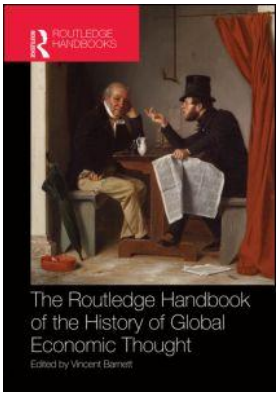

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Germany

From sciences of state to modern economics

Erik Grimmer-Solem

A good starting point for understanding the historical contours of German economic thought is the fact that Germany as a modern nation-state only came into being in 1871, so that much of the history of the German lands was defined by disunity and particularism. This created a variety of universities and encouraged a plurality of approaches to the discipline of economics. Until 1866 Austria, along with Prussia, was one of the most important influences upon the other German states and so must be considered in any survey of the cultural, administrative, and business traditions that shaped German economics.

In the eighteenth century German economics grew out of *Staatskunst* (statecraft) into *Staatswirtschaft* (state economy), an administrative discipline that had evolved alongside the needs of enlightened absolutist rulers, the political order that defined the courts of Austria, Prussia and many of the lesser German states following the catastrophe of the Thirty Years War (1618–48). As such, it was a field preoccupied with the practical administrative needs of the court, namely management of royal domain lands, forests, mines, and military and luxury industries, as well as royal finances. While many of the German states were open to new economic ideas coming from the French and Scottish Enlightenments, notably the ideas of Du Pont, Mirabeau, Quesnay, Turgot, and especially Adam Smith, the political, social, and economic conditions in Germany (estate order, guilds, remnants of serfdom) made their application difficult until the Napoleonic invasions and the modernizing reforms they forced on the German states, most prominently the Stein-Hardenberg reforms in Prussia after 1807.

Even as Adam Smith's ideas began to inform German understandings of the economy as an autonomous component of civil society, the administrative legacy of cameralistic *Staatswirtschaft* remained prominent in modern German conceptions of economics. As such the economy, even an ostensibly free economy, was conceived as something ordered by law and institutions and requiring administrative guidance. Inspired by Smithian ideas, Prussian civil servant reformers introduced a liberalization of customs and tolls (1818) and then the German Customs Union (1834),which enabled a national division of labor among the German states for the first time and which would later spur the rapid industrial development of Germany in the 1850s and 1860s.

Under Prussian leadership the North German Confederation (1867–71) and German Empire (1871–1918) introduced freedom of navigation on inland waterways, a modern commercial code,

uniform weights and measures, a common currency, and a central bank. Even before unification, various competing German states had developed outstanding systems of public education that assured near universal literacy by the early nineteenth century, and individual states invested heavily in systems of vocational, technical, and higher education, including major polytechnic schools and research universities that conducted cutting-edge applied and theoretical research in the natural sciences. The state also played a key role in developing and administering the system of universal health, accident, and old-age insurance pioneered in Germany in the 1880s.

Beyond the important role of state and federal governments, other key institutions in the German economy have been universal banks, employers' organizations, and trade unions. Germany's rapid industrial development in coal, iron, steel, railroads, machinery, chemicals, and electrical equipment meant that banking institutions emerged which combined the functions of commercial and investment banks in order to pool deposits into direct lines of credit and raise the needed investment capital by underwriting bond and stock issuance for very heavy investments in plant and machinery. The so-called "D-banks" (large joint-stock banks so named because they happened to have names starting with the letter D: Darmstädter Bank, Deutsche Bank, Disconto-Gesellschaft, and Dresdner Bank) not only lent directly to firms but also often became their major shareholders and subsequently took an unusually direct role in advising business strategy and guiding long-term investments.

German employers, who faced a literate, organized, and increasingly social democratic workforce, were quick to organize themselves into employers' organizations (*Arbeitgeberverbände*) which negotiated with organized labor to avoid disruptive striking and lobbied their interests to government. A similar process of interest organization and advocacy also emerged in the agricultural and handicrafts sectors. Cartels and syndicates in such industries as iron, coal, and chemicals became a notable feature of this uniquely German form of "organized capitalism," a development often encouraged by the close ties between banks and firms. Partly to escape the strictures of cartels and partly to gain the scale economies needed in certain industries to reduce unit costs, many German firms developed a strong export orientation, often in highly specialized niches where they would come to hold monopolies or near monopolies, a strategy that defines the German *Mittelstand*, the medium-sized, family-owned firms that form the backbone of the German economy to this day.

Even with such powerful institutions as stabilizers in the German economy, economic policy was highly contentious and saw frequent breakdowns in the twentieth century. The Revolution of 1918 and the Weimar Republic gave organized labor a prominent political role, a time which also witnessed catastrophic hyperinflation and an expanded welfare state. This sparked a backlash from employers and conservative politicians during the Great Depression that enabled the rise to power of the Nazis. Hitler came to power at a time of ruinous deflation and unprecedented mass unemployment in 1933. He violently "coordinated" organized labor and then mobilized Germany's prodigious industrial resources to rearm and launch a war for *Lebensraum* (living space) in the east, which Hitler and the Nazis imagined would solve Germany's social and economic problems once and for all. Instead, total war and genocide followed, culminating in the devastation of much of Germany and Europe.

With the birth of the Federal Republic in 1949, a more durable economic policy consensus formed which managed to balance the legitimate claims of both organized labor and employers, a consensus that enabled a stable currency and internationally competitive firms while also sustaining heavy investment in infrastructure, education, housing, and social services. This mix of policies, commonly referred to as *soziale Marktwirtschaft* (social market economy), has not always been uncontested, but it has been flexible enough to survive stagflation in the 1970s and the challenges of German reunification in the 1990s. Remarkably, most of the key institutional

features of German capitalism (with the exception of cartels) remain in place in reunified Germany today, despite two destructive world wars and Cold War division in the twentieth century. Heavy investment in R&D, high levels of technical skill, and a strong orientation toward quality remain defining features of the modern German industrial economy. That said, the traditional focus on investment (producer) goods means that the consumer economy, the service sector and newer industries like IT have been somewhat starved of investment and lag behind in competitiveness. Consumer credit is likewise remarkably underdeveloped in Germany, and labor participation rates for women are comparatively low. With barriers to entry in most sectors high due to trade and employers' organizations, rather rigid systems of vocational and professional certification, and the dominant position of powerful banks, not much of a tradition of active entrepreneurship and venture capitalism has yet developed in Germany. Most employment in the German private sector today is in older firms pursuing long-term investments in established product markets.

The development of economic ideas

The first German university chairs in cameralism were created at Halle and Frankfurt an der Oder in 1727, and by the late eighteenth century nearly every German and Austrian university had followed suit. Cameralism evolved into a systematic administrative discipline that came to be called *Staatswirtschaft* through the lecturing and textbooks of J.H.G. von Justi and Joseph von Sonnenfels. Von Sonnenfels, who was active in Vienna and well-informed of the work of the French Physiocrats, defined *Staatswirtschaft* in his *Grundsätze der Polizey, Handlung und Finanz* (1787) as a science of government comprising three main fields: *Polizeiwissenschaft* (police science, concerned with maintaining moral order and internal security); *Handlungswissenschaft* (the science of economic action, focused on raising agricultural and labor productivity); and *Finanzwissenschaft* (financial science, devoted to raising royal revenues). The aim of *Staatswirtschaft* was fulfilling human need, and the model at its core was the Aristotelean householder, with the royal subjects seen as children in an extended household who required the active management and policing of royal administrators. A large, submissive and flourishing agricultural population that could be taxed effectively was perhaps the single most important metric of successful *Staatswirtschaft*.

With the disruptions of the French Revolution and French invasions of the Holy Roman Empire, profound changes were imposed upon the German lands which made much of *Staatswirtschaft* obsolete. The single most influential economic thinker in the German states in the first two decades of the nineteenth century was Adam Smith, and his idea of an unfettered division of labor came to be understood as *Nationalökonomie* (national economy) and/or *Volkswirtschaft* (people's economy), both of which were synonymous with the English term "political economy" in the classical sense. Nevertheless, many aspects of the administrative heritage of *Staatswirtschaft* were retained and combined with *Nationalökonomie* to form the new umbrella discipline of *Staatswissenschaften* (sciences of state). This combined classical political economy with finance, money and banking, economic administration, technology, and many fields of law and became conventional in the discipline through Karl Heinrich Rau's influential textbook, *Lehrbuch der Politischen Oekonomie* (1826–37).

The backlash against French occupation, the upheavals of the Napoleonic wars, and the anxieties over ongoing German disunity after 1815 did fuel considerable nationalist criticism of the cosmopolitan orientation of Adam Smith's political economy, most prominently in Friedrich List's *Nationale System der Politischen Oekonomie* (1841). However the analytical basis of List's critique of Smith drew almost exclusively on American sources that List had studied over his many years in the United States, notably Alexander Hamilton. The growth of German

nationalism in the first half of the ninteenth century was also marked by an intense interest in the national past which culminated in the formation of the modern discipline of history in Germany (Leopold von Ranke). This "historicism" would have a profound impact on both the study of law (Friedrich von Savigny and Karl Eichhorn) and the field of political economy for the remainder of the nineteenth century, finding its way into the curriculum of *Staatswissenschaften* through the most influential textbook of the time, Wilhelm Roscher's *System der Volkswirtschaft* (1854).

It is customary to distinguish between an "older" and "younger" German historical school of political economy, the older of which included – in addition to its leading figure, Wilhelm Roscher – Bruno Hildebrand and Karl Knies. While Roscher was inspired by the application of historical method to law, in his work history was used merely to illustrate classical economic theory and not as a new economic method per se. Of the three, only Hildebrand worked with what could accurately be described as a historical method. He went so far as to deny natural economic laws and aimed to turn political economy into discipline devoted to understanding the process of economic development. Beyond programmatic statements, however, this never took on any concrete form.

In the 1850s and 1860s the impulse for more statistical work in political economy came from the various statistical bureaus in German states, most notably those in Saxony and Prussia. The director of the Royal Saxon Statistical Bureau, Ernst Engel, made one of the major discoveries in economics (1857) by observing that the share of the household budget spent on food rose as household income fell. Conversely, as household income rose, a smaller relative share of the household budget was spent on food, even as expenditure on food increased in absolute terms. This relationship, which became known as Engel's Law, was one of the first functional economic relationships ever discovered using quantitative techniques, and as such, its discovery marks the beginnings of econometrics (Engel's Law and Engel curves are today a fundamental part of microeconomic price theory).

Major advances in laboratory science at the time in numerous fields such as physics (Hermann Helmholtz), chemistry (Justus Liebig), and medicine (Rudolf Virchow), as well as the Darwinian revolution unfolding in biology, lent great credibility to empiricism in economics, for which history and statistics seemed the most closely approximate tools. Indeed, so powerful were these natural scientific models that an empirical, descriptive, and statistical orientation tied closely to practice (i.e. policy) would predominate in all of German *Staatswissenschaften* for the next 50 years, of which the "younger" historical school was but one, if the most influential, strand.

The "younger" historical school went further in rejecting the universal claims of classical political economy to also criticize its inadequate psychological foundations and misuse of abstract deduction. They also criticized what they saw as the role of classical political economy as a dogmatic bulwark of *laissez-faire* capitalism and thus the policy status quo, which in light of the grave tensions emerging in Germany as a consequence of rapid industrialization, urbanization, and the rise of organized labor and socialism (the "social question"), they held to be untenable. Their call to action resulted in the creation of the Verein für Socialpolitik (Association for Social Policy, founded 1873) and a mobilizing text of sorts of the "younger" historical school and their commitment to reform was Gustav Schmoller's *Übereinig Grundfragen des Rechts und der Volkswirtschaft* (1875). In other words, the "younger" historical school was motivated as much by the desire for social reform as a reform of political economy. Beyond their commitment to reform, most of the "younger" historical school's research energy was devoted to detailed studies of economic history which highlighted the role of values, conventions, laws, and institutions in shaping economic processes. The most prominent figures associated with this group beyond

Gustav Schmoller were Lujo Brentano, Karl Bücher, Georg Friedrich Knapp, and Werner Sombart. Sombart was notable for his receptiveness to Marxism, one of the very few economists of any influence in an academic position with such an interest in Germany before 1918.

The priority given to statistics and economic history by members of the historical school over the development of general economic theory was not without criticism. One of the sharpest of these was launched by the Austrian economist Carl Menger in his *Untersuchungenüber die Methode der Socialwissenschaften* (1883). While the resulting dispute between Menger and Schmoller was ostensibly over the best economic methodology, strong personal animosities overshadowed the dispute from the very beginning and drew artificial lines between empirical-statistical research and analytical-deductive theoretical work which proved to be sterile and counterproductive over the longer term. Schmoller's faith in a grand theoretical synthesis emerging inductively from economic history proved to be as misplaced as Menger's insistence that analytical-deductive theorizing could be permanently insulated from empirical measurement and testing. The dispute between them became as hostile as it was also because it was situated in then current political questions about the desirability and possibility of state intervention in the economy, which Schmoller advocated and Menger rejected.

While the historical school remained very influential in Germany up until the First World War, it should not be overlooked that many other prominent German economists of the nineteenth century continued to embrace deductive theorizing and worked to refine classical political economy, some of whom took it in directions which would anticipate twentieth century neoclassical economic theory. Economists who worked in this vein included Karl Heinrich Rau, Hermann Heinrich Gossen, Friedrich Hermann, Karl Knies, and H.K.E. von Mangoldt. Carl Menger's work in developing a neoclassical theory of value based on subjective valuation (marginalism) introduced in his *Grundsätze der Volkswirtschaftslehre* (1871) was strongly indebted to many of these predecessors, most notably Rau, Hermann, and Mangoldt. Likewise, it has been shown that Heinrich Gossen anticipated William Stanley Jevons' work in this direction in Britain by many years. Other German economists who continued to work using classical and neoclassical theory before the First World War included Albert Schäffle, Adolph Wagner, Johannes Conrad, and Heinrich Dietzel, though in their work the empirical and encyclopedic orientation toward political economy typical of this time can certainly also be seen. Two important milestones in the work of organizing and systematizing economic knowledge were the *Handwörterbuch der Staatswissenschaften* (8 vols. 3rd edn. 1910) and the *Grundriss der Sozialökonomik* (9 vols. 1914–30).

Another major strand of German economic thought not tied to the historical school is *Raumwirtschaft* (the economics of space). Heinrich von Thünen's path-breaking work *Der Isolierte Staat* (1842–63) laid the foundation for a rigorous formalized (mathematical) treatment of the economics of space using Ricardian rent and price theory in his analysis of the land use patterns of a hypothetical town and its surrounding lands. The cultivation patterns that he surmised from his abstracted "isolated state" were the result of differential land rents that obtained on soil of uniform fertility at varying distances from a central town as determined by demand for various food products, the intensity of cultivation, the barter ratios of the respective products, and transportation costs. Thünen's work was built upon by Roscher and Schäffle and then developed further by Wilhelm Launhardt and Alfred Weber, who focused on the practical and theoretical geometry of optimally locating industrial plant and transport routes (location theory). Weber was himself one of the first to analyze economies of agglomeration.

Following Germany's defeat in the First World War and the experience of catastrophic hyperinflation in 1923, much (though not always deserved) blame was placed on members of the "younger" historical school for having abandoned economic theory, this allegedly having

led to economic mismanagement and leaving Germans ill-equipped to face the profound economic dislocations and challenges of the postwar period. In any case, the 1920s were a time when German economics as a discipline became self-consciously more international and when methodologies were much in flux. One example of this was the success of new foreign textbooks, notably Gustav Cassel's *Theoretische Sozialökonomie* (1918), which by 1932 had gone through no fewer than five German editions. As another indicator, the Austrian theorist Joseph Schumpeter was called to a prominent chair in economics at the prestigious University of Bonn in 1925 and spearheaded important reforms in teaching, methodology, and research focus, thus helping to bring Germany closer to the international mainstream.

Given the economic disorder of the 1920s and early 1930s, business cycles became one of the most active areas of research in the Weimar Republic. Particularly prominent in this field was Ernst Wagemann, who headed the Reich Statistical Office as well as the state-sponsored Institute for Business Cycle Research. Wagemann's significance to the history of economic thought is tied to his early development of an equation of exchange that amounted to a circular flow of aggregate economic activity in which the value of production equaled production costs and profit, which in turn was equivalent to total national income. In other words, there are strong indications that Wagemann developed the rudiments of national income accounting in Germany and must be counted alongside Keynes as one of the fathers of macroeconomics. German location theory and the economics of space also developed rapidly after the First World War and began to exercise greater influence on German urban and regional planning during the Weimar Republic and under National Socialism. Of those working in this area during this time was the economic geographer Walter Christaller, who developed what would become his influential "central place theory" to explain the economic hierarchies between towns and cities. This would later provide a template for Nazi plans to systematically resettle and develop annexed territories to the east.

In the 1930s/40s a group of German liberal economists around Walter Eucken, Franz Böhm, and Hans Grossmann-Doerth at the University of Freiburg were alarmed by the legacy of hyperinflation and the many other examples of arbitrary state intervention in the economy during the Weimar and Nazi years. They committed themselves instead to restoring a liberal free market system with a strong legal and institutional framework to sustain a competitive economic order and individual freedom. Though the influence of these "Ordo-Liberals" on postwar German academic economics was limited, they did influence Chancellor Konrad Andenauer and the first West German Economics Minister, Ludwig Erhard, who established an independent central bank and a hard currency, and engaged in limited countercyclical demand management via fiscal and monetary policy. West German economic policy and particularly the policies of the Bundesbank, were guided by these Ordo-Liberal ideas for much of the postwar era.

By contrast, American and British economic thinking dominated postwar German academic economics, which was defined in many ways by the reception of the Keynesian-neoclassical synthesis in macroeconomics, a steady formalization (mathematization) of microeconomic theory, and the introduction of probability theory in econometrics. The most important figure in the reception of Anglo-American economics and leading light in the discipline in the immediate postwar period was Erich Schneider, who was later made director of the influential Institut für Weltwirtschaft (Institute for the World Economy) at the University of Kiel in 1961. His textbook *Einführung in die Wirtschaftstheorie* (1947–9) was widely used to train postwar economists in West Germany.

For much of the postwar period, Kiel was the leading center of empirical research and "free-market" economic policy thought, with a particular focus on the analysis of structural change led for many years by Herbert Giersch, who succeeded Schneider in 1969. The University of

Bonn, by comparison, developed a reputation for working on the theoretical frontiers of microeconomics with very high levels of formalization. Reinhard Selten, who taught there for many years, shared the 1994 Nobel Prize for his contributions to game theory. Selten was also a pioneer in experimental economics. Two other important postwar centers of research emerged at the Universities of Mannheim and Cologne. Mannheim developed strengths in general equilibrium theory and time series analysis, while Cologne became an important center for empirical work tied closely to policy at its Institut für Wirtschaftspolitik (Institute for Economic Policy). This was due in no small measure to the strong ties that developed between its faculty and federal ministries in Bonn. The Verein für Socialpolitik continued to function as the professional body of academic economists, and most of the German economic journals that were founded in the ninteenth century continued publication in the postwar period.

Postwar German economic research was also shaped by the plethora of "acronym" research institutes funded by state and federal government agencies, employers' organizations, private firms, and foundations. Among the more influential of these was the Ifo-Institut in Munich, the ZEW in Mannheim, the IW in Cologne, the DIW in Berlin, and the HWWA in Hamburg. Much of this research focused on economic growth and the business cycle.

Recent advances and trends

The leading centers of economic research in Germany today continue to be Bonn, Cologne, Kiel, and Mannheim (not necessarily in that order), though very strong centers have also emerged in Berlin, Karlsruhe, and Munich. The Anglophone influences in the German economics profession today are pervasive, having created a thoroughly international discipline that extends to virtually all areas, whether it be pedagogy, methodology, research fields, language of publication, professional journals, or academic networks. Nearly all German economic journals today publish in English, and it is now common for young aspiring academic economists to have publications in the leading American journals. As a result, some of the distinctly "German" features of economic thinking, notably the historical and Ordo-Liberal strands, have been pushed to the margins. Yet in a country where powerful institutions have long played such a predominant role in the economy and where heterodox economic thought has a long and proud tradition, it is not surprising that institutional, experimental, and evolutionary approaches have emerged in recent years. Evolutionary economics has been cultivated at the Max Planck Institute for Economics, founded in Jena in 1993. The Verein für Socialpolitik has also been open to these newer heterodox trends.

Since well before the Euro's formal introduction in 1999, prominent German economists were critics of the single currency for the distorting impact it would have on competitiveness within the EU due to the wide productivity, wage, and price disparities within Europe. More recently they have criticized the resulting accumulation of Euro-denominated debt in less competitive Eurozone countries and the Euro's inadequate institutional foundations, notably the lack of harmonized taxation and public spending to counterweigh these distorting effects. They have also pointed out that the Euro was and is a political project and that their expert advice was routinely ignored by the European and German politicians behind its creation. Due to the outsized influence of the German Bundesbank on the European System of Central Banks (ESCB), the monetary policy of the European Central Bank (ECB) has had a distinctly deflationary bias, something that has been criticized by many economists outside of Germany. Some prominent German economists, led by Hans-Werner Sinn of the Ifo-Institut, have recently panned proposals for a European banking union and been sharply critical of the ECB bond purchases undertaken to combat the Eurozone debt crisis which emerged after the "Great

Recession" of 2008–9. Others such as Kai Konrad of the Max Planck Institute for Tax Law and Public Finance have proposed that Germany leave the Euro in order to save the EU.

Dissemination and reception overseas

The most prominent overseas influence of German economics was probably in the United States. This was due to the fact that before American universities developed their own PhD programs in the late ninteenth century, it was very common for aspiring American academics to complete PhDs in Germany. Before the First World War many of the leading economists in the United States had studied in Germany, including John B. Clark, Richard T. Ely, Arthur T. Hadley, Simon S. Patten, E.R.A. Seligman, and Frank Taussig. That influence made itself felt less in the development of historical and institutional approaches to economics (though that was one observable trend), but more in the organization of the discipline around the American Economic Association (founded by Richard T. Ely in 1885), which was consciously modeled on the German Verein für Socialpolitik.

Likewise, the development of academic journals with peer review (*American Economic Review*, founded 1911), the seminar system of education at the graduate level, the insistence on original research in graduate training, and the founding of public and private economic research institutes like the Bureau of Labor Statistics (1884) and National Bureau of Economic Research (1920) were all unmistakably German features of American higher education in economics and economic research that continue to this day. This does not begin to exhaust the many other lines of contact that linked German economics with the emergence of newer disciplines like Business Administration, Sociology, Social Work and Public Administration in the United States, or the many reform initiatives of the Progressive Movement which involved American economists either trained or strongly influenced by German economic thought. Later in the mid twentieth century, the German economics of space and location theory would have an impact on the development and formalization of economic geography and regional science in the United States, such as in the work of Walter Isard.

It is perhaps less widely known that a parallel transfer of German ideas and institutions occurred in Meiji-era Japan, where German teachers and government advisers were active. Those who took up the study of economics in Germany in the Meiji era included Wadagaki Kenzō, Kanai Noburu, Kuwata Kumazō, Takano Iwasaburō, Seki Hajime, Fukuda Tokuzō, and Kawakami Hajime. It was this first cohort of Japanese students in Germany, and particularly Kanai, who introduced the term *shakaimondai* (from German *soziale frage*, "social question") to Japan through a number of publications, *Shakaimondai* (1892) among them. Kanai, Kuwata, Fukuda, and others would also form the Nihon shakaisei sakugakkai (Japanese Social Policy Association) in 1896, modeled on the German Verein für Socialpolitik. The range of Japanese scholarship influenced by German training in economics was wide and spanned the political spectrum, including the trade unionism and social democracy of Takano, the revisionist Marxism of Kawakami, and Takano and Kawakami's extensive early involvement with the Ohara Institute in systematic collection of social statistics. As in the United States, many German-trained Japanese economists were active as social reformers.

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