-run growth of GDP.[102] The term d_t identifies the effects of deterministic components on spending: (1) the Boer War for Britain;[103] and (2) state retrenchment and weakening of embedded liberalism since the early 1980s for the United States.[104] The $\boldsymbol{\alpha}$ matrix captures markets adjustments via GDP (α_{2j}) and unemployment (α_{3j}), and state adjustments via government spending (α_{4j}). Trade, assumed to be weakly exogenous, does not adjust to disequilibrium in domestic variables ($\alpha_{1j} = 0$).

Table 5 summarizes the neoliberal and neointerventionist hypotheses of long-run dynamics for the two regimes, and Table 6 shows the empirical findings for Britain and the United States. The findings challenge neoliberal trade-off hypothesis of inefficient state interventions in embedded liberalism while they strongly support neointerventionist claims of the complementarity between market and state.

Spending Relations: β′g

The $\boldsymbol{\beta}'\boldsymbol{g}$ rows in Table 5 indicate that neoliberals and neointerventionists share a basic hypothesis: persistent bursts in GDP and unemployment are associated

101. Cointegrating vectors are normalized by theoretically setting variables to 1 to provide meaningful interpretations of vectors; Boswijk 1996. Normalization indicates that y_t, u_t, and g_t are endogenous, whereas x_t is exogenous.

102. The model contains stochastic and deterministic trends. Stochastic trends represent the contributions to the variables in the system of "unexpected" events with permanent effects, whereas deterministic trends represent "expected" events with permanent influence; see Aghion and Howitt 1998; and Engle and Granger 1991. With regard to GDP, growth theory interprets technological progress, and hence productivity shocks, as an expected, regular phenomenon with permanent contributions. That is, following "unexpected" innovations, technological change exhibits some regularity, and the deterministic trend in GDP captures this regularity. The stochastic trend, instead, captures the irregular, or unexpected, technological changes, together with other unexpected permanent changes. Thus, in the cointegrated GDP relations, the common stochastic trend is shared among the variables in that relationship, while the deterministic trend is unique to GDP, and therefore is included in the relation explicitly.

103. See Hobsbawm 1990; and Floud and McCloskey 1994. The deterministic component is described by a step dummy that takes the value of 1 for the 1900–1903 war period and of 0 before and after the war years.

104. For the retrenchment and weakening in the United States, see Ruggie 1997; and Pierson 1994. The model tests for such events by including a step dummy that takes the value of 1 for the post−1982 period and 0 for the period before.

TABLE 5. *Normalized equilibrium relations: Hypotheses*

Relations	*Regimes*	x_{t-1}	y_{t-1}	u_{t-1}	g_{t-1}	t_t	d_t
$\beta' y$	LF_y_{t-1} =	$\beta_{11} > 0$	1	$\beta_{13} = 0$	$\beta_{14} = 0$	$\beta_{15} > 0$	$\beta_{16} = 0$
	EL_y_{t-1} =	$\beta_{11} > 0$	1	$\beta_{13} = 0$	$\beta_{14} \neq 0$	$\beta_{15} > 0$	$\beta_{16} = 0$
$\beta' u$	LS_u_{t-1} =	$\beta_{21} > 0$	$\beta_{22} < 0$	1	$\beta_{24} = 0$	$\beta_{25} = 0$	$\beta_{26} = 0$
	EL_u_{t-1} =	$\beta_{21} > 0$	$\beta_{22} < 0$	1	$\beta_{24} = 0$	$\beta_{25} = 0$	$\beta_{26} = 0$
$\beta' g$	LF_g_{t-1} =	$\beta_{31} = 0$	$\beta_{32} > 0$	$\beta_{33} > 0$	1	$\beta_{35} = 0$	$\beta_{36} > 0$
	EL_g_{t-1} =	$\beta_{31} = 0$	$\beta_{32} > 0$	$\beta_{33} > 0$	1	$\beta_{35} = 0$	$\beta_{36} < 0$

Note: LF = laissez-faire. EL = embedded liberalism. The "1" indicates the normalized variable for the corresponding equilibrium relation. Relations are in structural form by setting normalized variables on the left side of equation. d_t = effects of the Boer War for Britain and the "Reagan-Volcker legacy" for the United States.

with stronger long-term spending expansions in embedded liberalism than in laissez-faire liberalism. Larger wealth ($\beta_{32.EL} > \beta_{32.LF} > 0$) and welfare ($\beta_{33.EL} > \beta_{33.LF} > 0$) effects capture the stronger associations.[105] With regard to deterministic components, for Britain d_t describes the temporary increase in spending during the Boer War ($\beta_{36.uk} > 0$). For the United States, d_t captures state retrenchment, which is characterized by a permanent new lower equilibrium in spending after 1980 ($\beta_{36.us} < 0$).

Findings in Table 6 challenge claims of stronger long-term wealth and welfare effects in embedded liberalism. Unemployment exhibits comparable positive associations ($\beta_{32.uk} = 0.36 \approx \beta_{32.us} = 0.30$). Shocks in GDP are more strongly associated with spending increases in Britain ($\beta_{32.uk}0.50 > \beta_{32.us} = 0.20$). Thus, as long claimed, far from being unique to embedded liberalism, wealth and welfare effects were operative in British laissez-faire.[106] Finally, for Britain, the Boer war temporarily increased spending by about 5 percent ($\beta_{36.uk} = 0.5$). For the United States, the "Reagan-Volcker legacy" exerted a moderate permanent downward shift in the equilibrium level of spending after 1980 ($\beta_{36.us} = -0.12$). This shift is consistent with the hypothesis of neoliberal retrenchment aimed at disembedding markets and weakening social protection.

Growth Relations: $\beta' y$

The $\boldsymbol{\beta' y}$ rows show a sharp disagreement over the efficiency of the state: by the trade-off hypothesis, neoliberals claim that persistent spending expansions are negatively associated with long-term growth ($\beta_{14.LF} < 0$); by the complementarity hypothesis, the association is positive or growth inducing for neointerventionists

105. In the subscripts, LF = laissez-faire; EL = embedded liberalism.
106. Flora and Heidenheimer 1981.

TABLE 6. *Long-run equilibrium relations: Findings*

Relations		x_{x-1}	y_{t-1}	u_{t-1}	g_{t-1}	t_t	$dwar_t$	$d82_t$
$\beta' y$	UK_y_{t-1} =	+0.11 (0.07)	1	0	0	+1.8 (0.02)	0	—
	US_y_{t-1} =	+0.12 (0.05)	1	0	+0.32 (0.11)	+3.0 (0.002)	—	0
$\beta' u$	UK_u_{t-1} =	−4.0 (1.5)	0	1	0	0	0	—
	US_u_{t-1} =	+5.4 (0.5)	−5.1 (0.5)	1	0	0	—	+1.7 (0.2)
$\beta' g$	UK_g_{t-1} =	0	+0.50 (0.13)	+0.36 (0.08)	1	0	+0.5 (0.07)	—
	US_g_{t-1} =	0	+0.20 (0.04)	+0.30 (0.04)	1	0	—	−0.12 (0.03)

Note: Variables are in logs. $dwar_t$ = Boer War (1900–1902). $d82_t$ = effects of the "Reagan-Volcker legacy" on the unemployment and spending relations. Standard errors are in parentheses.

($\beta_{14.EL} > 0$). Disagreement also involves the positive trade-GDP link: to neoliberals, persistent bursts in trade are associated with stronger economic expansions in laissez-faire liberalism ($\beta_{11.LF} > \beta_{11.EL} > 0$); to neointerventionists, the association is stronger in embedded liberalism ($\beta_{11.EL} > \beta_{11.LF} > 0$). With regard to productivity shocks, neoliberals maintain that trend growth is higher in laissez-faire liberalism ($\beta_{15.LF} > \beta_{15.EL} > 0$); to neointerventionists, trend growth is higher in embedded liberalism ($\beta_{15.EL} > \beta_{15.LF} > 0$).

Findings challenge all three core neoliberal claims. The first—economic inefficiency of state interventions—is unwarranted. Spending in British laissez-faire, unsurprisingly, appears to be unrelated to growth ($\beta_{14.uk} = 0$). Instead, in postwar United States, persistent spending increases are associated with long-term economic expansions ($\beta_{14.us} = 0.40$). This positive relation supports the complementarity hypothesis. The second—trade globalization in nineteenth-century laissez-faire generated superior growth—is also unwarranted: both Britain and the United States exhibit small, and statistically weak, positive associations between trade and GDP ($\beta_{11.uk} = 0.11 \approx \beta_{11.us} = 0.12$). The third—higher trend growth in nineteenth-century laissez-faire—is indefensible: growth is more than 1 percent higher in the United States ($\beta_{15.us} = 3.1 > \beta_{15.uk} = 1.8$).

Unemployment Relations: β'

The $\boldsymbol{\beta' u}$ rows show that neoliberals and neointerventionists share a basic agreement on the trade-unemployment relations. In laissez-faire liberalism, persistent trade expansions are associated with long-term declines in unemployment ($\beta_{21.uk} < 0$). In contrast, given hypotheses of socioeconomic structural changes—

whether due to processes of modernization, or postindustrialism, or deindustrialization—in embedded liberalism, persistent trade expansions are associated with long-term increases in unemployment ($\beta_{21.us} > 0$). The negative GDP-unemployment relations suggest another agreement concerning long-run business cycles: persistent economic expansions are associated with long-term declines in unemployment ($\beta_{22} < 0$). However, the greater flexibility of labor markets in the laissez-faire regime yields stronger associations ($\beta_{22.uk} < \beta_{22.us} < 0$).

Findings lend partial support to these claims. The negative trade-unemployment relation finds significant support in laissez-faire Britain: labor markets appear to be synchronized with long-term trade fluctuations, whereby persistent trade expansions are associated strongly with long-term declines in unemployment ($\beta_{21.uk} - 4.0$). The positive trade-unemployment relation also finds significant support in U.S.-embedded liberalism: trade expansions are associated, also strongly, with long-term unemployment increases ($\beta_{21.us} = +5.4$). In contrast, the hypotheses of long-term domestic business cycles find support only in the United States: persistent economic expansions are strongly associated with long-term declines in unemployment ($\beta_{22.us} = -5.1$). Laissez-faire Britain seems not to exhibit such a link ($\beta_{22.uk} = 0$).[107] This finding about Britain is consistent with the form of imperial industry based on imports of raw materials and export of finished goods, with growth depending more on foreign markets than on domestic consumption.[108] The two relations—trade-unemployment and trade-GDP—indicate the high dependence of the British economy on foreign markets. Finally, the "Reagan-Volcker legacy" since the early 1980s permanently shifted the equilibrium level of unemployment upward by a sizeable 1.7 percent ($\beta_{26.us} = +1.7$).[109] This shift, together with the downward shift in the spending relation, provides further evidence of neoliberal retrenchment: the significant increase in unemployment is accompanied by a contraction of government spending.

Distinctiveness of Adjustment Dynamics to Disequilibrium: α_{ij}

Lastly, how do market and state adjust to maintain the three cointegrated relations in long-run equilibrium? Neoliberals and neointerventionists largely share the belief that market adjustments dominate in laissez-faire liberalism whereas state adjustments dominate in embedded liberalism. Table 7 summarizes the hypotheses and Table 8 shows the empirical findings. The findings lend no support to beliefs that market adjustments dominate in laissez-faire liberalism and state adjustments dom-

107. Tests could not reject the null of no long-term association.
108. See Floud and McCloskey 1994; and Hobsbawm 1990.
109. Tests rejected the null of no shift in the unemployment relation since the early 1980s.

TABLE 7. *Adjustment dynamics: Hypotheses*

	$\beta' y > 0$		$\beta' u > 0$		$\beta' g > 0$	
α	*LF*	*EL*	*LF*	*EL*	*LF*	*EL*
$\mathbf{x_t}$	$\alpha_{11} = 0$	$\alpha_{11} = 0$	$\alpha_{12} = 0$	$\alpha_{12} = 0$	$\alpha_{13} = 0$	$\alpha_{13} = 0$
$\mathbf{y_t}$	$\alpha_{21} < 0$	$\alpha_{21} < 0$	$\alpha_{22} > 0$	$\alpha_{22} > 0$	$\alpha_{23} = 0$	$\alpha_{23} \neq 0$
$\mathbf{u_t}$	$\alpha_{31} > 0$	$\alpha_{31} < 0$	$\alpha_{32} < 0$	$\alpha_{32} < 0$	$\alpha_{33} = 0$	$\alpha_{33} \neq 0$
$\mathbf{g_t}$	$\alpha_{41} = 0$	$\alpha_{41} > 0$	$\alpha_{42} = 0$	$\alpha_{42} > 0$	$\alpha_{43} = 0$	$\alpha_{43} < 0$

Note: LF = laissez-faire. EL = embedded liberalism. $\beta' y$, $\beta' u$, and $\beta' g$ are the equilibrium relations for GDP, unemployment, and government spending for each regime described in Tables 5 and 6. α_{1j} coefficients are set to zero on the assumption that trade is weakly exogenous.

TABLE 8. *Adjustment dynamics: Findings*

	$\beta' y > 0$		$\beta' u > 0$		$\beta' g > 0$	
α	*Britain*	*U.S.*	*Britain*	*U.S.*	*Britain*	*U.S.*
$\mathbf{x_t}$	$\alpha_{11} = 0$	$\alpha_{11} = 0$	$\alpha_{12} = 0$	$\alpha_{12} = 0.05$ (0.01)	$\alpha_{13} = 0$	$\alpha_{13} = 0$
$\mathbf{y_t}$	$\alpha_{21} = -1.0$ (0.15)	$\alpha_{21} = 0$	$\alpha_{22} = -0.03$ (0.005)	$\alpha_{22} = 0.03$ (0.005)	$\alpha_{23} = 0$	$\alpha_{23} = 0$
$\mathbf{u_t}$	$\alpha_{31} = +8.4$ (2.0)	$\alpha_{31} = 0$	$\alpha_{32} = 0$	$\alpha_{32} = -0.20$ (0.04)	$\alpha_{33} = 0$	$\alpha_{33} = -0.5$ (0.14)
$\mathbf{g_t}$	$\alpha_{41} = +1.0$ (0.3)	$\alpha_{41} = +0.4$ (0.06)	$\alpha_{42} = -0.10$ (0.02)	$\alpha_{42} = -0.02$ (0.006)	$\alpha_{43} = -0.3$ (0.03)	$\alpha_{43} = -0.3$ (0.07)

Note: α_{ij} = speed of adjustment parameter. Larger α_{ij} indicate faster response to disequilibrium. $\alpha_{ij} = 0$ imply that variables do not contribute to reestablishing equilibrium. Standard errors are in parentheses.

inate in embedded liberalism. Crucially, the state plays a crucial role in both regimes.[110]

State Adjustments (g_t)

The g_t row in Table 7 captures the absence of the state in maintaining the long-run equilibria in laissez-faire liberalism ($\alpha_{4j.LF} = 0$). Government spending is weakly

110. Three main types of dynamics are of interest: (1) $\alpha_{ij} < |1|$ indicates either gradual or oscillatory convergence; (2) $\alpha_{ij} = |1|$ suggests that 100 percent convergence is achieved very fast within one year; (3) $\alpha_{ij} > |1|$ implies overreaction, or overshooting, which is followed by stable convergence since none of the roots lies outside the unit circle.

exogenous to the GDP, unemployment, and spending relations. Only markets, via y_t and u_t, adjust to disequilibrium in the relations. In contrast, spending plays a crucial role in maintaining equilibria in embedded liberalism. Congruent with Wagner's wealth effects, the state absorbs disequilibrium growth in GDP ($\boldsymbol{\beta}'\mathbf{y_{t-1}} > 0$) via spending expansions ($\alpha_{41.EL} > 0$). Congruent with welfare effects, disequilibrium growth in unemployment ($\boldsymbol{\beta}'\mathbf{u_{t-1}} > 0$) also triggers spending expansions ($\alpha_{42.EL} > 0$). Lastly, disequilibrium growth in spending ($\boldsymbol{\beta}'g_{\mathbf{t-1}} > 0$) is offset by endogenous mechanisms that curb spending ($\alpha_{43.EL} < 0$).

Findings in the last row of Table 8 refute beliefs in the absence of the state in nineteenth-century laissez-faire: government spending plays a crucial role in maintaining the long-run equilibria of both nineteenth-century Britain and postwar United States. First, supporting Wagner's wealth effects, disequilibrium growth in GDP triggers spending increases in both regimes. Indeed, state adjustments are significantly faster in Britain ($\alpha_{41.uk} = 1.0 > \alpha_{41.us} > 0.4$): government spending absorbs 100 percent of disequilibrium within one year; postwar United States absorb about 40 percent.[111] Second, contradicting the welfare effects hypothesis, excess unemployment triggers slow gradual declines in spending: the state confronts increases in unemployment with fiscal contractions, not expansions. Adjustments, while slow, are faster in Britain ($\alpha_{42.uk} = -0.10 > \alpha_{42.us} = -0.02$). Third, disequilibrium growth in spending is followed by comparable moderate gradual declines in spending ($\alpha_{43.uk} = \alpha_{43.us} = -0.3$): both Britain and the United States absorb 30 percent of disequilibrium after one year. Clearly, the state was not absent from the evolution of nineteenth-century laissez-faire. It contributed to maintain market-driven equilibria in Britain and state-steered equilibria in the United States.

Market Adjustments (y_t, u_t)[112]

$\boldsymbol{\beta}'\mathbf{y_{t-1}} > \mathbf{0}$ Disequilibrium growth in GDP is followed by economic contractions ($\alpha_{21} < 0$) and by concurrent increasing unemployment ($\alpha_{31} > 0$) to restore equilibrium. Given the high flexibility of laissez-faire markets, GDP contracts faster ($\alpha_{21.LF} < \alpha_{21.EL} < 0$) and unemployment increases faster ($\alpha_{31.LF} > \alpha_{31.EL} > 0$). Findings support the hypotheses for Britain. Excess GDP triggers very quick GDP contractions ($\alpha_{21} = -1.0$) and unemployment increases ($\alpha_{31} = 8.4$).[113] The United States exhibits no significant adjustments in y_t and u_t. Only government spending appears to restore equilibrium GDP in the United States.

111. With $\alpha_{41.us} = 0.4$, 40 percent of disequilibrium is absorbed in the first year, 20 percent in the second year, and so on in geometric progression. With $\alpha_{41.uk} = 1.0$, all (100 percent) disequilibrium would be eliminated within one year. In reality, the dynamics of other variables do not allow the stochastic equilibrium to be actually restored.

112. As with equilibrium relations, trade is exogenous to domestic variables—GDP, unemployment, spending ($\alpha_{1j} = 0$).

113. For $\alpha_{31.uk} = 8.4$, it is possible to interpret only the sign. Interpretation of the size/speed would require the renormalization of the $\boldsymbol{\beta}'\boldsymbol{y}$ vector to u, which is not possible because u has a zero coefficient in $\boldsymbol{\beta}'\boldsymbol{y}$.

$\boldsymbol{\beta}'\mathbf{u}_{t-1} > \mathbf{0}$ Excess unemployment is offset by higher economic growth ($\alpha_{22} > 0$) and by declining unemployment ($\alpha_{32} < 0$). Given the flexibility of laissez-faire markets, GDP expands faster ($\alpha_{22.LF} > \alpha_{22.EL} > 0$) and unemployment declines faster ($\alpha_{32.LF} < \alpha_{32.EL} < 0$). Findings support this stabilization pattern only for the United States: GDP increases, albeit very slowly ($\alpha_{22} = 0.03$), and unemployment declines slowly ($\alpha_{32} = -0.20$). In Britain, excess unemployment seemingly foreshadows recessions that result in very slow GDP contractions ($\alpha_{22} = -0.03$).[114] The small adjustment coefficients provide further evidence of the stickiness of unemployment in both regimes: any deviations of unemployment from equilibrium persist for a relatively long time.

$\boldsymbol{\beta}'\mathbf{g}_{t-1} > \mathbf{0}$ Neoliberals and neointerventionists largely agree on the adjustment dynamics to the disequilibrium growth in government spending in the laissez-faire regime: by the trade-off hypothesis, neither GDP nor unemployment adjusts ($\alpha_{23.LF} = \alpha_{33.us} = 0$). The "no-effect" outcome would be congruent with the equilibrium relations where spending does not enter the GDP and unemployment relations. Thus, spending itself would bear the burden of reestablishing its own equilibrium ($\alpha_{43.LF} < 0$). Indeed, findings show that both GDP and unemployment in Britain are unresponsive to deviations in government spending, and that contractions in spending itself reestablish equilibrium ($\alpha_{43.uk} = 0.3$).

In contrast, disagreement is sharp with regard to public spending in embedded liberalism. For neoliberals, the growth of inherently inefficient spending results in economic slowdown ($\alpha_{23.EL} < 0$) and increasing unemployment ($\alpha_{33.EL} > 0$). For neointerventionists, the growth of spending results in stabilization patterns of higher growth ($\alpha_{23.EL} > 0$) and declining unemployment ($\alpha_{33.EL} < 0$). Findings for the United States provide partial support to claims of complementarity: growth in public spending eliminates half of disequilibrium unemployment within one year ($\alpha_{33.us} = -0.5$).

Conclusions

These results yield seven major conclusions.

1. *Dynamics of nineteenth-century laissez-faire*. Reliance on neoclassical models of short-run equilibrium leads neoliberals to claim stationary dynamics: shocks have transitory effects and fluctuations quickly converge toward stable intertemporal equilibria. The nonstationary persistence of historical processes in Britain shatters claims of stationary dynamics while lending implicit support to Keynesian claims about the "stickiness" of laissez-faire markets. In the univariate domain, no significant differences distinguish the two

114. Tests fail to reject the hypotheses of exogeneity of trade for the United States. Trade adjusts slowly ($\alpha_{12.us} = 0.05$), which indicates that U.S. trade is not exogenous to the large domestic economy; see Ruggie 1982; and Keohane 1984a.

regimes. If nonstationarity of single variables—hysteretic unemployment, "unsustainable" growth of government spending, acceleration of globalization—justifies claims of regime instability, then both regimes would be unstable.

2. *Regime stability*. By relying on persistent, and allegedly unstable, dynamics of single historical processes, neoliberals and neointerventionists alike fear the disintegration of embedded liberalism—as happened for nineteenth-century laissez-faire. Cointegrated dynamics refute the simplistic derivation of regime instability and disintegration from the nonstationarity of single variables. The common stochastic trend driving the evolution of both regimes captures their long-run stability—at least for the sample periods.
3. *Regime rigidity*. Neoliberals associate the institutions of embedded liberalism with market rigidities and "stickiness" of government spending, whereas neointerventionists point to the "stickiness" of laissez-faire markets. The one trend spanning the history of each regime challenges neoliberal claims of greater rigidity of embedded liberalism as well as neointerventionist claims of greater rigidity of laissez-faire liberalism. Despite differences in the normative structure defining the relative dominance of market and state, the two regimes exhibit comparable rigidities.
4. *Efficiency of market and state*. The equilibrium relations challenge neoliberal beliefs in the ineluctable trade-off between market and state, lending support instead to neointerventionist claims of complementarity. Market dominance in laissez-faire Britain is associated with lower growth and weaker social protection—as captured by weaker public spending and persistent unemployment. Complementarity of market and state in U.S.-embedded liberalism is associated with superior growth and stronger social protection—the persistence of unemployment notwithstanding. Neoliberal beliefs in efficient markets and inefficient state appear to be a myth.
5. *Trade openness and economic performance*. For nineteenth-century Britain, the association of trade with weak economic expansions and significant declines in unemployment lends partial support to neoliberal claims about the benefits of trade openness in laissez-faire regimes. However, it also feeds neointerventionist concerns that unemployment bears the burden of stabilization during economic downturns. In postwar United States, the association of trade with weak economic expansions and significant increases in long-term unemployment provide fertile ground for contention. Neoliberals blame persistent unemployment on labor market rigidities, and hence they call for deregulation. Neointerventionists blame deregulation, lack of global labor standards, and the asymmetric North-South trade relations, and hence they call for a stronger embedding of markets and for global labor standards.[115]

115. See Dollar and Kraay 2002; Rodrik 1997; and Wood 1994.

These rival interpretations require additional investigations of the supply side of the economy—specifically, of how the evolution of labor market institutions affects the persistence of unemployment.[116]

6. *Adjustment dynamics*. Such dynamics challenge the core neoliberal beliefs that markets provide the key mechanisms to reestablish equilibria in nineteenth-century laissez-faire whereas state interventions do so in embedded liberalism. State adjustments are ubiquitous, yet play distinctive roles. For nineteenth-century Britain, they contribute to maintain market-driven equilibria, whereas for postwar United States, they maintain the equilibria stemming from the complementarity of market and state. The belief in the absence of the state from the long-run evolution of nineteenth-century laissez-faire appears to be a myth. The belief that the state in embedded liberalism undermines convergence toward long-run stable equilibria also appears to be false.
7. *Policy lesson*. Equilibrium relations suggest that the political project "to go back to the future"—by politically reengineering novel forms of laissez-faire—would mean a reversion to a highly globalized world, albeit one with lower long-run growth, persistent unemployment, and weak social protection. Moreover, the adjustment dynamics reveal that such a laissez-faire world would still require state interventions to maintain market-driven equilibria. Instead, the neointerventionist project "to go forward to the future"—by enhancing political control of domestic and global markets—seems to promise superior growth and social protection. Persistent unemployment remains as puzzling for embedded liberalism as for laissez-faire liberalism.

Beyond these conclusions, cointegration analyses of the two regimes make significant contributions to several debates in political economy.

Theoretical contributions principally regard historical dynamics. Cointegrated dynamics challenge the reliance of political economy on neoclassical models of short-run dynamics. The fundamental dynamics are long term. The persistent dynamics of the trade-unemployment relation in nineteenth-century Britain contradict neoliberal claims of temporary unemployment in laissez-faire regimes. Keynes may have been correct about the "stickiness" of markets in nineteenth-century laissez-faire. In addition, persistent dynamics in the spending-GDP relation for embedded liberalism challenge neoliberal claims of policy ineffectiveness and inefficiency. Government spending has long-term positive effects on the real economy—growth and employment. Rather, cointegrated dynamics are congruent with endogenous growth theory, which allows for the stable coevolution of persistent historical processes.[117] Moreover, such dynamics lend validity to the emerging research in historical institutionalism and historical evolution, which

116. Established political economy research addressing these issues remains dubious because of its reliance on stationary theories and methods that are inappropriate for nonstationary processes.

117. Aghion and Howitt 1998.

acknowledges historical persistence.[118] This article simply demonstrates that the fundamental macro-historical dynamics driving the evolution of global capitalism belong to the family of cointegrated processes.

Methodological contributions concern the significance of the cointegration framework for the investigation of long-term historical dynamics. Analyses of the long-run evolution of the two regimes lend strong support to recent critiques of the disjunction between theoretical claims about persistent, nonstationary dynamics and theoretical models and statistical methodologies that at best capture temporary fluctuations.[119] Comparisons of the long-run evolution of the two regimes are best accomplished within the cointegration framework. Reliance on means and variances in the univariate domain and on correlations and single-equation OLS-based regressions in the multivariate domain simply fails to capture historical persistence and its complexity. Worse, it results in model misspecification and spurious findings that ultimately inform mistaken inference and unwarranted policy solutions. The multidimensional VECM best captures the complexity of persistent historical dynamics stemming from feedbacks—multiple trends, equilibrium relations, and adjustment mechanisms.

Substantive contributions concern debates specific to embedded liberalism. Cointegration analyses demonstrate the analytic usefulness of constructivist social theory for investigating how the normative structures of social purpose shape the relative dominance of market and state in the two regimes as well as their relevance for the coevolution of economic performance and social protection. Specifically, equilibrium relations unfolding around the common trend reveal that market dominance in nineteenth-century Britain and complementarity of market and state in postwar United States differentiate sharply between the laissez-faire and embedded liberal regimes. Similarly, adjustment dynamics show the uniqueness of equilibrium mechanisms in each regime. Cointegration analyses also provide novel insights into the long-term stability and viability of embedded liberalism. The unfolding of the equilibrium relations around a common trend that spans the entire post–World War II era does not suggest a rupture in the normative structure.[120] The breaks at the onset of the 1980s indicate that shifts in the unemployment and spending relations have contributed to disembed labor markets and to decommodify social life but have not yet changed fundamentally the normative structure.

Policy contributions mainly concern fears of backlashes against the intensification of unfettered globalization in embedded liberalism, and even the possibility of its disintegration—as allegedly happened in the first wave of globalization.[121] Such fears—best captured by the query: "Has globalization gone too far?"[122]—seem to stem from the interaction of two phenomena associated with the acceler-

118. See Büthe 2002; and Pierson 2001.
119. See Juselius 1999; Granger 1997; and Pesaran 1997.
120. Ruggie 1998.
121. See Williamson 1998; and Aghion and Williamson 1998.
122. Rodrik 1997.

ation of trade openness: weak growth and persistent unemployment; and reduction of public spending for social protection in the name of international competitiveness. The complementarity of market and state, which is associated with superior economic growth and social protection in post–World War II embedded liberalism, may best preempt feared backlashes against globalization. Nevertheless, reconstituting politically novel laissez-faire worlds, akin to nineteenth-century liberalism, may represent a viable and stable, but seemingly inferior, historical alternative.

References

Abrams, Burton. 1999. The Effects of Government Size on the Unemployment Rate. *Public Choice* 99 (3–4):395–401.

Adler, Emanuel. 2002. Constructivism and International Relations. In *Handbook of International Relations*, edited by Walter Carlsnaes, Thomas Risse, and Beth Simmons, 95–118. Thousand Oaks, Calif.: Sage Publications.

Aghion, Philippe, Eve Caroli, and Cecilia Garcia-Penalosa. 1999. Inequality and Economic Growth: The Perspective of the New Growth Theories. *Journal of Economic Literature* 37 (4):1615–60.

Aghion, Philippe, and Peter Howitt. 1998. *Endogenous Growth Theory*. Cambridge, Mass.: MIT Press.

Aghion, Philippe, and Jeffrey Williamson. 1998. *Growth, Inequality, and Globalization: Theory, History, and Policy*. Cambridge: Cambridge University Press.

Alesina, Alberto, and Roberto Perotti. 1998. The Welfare State and Competitiveness. *American Economic Review* 87 (5):921–39.

Allen, Richard. 1998. *Beyond Liberalism: The Political Thought of F. A. Hayek & Michael Polanyi*. New York: Transaction Publishers.

Backus, David, and Patrick Kehoe. 1992. International Evidence on the Historical Properties of Business Cycles. *American Economic Review* 82 (4):864–88.

Baldwin, Richard, and Philippe Martin. 1999. Two Waves of Globalization: Superficial Similarities, Fundamental Differences. Working Paper 6904. Cambridge, Mass.: National Bureau of Economic Research.

Barro, Robert, and Xavier Sala-i-Martin. 1999. *Economic Growth*. Cambridge, Mass.: MIT Press.

Bell, Daniel. 1962. *The End of Ideology: On the Exhaustion of Political Ideas in the Fifties*. London: Collier Macmillan.

Bhagwati, Jagdish. 2002. Coping with Antiglobalization. *Foreign Affairs* 81 (1):2–7.

Blanchard, Olivier, and Lawrence Summers. 1986. Hysteresis and the European Unemployment Problem. *NBER Macroeconomics Annual* 1:15–78.

Bordo, Michael, Barry Eichengreen, and Douglas Irwin. 1999. Is Globalization Today Really Different than Globalization a Hundred Years Ago? Working Paper 7195. Cambridge, Mass.: National Bureau of Economic Research.

Boswijk, H. Peter. 1996. Testing Identifiability of Cointegrating Vectors. *Journal of Business and Economic Statistics* 14 (2):153–60.

Boyer, Robert, and Daniel Drache, eds. 1996. *States Against Markets: The Limits of Globalization*. London: Routledge.

Brinkley, Alan. 1995. *The End of Reform: New Deal Liberalism in Recession and War*. New York: Knopf.

Broad, Robin, ed. 2002. *Global Backlash: Citizen Initiatives for a Just World Economy*. Lanham, Md.: Rowman.

Buchanan, James. 1977. *Democracy in Deficit: The Political Legacy of Lord Keynes*. New York: Academic Press.

Buchanan, Patrick. 1998. *The Great Betrayal: How American Sovereignty and Social Justice Are Being Sacrificed to the Gods of the Global Economy*. Boston: Little Brown.

Büthe, Tim. 2002. Taking Temporality Seriously: Modeling History and the Use of Narratives as Evidence. *American Political Science Review* 96 (3):481–93.
Cameron, David. 1978. The Expansion of the Public Economy: A Comparative Analysis. *American Political Science Review* 72 (4):1243–61.
Campbell, John, and Ove Pedersen, eds. 2001. *The Rise of Neoliberalism and Institutional Analysis*. Princeton, N.J.: Princeton University Press.
Coats, Alfred, ed. 1971. *The Classical Economists and Economic Policy*. London: Methuen.
Cochran, John, and Fred Glahe. 1999. *The Hayek-Keynes Debate*. Lewiston, N.Y.: Edwin Mellen Press.
Cornwall, John, and Wendy Cornwall. 2001. *Capitalist Development in the Twentieth Century: An Evolutionary-Keynesian Analysis*. Cambridge: Cambridge University Press.
Crouch, Colin, and Wolfgang Streeck, eds. 1997. *Political Economy of Modern Capitalism: Mapping Convergence and Diversity*. Thousand Oaks, Calif.: Sage.
Crozier, Michel, Joji Watanuki, and Samuel Huntington. 1975. *The Crisis of Democracy*. New York: New York University Press.
De Cecco, Marcello. 1984. *The International Gold Standard: Money and Empire*. New York: St. Martin's Press.
Dickey, David, and Wayne Fuller. 1979. Distribution of the Estimators for Autoregressive Time-Series with a Unit Root. *Journal of the American Statistical Association* 74 (366):427–31.
Dollar, David, and Aart Kraay. 2002. Spreading the Wealth. *Foreign Affairs* 81 (1):120–33.
Doornik, Jurgen, and David Hendry. 2000. *Modelling Dynamic Systems Using PcFiml 10.0*. London: International Thompson Business Press.
Eichengreen, Barry. 1996. *Globalizing Capital: A History of the International Monetary System*. Princeton, N.J.: Princeton University Press.
Engle, Robert, and Clive Granger. 1991. *Long-Run Economic Relationships: Readings in Cointegration*. New York: Oxford University Press.
Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism*. Cambridge: Polity Press.
———. 1999. *The Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.
———. 2002. *Why We Need a New Welfare State*. Oxford: Oxford University Press.
Etzioni, Amitai. 1994. *The Spirit of Community: Rights, Responsibilities, and the Communitarian Agenda*. New York: Simon and Schuster.
Eviews. 2003. Quantitative Micro Software. Irvine, Calif.
Fatás, Antonio. 2000. Do Business Cycles Cast Long Shadows? Short-Run Persistence and Economic Growth. *Journal of Economic Growth* 5 (2):147–62.
Flora, Peter, and Arnold Heidenheimer, eds. 1981. *The Development of Welfare States in Europe and America*. New Brunswick, N.J.: Transaction Books.
Floud, Roderick, and Deirdre McCloskey, eds. 1994. *The Economic History of Britain since 1700*. 2d ed. Cambridge: Cambridge University Press.
Freeman, John, Daniel Houser, Paul Kellstedt, and John Williams. 1998. Long-Memoried Processes, Unit Roots, and Causal Inference in Political Science. *American Journal of Political Science* 42 (4):1289–327.
Friedman, Milton. 1968. The Role of Monetary Policy. *American Economic Review* 58 (1):1–17.
Friedman, Milton, and Rose Friedman. 1980. *Free to Choose*. New York: Harcourt.
Friedman, Milton, and Anna Schwartz. 1963. *A Monetary History of the United States 1867–1960*. Princeton, N.J.: Princeton University Press.
Friedman, Thomas. 1999. *The Lexus and the Olive Tree*. New York: Farrar Strauss & Girroux.
Fukuyama, Francis. 1993. *The End of History and the Last Man*. New York: Avon Books.
Garrett, Geoffrey. 1998. *Partisan Politics in the Global Economy*. Cambridge: Cambridge University Press.
Giddens, Anthony. 1998. *The Third Way: The Renewal of Social Democracy*. Cambridge: Polity Press.
Gill, Stephen. 1993. *Gramsci, Historical Materialism, and International Relations*. Cambridge: Cambridge University Press.
Gilpin, Robert. 2000. *The Challenge of Global Capitalism*. Princeton, N.J.: Princeton University Press.

Granger, Clive. 1997. On Modelling the Long Run in Applied Economics. *Economic Journal* 107 (1):169–77.
Granger, Clive, and Paul Newbold. 1974. Spurious Regression in Econometrics. *Journal of Econometrics* 2:111–20.
Gray, John. 1998. *False Dawn: The Delusions of Global Capitalism*. New York: New Press.
Greenaway, David, and Douglas Nelson, eds. 2001. *Globalization and Labour Markets*. Cheltenham, England: Edward Elgar.
Greider, William. 1997. *One World, Ready or Not*. New York: Simon and Schuster.
Hasenclever, Andreas, Peter Mayer, and Volker Rittberger. 1997. *Theories of International Regimes*. Cambridge: Cambridge University Press.
Hayek, Friedrich. 1944. *The Road to Serfdom*. London: Routledge.
———. 1966. *Monetary Theory and the Trade Cycle*. Clifton, N.J.: Augustus M. Kelley.
———. 1996. *Individualism and Economic Order*. Chicago: University of Chicago Press.
Hayek, Friedrich, and Bruce Caldwell. 1995. *Contra Keynes and Cambridge*. Chicago: University of Chicago Press.
Hirst, Paul, and Grahame Thompson, eds. 1999. *Globalization in Question*. 2d ed. Cambridge: Polity Press.
Hobsbawm, Eric. 1990. *Industry and Empire: From 1750 to the Present Day*. Harmondsworth, England: Penguin.
Hooks, Gregory. 1991. *Forging the Military-Industrial Complex*. Urbana: University of Illinois Press.
Hoover, Kenneth. 2003. *Economics as Ideology: Keynes, Laski, Hayek, and the Creation of Contemporary Politics*. Lanham, Md.: Rowman & Littlefield.
Huber, Evelyne, and John Stephens. 2001. *Development and Crisis of the Welfare State*. Chicago: University of Chicago Press.
Iversen, Torben. 2001. The Dynamics of Welfare State Expansion: Trade Openness, De-industrialization, and Partisan Politics. In *The New Politics of the Welfare State*, edited by Paul Pierson, 45–79. Oxford: Oxford University Press.
James, Harold. 2002. *The End of Globalization: Lessons from the Great Depression*. Cambridge, Mass.: Harvard University Press.
Johansen, Søren. 1995. *Likelihood-Based Inference in Cointegrated Vector Autoregressive Models*. Oxford: Oxford University Press.
Juselius, Katarina. 1999. Models and Relations in Economics and Econometrics. *Journal of Economic Methodology* 6 (2):259–90.
Katzenstein, Peter. 1985. *Small States in World Markets: Industrial Policy in Europe*. Ithaca, N.Y.: Cornell University Press.
Keohane, Robert. 1984a. *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton, N.J.: Princeton University Press.
———. 1984b. The World Political Economy and the Crisis of Embedded Liberalism. In *Order and Conflict in Contemporary Capitalism*, edited by John Goldthorpe, 15–38. Oxford: Oxford University Press.
Keohane, Robert, and Helen Milner, eds. 1996. *Internationalization and Domestic Politics*. Cambridge: Cambridge University Press.
Keynes, John Maynard. 1936. *The General Theory of Employment, Interest, and Money*. London: Macmillan.
———. 1982. National Self-Sufficiency. In *Collected Writings of John Maynard Keynes*, Vol. 21. London: Macmillan.
Kindleberger, Charles. 1975. The Rise of Free Trade in Western Europe, 1820–1875. *Journal of Economic History* 35 (1):20–55.
King, Robert, Charles Plosser, James Stock, and Mark Watson. 1991. Stochastic Trends and Economic Fluctuations. *American Economic Review* 81 (1):819–40.
Kitschelt, Herbert, et al. 1999. *Continuity and Change in Contemporary Capitalism*. New York: Cambridge University Press.

Klein, Naomi. 2002. *No Logo: No Space, No Choice, No Jobs*. New York: Picador.
Krugman, Paul. 1995. Growing World Trade: Causes and Consequences. *Brookings Papers on Economic Activity* 1:327–62.
Lal, Deepak. 2000. The Challenge of Globalization: There Is No Third Way. In *Global Fortune*, edited by Ian Vásquez, 29–42. Washington, D.C.: Cato Institute.
Lindert, Peter. 2004. *The Story: Social Spending and Economic Growth since the Eighteenth Century*. In *Growing Public*, Vol. 1. Cambridge: Cambridge University Press.
Lindsey, Brink. 2002. *Against the Dead Hand: The Uncertain Struggle for Global Capitalism*. New York: John Wiley.
Lipset, Seymour Martin. 1960. *Political Man: The Social Bases of Politics*. Garden City, N.Y.: Doubleday.
———. 1996. *American Exceptionalism: A Double-Edged Sword*. New York: Norton.
MacKinnon, James. 1996. Numerical Distribution Functions for Unit Root and Cointegration Tests. *Journal of Applied Econometrics* 11:601–18.
Maddison, Angus. 1995. *Monitoring the World Economy, 1820–1992*. Paris: Organization for Economic Co-operation and Development.
Marglin, Stephen, and Juliet Schor. 1990. *The Golden Age of Capitalism*. Oxford: Clarendon Press.
Marx, Karl. 1976. *Capital*, Vol. 1. Translated by Ben Fowkes. New York: Vintage.
Mendell, Marguerite, and Daniel Salee, eds. 1991. *The Legacy of Karl Polanyi*. New York: Palgrave.
Mény, Yves, and Yves Surel, eds. 2002. *Democracies and the Populist Challenge*. New York: Palgrave.
Micklethwait, John, and Adrian Wooldridge. 2000. *A Future Perfect: The Challenge and Hidden Promise of Globalization*. New York: Crown Publishers.
Mishra, Ramesh. 1999. *Globalization and the Welfare State*. Cheltenham, England: Edward Elgar.
Mitchell, Brian. 1988. *British Historical Statistics*. Cambridge, Mass.: Cambridge University Press.
———. 1998. *International Historical Statistics: Europe 1750–1993*. 4th ed. London: MacMillan.
Mueller, Dennis. 2003. *Public Choice III*. New York: Cambridge University Press.
Nelson, Charles, and Charles Plosser. 1982. Trends and Random Walks in Macroeconomic Time Series: Some Evidence and Implications. *Journal of Monetary Economics* 10 (2):139–62.
Obstfeld, Maurice, and Kenneth Rogoff. 1996. *Foundations of International Macroeconomics*. Cambridge, Mass.: MIT Press.
Ohmae, Kenichi. 1990. *The Borderless World: Power and Strategy in the Interlinked Economy*. New York: Harper and Collins.
Okun, Arthur. 1975. *Equality and Efficiency: The Big Trade-Off*. Washington: Brookings Institution.
Olson, Mancur. 1982. *The Rise and Decline of Nations*. New Haven, Conn.: Yale University Press.
O'Rourke, Kevin. 2000. Tariffs and Growth in the Late 19th Century. *Economic Journal* 110 (463): 456–83.
———. 1999. Globalization in Historical Perspective. Working Paper 99/17. Dublin, Ireland: University College Dublin, Centre for Economic Research.
O'Rourke, Kevin, and Jeffrey Williamson. 1999. *Globalization and History: The Evolution of a Nineteenth-Century Atlantic Economy*. Cambridge, Mass.: MIT Press.
Papell, David, Christian Murray, and Hala Ghiblawi. 2000. The Structure of Unemployment. *Review of Economics and Statistics* 82 (2):309–15.
Patterson, Kerry. 2000. *An Introduction to Applied Econometrics: A Time Series Approach*. New York: St. Martin's Press.
Pesaran, M. Hashem. 1997. The Role of Economic Theory in Modelling the Long Run. *Economic Journal* 107 (440):178–91.
Phillips, Peter, and Pierre Perron. 1988. Testing for Unit Root in Time Series Regression. *Biometrika* 75 (2):335–46.
Pierson, Paul. 1994. *Dismantling the Welfare State?* Cambridge: Cambridge University Press.
———. 2000. Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review* 94 (2):251–67.

———., ed. 2001. *The New Politics of the Welfare State*. Oxford: Oxford University Press.
Pissarides, Christopher. 2000. *Equilibrium Unemployment Theory*. Cambridge, Mass.: MIT Press.
Polanyi, Karl. 1957. *The Great Transformation*. Boston: Beacon Press.
Rodrik, Dani. 1997. *Has Globalization Gone too Far?* Washington, D.C.: Institute for International Economics.
Ruggie, John. 1982. International Regimes, Transactions, and Change: Embedded Liberalism in the Post-War Economic Order. *International Organization* 36 (2):379–415.
———. 1994. Trade, Protectionism, and the Future of Welfare Capitalism. *Journal of International Affairs* 48 (1):1–11.
———. 1997. Globalization and the Embedded Liberalism Compromise: The End of an Era? Working Paper 97/1. Bonn, Germany: Max-Planck-Institut.
———. 1998. *Constructing the World Polity*. London: Routledge.
Sargent, Thomas. 1987. *Macroeconomic Theory*. 2d ed. Boston: Academic Press.
Sargent, Thomas, and Neil Wallace. 1975. "Rational" Expectations, the Optimal Monetary Instrument, and the Optimal Money Supply Rule. *Journal of Political Economy* 83 (2):241–54.
Schumpeter, Joseph. 1928. The Instability of Capitalism. *Economic Journal* 38 (151):361–86.
Shearmur, Jeremy. 1996. *Hayek and After: Hayekian Realism as a Research Programme*. New York: Routledge.
Shonfield, Andrew. 1969. *Modern Capitalism: The Changing Balance of Public and Private Power*. London: Oxford University Press.
Simmons, Beth. 1994. *Who Adjusts? Domestic Sources of Foreign Economic Policy during the Interwar Years*. Princeton, N.J.: Princeton University Press.
Simmons, Beth, and Lisa Martin. 2002. International Organizations and Institutions. In *Handbook of International Relations*, edited by Walter Carlsnaes, Thomas Risse, and Beth Simmons, 192–211. Thousand Oaks, Calif.: Sage Publications.
Soros, George. 1998. *The Crisis of Global Capitalism*. New York: Public Affairs.
Stein, Arthur. 1984. The Hegemon's Dilemma: Great Britain, the United States, and the International Economic Order. *International Organization* 38 (2):355–86.
Stein, Jerome. 1982. *Monetarist, Keynesian, and New Classical Economics*. Oxford: Blackwell.
Stiglitz, Joseph. 2002. *Globalization and Its Discontent*. New York: Norton.
Strange, Susan. 1996. *The Retreat of the State*. Cambridge: Cambridge University Press.
Swank, Duane. 2002. *Global Capital, Political Institutions, and Policy Changes in Developed Welfare States*. Cambridge: Cambridge University Press.
Tanzi, Vito, and Ludger Schuknecht. 2000. *Public Spending in the 20th Century*. Cambridge: Cambridge University Press.
Taylor, Arthur. 1972. *Laissez Faire and State Intervention in Nineteenth-Century Britain*. London: Macmillan.
Tonelson, Alan. 2000. *Race to the Bottom*. Boulder, Colo.: Westview Press.
Vásquez, Ian. 2000. The Return to a Global Economy. In *Global Fortune: The Stumble and Rise of Global Capitalism*, edited by Ian Vásquez, 1–14. Washington, D.C.: Cato Institute.
Verdier, Daniel. 1998. Domestic Responses to Capital Market Internationalization under the Gold Standard, 1870–1914. *International Organization* 52 (1):1–34.
Von Mises, Ludwig. 1977. *A Critique of Interventionism*. New Rochelle, N.Y.: Arlington House.
———. 1969. *Omnipotent Government: The Rise of the Total State and Total War*. New Rochelle, N.Y.: Arlington House.
Wagner, Adolph. 1883. Three Extracts on Public Finance. In *Classics in the Theory of Public Finance*, edited by Richard. A. Musgrave and Alan T. Peacock, 1–15. London: Macmillan.
Walras, Leon. 1954. *Elements of Pure Economics; The Theory of Social Wealth*. New York: Allen and Unwin.
Weber, Max. 1949. *The Methodology of the Social Sciences*. Translated and edited by Edward A. Shils and Henry A. Finch. New York: Free Press.

Weiss, Linda. 1998. *The Myth of the Powerless State*. Ithaca, N.Y.: Cornell University Press.
Wendt, Alexander. 1999. *Social Theory of International Politics*. Cambridge: Cambridge University Press.
Williamson, Jeffrey. 1996. Globalization, Convergence, and History. *Journal of Economic History* 56 (2):277–306.
———. 1998. Globalization, Labor Markets, and Policy Backlash in the Past. *Journal of Economic Perspectives* 12 (4):51–72.
Wood, Adrian. 1994. *North-South Trade, Employment, and Inequality*. Oxford: Clarendon Press.