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**Edited by Mary Gregory, Wiemer Salverda & Ronald Schettkat:  
Services and Employment**

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## Introduction

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*Mary Gregory, Wiemer Salverda, and Ronald Schettkat*

THE “JOBLESS GROWTH” experienced in the United States in the economic cycle of the first years of the 21st century brought to the fore an issue that has for some time been a major focus of political concern in Europe—the “missing jobs” or “employment gap.” In the early 1970s the employment rate in the European Union economies<sup>1</sup> was marginally above the rate in the United States. Over the ensuing quarter-century the United States forged ahead in job creation while in Europe employment growth was at best sluggish. By the initial years of the new millennium the employment rate in the economies of the European Union averaged 65.3 percent of the population of working age, while in the United States it had risen to 74.4 percent. This gap of over nine percentage points represents around 25 million “missing jobs” in the EU. In response to this, and to the concomitant problems of higher unemployment rates, the prevalence of long-term unemployment, premature withdrawal from the labor force, and limited employment opportunities for women in many (but not all) EU countries, the EU Heads of Government at their Lisbon summit in 2000 adopted the objective of raising the employment rate across the European economies by almost ten percentage points within the following decade. If this ambitious objective is to be realized, even with some slippage beyond 2010, it is essential to gain an understanding of the factors that have given rise to the employment gap between the European Union and the United States.

There is no dearth of candidate explanations for Europe’s poor employment performance. The most prominent have been those that center on labor market institutions of “social Europe” and the rigidities that they introduce: trade union power in wage bargaining, and the mandatory or conventional extension of bargaining outcomes to nonunionized workplaces; employment protection provisions; minimum wages; the generosity of unemployment benefit systems; the size of the tax wedge of payroll, income and consumption taxes between the wage cost to the

<sup>1</sup> We are referring to the relevant group of countries rather than the political entity. In 1970 the EU still comprised only the original six countries; the membership of 15 was reached in 1995. The enlarged EU of 25 members from 2005 lies outside our scope.

employer, influencing labor demand, and the take-home pay of the worker, affecting its supply. This view, given initial impetus by the OECD's *Jobs Study* of unemployment in the advanced economies in the early 1990s (OECD 1994), has a natural resonance with U.S. commentators but also has support within Europe.<sup>2</sup> Its influence can be seen in contemporary policy stances. In the United Kingdom the Labour government through Chancellor Gordon Brown has claimed a strong macroeconomic record in conjunction with its deregulated labor market. In the face of unemployment rates of 10 percent or above, Germany has attempted to seek major changes to its social insurance and unemployment benefit arrangements with the Hartz reforms, while France has retreated from the legislated 35-hour working week.

Even as these latter economies edge towards reform the argument on the centrality of labor market rigidities is losing its cohesion as the links between labor market institutions and employment performance are put under detailed scrutiny. The conjunction of labor market rigidities and high unemployment is increasingly accepted as involving only a minority of EU economies, albeit several of the major ones: Germany, France, Italy, and Spain. Rigidities in product and financial markets are coming under the spotlight, with restrictions to competition, innovation, and the creation of new firms all seen as inhibiting employment growth. Most tellingly, the emergence in the United States of jobless growth, more typical of European experience, is undermining the easy invocation of the job creation capability of the unregulated U.S. labor market.

The employment gap between the United States and Europe is not simply about jobs. Not only are more Americans in employment, but they work more hours per week and more weeks per year, mainly through shorter vacation entitlements and even shorter vacations actually taken. Per head of the working-age population Americans work an average of 25.1 hours each week of the year, the Germans 18.0 and the French 17.4. This implies that hours worked per person in France and Germany are around 70 percent of the U.S. level. As with the jobs gap, these differences are of recent origin. In the early 1970s hours worked per person of working age were approximately the same in the United States and Europe. Americans continue to work broadly the same hours as in 1970 but have raised their participation rate substantially. Europeans now work much shorter hours and have failed to compensate for this decline in hours by a rising participation rate. This poses the question: why does the population of the world's richest country work so much, while less wealthy continental Europeans take leisure?

If this reflects social and cultural attitudes between the two sides of

<sup>2</sup> Leading exponents include Siebert (1997), Nickell and Layard (1999), and Nickell (2003).

the Atlantic, why has this divergence emerged so dramatically since the early seventies? Frank (1999) argues in *Luxury Fever* that cultural attitudes are themselves shaped by the economic context of national life. The consumption patterns of the American income elite, whose incomes have been rising substantially in recent decades, stimulate consumption by less well-off Americans. In a book that has received widespread attention Warren and Tyagi (2003) make the argument that access to a public infrastructure that is increasingly diverging in quality, especially in the quality of schools, is pushing Americans into a spending race. To gain access to good schools, often located in the suburbs, households now require two incomes in order to be able to meet the higher housing and transport costs involved. As a result of these spending pressures, they argue, double-income families are in real terms no better off.

In a provocative recent contribution American Nobel laureate Prescott (2004) claims that “virtually all the large differences between the U.S. labor supply and those of Germany and France are due to differences in tax systems,” particularly the higher income tax rates in Europe. This is a striking claim, as he acknowledges he had expected the major influences to be institutional constraints on the operation of labor markets and the nature of the unemployment benefit system.

Prescott’s diagnosis has come under vigorous challenge from Alesina, Glaeser, and Sacerdote (2005), who also reject any appeal to deep cultural differences between a European approach to leisure and the workaholicism of the United States. Instead they revert to the theme of labor market institutions, but with a new twist. Noting the sustained role of collective bargaining in continental Europe over the relevant time frame, they focus on the commitment by European labor unions to a policy of “work less, work all” in support of employment. Their argument is that, while this has failed to increase employment overall, it may have had a society-wide influence on leisure patterns through a “social multiplier” where the value of leisure is enhanced as more people participate. Alesina, Glaeser, and Sacerdote then raise the question whether union policies and regulations to which they have led, such as legally mandated holidays, are suboptimal in distorting labor supply decisions. Or are they in fact welfare-improving for the European countries, as Blanchard (2004) argues? General reductions in working hours achieved through collective bargaining may solve the coordination problem, allowing everyone to enjoy a lower-hours equilibrium than a competitive individualistic market would sustain (Schelling 1975).

The United States–Europe comparison can be taken a step further in a way that places the performance of the European economies in a more favorable light. Productivity growth has been much faster in Europe than in the United States over the last 30 years, such that productivity

in Europe is now converging on the U.S. level. Since 1970 GDP per hour worked in the EU has risen from 65 to over 90 percent of its level in the United States, and in France it has even exceeded it in several recent years. This has occurred over a period in which the gap in GDP per head has remained virtually constant, with the European economies at 70 percent of the U.S. level. Just how dramatic these changes have been is shown in figure I.1, where the gap in GDP per head is decomposed among productivity per hour worked, mean hours of work per worker, the share of the working-age population in work (the employment rate), and the share of the working-age population in the total population.<sup>3</sup>

Until the mid-1970s the United States was the clear productivity leader with the EU countries partly compensating for the effect of their lower productivity on GDP per head through a higher employment rate and longer working hours. From the mid-1970s there was significant reversal in both these dimensions. U.S. labor input increased markedly through both the employment rate and hours of work, while in Europe employment rates remained stagnant and working hours fell sharply; these combined movements reversed the negative U.S. balance in labor input. At the same time the huge initial productivity lead of the United States was substantially eroded. By the 1990s the U.S. advantage in per capita income was being maintained largely through higher labor input supplementing its much reduced superiority in productivity.<sup>4</sup> The later years of the 1990s saw a partial reversal of this picture, sustained into the 2000s. Productivity growth in the United States recovered to rates last seen in the 1960s. This resurgence has, however, slowed down the “great American jobs machine,” such that the U.S. growth pattern be-

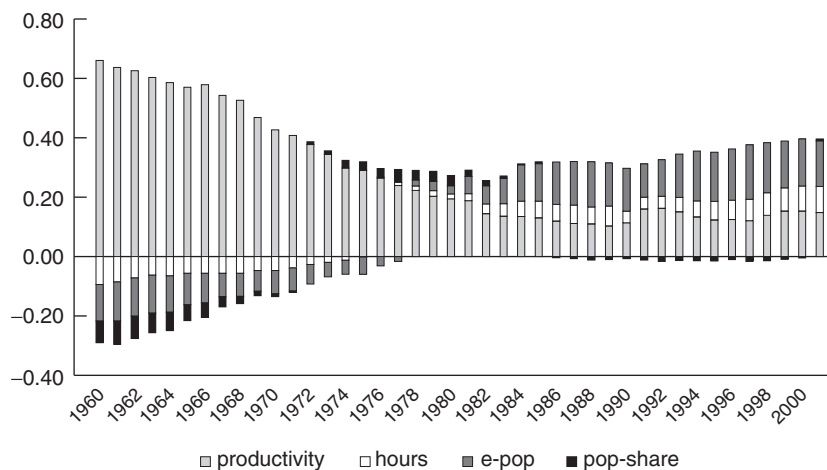
<sup>3</sup> GDP per head of population can be written as

$$\frac{Y}{pop_{tot}} = \frac{Y}{hE} * \frac{hE}{E} * \frac{E}{pop_{15-65}} * \frac{pop_{15-65}}{pop_{tot}},$$

where  $Y$  denotes GDP,  $pop$  is population with subscripts  $tot$  for total and  $15-65$  for working age,  $h$  denotes hours of work, and  $E$  is persons employed. Using logs, the difference between the United States and Europe can be expressed as the sum of the differences in the components:

$$\begin{aligned} \Delta \ln \left( \frac{Y}{pop_{tot}} \right)^{US-EU} &= \Delta \ln \left( \frac{Y}{hE} \right)^{US-EU} + \Delta \ln \left( \frac{hE}{E} \right)^{US-EU} \\ &\quad + \Delta \ln \left( \frac{E}{pop_{15-65}} \right)^{US-EU} + \Delta \left( \frac{pop_{15-65}}{pop_{tot}} \right)^{US-EU}. \end{aligned}$$

<sup>4</sup> For further detail and discussion of these developments see Blanchard 2004; Gordon 2004; Freeman and Schettkat 2002; and Baily and Solow 2001.



**Fig. I.1.** Contributions to the Gap in GDP per Head of Population, 1970–2001 (U.S. less EU at PPP prices)

*Source:* Computations are based on OECD data (Economic Outlook database, OECD PPP benchmarks [OECD 2002]).

gins to appear to parallel European experience (see Gordon, this volume; Schettkat 2004). In the succinct summary given by Blanchard (2004) the main difference in economic performance over the past 30 years is that Europe has used its higher rate of productivity growth to increase leisure as well as income, while the United States has forgone additional leisure in favor exclusively of higher income.<sup>5</sup>

The most direct route to higher income is the two-earner household, with high female labor market participation. The share of two-earner couples is some ten percentage points higher in the United States (and the United Kingdom) than in other European countries, and the shortfall in female employment in Europe is the largest single source of the U.S.-EU jobs gap (Salverda, Bazen, and Gregory 2001). Two-earner households and long-hours workers buy from the market goods and services that, at lower employment rates, would be provided within the house-

<sup>5</sup> This broad-brush description relates to the European countries as a group and ignores much cross-country variation. Employment rates are high in the Netherlands and the United Kingdom; hours of work declined dramatically in the Netherlands but not the United Kingdom; productivity differences with the United States are now minor except in the United Kingdom and Spain, with France in particular in some years exceeding U.S. levels of output per hour.

hold: child care and elder care, house maintenance and cleaning, ready meals and meals outside the home, valeting services for the income-rich and time-poor. This perspective has been further developed by Freeman and Schettkat (2005), who note that hours spent in market work have been declining for men while they have increased for women, especially in the United States, with the major difference in time spent in market work occurring among women in the core age group 25–54. In the 1990s overall working hours were remarkably similar for American and European women. However, the average American woman was allocating 50 percent of her working hours to the market and 50 percent to the household, while her European counterpart was spending two-thirds of her working hours on home production and only one-third in the market. This substitution of home production by market purchases of goods and services, a development that has been labeled *marketization*, has proceeded further in the United States than Europe. As Freeman and Schettkat further argue, this difference in marketization and the allocation of working time sustains a higher level of market demand, and one that comprises a different mix of purchases, with a particular orientation towards services (see also Freeman, this volume).

This insight on the role of marketization is a fruitful starting point for an alternative approach to the U.S.-EU employment gap, through demand differences. A striking feature of United States–Europe comparisons is that the gap in demand per head of population is considerably greater than the income gap, and has been widening over recent years as the employment gap has become established. A further, frequently neglected, fact is that the transatlantic employment gap is highly skewed, concentrated almost entirely in certain services. Although the industrialized economies are now all “service economies,” this description applies with particular force to the United States. The share of services in U.S. final demand is around ten percentage points higher than in the European economies. While the shift of output and employment towards services continues everywhere, this “services gap” shows no sign of diminishing.

Two well-known explanations have been put forward for the increasing role of services in a modern economy. The “hierarchy of needs” postulates a shift into the consumption of services as income rises. More precisely, Fuchs (1980) has shown that the share of services in overall employment follows a logistic curve against income per capita, a relationship that continues to hold. Baumol’s (1967) “cost disease,” on the other hand, suggests that important areas of service provision are technologically stagnant and therefore experience rising relative prices, resulting in larger shares of expenditure and employment being concentrated in services. Both these approaches are directed to explaining the

rising share of services within an economy over time. Our focus is the international comparative one. Why is the role of the service sector so much larger in the United States? In particular, how far do differences in levels and patterns of demand, including the marketization of household production, explain the United States–Europe differences in employment?

This major research agenda was addressed in the international project Demand Patterns and Employment Growth: Consumption and Services in France, Germany, the Netherlands, Spain, the United Kingdom and the United States (abbreviated DEMPATEM). The objective of the project was to examine how far differences in demand patterns, particularly for services by households, could account for the employment gap between the United States and these various EU economies. The analysis spans both the level and the structure of demand at the macroeconomic level and its detailed composition at the household level. To do this effectively required the assembly of a multinational research team to prepare comparable micro-level data on the expenditure patterns and characteristics of households, and on employment. The research program was constructed to be an integrated whole, while representing the range of European economic models and experiences. Together the five selected economies comprise 70 percent of the population of the EU-15. Germany and France are the major economies of the continental EU, and key representatives of the European “social model” and its current employment challenges. The United Kingdom and the Netherlands feature considerable success in employment growth, and dimensions of labor market flexibility, particularly in the substantial role of part-time work. Spain represents the new, fast-growing economies in the west and southern regions; it has its own approach to the employment problem through fixed-term contracts. The main economies not represented are the Scandinavian group, whose socioeconomic model is *sui generis* and, while widely respected, is not attracting imitators. The United States is taken as the benchmark throughout.

The framework for the DEMPATEM project combines micro-level analysis of demand and employment patterns with economy-wide multi-sectoral modeling of their linkages. Patterns of household consumption expenditure recorded in budget surveys are analyzed on a comparable basis across countries, with as much disaggregation, particularly of services, as the data allow. Differences in household composition and in the labor market participation of household members are incorporated. Harmonized input-output tables for each country trace the implications of demand patterns for the sectoral structure of production and levels and patterns of employment. The period analyzed, the 1970s to the late 1990s, brought significant structural change affecting consumption, pro-



duction, and employment. In the EU economies the real incomes of households rose at historically high rates, bringing rising levels of consumption and living standards, a development that was more muted in the United States. On both sides of the Atlantic production patterns were increasingly characterized by deindustrialization and the continuing shift to services. Outsourcing, increasingly involving offshoring, was hollowing out manufacturing industry, in part replacing activities previously conducted within manufacturing by bought-in supplies, particularly of services. Business services, supplying to producers, became one of the fastest-growing sectors, as service-to-service supply chains in particular were developed. In employment, although each country experienced the shift to services, the striking characteristic was the divergence between the rising employment rates in the United States and their static record in the EU, giving rise to the employment gap.

The following chapters draw on the DEMPATEM analysis and the invited contributions to analyze a range of facets of the role of the service sector in the employment experience of the United States and the EU over recent decades.

In chapter 1 Wiemer Salverda and Ronald Schettkat introduce the analysis by highlighting the nature and source of the employment gap. In its emergence and persistence an association can be seen between the employment gap and the gap in expenditure per head (the “demand gap”) between the United States and Europe. The employment gap is concentrated in the service sector, and within that in two areas, most importantly distribution, hotels, and catering, followed by community and personal services. Consumption dominates demand in both the United States and Europe, but particularly in the United States. Demand for services dominates in consumption, again particularly in the United States. The level and composition of private household expenditures are strongly influenced by institutional arrangements, with the public sector frequently an important provider of services for consumption in Europe that are provided privately in the United States. When services that are publicly provided for individual consumption, such as health care and education, are reallocated to private consumption, collective consumption emerges as taking a remarkably similar share of demand in the United States and in Europe. The rising relative price of services everywhere is confirmed. At purchasing power parity (PPP) dollars, however, services overall emerge as more expensive in the United States, although this relates heavily to education and health care rather than to marketed services such as hotels, restaurants, and recreational services. A final section reviews the main hypotheses that have been put forward to explain the rising share of services and indicates how these have been approached in the chapters that follow.

It was Victor Fuchs whose crucial contributions in the 1960s alongside those of William Baumol launched the debate on the reasons for the growing importance of the service sector. In chapter 2 Fuchs looks back at his own arguments in the light of the experience and enhanced knowledge gained over the intervening decades. He confirms with updated empirical support his famous finding on the rise in the employment share of services and its strong statistical relationship to GDP growth both across countries and over time within countries. Explaining this phenomenon, however, he still views as a difficult task. He endorses as the two main candidate explanations the differential growth in demand for services due to their higher income elasticity, on the one side, and low productivity growth in their production, on the other. He is, however, pessimistic about the possibility of successfully disentangling their relative contributions. The great stumbling block that he notes is the difficulty of achieving accurate measurement of service sector output (and therefore productivity). In health care, one of the largest service industries, developments in diagnosis and treatment bring not only longer lives but lives of higher quality. More subtly, part of the output of health care takes the form of caring—valued by the patient and properly a part of the industry’s output, but again rarely measured. A further difficulty for the measurement of productivity, peculiar to services, is the contribution of the consumer as a cooperating agent in their production. In making her selections in the supermarket she contributes to productivity in retailing, while how well she follows her medication regime influences the productivity of her health care professionals. Fuchs concludes by indicating the pervasive implications of the growth of the “service economy”: more employment opportunities for women, more self-employment, a greater role for small firms and nonprofit organizations, and, perhaps most fundamentally, the greater “personalization” of work.

William Baumol’s seminal contribution in 1967 has caused his name to become inextricably bound up with the “cost disease” hypothesis, in which the growing share of services in the economy is attributed to the slow evolution of labor productivity in this sector. Baumol reminds us that he has always been happy to acknowledge that changing preferences in favor of services may also contribute to the growing employment share of services—this may even enhance the role of the cost-disease story, as he puts it. In his present contribution (chapter 3) he develops the cost disease approach a step further, probing within the service sector. He distinguishes three types of service, *stagnant*, *progressive*, and what he terms *asymptotically stagnant*. These are differentiated by their productivity characteristics. *Stagnant services*, of which health and education are leading instances, are characterized by the “handicraft attributes” of personal contact, preventing productivity gains and giving

rise to cost disease. On the other hand, many of the services involved in the “new economy,” such as telecommunications, where personal contact is not involved, achieve sometimes spectacular productivity growth. In an initially surprising and apparently paradoxical claim he then identifies a third set of services, *asymptotically stagnant sectors*, related to R&D and innovative activity. These services are not only subject to the cost disease themselves, but also “in some sense may be deemed the ultimate source of the problem.” The contribution of R&D and innovation is the ultimate source of the remarkable growth of productivity achieved in agriculture and manufacturing. This productivity growth brings about these sectors’ ever-diminishing share in employment. The “asymptotically stagnant” sectors themselves use inputs from both stagnant and progressive sources. Initially costs fall due to the progressive inputs, but then rise asymptotically as the inputs from stagnant sources take an ever-increasing share. R&D exemplifies the asymptotic stagnancy as stagnant mental work—we are no more proficient than Isaac Newton—is combined with equipment such as computers from progressive sources. In due course, Baumol suggests, the growing costs of R&D will lower demand for these services, slowing the pace of innovation everywhere including in goods production and mitigating the cost disease. He ends, however, in more upbeat mode, drawing on the conclusion from Oulton (2001) that, where asymptotically stagnant services, such as innovation, contribute intermediate inputs to other sectors, any nonzero productivity growth will contribute additively to productivity in the production of final output.

In chapter 4 Mary Gregory and Giovanni Russo address the DEM-PATEM agenda directly, analyzing the impact of demand patterns on employment using an input-output framework applied to the United States and the five EU economies. The key concept that they use is the employment generated economy-wide in supplying each product or service to final demand; this encapsulates the employment created at all stages of the production process, reflecting technologies adopted throughout the supply chain. When employment intensity is measured on this basis, some striking results emerge that throw an important new light on the transatlantic employment comparison. The employment intensities of services and goods production emerge as approximately equal; the popular wisdom of the greater employment intensity of services emerges as an illusion, based on the final stage of delivery only. At the same time final demands originating in both services and “manufacturing” (i.e. nonservices) are increasingly generating jobs located in services. The final demand mixes of the European economies are *more* employment-friendly than the U.S. pattern; the demand mixes of all the European countries would raise U.S. employment, while the U.S. mix

would result in lower employment in the European economies. On the other hand the European consumption patterns tend to be *less* employment-friendly than that of the United States. The consumption patterns of France and Germany would reduce U.S. employment by 3–5 percent respectively; conversely, if the U.S. consumption mix were adopted in the European economies, the level of employment there would be 2–4 percent higher. The most striking finding from Gregory and Russo's analysis is that demand growth has been the major source of employment growth, offset by job losses through labor productivity gains. Structural change along the supply chain, including outsourcing, both creates and destroys jobs, with only a small net effect. In the United States stronger demand growth has brought more job creation, while weaker productivity gains have been less job-destroying than in the European economies. These are the major factors that have opened up the employment gap.

This macro picture arising from the DEMPATEM research is complemented by the comparative analysis of household consumption patterns reported by Adriaan Kalwij and Stephen Machin in chapter 5. This rests on six detailed country contributions by John Schmitt for the United States, Laura Blow for the United Kingdom, Marijke van Deelen and Ronald Schettkat for Germany, François Gardes and Christophe Starzec for France, Adriaan Kalwij and Wiemer Salverda for the Netherlands, and Javier Ruiz-Castillo and María-José Luengo-Prado for Spain. The analysis is based on household budget surveys for each country. A major problem for the cross-country analysis of household expenditure patterns is the varying role of public provision, particularly in health care and education. The analysis here is restricted to those expenditures that are unaffected by the differing public/private split in provision across the six countries, giving coverage of between 55 and 75 percent of total average household expenditures in each country. Kalwij and Machin document the strong increase in expenditure on housing and other services, notably food and beverages away from home, private transportation, and communication services at the expense of the budget share of food and nonalcoholic beverages. In all countries the relative price of services has risen. The level of total household expenditure emerges as the most important influence on the rising budget share of services over time, with a further, smaller, impact from the changing demographic composition of households, including the rise of two-earner households. Overall the shift towards services runs parallel between the United States and Europe, but with the United States at a higher level. A wealth of further detail on consumption patterns is available in the individual country reports among the DEMPATEM working papers listed at the end of the book.

Following the theme of the importance of differences within the service sector, chapter 6 by Andrew Glyn, Joachim Möller, Wiemer Salverda, John Schmitt, and Michel Sollogoub takes as its focus retailing, along with hotels and catering. Within private services this sector makes the biggest single contribution to the transatlantic employment gap. It is the service sector most closely related to the consumption activities of households, and is exclusively in the market sector of the economy. In all countries these industries' workforce is biased towards women, young workers, and the low skilled, groups whose wage position would be at risk without the protection of collective bargaining or wage regulation. However, the authors' analysis of the wage structure in retailing relative to the rest of the economy shows that the retail sector in the United States is not able to exploit the higher wage flexibility often claimed and pay lower wages relative to regulated Europe. They conclude that differing wage patterns are not a dominant source of employment differences between the United States and Europe in these sectors. Examining relative productivity and its growth, the authors find that stronger productivity growth in the distributive services in the European economies contributed to the jobs gap in this sector only in the 1970s; in the two later decades this effect disappears. Labor market inflexibilities, prompting the substitution of capital for labor and forcing "excessive" labor productivity, do not appear to have been the fundamental restraint on European services, particularly in the 1990s. Their main finding is that the much higher volume of goods consumption per capita in the United States as compared to Europe—the "throughput" in distribution—is the main proximate factor behind the employment gap in retailing. Productivity is somewhat higher in European retailing but this plays only a subsidiary role.

In chapter 7 Robert Gordon also tackles the question of relative U.S. performance in retailing, but set in the context of the dramatic loss of ground by the European economies since 1995. This short span of years has seen Europe's growth rate of output per hour drop to only half the rate in the United States, wiping out fully one-fifth of the European productivity catch-up of the previous half-century (from 44 to 94 percent of the U.S. level, and then back to 85 percent). His main theme is that the discussion of policy reform in Europe has focused too narrowly on deregulation of labor and product markets when recent trends reflect much more fundamental lifestyle choices. Gordon notes that much of the acceleration of U.S. productivity growth in this period originates with distribution, particularly retailing, driven by the move to the "big box" retailing format on a large plot of land in a sprawling metropolitan area. He sees this as an example of "American exceptionalism," reflecting an attitude to urban growth that contrasts with the land-use plan-

ning and regulation found in Europe. A further area that Gordon addresses is the growing American dominance in many frontier areas of innovation. While this is fueled by information and communication technology (ICT), its roots lie deeper in many features contributing to the more favorable environment for innovation in the United States. While these institutions and lifestyle choices may not be universally admired on either side of the Atlantic, the rapid reopening of the productivity gap between Europe over the past few years is a sharp reminder of their fundamental importance.

Richard Freeman (chapter 8) examines the “marketization” hypothesis, that higher employment in the United States is due to the more extensive shift of traditional household production—food preparation, childcare, care of the elderly, domestic cleaning—to the market there than in Europe. Using time-use surveys and other sources, he shows that household production is lower in the United States than in Europe. As he notes, the marketization of household production is a powerful development as it works on both sides of the labor market to increase employment. On the supply side, when more women work in the market, taking the time from household production rather than leisure or the market time of other household members, household production is reduced. This increases market demand for replacement goods and services, either directly through the purchase of, for example, cleaning services, or indirectly through the nature of goods purchased, such as prepared meals in the supermarket, all of which generate additional employment. The differing extent of marketization affects the composition as well as the level of employment. Given the historical concentration of women in household production the marketization argument applies most readily to differences in women’s employment, a major dimension of the United States–Europe employment gap. Increased engagement in paid work by more highly educated women, whose comparative advantage is likely to lie in market-based employment, will increase demand for lower-skilled workers to replace them in carrying out domestic jobs.

Chapter 9 brings together the insights into the role of services that emerge from the analyses in the earlier chapters, relating them to the various explanatory hypotheses to gauge their relative force. Unsurprisingly, given its widespread and complex roles, the growing prominence of the service sector is found to reflect a range of influences involving the behavior of households, firms, and governments. The greater orientation towards services of the U.S. economy can be seen as accounting for part of the United States–Europe employment gap. More strikingly, however, the period from the early 1970s to the mid-1990s appears to have been exceptional on both sides of the Atlantic. In the United States it featured remarkable expansion of employment but with only limited productivity

gains; in the European economies it was characterized by strong productivity growth but sluggish employment. The emerging record of the decade since the mid-1990s suggests some reversal of these patterns. In the United States productivity growth has been remarkably strong relative to previous decades, while employment growth has slackened. In Europe, on the other hand, employment growth is becoming less sluggish, while productivity growth is faltering. Extrapolating these trends would suggest that the United States–Europe employment gap will start to narrow, while the productivity gap may again widen. We see the driving force behind the range of developments described in the individual chapters as the ongoing search for efficiency gains through specialization and the division of labor, implemented through the market. The growing role of the service sector epitomizes this process and carries it forward.