

Explaining persistent unemployment in eastern Germany

Abstract: *Relatively high rates of persistent unemployment plaguing the eastern region of Germany are argued to be caused especially by two factors engendering slack labor demand relative to supply. Demand for East German labor declined as (1) rapid privatization was followed by cross-regional capital flows, resulting in high levels of capital intensity and a dramatic shedding of labor. Reindustrialization and service-sector expansion proved too weak to generate sufficient labor demand. (2) Related to privatization, business headquarters moved to the west of Germany, resulting in a notable pattern of reindustrialization and the eastern region's specialization in intermediates vis-à-vis finished goods, engendering weak labor demand.*

Key words: *branch plant industrialization, German reunification, labor demand, neoclassical theory, neoliberalism, privatization, transition, unemployment.*

Our research seeks to establish that relatively high rates of persistent unemployment in the eastern region of Germany are more related to and thus better accounted for and explained by relatively low levels of demand for East German labor, and not policies thought to be inhibiting labor market competition. Moreover, these low levels of labor demand are largely and causally determined by two factors in particular: (1) Cross-regional capital flows led to rapid increases in capital intensity, initiating

The authors are, respectively, a Professor of Economics and International Studies, Portland State University, Portland, Oregon, and a Professor of Empirical Economics at University of Leipzig, and Director, Department of Macroeconomics at the Institute for Economic Research in Halle, Germany. The authors express their gratitude to John Henry of University of Missouri–Kansas City for inciting us to undertake this inquiry, to Kosta Josifidis of University of Novi Sad for his inspiration, and to Björn Jindra of the Halle Economics Institute for his helpful references to the transition literature. They also thank the Fulbright *Kommission* of Berlin for research support in summer 2005, and to Ulrich Blum, President of the Halle Economics Institute, for offering his generous support in summers 2005 and 2006. With these scholars and institutions noted, only the authors are to be associated with the data and the arguments advanced in this paper.

dramatic increases in labor productivity and a shedding of labor, not offset by sufficient levels of labor demand generated by a reindustrialization of manufacturing coupled with a revitalization of the service sector. (2) A curious pattern of privatization led to a shift in corporate headquarters to the western region of Germany. A related pattern of reindustrialization is evinced by the eastern region producing a growing share of intermediates relative to finished and final demand goods, engendering business cycle effects on the eastern region, and leading to insufficient levels of labor demand relative to labor supply.

We conclude by stressing that eastern Germany's relatively high rates of persistent unemployment are more accurately accounted for by these two factors, rather than by distortions in the labor market stemming from union power and public-sector entitlements, as suggested by neoclassical theory and neoliberal suppositions.

Neoclassical and neoliberal explanations

Explanations of relatively high levels of persistent unemployment in the eastern region of Germany tend to be dominated by theorists and policy makers relying on neoclassical assumptions regarding the primacy of a hypothetical and unfettered labor market in generating employment. For example, neoclassical assumptions utilized in the research of Snower and Merkl (2006a; 2006b) suggest that the East German labor market would find an equilibrium at which labor supply would be equal to labor demand, determining a market wage rate. Distortions related to union power wielded at the start of unification, especially combined with a range of social welfare entitlements—generously funded by West German taxpayers—are suggested to fetter adjustments in wages, labor supply, and labor demand, thereby preventing the achievement of a competitive labor market equilibrium. Unemployment is then assumed to be generated by distortions that lead to various forms of market failures.

Snower and Merkl's article, "The Caring Hand That Cripples: The East German Labor Market After Reunification" (2006a), appears as a condensed version of a working paper bearing the same title and published in the same year (2006b). They suggest the causal role that unfettered labor markets would play in generating labor demand and solving the relatively high rates and persistence of unemployment in the eastern region of Germany. They also clearly delineate extant policies that they posit generate distortions, fettering adjustments in wages and compensation, as well as labor supply and labor demand. Distortions

generating market failures are suggested to be mainly caused by three sets of extant policies.

Snower and Merkl (2006a, pp. 375–376) note that “bargaining by proxy” occurred at the start of reunification as West German union leaders negotiated an average East German wage at a level above productivity. Wages were set at approximately 70 percent of the West German average, and well above the 1990 rates of productivity that Akerlof et al. (1991) estimated were between one-third and one-half of the West German level. West German labor leaders are suggested to have taken the lead in negotiating such generous wages relative to low levels of labor productivity, with the underlying intention of reducing portended competition in the West German labor market through a feared cross-regional flow of labor and firms moving in opposite directions. Negotiation of high wages relative to productivity is stressed by Snower and Merkel (2006b, p. 8), as well as Burda and Funke (1993), Fitzroy and Funke (1996), and Schröder (2000).¹

Added to the distortion of an initial and excessive wage offer, East German labor was granted access to entitlements at levels similar to their West German counterparts. Entitlements included generous unemployment benefits and various other forms of social welfare support. With wages outstripping productivity at the start of reunification, combined with added effects of entitlements, these two forces engender distortions affecting labor supply relative to demand, placing upward pressures on wages, and thereby reducing levels of employment while simultaneously contributing to rising rates of unemployment.

“Employment persistence” is noted as a third factor generating distortions. Snower and Merkl (2006a, p. 376) suggest that employment persistence could also be referred to as employment “security,” which is associated with labor legislation that the eastern region of Germany inherited with reunification. Job security is noted to generate distortions for the labor market and costs for firms seeking to rapidly shed labor as well as hire new labor. Benefiting from job security legislation, East German workers are noted to have fallen into—and remained in—various types of “traps.”

¹ Contributions by these authors fail to note that the majority of East German firms failed to abide with paying their workforces wages at 70 percent of the West German level. By 2005, only about 20 percent of East German manufacturing firms paid wages at 70 percent of the West German wage level. Of all branches, the highest rate of compliance is exhibited in construction, whereby 34 percent of East German construction firms paid their workers at 70 percent of the West German level, the level negotiated by unions at the start of reunification in 1990 (see Ludwig, 2006, p. 197, table 8).

In sum, Snower and Merkl's research stresses that eastern Germany's woes are directly caused by "caring hand" policies. Unemployment is generated solely by labor market imperfections, arising from distortions generated by union power and social welfare policies, and not—as we seek to establish below—by insufficient levels of labor demand.

In point two of their three-point definition, Arestis and Sawyer (2004, p. 1) note that "neoliberalism" views unemployment as stemming primarily from the operation of the labor market, and especially rigidities caused by union power, employment contracts, wage floors, and the like. Introducing reforms that make the labor market that much more competitive are deemed an appropriate neoliberal policy solution to raise employment levels and hence lower rates of unemployment. A neoliberal corollary would then suggest that if labor force participants were not protected by, say, a "caring hand," the labor market would not then be "crippled." That is, the labor market would function, if not perfectly, at least more competitively, and thereby sufficiently well enough so that unemployment would be neither relatively high nor persistent.

This neoliberal perspective contrasts fundamentally with a Keynesian tradition that would suggest that unemployment is related to insufficient levels of effective aggregate demand, and that unemployment should be dealt with through demand management, or more directly through structural and regional policies designed to improve economic performances and improve job opportunities for labor market participants.

We find Snower and Merkl's reliance on neoclassical theory and neoliberal suppositions leads them to erroneous conclusions regarding the forces generating employment and raising rates of unemployment. In contrast to their focus on distortions and subsequent failures leading to a lack of competition in the labor market, we think other causal factors are at play. Admittedly, policies that contribute to labor market distortions are to be found in eastern Germany. We should, however, like to note that these, similar, and other policies—thought to cause labor market distortions fettering competition—are also found in western Germany, and most European economies, where rates of unemployment are also persistent, if not relatively lower. The ubiquity of some degrees of union power and public-sector policies run across a full gamut of mixed-market economies, and are not unique to eastern Germany. High rates of persistent unemployment are likewise found in a host of less-developed countries and problem regions, where labor movements have failed to wield sufficient power to generate a range of protections for labor market participants, and states are often too crippled by incompetence and

corruption to effectively transfer funds to the unemployed. What, then, accounts for eastern Germany's "exceptionalism"?

We accept Snower and Merkl's characterizations of labor market failures as both interesting and, in principle, scientifically accurate. However, we deem the failures they cite as unimportant—that is, at best as secondary factors affecting levels of employment and causing unemployment. Their characterization has likely reversed the order of causation. More realistically, labor force participants facing long-term weak demand for their labor seek various entitlements. Those participants remaining in the labor market should also exhibit tendencies to fall into and stay in "traps"—as a labor market survival mechanism—with long-term unemployment or outmigration as the unpleasant alternatives.

What Snower and Merkl fail to acknowledge is that the productive assets of the eastern region underwent a rapid privatization and a transfer in ownership and headquarters' relocation that is without precedence, and that has led to a noteworthy pattern of structural transformation. Snower and Merkl also fail to consider the role of aggregate demand, combined with business cycle effects on output demand that engender effects on levels of labor demand in the period following privatization. Such requires an examination of deeper-seated structures stemming from the privatization process and a related pattern exhibited in the reindustrialization of eastern Germany's regional economy.

Exceptionalism in privatization

Critics of Germany's reunification are in a fine position to cite lackluster growth rates exhibited in the economic performance of the eastern region relative to other countries undergoing transition from planned to market economy. Along with slow growth rates in output, there has been a related slow growth in job creation, leading to relatively high rates of persistent unemployment in eastern Germany, relative to neighboring countries such as Poland, the Czech Republic, and Hungary. Eastern Germany's rates of unemployment have registered as comparatively higher, running at between 15 and 18 percent over the long run, essentially double the average rates exhibited in these three neighboring transition countries.

Relatively high rates of unemployment are integral to and primarily caused by German reunification. It is important to consider that eastern Germany shifted from the status of a national state with inviolable borders to a region subsumed within a larger German economy, exhibiting high levels of development characteristic of a mature economy.

The German Monetary Union (GMU) speeded this shift. Effective July 1, 1990, and offering a seemingly generous exchange rate of one West German mark for one East German mark, the GMU placed serious financial challenges on East German firms as the privatization program commenced. With productivity in the manufacturing industry running at an estimated 30 percent of the West German level, this one-to-one exchange rate rendered the bulk of East German enterprises en masse, and in one fell swoop effectively insolvent (see, for example, Altwater, 1992).

With the GMU and the shift from nation to region, privatization would take its own unique form. To wit, and as Burda (2006) teaches us, with the start of privatization, eastern Germany experienced a dramatic “factor reallocation” with massive cross-regional movements of goods and services in trade, as well as capital flows and labor migration. Specific policies, backed by massive west to east flows of funds, were intended to facilitate a speedy reunification. Funds flowed for rebuilding neglected infrastructure, reconstructing cultural monuments, introducing commercial structures, revitalizing housing stock, and as new investments into state-of-the-art machinery and other types of technology. It is precisely the exceptional pattern of privatization—coupled with substantial investments leading to dramatic jumps in levels of capital intensity in manufacturing—that caused a quick shift to capital-intensive jobs, inducing a rapid and massive shedding of labor at levels not experienced in the transition countries mentioned. We recognize these capital investments in manufacturing and the accompanying acceleration of labor productivity through capital-intensive jobs as the first of two factors contributing to high rates of persistent unemployment in the eastern region of Germany. Labor force participants shed in vast numbers were then inclined to rely on entitlements that would include early retirement, unemployment insurance, social welfare schemes, as well as training and education programs.

Theorists considering the importance of privatization—and especially its speed—in transitions in countries in Central and Eastern Europe tend to omit eastern Germany from their statistical sample because of this region’s uniqueness. The East German case fails to conform with assumptions that theorists associated with optimal speed of transition (OST) have used, theorists such as Aghion and Blanchard (1994), Blanchard (1997), and Castanheira and Roland (2000). Most important, OST assumes fixed labor supply, and that labor force participants are either participating in the labor market or are out and categorized as unemployed (Boeri, 2000, pp. 21–22). Boeri’s assumption proves too constraining to con-

sider the East German case, where workers numbering in the thousands could take advantage of West German entitlements and exit the labor market altogether, thus not registering among the unemployed. Younger workers, numbering in the millions, took advantage of new training and education programs—partly as a reprieve from a labor market distressed by transition—with the idea of reentering at a later date. Finally, OST theorists fail to consider an economy so open that labor force participants would deal with the stresses of firm privatization through exiting the region altogether. Migrants leaving the eastern region of Germany were significant in number (Mai, 2004), taking advantage of the fact that, in the privatization phase, they could pull out and head for greener labor market pastures in the western region. Another, substantial portion of East German labor market participants took to commuting across their region's border to work in western Germany, on either a daily or a weekly basis.

In addition, OST models, apart from Coricelli (1996), assume a fixed public-sector budget constraint, not allowing deficit financing to play a role in transition. This assumption fails to apply to the economic and social transition in eastern Germany, where public-sector indebtedness played a significant role in western Germany's financing transition throughout the 1990s.

In Poland, the Czech Republic, and Hungary, privatizations took different paths, with substantial numbers of worker buyouts, management buyouts, and reprivatizations to families typically living within the borders of these countries. These types of privatizations quickly established a new generation of nationally based owners of an emerging private sector in small, medium, and large enterprises. In the Czech Republic, especially, efforts were made to calculate the value of state-owned productive assets and to then issue stocks to the population, rendering the public as stakeholders in the assets of their country undergoing transition (Dyba and Svejnar, 1995). Stocks could then be traded, sold, or held. In stark contrast to privatizations in neighboring transition economies, East German assets were taken over by the Treuhandanstalt, created as a holding company in the first half of March 1989, with Treuhand's charter specifying that it first collect and hold, and then privatize what had been state-owned firms of the German Democratic Republic. (For a thorough description of the distinct character of Treuhand privatization, see Kaser, 1996.)

Treuhand assumed responsibility for privatizing 12,009 firms, and settling the fates of an accompanying 4 million employees derived from the deconstructed state-owned enterprises. Of the many firms privatized

through Treuhand, a total of 819 were bought by foreigners through 1994. In all, this amounted to about 7 percent of the stock value of privatized firms and less than 4 percent of the more than 4 million salaried employees and wage workers. Firms acquired as management buyouts (MBOs) or worker buy-ins were typically small businesses engaged in retail trade and light manufacturing. We estimate that about 50 percent of the *Stammkapital*—that is, the stock value of privatized manufacturing firms—passed by various means and various forms into hands of firms with their headquarters based in the region of western Germany.

Poland, the Czech Republic, and Hungary waited for foreign direct investment (FDI) to flow into their countries. It did, and the FDI was much more concentrated on snapping up assets and adding them to an investment portfolio. Firms privatized through foreign buyouts remained in production, and firm output was typically used to supply national markets, with the acquiring firm benefiting from monopolistic market structures inherited from the planned economies.

As capital came into these countries as cross-national border FDI flows, productivity increases were relatively slower, more incremental, and rarely occurred through the acquiring firm introducing expensive, state-of-the-art technologies in one fell swoop. Consequently, firms in Poland, the Czech Republic, and Hungary shed labor as a result of their privatization programs. However, labor was shed primarily in an attempt to raise profitability, and not to push labor productivity as rapidly as possible up to the West German level, to one of the highest levels of labor productivity in the world. Although East German labor productivity in manufacturing was accelerated in an attempt to achieve parity with West German levels, these other transition economies exhibit levels of labor productivity with averages that Blum and Ludwig (2006, p. 269) estimate were less than 30 percent of the East German level in 2002, 12 years after the start of transition.

Privatization and then capital investment into the eastern region of Germany can be characterized as taking place in the following pattern. After entering the Treuhand holding—for the largest firms with the greatest potential for adjusting to competitive, market conditions—there first occurred (1) a transfer of ownership to a firm with its headquarters in western Germany; (2) followed by the western headquartered firm reducing or shutting down production (*Stilllegung*), especially for those firms producing in similar product categories; and then (3) a full-fledged reindustrialization took place, as “lumpy” capital—as capital-intensive investments benefiting from generous subsidies (Hall and Ludwig, 2006, pp. 946–947)—moved to eastern Germany as state-of-the-art plant and equipment—and because

of the relatively lower wages—exhibited unit labor costs equal to or even lower than levels found in the western region.

West German investments in the eastern region of Germany have also been oriented toward taking full advantage of a relatively cheaper and ample supply of highly qualified labor, what we suggest is directly related to comparatively high rates of persistent unemployment engendered by rapid and dramatic increases in labor productivity. Because of labor's poor bargaining position relative to slack demand, in combination with relatively lower levels of union membership, parent firms headquartered in western Germany could introduce state-of-the-art technologies with novel working rules and shift requirements that West German labor unions would reject as unacceptable.

Privatization and reindustrialization

Selected dimensions of Germany's reunification program contributed toward a dynamic economic performance in the eastern region, such as technical progress and an acceleration of labor productivity. Other dimensions laid the foundation for a forecasted, long-term stagnation in output per capita, and slack labor demand relative to supply.

It is important to note that the West German economy of the 1980s—in the last years of a cold war winding down—exhibited excess capacity in its agricultural, industrial, and service sectors, causing a related, long-term, structural unemployment and underemployment of its labor force. Starting in 1996, domestic demand's contribution to output began to shrink and gross domestic product (GDP) growth was carried by exports (see Table 1). Under these conditions of shrinking domestic demand and growth driven by expanding exports, the sudden acquisition of additional production capacity, along with a sizable increase in the total German labor force acquired through annexing the eastern region, was neither needed nor desired. Consequently, a pattern of privatization that—for whatever good intentions could have brought about a quick recovery for the eastern region—resulted in the first round in a systematic closing down of acquired capacity and the unemployment (often permanently) of millions of qualified workers. In addition, the pattern of Treuhand privatization resulted in a distribution of firm headquarters across German regions with the result that the eastern region is virtually void of headquarters of large firms in any category. The “big brother” character of privatization is fundamental to East German exceptionalism, sharply distinguishing the East German case from other transition economies. What is more, a skewed distribution of corporate headquarters generates

Table 1
Contributions to percentage changes in gross domestic product from merchandise exports (in constant euros, and for selected years)

	Total German GDP of which exports		West German output of which exports		East German output of which exports	
	Growth rates of total GDP	Exports as percentage of growth	Growth rates of West German output	Exports as percentage of growth	Growth rates of East German output	Exports as percentage of growth
1992	2.2	-0.1	1.6	0.0	11.1	-0.1
1993	-0.8	-1.1	-2.0	-1.4	12.6	0.0
1994	2.7	1.7	1.6	1.8	12.2	0.5
1995	1.9	1.2	1.4	1.5	6.3	0.6
1996	1.0	1.1	0.8	1.4	2.8	0.3
1997	1.8	2.5	1.8	2.5	1.9	1.5
1998	2.0	2.0	2.2	2.0	0.8	1.6
1999	2.0	1.5	1.9	1.6	2.8	0.7
2000	3.2	3.6	3.4	3.7	1.5	2.0
2001	1.2	1.8	1.3	1.8	1.1	2.0
2002	0.0	1.1	-0.1	1.0	1.1	0.3
2003	-0.2	1.0	-0.3	0.8	1.0	1.9
2004	1.3	3.3	1.6	3.9	1.9	1.6
2005	0.9	2.5	1.0	2.4	-0.1	1.5
1991-2005	20.9	25.0	17.2	25.1	72.6	23.5
2000-2005	8.7	9.8	9.1	10.0	9.5	7.5

Sources: Authors' calculations based on data from the Federal Statistical Office, Wiesbaden.

economic outcomes that fully undermine medium- and long-term prospects for increasing labor demand in the eastern region of Germany.

If we consider data reported in 2004, and if we consider the top 100 industrial firms with respect to annual revenues making their homes in Germany, only the firm Jenoptic has its headquarters in the eastern region. Of Germany's top 100 firms, DaimlerChrysler ranks first and Jenoptic ranks eightieth. Not one of the top 100 retail trade firms has its headquarters in the eastern region. The same is reported for the top 100 service-sector firms. Of the top 25 insurance companies listed in order of annual revenues, not one of these reports its headquarters in the eastern region. Of Germany's top 25 banks that are listed in order of their assets, and if we only consider private banks, not one of the top banks reports its headquarters in the eastern region (*Frankfurter Allgemeine*, 2004). With respect to revenues of the eastern region's top 50 firms, most appear to be *filials* of larger, more well-known firms with headquarters located outside of this region, such as western Germany, Scandinavia, the United Kingdom, the United States, and Canada.

One consequence of Treuhand privatization and the skewed distribution of headquarters is that industrial production in the eastern region has taken the form of a *verlängerte Werkbank*. This phenomenon and pattern of an "extended workshop bench" were introduced into the literature in 1993 in a weekly report of the, Deutsches Institut für Wirtschaftsforschung (DIW; German Institute for Economic Research) (1993, p. 634). This noted pattern has continued for well over a decade and now the eastern region exhibits an industrial structure that we think is best described as "branch plant," and which is more typically found in a third-world country than in a region of northern Europe.

With the postreunification pattern of firm ownership, large production facilities in the eastern region are typically owned by firms with headquarters in the western region. Consequently, levels of output in the eastern region are used as a "buffer" against swings in business cycles. In practice, levels of output in the eastern region are expanded more slowly during times of growing demand and contracted more sharply during times of slack demand. Adjustments in output related to larger, world business cycles contribute to weak demand and job insecurity for East German labor.

Neoclassical and neoliberal perspectives, especially of Snower and Merkl, fail to understand that, as part of reunification, the eastern region has been reduced to what the development literature would suggest is a periphery, and selected contributions to the literature on the eastern region of Germany have addressed at length. Germany's eastern region

has been characterized both as Europe's "northern Mezzogiorno" and as Germany's "eastern Mezzogiorno," drawing parallels with the peripheral economy in the southern region of Italy—long a subject of study—and with Mezzogiorno frequently used as a metaphor for regional "underdevelopment" (see Boltho et al., 1999; Hughes Hallett and Ma, 1993, 1994; Page, 2003).²

The eastern region's shift from core to periphery is observable according to several indicators, including a changing pattern of patent registrations. Grief and Schmiedl (2002, p. 10) note that from 1985 to 1989, a total of 55,485 patent applications were registered from inside the German Democratic Republic (GDR). In the 1990s, there was a 70 to 80 percent decline in annual patent applications coming from the five federal states forming today's eastern region. It is also useful to note that, in the former GDR, in 1989, 560,000 persons were reported employed in the machine tool sector. By 2003, this number fell more than ninefold, to a total of 58,600 persons employed in firms with 20 and more employees. An additional 838 small businesses with fewer than 20 employees registered another 6,200 employed in machine tools (Brautzsch and Ludwig, 2005, p. 231). These declines suggest a deindustrialization of the eastern region's capital goods sector.

Treuhand privatization and a systematic dismantling of East German industry was followed by a reindustrialization, though exhibiting a pattern that includes producing a growing share of intermediate goods as percent of total goods, when compared to the western region, and over the time series for which we find data. As the share of intermediate goods increased in the eastern region from 38.5 to 40.2 percent from 1996 to 2004, the western region reduced its share from 34.9 to 31.9 percent. If we consider investment goods, we find that the eastern region increased its share from 25.6 percent in 1996 to 28.3 percent in 2004. However, the western region's share in capital goods increased relatively more, from 33.8 percent in 1996 to 41.2 percent in 2004. Germany's eastern region exhibited an output ratio of 40.4 percent as intermediate goods and 28.3 percent as investment goods in 2004. Western Germany's proportions

² A comparison between Italy's Mezzogiorno and Germany's eastern region appears useful insofar as the term awakens the ears of social scientists, sounding an alarm regarding the peripheral tendencies of this eastern region. The reality is, however, that historical forces contributing to the peripheral character of eastern Germany are so profoundly and fundamentally different from the southern Italian experience, including the forces generating relatively high levels of persistent unemployment, as to render the regional comparison extremely limited.

Table 2
Comparative structure of industrial output, including energy for eastern and western regions of Germany 1996–2004
(output measured in current euros as percent of total)

	1996	1997	1998	1999	2000	2001	2002	2003	2004
Intermediate goods									
East	38.5	38.6	37.5	37.1	38.3	37.8	38.8	39.0	40.4
West	34.9	34.3	33.3	32.3	32.8	31.8	32.0	31.7	31.9
Investment goods									
East	25.6	26.8	29.4	30.4	29.5	30.2	29.6	28.6	28.3
West	33.8	35.1	37.5	38.8	38.7	39.4	39.9	40.2	41.2
Consumer goods*									
East	28.8	29.4	28.2	27.2	26.1	26.7	26.5	26.4	25.4
West	24.6	23.8	23.9	23.6	22.5	22.1	21.5	21.6	20.8
Energy									
East	6.4	5.2	4.8	5.2	6.0	5.4	5.0	5.9	5.9
West	6.7	7.0	5.3	5.4	6.1	6.7	6.6	6.5	6.1

Source: Authors' calculations based on data from the Federal Statistical Office, Wiesbaden.

Notes: Total includes value of output from mining, manufacturing, and energy sectors. *Including durable goods.

were 31.9 percent as intermediate goods and 41.2 percent as investment goods (see Table 2). Transformations in the structure of German industry are exhibited through changing specializations between regions since reunification.

Importantly, the investment goods sector is composed largely of machinery and especially machine tools, and these capital goods are noted as exhibiting higher levels of value added when compared with intermediate goods. Our data suggest that as part of German reunification, a regional specialization has already taken place, and the eastern region shows all indications of having been, first, deindustrialized through Treuhand privatization and then reindustrialized in a branch-plant scheme, as indicated by the relatively large portion and growing share of intermediate goods. Second, the peripheral character of the eastern region's economy ensures that demand for labor in business-related services will also remain weak. Thus, the hoped-for revitalization of the service sector—creating high-value, manufacturing-linked, service-related jobs—has failed to materialize.³

The changing structure of industry is one of the important sources ensuring that labor demand will remain slack in Germany's eastern region, with unemployment rates relatively high. These relatively high rates of unemployment should also be expected to persist with or without policies fettering labor market adjustments. To employ the vernacular, the exceptional pattern of privatization—leading first to a deindustrialization followed by a curious pattern of regional reindustrialization—has engendered greater causal effects on employment and unemployment than have leftists, as labor leaders bargaining up wages, and as welfare chiselers “free riding” on the backs of West German taxpayers.

In sum, these structural features are largely a result of an exceptional pattern of privatization that transformed the eastern region of Germany from serving as a core economy, and as a technology producer (Karlsch, 2006) and machine tool exporter, to a region virtually void of headquarters for large firms, with diminished research and development competences, and producing lower-value, intermediate goods that feed into the larger

³ Contributions by Ragnitz (2003, p. 32, table 1-15) suggest that with reunification in 1990, service activity in the eastern region of Germany undertook a catching up toward West German levels, generally. However, a pattern starting in 1998 exhibits an especially weak development: registering as relatively low rates of increase in services' contributions to value added, and also of employment growth and job creation in Germany's eastern region.

German production circuit expanding through export-based growth. We recognize this pattern of regional specialization—contributing to slack labor demand as the eastern region produces a growing share of intermediates relative to the western region's growing share of capital goods—as the second factor we consider contributing to high rates of persistent unemployment in the eastern region of Germany.

One economic consequence of the eastern region operating as an economic periphery is that for every 1 percent in annual economic growth for the total German demand, the eastern region benefits disparately. The construction-led boom, most obvious for 1992 through 1994, driving growth rates for the eastern region of Germany fully petered out by 1996. From 1998 to 2005, the eastern region grew at a slower pace than the western region. In addition, the contribution of exports to percent changes in share of GDP for the western region of Germany fails to register as strongly for the eastern region (see Table 1).

The western region, in contrast, as home to corporate headquarters and research and development competencies, reaps the higher value added as a producer relatively specialized in capital goods and with advantages in export markets, the main source for growing demand for German output. Over time, the eastern region exhibits a constant surface area with respect to its percent relation to the total of land area of Germany, but has lost relative shares when considering selected social and economic variables, especially population, employment, and output (see Table 3). To suggest that distortions causing failures in the labor market are the primary, causal factors generating relatively high levels of persistent unemployment fails to consider the larger picture.

Conclusion and discussion

The purpose of this paper has been to challenge an iconic application of a neoclassical model to the East German labor market, with distortions and subsequent market failures heralded as the primary and causal factors in generating relatively high levels of persistent unemployment. In our challenge, we have sought to establish that levels of employment and rates of unemployment are more correctly, more profoundly, and more causally connected to levels of effective demand and especially for labor demand in a region with its industrial structure shifted and pushed ever more toward an economic periphery over time.

Two factors, especially, are noted for causing slack demand relative to supply, and hence for generating relatively high levels of persistent unemployment in the eastern region of Germany. To summarize,

Table 3
Changing proportions of population, employment, and output across German regions and over time: eastern Germany as percent share of total Federal Republic of Germany

	1939	1950	1960	1989	1995*	2000	2004
Surface	30.4	30.4	30.4	30.4	30.4	30.4	30.4
Population	29.2	26.9	23.5	20.9	21.6	21.0	20.4
Employed persons	27.7	27.4	25.0	20.9	20.5	19.3	18.8
Total output	29.4	28.6	22.5	15.2	15.4	14.9	14.6

Sources: Statistical yearbooks for the German Reich, the German Democratic Republic, and the Federal Republic of Germany for selected years.

*Before 1995, data for the eastern region include East Berlin. Starting in 1995, the eastern region includes data from West Berlin as part of the eastern region.

(1) cross-regional investment flows led to dramatic increases in capital intensity and labor productivity, shedding workers faster than could be absorbed by levels of labor demand generated by a reindustrialization of manufacturing, coupled with a revitalization of the service sector; (2) an exceptional pattern of privatization and reindustrialization led to specialization in intermediates relative to finished goods, with business cycle effects leading to insufficient levels of labor demand relative to labor supply.

To accurately introduce and to correctly account for and then explain causal factors engendering relatively high levels of persistent unemployment requires a shift away from merely and solely relying on distortions fettering competition and thereby preventing the achievement of a hypothetical equilibrium in a labor market defined by simplistic, neoclassical parameters. In this paper, we shifted the analysis away from what we deem are surface phenomena that—at their very best—should be considered as secondary factors affecting levels of employment and rates of unemployment. Our analysis introduces, considers, and explains what we deem are deeper-seated, underlying, and evolving structures of the economy—as well as of the society—that affect aggregate demand, in general, and labor demand, in particular.

So long as policies fail to address what we point out are the root causes of slack labor demand in Germany's eastern region, we should then expect the continuance of relatively high levels of persistent unemployment, with the attendant mass outmigration, especially of qualified young people. The region's recent losses of human capital are estimated by Heilemann (2005, p. 508) to be as large as €75 billion, or close to \$100 billion. In

addition, the ratio of women in their reproductive years to available men registers as the lowest in Europe—outside of mining regions in northern Scandinavia—portending long-term population decline, and suggesting that the eastern region will fail to sufficiently converge with the western region (Deutsche Bank Research, 2004).

Neoliberal proposals of “broad” and “deep” labor market reforms, which Snower and Merkl (2006a, p. 382; 2006b, p. 26) advocate, would more likely aggravate the full range of problems, thereby reaccelerating outmigration from the eastern region. As we developed in this paper, the eastern region of Germany is plagued, more correctly, by stagnating levels of effective aggregate demand and slack labor demand, which are inextricably linked to its recent reunification, integration, and transformation to a peripheral region of a larger German economy and society.

REFERENCES

- Aghion, P., and Blanchard, O. “On the Speed of Transition in Central Europe.” In *National Bureau of Economic Research, Macroeconomics Annual*, vol. 9, Cambridge, MA: National Bureau of Economic Research, 1994, pp. 283–320.
- Akerlof, G.; Rose, A.; Yellen, J.; and Hessenius, H. “In from the Cold: The Economic Aftermath of Currency Union.” *Brookings Papers on Economic Activity*, 1991, 1, 1–105.
- Altwater, E. “Die Deutsche Währungsunion von 1990” [Germany Currency Union]. In W. Schulz and L. Volmer (eds.), *Entwicklung Statt Abwickeln* [Development Instead of Underdevelopment]. Berlin: Ch. Links, 1992, pp. 13–27.
- Arestis, P., and Sawyer, M. *Neo-Liberal Economic Policies: Critical Essays*. Cheltenham, UK: Edward Elgar, 2004.
- Blanchard, O. *The Economics of Post Communist Transition*. Oxford: Oxford University Press, 1997.
- Blum, U., and Ludwig, U. “Deutschland—Ein Hochlohnland” [Germany—A High Wage Country]. In S. Empter and R. Vehrkamp (eds.), *Wirtschaftsstandort Deutschland* [Germany as Economic Locus]. Wiesbaden, Germany: Verlag für Sozialwissenschaften, 2006, 263–278.
- Boeri, T. *Structural Change, Welfare Systems, and Labour Reallocation: Lessons from the Transition of Formerly Planned Economies*. Oxford: Oxford University Press, 2000.
- Boltho, A.; Carlin, W.; and Scaramozzino, P. “Will East Germany Become a New Mezzogiorno?” In J. Adams and F. Pigliare (eds.), *Economic Growth and Change: National and Regional Patterns of Convergence and Divergence*. Cheltenham, UK: Edward Elgar, 1999, pp. 323–348.
- Brautzsch, H.-U., and Ludwig, U. “Ostdeutscher Maschinenbau 2002: Etappenzeit Gewinnzone erreicht” [East German Machine Tools 2002: Profitability Zone Reached]. *Wirtschaft im Wandel*, 2005, 11 (7), 231–237.
- Burda, M. “Factor Reallocation in Eastern Germany After Reunification.” *American Economic Review*, May 2006, 96 (2), 368–374.
- Burda, M., and Funke, M. “German Trade Unions After Unification—Third Degree Wage Discriminating Monopolists.” *Weltwirtschaftliches Archiv*, 1993, 129 (3), 537–560.

- Castanheira, M., and Roland, G. "The Optimal Speed of Transition: A General Equilibrium Analysis." *International Economic Review*, 2000, 41 (1), 219–239.
- Coricelli, F. "Fiscal Constraint, Reform Strategies, and the Speed of Transition." Centre for Economic Policy Research (CEPR) Discussion Paper No. 933, London, 1996.
- Deutsche Bank Research. "Perspektiven Ostdeutschlands: 15 Jahre danach" [Perspectives on Eastern Germany: 15 Years After Reunification]. No. 306, Frankfurt am Main, November 10, 2004.
- DIW-Wochenbereich. "Zur Situation der ausseruniversitären und industriellen Forschung in den neuen Bundesländern" [Toward the Situation of Institutes Research in the New Federal States]. German Institute for Economic Research, Weekly Report, 44/93, November 4, 1993.
- Dyba, K., and Svejnar, J. "A Comparative View of Economic Developments." In J. Svejnar (ed.), *The Czech Republic and Transition in Eastern Europe*. San Diego: Academic Press, 1995, pp. 21–45.
- Fitzroy, F., and Funke, M. "Skills, Wages and Employment in East and West Germany." *Regional Studies*, 1996, 32 (5), 459–467.
- Frankfurter Allgemeine*. "Die hundert größten Unternehmen" [The Hundred Largest Enterprises]. July 5, 2005, U2, No. 153, 2004.
- Grief, S., and Schmiedl, D. *Patentatlas Deutschland, Ausgabe* [Patent Atlas of Germany]. Munich: Deutsches Patent- und Markenamt, 2002.
- Hall, J., and Ludwig, U. "Economic Convergence Across German Regions in Light of Empirical Findings." *Cambridge Journal of Economics*, 2006, 30 (6), 941–953.
- Heilemann, U. "Ostdeutschland—ein "Mezzogiorno-Fall?" [East Germany—A Case of Mezzogiorno?]. *Wirtschaftsdienst Zeitschrift für Wirtschaftspolitik*, August 2005, 85 (8), 505–512.
- Hughes Hallett, A.J., and Ma, Y. "East Germany, West Germany, and Their *Mezzogiorno* Problem: A Parable for European Economic Integration." *Economic Journal*, March 1993, 103, 416–428.
- . "Real Adjustment in a Union of Incompletely Converged Economies: An Example from East and West Germany." *European Economic Review*, 1994, 38 (9), 1731–1761.
- Karlsch, R. "Die Wirtschaftsgeschichte Sachsens in Seit 1914, Teil II" [The Economic History of Saxony in 1914, Part II]. In R. Karlsch and M. Schäfer (eds.), *Wirtschaftsgeschichte Sachsens in Industriezeitalter* [Economic History of Saxony in the Industrial Age]. Leipzig: Edition Leipzig, 2006.
- Kaser, M. "Post Communist Privatization: Flaws in the Treuhand Model." *Acta Oeconomica*, 1996, 48 (1–2), 59–76.
- Ludwig, U. "Ostdeutsche Wirtschaft: Wachstum der Produktion bleibt erneut im Ost-West-Vergleich zurück" [East German Economy: Growth of Production Remains Renewed in an East–West Comparison]. *Wirtschaft im Wandel*, 2006, 12 (7), 189–202.
- Mai, R. *Abwanderung aus Ostdeutschland: Strukturen und Milieus der Altersselektivaeta und ihre regionalpolitische Bedeutung* [Outmigration from Eastern Germany: Structure and Mileu of Selective Age Groups and Their Regional Policy Meaning]. Frankfurt am Main: Peter Lang, 2004.
- Page, W. "Germany's Mezzogiorno Revisited: Institutions, Fiscal Transfers and Regional Convergence." Research Notes, Working Papers Series, No. 9. Deutsche Bank Research, Frankfurt am Main, 2003.
- Ragnitz, J. (ed.). *Zweiter Fortschrittsbericht wirtschaftswissenschaftlicher Institute über die wirtschaftliche Entwicklung in Ostdeutschland. Sonderherft 7* [Second Research Report from the Economic Science Institute on the Topic of Economic Development in Eastern Germany]. Halle: Institut für Wirtschaftsforschung, 2003.

Schröder, W. "Industrielle Beziehungen in Ostdeutschland: Zwischen Eigensinn und Paternalismus" [Industrial Relations in Eastern Germany: Between Obstinance and Paternalism]. Veröffentlichungsreihe der Abteilung Institutionen und sozialer Wandel des Forschungsschwerpunkts Sozialer Wandel, Institutionen und Vermittungsprozesses des Wissenschaftszentrums Berlin für Sozialforschung [Publication Series of Shared Institutions and Social Transformation of Research Specialties of Social Transformation, Institutions and Negotiating Processes of Scientific Center Berlin for Social Research], Series III 00-203, May 2000.

Snower, D., and Merkl, C. "The Caring Hand That Cripples: The East German Labor Market After Reunification." *American Economic Review*, May 2006a, 96 (2), 375–382.

———. "The Caring Hand That Cripples: The East German Labor Market After Reunification." Kiel Institute for the World Economy, Working Paper No. 1263, 2006b.

Copyright of Journal of Post Keynesian Economics is the property of M.E. Sharpe Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.