INTRODUCTION

The German Story

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By any reasonable standard definition of “low-wage work,” about a quarter of American wage earners are low-wage workers. The corresponding figure is smaller, sometimes much smaller, in other comparable advanced capitalist countries. This fact is not very good for the self-image of Americans. It does not seem to be what is meant by “crown(ing) thy good with brotherhood, from sea to shining sea.” The paradox, if that is the right word, is the starting point for the extensive study of which this book is an important part. What are the comparative facts, what do they mean, and why do they turn out that way?

A foundation dedicated from its beginning to “the improvement of social and living conditions in the United States of America” has to be interested in the nature of poverty, its causes, changes, consequences and possible reduction. Low-wage work is not the same thing as poverty, still less lifelong poverty. Some low-wage workers live in families with several earners, and share a common standard of living, so they may not be poor even while working such jobs. Some low-wage workers are on a reasonably secure track that will eventually move them to better paid jobs, so they are not poor in a lifetime sense. But some low-wage workers are stuck with very low income for a meaningful length of time. For them, low-wage work does mean poverty in the midst of plenty.

Of course, the incidence of poverty can be reduced by transfer payments outside the labor market. Nevertheless, in a society that values self-reliance, and in which productive work confers identity and self-respect as well as the respect of others, income redistribution unconnected or wrongly connected with work is not the best solution except in special cases. In that kind of society, ours for instance, the persistence of low-wage work is felt as a social problem on its own. It first has to be understood if we are to find satisfactory ways to diminish its incidence or alleviate its effects.
One obvious basis for low-wage work is low productivity, which may be primarily a characteristic of the worker, as is often simply assumed, or may be primarily a characteristic of the job. If it inheres in the job, equity could be achieved by passing the job around, so to speak, like boring committee assignments or military service, but that would have no aggregate effect. Wherever low pay originates, however, raising productivity provides a double benefit: it diminishes the amount of low-wage work to be done, and it increases the useful output of the whole economy.

Low productivity, and therefore low-wage work, tends to reproduce itself from generation to generation. This is an important additional reason why a high incidence of low-wage work is a “social condition” that needs to be improved. Growing up in a chronically low-wage family limits access to good education, good health care, and to other ladders to social mobility. So a persistent high incidence of low-wage work, when confined to a relatively small group, contravenes the widely accepted social goal of equal opportunity.

These are among the reasons why, in 1994, the Russell Sage Foundation inaugurated a major program of research on the nature, causes, and consequences of low-wage work and the prospects of low-wage workers. This initiative replaced a successful but more conventional program of research on poverty. It was called, rather grandly, *The Future of Work*. One of its key motivations was the need to understand how poorly educated, unskilled workers could cope with an economy in which most jobs were becoming technologically advanced, and therefore more demanding of cognitive power and refined skills.

This formulation was intended to call attention both to workers and to jobs, the natural subtext being that low-end jobs might be disappearing faster than low-skilled workers. This potential disparity presented the danger that low-wage workers could be stranded in an economy that had no use for them. The research mandate was interpreted quite broadly.

*The Future of Work* program was, as a matter of course, focused on the United States. It produced a large body of useful and original research, some of which was collected and summarized in the 2003 volume *Low-Wage America: How Employers Are Reshaping Opportunity in the Workplace*, edited by Eileen Appelbaum, Annette Bernhardt, and Richard Murnane. One of the refreshing aspects of these studies was precisely that the needs and capacities of employers...
shared the stage in the low-wage labor market with the abilities and motivations of workers.

One interesting hypothesis that emerged from this work was the notion that employers have significant discretion about the way they organize their use of low-skilled workers and the value they put on the continuity and productivity of their work force. The extreme versions came to be labeled “low-road” and “high-road” modes of organization. At the low-road extreme lie employers such as the typical car-wash, whose workers are regarded as casual labor, interchangeable parts that can be picked up off the street freely under normal labor-market conditions. There is no advantage in doing otherwise. At the other extreme are employers who regard their unskilled workers as an asset whose productive value can be increased by more training and longer attachment to the firm.

The point of this distinction was the belief that in some market situations both styles can be viable. An employer’s place on the continuum is not uniquely determined by technology and the intensity of competition in the product market. Satisfactory profits can be earned by somewhat higher- and somewhat lower-road modes of organization; in some industries, examples of both can be found coexisting.

Of course, the nature of the technology and the competitive intensity in the industry are important determinants of labor-market outcomes. That is not in doubt. In some situations, however, there may be scope for several levels of wages and job quality for unskilled workers. It is important here to note that job quality covers much more than the current wage and benefits paid; it includes the length and slope of the internal wage scale, the degree of job security, the training offered and the possibilities of promotion within the firm, small creature comforts, the pace of the work itself, the autonomy and ergonomic character of the work, and so on. Each of these has a cost to the firm and a value to the workers, and the two are not always the same.

It hardly needs arguing that these elements of job quality can be important for the satisfaction and self-respect attached to a job. It then becomes important to the researcher to understand the broad factors that govern the typical choices made by employers. These may include historical precedents, legislation, the working of the educational system, collective bargaining, and other “institutional” biases.

At this stage of the argument, the advantages of a comparative cross-country study stand out. Most of those broadly institutional
factors cannot be studied empirically within the United States because they change so slowly in time, and because there is not much locational variation. One cannot actually see them at work in a still snapshot. One can speculate and make thought-experiments, but that is not the same thing. So the idea sprouted within the Russell Sage Foundation in 2003 that it might be very useful to observe systematically how the fate of low-wage labor differs across a sample of European countries. Not any countries will do: one wants countries with somewhat different but not radically different political and institutional histories; but they must be at the same level of economic development as the United States if lessons are to be learned that could be useful in the United States. In the end, the countries chosen included the three indispensable large countries—France, Germany, and the United Kingdom—and two small northern European countries—Denmark and the Netherlands. The choice was consciously limited to Europe in order to avoid the complication of drastically different sociopolitical systems. A competition was held, and a local team selected for each of these five countries.

The planners of the project framed it in such a way that would sharpen the inferences that could be made from cross-country comparisons. Most centrally, five target jobs were chosen as objects of close study, the same five in each country. They were nurses’ assistants and cleaners in hospitals, housekeepers in hotels, checkout clerks and related occupations in supermarkets and retail stores specializing in electrical goods, packagers, machine tenders and other unskilled occupations in two branches of food processing, namely confectionary and meat products, and low-skilled operators in call centers. (This last choice took advantage of an already ongoing international study of the call-center industry.) These are all low-wage jobs in the United States. The fact that some of them are not low-wage jobs in some of the five countries is an example of the value of cross-country comparisons. The simple fact invites, or rather compels, the question: Why not?

Each national team was asked to compile a statistical overview of low-wage work in its country, with special but not exclusive attention to the five target jobs. The team was also asked to complement the routine data with a survey of the historical, legislative, educational and other institutional infrastructure that is believed to underlie its own particular ways of dealing with low-end jobs and low-skilled workers. The final part of each country report is a series of
case studies of each of the target jobs, including interviews with employers, managers, workers, union representatives and other participants. (When temporary work agencies were used to provide some or all of the relevant workers, they were included in the interviews wherever possible.) The national teams met and coordinated their work in the course of the research. This book is the report of the Germany team.

There will be one more stage to complete the project. A six-country group of participants, including Americans, will prepare an explicitly comparative volume, job by job. They will try to fathom what deeper attitudinal, institutional, and circumstantial factors might explain the sometimes dramatic differences in the way these six modern nations engage with the problem of low-wage work.

One big, somewhat unexpected, finding is the one mentioned in the first paragraph of this introduction. The six countries differ substantially in the incidence of low-wage work. (“Incidence” is defined as the fraction of all workers, in the country or in a specific sector, who fall into the low-wage category.)

There is an interesting and important definitional issue that arises immediately. Uniformly in Europe (and elsewhere), a low-wage worker is anyone who earns less than two-thirds of the national median wage (usually the gross hourly wage, if only for data-availability reasons). This obviously makes the incidence of low-wage work an index of the inequality or dispersion of the wage distribution: multiplying or dividing everyone’s wage by ten leaves the number of low-wage workers unchanged. The same applies to the measurement of poverty. In the United States, the poverty line is an absolute income. It was initially chosen as an empirical compromise, never entirely appropriate and less so as time passes, but nevertheless an absolute income. The United States has no corresponding definition for low-wage work, but the same approach could be taken. There are arguments to be made on both sides of this issue; for the purposes of this project, the choice of a low-wage threshold makes little practical difference. We use the European definition because that is the way their data are collected.

There is yet another practical reason to use the European definition. As noted, the two-thirds-of-median index simply reflects the degree of wage dispersion: a low incidence of low-wage work means a relatively compressed wage distribution, at least in the lower tail. This measure makes international comparisons more meaningful.
Comparing absolute real wages between the United States and other countries is problematic because pensions, health care, payroll taxes, employer contributions and other such benefits and deductions are handled differently in different systems. Relative comparisons are subject to similar distortions, but considerably less so.

Here are the basic facts. In 2005, the incidence of low-wage work was 25 percent in the United States, 22.1 percent in the United Kingdom, 20.8 percent in Germany (2004), 18.2 percent in the Netherlands (2004), 12.7 percent in France (2002) and 8.5 percent in Denmark. The range is obviously very wide.

In a way, that is helpful, because figures like this cannot be interpreted to the last decimal. Here is one interesting example of an unexpected twist. It turns out that the Dutch are the part-time champions among these countries, with a significantly larger fraction of part-time workers than elsewhere. This appears to be a voluntary choice, not something compelled by the unavailability of full-time work. Part-time workers tend to be paid lower hourly wages than full-time workers in the same or similar jobs, even in countries where it is against the law to discriminate against part-timers. The incidence measures given in the preceding paragraph are based on a headcount: 18 percent of all Dutch workers earn less than the low-wage threshold. One could with reason ask instead what fraction of the hours worked in the Netherlands falls into the low-wage category; the answer is about 16 percent. The fact that the hours-based incidence is lower would be common in all countries, but the difference is particularly large in the Netherlands.

A key issue is the degree of mobility out of low-wage work that characterizes each country’s system. The seriousness of the “problem” turns almost entirely on the transitory nature of low-wage work. It is impossible to be precise about inter-country differences, because the data are sketchy and definitions vary. It is clear, however, that there are substantial differences among the countries, although mobility is fairly substantial everywhere, if only because younger workers eventually propel themselves into better jobs. The Danes appear to have the shortest residence times in low-wage work. For Americans the take-away lesson is that the self-image of an extremely mobile society is not valid, at least not in this respect.

Of course, there are many uniformities—often just what you would expect—among these countries in the pattern of low-wage work. The “concentration” of low-wage work in any subgroup of the
population is defined as the incidence in that subgroup divided by
the incidence among all workers. For instance, any subgroup with a
higher incidence than the country at large will have a concentration
index bigger than 1. This is the case for workers in the service sector
of the economy, for women, for young people, for part-timers, and for
those with little education. In most instances, the particular sectors
we have picked out for study have a high concentration index; to-
gether, retail trade and “hotels and catering” have a concentration ra-
tio of about 3 in the Netherlands. The categories mentioned obvi-
ously overlap, but the data do not permit us to zero in statistically on
young part-time secondary-school-only women working in super-
markets. Nevertheless, the odds are very high that they fall into the
low-wage category.

The cross-country differences are more interesting, however, be-
cause they at least offer the possibility that we can find explanations
for them in the circumstances, institutions, attitudes and policies of
these basically similar economies. It is important that these are basi-
cally similar economic systems with broadly similar labor markets.
They differ in certain historically established social norms, institu-
tions and policies. One can hope to figure out which of these fairly
small differences underlie the observed variation in the conditions of
low-wage work. This would be difficult or even meaningless if we
were comparing radically different economic systems.

Here is one example of commonality that illustrates the point. In
some of the target jobs, in several instances and several countries,
there has been a noticeable increase in the intensity of competition in
the relevant product market. Low-cost German chains compete with
Dutch food retailers. Large food retailers, domestic and foreign, put
pressure on meat processing and confectionary prices in every coun-
try. The spread of international hotel chains—along with the avail-
ability of exhaustive price comparisons on the internet—has made
the hotel business more competitive. In all such instances, business
firms respond to intensified competition by trying to lower their own
unit costs (as well as by product differentiation, quality improve-
ment, and other devices).

The urgent need to reduce costs seems almost invariably—though
not exclusively—to involve particular pressure on the wages of low-
skilled workers. It is not hard to understand why this should happen
in every country, precisely because they are all advanced capitalist
market economies. The main reason is that low-wage workers usu-
ally have very little “firm-specific human capital.” That is to say, since they have few skills of any kind, they have few skills that are difficult to replace for the firm that employs them. If they quit in response to wage reductions, they can be replaced with little cost, especially in a slack labor market. Low-wage workers have few alternatives, so they cannot defend themselves well. For similar reasons, they have little political power and usually little clout with their trade unions, if they have any union protection at all. Firms seeking profit will respond similarly, though not identically in every detail. Country-specific institutions can modify the response, but not entirely.

A closely related common factor has to do with “flexibility.” Partly because technology now permits it, and partly because a globalized market now demands it, business firms find that their level of production has to fluctuate seasonally, cyclically and erratically. Sometimes it is not so much the total but the composition of production that has to change, often with short notice. Under those circumstances, it is an advantage if the firm can vary its employment more or less at will; otherwise, underutilized labor constitutes an unproductive cost. The low-end labor force is likely to bear the brunt of this adjustment, for the same reasons already mentioned in connection with wage pressure. Low-wage workers cannot do much to defend themselves against or prepare themselves for these vicissitudes, other than to try for even lower-wage part-time jobs or to resort to public assistance.

There is always a possibility that observed cross-country variation in low-wage employment practices are somehow “natural,” in the sense that they can be traced to underlying differences that were not chosen and could not be changed, such as geographical or topographical characteristics, resource availability, or perhaps even some irreversible bit of historical evolution. That does not seem to be what is happening in these six countries. In many instances, cross-country differences are the result of legislation, with minimum wage laws being an obvious example. A more unusual example, at least to Americans, is the fact that many European governments, such as those in France and the Netherlands, can and do extend certain collective bargaining agreements to cover employers and workers in the industry who were not parties to the bargaining itself. In this way, even comparatively small union density can lead to much broader coverage by union agreements.

This need not be an unalloyed benefit to workers. Companies have been known to arrange to bargain with a small, weak union and then press for the resulting favorable agreement to be generalized. But the
practice may also reflect a desire by employers to eliminate large wage differentials as a factor in inter-firm competition. It is interesting that when the abolition of this practice of extending collective bargaining agreements was proposed in the Netherlands, the employers’ federation opposed the proposal. It is a toss-up which event seems more outlandish to an American: the practice of mandatory extension or that employers should oppose abolishing it.

Explicit legislation is not the only source of institutional differences that affect the low-wage labor market. All sorts of behavioral norms, attitudes, and traditions on both sides of the labor market can have persistent effects. The country narratives describe many such influences. For example, the German report outlines a distinctive system of wage determination and labor relations, based on diversified high-quality, high-value-added industrial production, along with “patient,” mostly bank-provided, capital, and participation of employee representatives in company supervisory boards.

This system may be coming to an end, undermined by international competition—especially from the ex-communist countries of eastern Europe, including the reunification of Germany—and shifts in public opinion and political power. It is still a matter of controversy among specialists whether the traditional system had become unsustainable or simply unsustained. The German “mini-job,” low wage, frequently incurring lower non-wage employment costs in practice, and limited to very short hours per month, is an example of a device to encourage both demand and supply for certain kinds of low-wage work.

This introduction is not the place for a detailed description of each national system. The individual country narratives will provide that. It is important, however, to underline the fact that the components of each national system often hang together in some way. It may not be possible to single out one component and think: “That looks clever; why don’t we try it in our country?” The German mini-job, for example, is occupied mostly by women, and may work the way it does because the social welfare apparatus in Germany is still organized around the notion of the single-breadwinner family. The concept of a labor relations “system” may suggest tighter-fitting than the facts justify; a word like “pattern” might be more accurate. But the basic point remains.

The four continental countries in the study correspond in a general way to the common notion of a “European social model” in contrast with the more individual-responsibility oriented approach of the United States. The post-Thatcher United Kingdom probably falls
somewhere in between. It would be a bad mistake, however, to ignore the differences among Denmark, France, Germany, and the Netherlands. To do so would be to miss the variety of conditions for low-wage labor that is possible for advanced capitalist market economies. Only the briefest characterization is possible here, but the individual reports are quite complete.

The Danish “flexicurity” system has achieved the status of a buzzword. The idea is to allow wages and job quality to be determined in an unregulated labor market (except for considerations of health and safety, of course) but to combine this flexibility with a very generous safety net, so that “no Dane should suffer economic hardship.” For this system to be workable, the rules of the safety net have to push most recipients into whatever jobs are available. Even so, the system is likely to be expensive. Apparently the lowest marginal income tax rate is 44 percent (which is higher than the highest rate in the U.S.). One would need to know more about the details of the tax system in order to understand the content of any such comparison, but the details are unlikely to reverse the presumption that Danes are less tax-averse than some others.

To describe the Danish labor market as “unregulated” means only that there is very little intervention by the government. In fact, the labor market is regulated through centralized negotiations between representatives of employers and employees, who have very wide scope. For example, there is no statutory minimum wage, but a minimum labor scale is negotiated by the “social partners.” It (almost) goes without saying that there is some evasion of this scale in traditional low-wage sectors, including some covered in the case studies. One reason why this is tolerated is that many of the affected workers are young people, especially students, who are only engaged in low-wage part-time work as a transitory phase. Denmark is a country that is low on university enrollments but high on vocationally-oriented post-secondary, non-university education.

There is a neat contrast here with France, which lives up to its reputation as a rather bureaucratically organized society. As the French report says, “Low hourly wages are fixed in France—perhaps more than in any other country—at the political level, not through collective bargaining agreements, and these wages are set in a centralized, not a decentralized, manner. Thus, the legal minimum wage plays a crucial role in France.” Since 1970, the SMIC (minimum inter-branch growth wage) is indexed not only to inflation but also to the
growth of overall productivity and wages. The intent was specifically to resist what was felt to be a tendency in the market toward excessive wage inequality.

The SMIC has been set at a fairly high level, and one consequence of this has been the disappearance of some unskilled jobs, to be replaced by unemployment (especially long-term unemployment), participation in active labor market policies, and withdrawal from the labor force. Other forces have been at work, however—urban land-use regulation in food retailing, for example—so the simple-minded causal connection between the SMIC and high unemployment is not exact. France is also distinguished by having a trade union movement that is rather strong at the national level, but has very little presence on the shop floor. This may account for some evasion of labor market regulations at the low end.

The low-wage labor market in the United Kingdom is especially interesting because it is an example of changes in institutions and outcomes brought about in a relatively short time by deliberate acts of policy. The Thatcher government chose as a matter of principle to weaken or eliminate preexisting supports for the occupants of low-quality jobs, and to undermine the ability of the trade union movement to compress the wage distribution. As a result, the incidence of low-wage work increased in the late 1970s and after. The Blair government, looking for a work-based solution to the problem of poverty, undertook measures to increase the supply of low-wage workers, but it also introduced a (fairly low) National Minimum Wage in 1999. The net outcome appears to have been a steady increase in the incidence of low-wage work from the late 1970s until the mid-1990s, and a leveling-off since then.

In effect, the United Kingdom has changed from a system rather like the other continental European countries to something much closer to the United States. The incidence of low-wage work has then followed the same trajectory. Of course, other economic factors, common to many countries, were also at work.

The Netherlands occupies a position somewhere between the Nordic model and the United States model, but not in a simple average sense. Many of the institutions are peculiarly Dutch; together they are described as the “Polder” model. One of its features is the important extent to which organizations representing employers, the government, and labor act jointly to regulate the labor market and much else, sometimes in a very detailed way. For instance, the mini-
mum wage for young workers is substantially lower than for adults. The proliferation of part-time jobs, many of them occupied by students and young people, may be a consequence of this in part, though it may have other roots as well.

It is striking to an outsider that these tripartite institutions are more than merely regulatory. They are described as “deliberative,” and apparently much of the serious public discussion of issues underlying socioeconomic policy takes place within them. This fact may make fairly tight regulation palatable to the Dutch public. The system has had considerable success; for example, the national unemployment rate fell from over 10 percent in 1984 to under 4 percent in 2001, when the widespread recession supervened. As will be seen in the Dutch report, however, it has its problems.

The purpose of these brief vignettes is definitely not to provide a summary of the pattern evolved in each of these countries with respect to low-wage job quality. That information is to be found in each of the separate country studies. The goal of this introduction is to illustrate the important general point that there are several viable systems of labor-market governance, including the mode of management of the low-wage labor market. The issue is not uniquely determined by the needs of a functioning market economy, or by technology, or by the imperatives of efficient organization. The system in place in each country has evolved in response to historical circumstances, cultural preferences, political styles and fashion in economic and social ideas. One cannot avoid noticing that relatively small countries, like Denmark and the Netherlands in our sample, and the other Nordic countries, Austria and perhaps Ireland outside it, seem more able than large countries to create and maintain the amount of trust that is needed for tripartite cooperation. This observation begs the question as to whether successful policy aimed at improving the relative status of low-wage workers may require a degree of social solidarity and trust that may be beyond larger, more diverse populations.

There are certainly many common influences as well: the response to intensified competition; the role of women, immigrants, and minorities; limitations on productivity; and so on. But there is no unique or best pattern. It even seems likely that the same “principles” of organization, applied in different institutional contexts, would eventuate in quite different practices. Some of this may emerge in the detailed comparative volume that is still to come.

Putting together a coherent story about low-wage work in Germany is complicated by the reunification of the country after the fall
of communism. East Germany was (and is) at a significantly lower level of productivity and real wages than West Germany. To group them together even now would distort the picture by classifying very many workers in the East as earning less than two-thirds of the combined national median wage. The report makes the distinction wherever necessary.

The general picture is that from 1980 to about 1995, the incidence of low-wage work among full-time employees in West Germany trended very slightly downward, from just above 15 percent to a bit above 14 percent. Since 1995, incidence has gone up, reaching 17 percent in 2003. (In East Germany, using its own median wage as a reference point, the incidence of low-wage work is even higher, and has been increasing more steeply.)

The German team relates this groundswell to incipient changes in the broad German industrial system. During the postwar *Wirtschaftswunder*, West Germany adopted a system often described as “diversified high-quality production” and became one of the world’s leading manufacturing producers and exporters. Two important attributes of this system should be mentioned. First, the large capital investment needed to reconstruct the German economy was in large measure provided by big banks, who were prepared to focus on modest long-term returns rather than immediate profit, and whose representation on managing boards allowed them to enforce their long-term objectives. Second, the large labor unions in the manufacturing sector also had some quasi-management positions—on works councils and advisory boards—in a system of corporate governance known as “co-determination.” This system was able to produce rising productivity and a comfortable and fairly compressed wage distribution, at least within the manufacturing sector; pensions and health care were financed by a broad tax wedge levied on payrolls. The trade union movement was able to diffuse many of the advantages of “diversified quality production” outside the core, mostly export-oriented, sectors.

This system has now come under stress from a number of sources: the inevitable growth of the service sector, which is less suitable for this style of governance and whose lower wages tend to discourage the supply of labor; a gradual weakening of union power and a tendency to shift collective bargaining from the national to the local level; intensified competition, especially from Eastern Europe, including the easy possibility of outsourcing and, after accession to the European Union, the importing of very low-paid “posted” workers working according to their home-country rules; and a general wan-
ing of belief in corporatist ideas. An additional source of problems is that the German welfare state still retains relics of its Bismarckian organization around the single (male) breadwinner household. The German team discusses the underlying question as to whether this system can be (and ought to be) preserved under contemporary conditions. They conclude that the choice is still open, and the likely outcome turns not only on upcoming developments in the German economy, but also on choices made in the rest of the European Union. This is a very big question.

As of 2004 the incidence of low-wage work in Germany (referred to the German median wage) was 20.8 percent, somewhat higher than the other continental countries in the study. The concentration was greatest in the expected groups: the service sector (especially in small firms), the unskilled, women, the young, and non-nationals. The discrepancy between men and women working full-time is especially marked: incidences of 10 percent and 31 percent, to such an extent that women, who are 36.8 percent of the total work force, make up 64.1 percent of all low-paid workers.

A particular feature of the current German scene is the recently created category of “mini-jobs.” These are very part-time, low-paid, almost casual jobs, mostly occupied by women with family responsibilities and the young. They are made attractive to employees because they are exempt from the substantial tax wedge. Standard requirements with respect to non-wage benefits are not enforced. The dual motivation was presumably to increase the supply of low-wage labor and simultaneously to provide an easy entry for women into paid work, even if low-paid work. There is obviously a question as to whether this institution is a viable long-term solution in a modern economy.

The report contains an interesting discussion of the current state and future prospects of the distinctive German dual vocational training system, usually involving both schooling and an apprenticeship. This system began in manufacturing; some of the current strains on it may relate to the shift to services. In any case there is now a shortage of training places, despite attempts to adapt the system to current industrial conditions. Apparently a further problem may arise in the wake of plans to expand university education. The fear is that this would attract the best potential participants in the dual vocational system. The result might be a deterioration in the skill level of the industrial labor force, which would present an obvious challenge to the system of diversified quality production. This issue of the best balance between vocational training and university education should be of great interest to Americans, who have moved generally to the university side.