1 Understanding the 1990s: a long-run perspective

Paul W. Rhode and Gianni Toniolo

1.1 Introduction

The twentieth century both opened and closed with a bang: the *belle époque* before 1914 and the "roaring nineties" (Stiglitz, 2003) just past. It was only after the First World War that people looked back at the 1895–1914 period with nostalgia as a "beautiful era" of spreading prosperity, peaceful technical progress, low inflation, and modest financial instability. The 1990s, on the contrary, were seen as the "best of times" (Johnson, 2001) by many of those who lived through the decade – at least, those in the United States.[1] Will future historians confirm this view? If the twentieth century is any guide, much will depend on how the twenty-first century unfolds. If peace again prevails, if productivity growth continues apace at the economic center and spreads to the periphery, if means are found to govern the international economy in ways that make the costs of globalization socially acceptable, then the 1990s may well be remembered as a moment in human history when the foundations were laid for a long period of sustainable growth. If, on the other hand, social, political, and economic instability prevails, as it did after the First World War, then people may indeed look back at the 1990s as "the best of times," creating the myth of another *belle époque*. Posterity will magnify the virtues of the last decade in the twentieth century and ignore its shortcomings.

While we cannot anticipate the future verdicts of either public opinion or historians on the 1990s, there can be little doubt that, from a number of political, social, and economic viewpoints, the decade was an exceptional, significant, and defining period in human history. But how exceptional, and how significant? And what was the nature of the new epoch being defined? These are questions that can be answered only from a long-term perspective. As we do not possess the hindsight of future generations, we can only look at the 1990s through the prism of the past. By taking a long-term perspective, often covering the entire twentieth century, the chapters in this book offer a better understanding of the "novelties" of the 1990s that so impressed contemporary observers.

Some may quibble with treating the 1990s as a unit of analysis because decades are not natural economic or historical concepts. Developing periodizations using great wars or revolutions as breakpoints is much more common when taking the long view. Accidents of the calendar make it sensible to treat certain decades, such as the 1920s and 1930s, as meaningful historical periods. Watershed events – the end of the First World War, the onset of the Great Depression in 1929, and the beginning of the Second World War – broke the flow of history. But, in general, the use of decades is an artifice. Nonetheless, the 1990s do possess a greater claim that most decades to possessing an economic unity. The period was indeed full of events for which the words "new" and "path-breaking" can hardly be avoided. The most important events, all taking place in the late 1980s and early 1990s, were the end of the Cold War, Europe's move to closer integration, and the start of the meteoric rise of China and India

The end of the so-called Cold War was undoubtedly the most important event in global history since 1945. The fall of the Berlin Wall in 1989 and the events that followed in rapid sequence throughout Eastern European marked such a sharp break with the past that we now speak of a "short twentieth century," encompassing only 1914–1991 (Hobsbawm, 1994), much as we refer to a "long nineteenth century" (1789–1914). It was soon clear that history did not end with the Cold War, and that – if anything – its path would become more complex, uncertain, and challenging as people and leaders ventured into uncharted territory. Historians and political scientists are just beginning to take stock of the implications of the end of the Cold War, while – as mentioned by Peter Temin in chapter 10 – its impacts on the world economy remain to be assessed by economic historians.

A second trend-setting event took place almost unnoticed. In February 1986 the representatives of the (then) twelve European Union member states signed the Single European Act in Luxembourg. This led to the creation of a truly Single European Market, beginning on 1 January 1993. While the relevance of Europe's quiet revolution – which also entailed the creation of the single currency – is little understood outside the "old continent," it is nevertheless likely to be one of the most innovative events for which the 1990s will be remembered.

Two other changes in the early 1990s also have the potential to be epoch-making. In the mid-1980s China's economic reforms, initiated in 1978, threatened to stall. On the one hand, these reform policies were challenged by power-brokers associated with the previous system and, on the other hand, they were deemed inadequate by intellectuals, students, and members of the slowly emerging middle class. The course that would ultimately be followed remained unclear, leading to instability that potentially threatened China's economic growth. In 1989 the situation came to a head with the tragic events of

Tiananmen Square. Following the resurgence of conservative members of the Communist Party, it seemed that economic reforms had suffered a permanent blow. In 1992, however, the fourteenth Party Congress gave its official approval to Deng Xiaoping's policies promoting a market-oriented economy. Since then, Chinese GDP growth has averaged about 8 percent annually.

In India, at roughly the same time (July 1991), Manmohan Singh, finance minister in the Narasimha Rao government, responded to a twin fiscal and foreign deficit crisis by pushing through a thoroughgoing liberalization package. Long-standing trade barriers and regulatory/licensing restraints were removed, foreign investment encouraged, and public assets privatized. Since 1992 India has experienced sustained GDP growth in the range of 5–6 percent annually, and the English-speaking and highly educated segments of its population have begun to participate in and enjoy some of the prosperity of the high-technology boom.[2] Whereas China has emerged onto the world stage as a manufacturing powerhouse, India has adopted the role of specialization in services and advanced technology.

If, from a global perspective, many of the most defining events of the 1990s took place in Europe and Asia, it was in the United States that the decade took on the feeling of an exciting, even inebriating, second *belle époque*. As in the 1920s and 1960s, the popular imagination in the 1990s was enthralled by the dream of a "new economy," promising a cornucopia of high income and productivity growth, low inflation and unemployment, and soaring returns on financial assets.

Early in the 1990s the mood in the United States was tinged with pessimism, out of concern about industrial decline, Asian competition, rising unemployment, and economic inequality. Rising populist sentiments in response to deindustrialization mixed with social disharmony resulting from the so-called "cultural wars" and racial/ethnic strife, and with widespread frustration about political gridlock and an apparent future of unending fiscal deficits. If the United States had triumphed in the Cold War and stunned the world with its military might in the First Gulf War, the Americans seemed to be losing out to foreigners, especially to the Japanese, in terms of economic welfare and competitiveness. The "American Century" appeared destined to an early end.

A few years later, those who returned to the United States after spending some time away were surprised by the U-turn in the country's prevailing mood. Open optimism about the future of the economy had replaced the creeping pessimism. Japan and the "Asian Tigers" were no longer perceived as threats. Innovations in IT were progressing at a breathtaking pace. Spending six months out of the country meant that, on return, one needed to exert a non-trivial effort in updating one's hardware technology and learning to use the new software. By the mid-1990s foreign observers were impressed by the renewed optimism and vitality that characterized large segments of American society. Statistical

Table 1.1 *Average annual growth rates in per capita GDP: the world economy and the United States*

	1820–1870	1870–1913	1913–1950	1950–1960	1960–1970	1970–1980	1980–1990	1990–2000
World	0.53	1.30	0.91	2.78	3.03	1.89	1.29	1.55
United States	1.34	1.82	1.61	1.71	2.87	2.12	2.25	1.94

Source: Maddison (2001, 2003).

evidence for healthy economic performance by the United States and, particularly, a remarkable productivity surge soon confirmed that these impressions were not unfounded. The media announced the birth of a "new economy," based on the internet and the World Wide Web. The "fabulous decade" of growth in the United States highlights how one historical period in a particular economy can have a unique feel, one different from that prevailing in the same economy just a half-dozen years before or after or in other economies at the same instant.

For reasons both geopolitical and economic, therefore, the 1990s were an extraordinary, contradictory, fascinating period of economic development. It is a period, however, that is far from being well understood. Prominent voices, such as that of Joseph Stiglitz, have called for the "economic history of the 1990s to be rewritten." The jury is still out on a number of key issues, including: the causes and sustainability of productivity growth in the United States; the sluggish growth in Europe and stagnation in Japan; how the IT revolution compares with past waves of innovation; the bubble in financial prices and its impact on the real sector; the financial instability in the "periphery"; the effects of trade and factory mobility on the global distribution of income; and the impact of changes in the welfare state, regulation, and macro-policymaking. By taking a long-run perspective on these issues, this book hopes to make the task of the jury easier. We hope that, by providing a better understanding of the features of the world economy in the 1990s that are particularly meaningful or distinctive from a historical perspective, we shall be able to frame the questions most relevant for our economic future more meaningfully.

1.2 The international economy

Thanks to the heroic quantification efforts of scholars such as Angus Maddison (2001), we can now roughly compare the growth rates in GDP *per capita* for the whole of the world economy in the 1990s with past periods. Table 1.1 shows that neither the world nor the United States witnessed exceptional economic

performances in the 1990s. It was far from being the best economic decade on record. In fact, growth rates in the 1990s were below the 1950–2000 average both for the world and the United States. As we noted above, any periodization is quite arbitrary and decades should not be taken too seriously as units of observation. The 1990s opened with a fairly long (1989–1992) period of virtual stagnation (zero growth) both worldwide and in the United States. If we take a shorter definition of the 1990s (1992–2000) then the GDP per capita rate of growth was 2.45 and 1.95 percent per annum respectively for the United States and the world. Of course, the ad hoc choice of other starting and ending dates for previous periods would also show different performances. We shall return to this briefly at the end of the chapter.

It is not surprising given this record for per capita GDP growth that Nicholas Crafts (chapter 2) finds that "for the industrial countries as a whole there was no resurgence in total factor productivity (TFP) growth." He concludes that, "despite the excitement of the 'new economy' in the United States and the international take-up of new electronic age technologies, there was no return to the TFP growth of the (1950–70) Golden Age."

Crafts does find that, from other vantage points, the 1990s appear rich in novelties. The most notable potential breakthrough, both from a historical perspective and for its implications for the future of the international economy, is the rise of China to the rank of a world economic power. Between 1990 and 2000 the Chinese economy more than doubled its size in real terms (Maddison, 2003), its share in the world economy growing from 7.8 to 12.5 percent (from 2.7 to 7.0 percent in manufacturing production). Growth acceleration in India was also outstanding by historical standards. As these two countries together accounted in the year 2000 for about 38 percent of the world's population, it may be argued that their recent growth performance brought about probably the biggest single improvement in human welfare anywhere, at any time.

The rapid growth of China and India brought about the second important change in the 1990s, already under way in the previous decade: the end, perhaps the reversal, of the increase in worldwide income inequality that characterized "modern economic growth" (as defined by Kuznets, 1966) since it began in the early nineteenth century. If, as noted by Crafts, "divergence big time" was a key feature of the last century, then the 1990s highlight a true structural break in the economic history of the world. Figure 1.1 shows a measure of inequality (Gini coefficient) for the world economy: the unit of observation is the per capita GDP of individual countries weighted with the share of each country's population in the total world population. The graph measures both the big twentieth-century divergence and the convergence process that began in the 1980s and continued in the following decade. This finding by Boltho and Gianni Toniolo (1999) has subsequently been refined by Bourguignon and Morrison (2002) and Sala-i-Martin (2002). In chapter 2, however, Crafts argues that welfare indicators

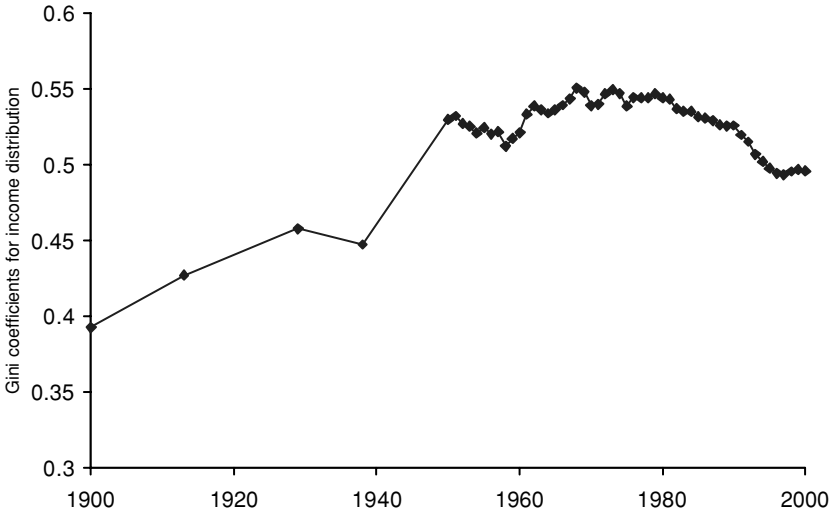

Figure 1.1 Global Gini coefficients, 1900–2000

such as the Human Development Index (HDI), which, in addition to income, takes into account education and mortality, have converged worldwide since the 1950s.

Crafts points out that the whole African continent, and in particular its sub-Saharan part, did not share in the world's output surge of the 1990s. The continent's per capita GDP remained stagnant throughout the decade in real terms, declining from 28 to 24 percent of the world average between 1990 and 2000. At the end of the twentieth century Africa's poverty remained the world's most intractable development issue, underlying the failure of policies thus far undertaken and consigning to the twenty-first century what will probably turn out to be its most relevant economic challenge.

If Africa's economic problems dated back decades, two economic failures were specific to the 1990s: Japan and Russia. The two experiences differ greatly. Japan's performance was disappointing mostly in the light of its previous outstanding growth, which led many to predict in the 1980s that it would pass the United States in the "race for global economic leadership." Between 1990 and 2000 Japanese per capita GDP grew on average only by 0.8 percent per year, as against almost 6 percent over the previous four decades (see tables 4.1 and 4.2 in chapter 4). Although scholars and policymakers disagree sharply over reasons for the "lost decade" in Japan, its beginning is inevitably linked in the popular mind to the bursting of the stock market bubble in December 1989 and the real estate bubble a year later. The asset market deflation hit the core financial

sector hard, with the major banks proving unwilling or unable to write down their non-performing loans. The long recession even led the country's consumer price index (CPI) to fall persistently after 1998, a rare event indeed in the postwar world. Studying the shift in Japan's economic performance from "miracle" to "malaise" has spawned a veritable cottage industry. Useful points of entry are Saxonhouse and Stern (2003), which explores wide-ranging debates about the macro-policy responses, and Gao (2001), which traces the institutional/structural roots of stagnation to the strong coordination weak monitoring regime that evolved between banks and large corporations during the high-growth epoch. Among the other important forces depressing growth were: (i) the nation's demographic structure, with low birth rates and a rapidly aging population (see Peter Lindert's discussion in chapter 11); and (ii) the rise of rival manufacturing powers in East Asia during an era of global de-industrialization.[3] (See also Sato, 2002; Hayashi and Prescott, 2002.)

The case of the Russian Federation was one of the most serious economic failures in the 1990s, particularly in the light of the performance of the formerly centrally planned Eastern European economies and of Russia's claim to being a political and military superpower. In 2000 the per capita GDP of Russia was only two-thirds of that of Soviet Russia in 1990. Moreover, welfare indicators such as life expectancy had also dramatically declined and income distribution became vastly unequal. Such a dismal performance came as a surprise to some economists and policymakers, who in the early 1990s had bet on growth acceleration in Russia once market institutions replaced central planning. Economic historians, whose main professional assumptions are that "time matters" and "institutions matter," were much less surprised. "Transition" was not easy for any country. It was, however, easier for those Eastern European countries that had enjoyed before 1939 a relatively modern market economy, with the attendant institutions and entrepreneurial middle class. There was, on the other hand, no heritage of social, economic, and political institutions that the Russians could draw upon in building a free-market economy. These changes will take much longer to take root in Russia than they did in the Eastern European countries that have recently gained access to the European Union.

The economic development of the European Union was also quite disappointing, to those who had pinned hopes on the Single Market and Currency. "Or was it?" asks Riccardo Faini in chapter 4. It was a common perception, on both sides of the Atlantic, during the 1990s that the European economy performed poorly when compared to that of the United States. While the latter's GDP grew at an average annual rate of 3.2 percent, the European Union's managed only an annual average increase of 2.1 percent. Moreover, the world's export share of the large Continental economies sharply declined, while the United States was able to achieve a slight increase in its share of total world trade. More importantly still, labor productivity growth in Europe remained higher

than in the United States until the mid-1990s, after which time, however, productivity growth in the United States was more than twice as fast as that of the European Union. It is likely, therefore, that the 1990s witnessed a break in the long-established postwar trends that saw Western Europe and Japan catching up with the United States after losing ground for over a century prior to 1950.

In the long-term perspective, the end – and perhaps the reversal – of Europe's convergence with the United States represents one of the relevant economic changes of the 1990s, with potentially far-reaching implications for the twenty-first century. While acknowledging that Europe's long productivity catch-up came to an end in the second half of the 1990s, Faini warns against viewing these trends with undue pessimism (from Europe's point of view). First of all, demographic trends on the two sides of the Atlantic are very different, and if per capita rather than total GDP is taken into consideration then Europe's relative performance looks distinctly better. During the 1990s population growth was 1.15 percent per annum in the United States and only 0.3 percent per annum in the European Union. If this is taken into account, it remains true that over the 1990s the United States grew more rapidly than Europe on per capita terms, but only by the narrow margin of 0.1 to 0.2 percentage points per annum. In the second half of the decade, the rate of growth in GDP per capita was about the same in the two areas. Moreover, Faini notes, differences in accounting practices and definitions result in a reduction of some 0.2 to 0.3 percentage points in growth differential between Europe and the United States, so that the latter's per capita growth in the second half of the 1990s would again be slower than Europe's. While convergence has by and large come to an end, we are not – or not yet – witnessing the beginning of a great new divergence.

1.3 The productivity surge and the "new economy" in the United States

Even before the purported advent of a "new economy" in the United States, the 1990s saw a revival of intellectual interest in "long waves" of technological progress, particularly in the role of general-purpose technologies (GPTs) as the engines of growth. The GPT concept, formulated by Bresnahan and Trajtenberg (1995) in a highly influential article (written in 1991), captured many of the features of semiconductors. An innovation qualified as a GPT if it was pervasive, spreading to many sectors of the economy; if it was a breakthrough that had the inherent potential for continuous improvement; and if it fostered complementary innovations in downstream sectors. The concept was in some sense an updating of Joseph Schumpeter's idea of the "great innovation."

This updating proved timely. During the "golden age" of productivity growth, in the 1950s and 1960s, scholars had come to downplay the role of individual great inventions. Edward Denison's pioneering work (1962) on growth accounting had established that in a large, robustly expanding economy no single invention, and indeed no single factor, explains more than a small fraction of

total growth. This conclusion was reinforced by the path-breaking work of "new economic" historians Robert Fogel (1964) and Albert Fishlow (1965) on the social savings of the railroad in nineteenth-century America. This transportation innovation, which for many historians had virtually defined the century's progress, could, in Fogel's estimation, account for only two years of economic growth. The idea of a long boom driven by a single epoch-making innovation was on its deathbed.

Even the onset of the "great productivity slowdown" of the 1970s and 1980s, which revived scholarly interest in the long waves, seemed to confirm the lesser role for single great technologies in the growth progress. The stagnation of measured productivity was occurring in the period when new information technologies were rapidly entering offices, factories, and homes. This puzzling phenomenon was well captured in Robert Solow's famous paradox: "We see computers everywhere but in the productivity numbers (Solow, 1987)." The IT sector might well satisfy Moore's (1965) law, which promised a doubling of computing capacity for a given cost every 18–24 months, but it wasn't generating measured increases in output per unit of input.

A number of arguments addressed the puzzling statistical unimportance of this technology, which appeared revolutionary to most who used computers and certainly to all who produced them. One common argument was that the shift of the economy from commodity production to services muted the impact of productivity advances, leading to what is known as Baumol's Disease (Baumol, 1967). Some argued this was due to measurement problems. In many services such as the government sector, output is very hard to measure and is, essentially, proxied by inputs. A second, related argument was that much of the modern productivity advances, even in the commodity-producing sector, took the forms of quality improvements that were poorly measured by existing prices series. A now classic article by William Nordhaus (1997b) on the price of light and the careful empirical work of Zvi Giliches and his associates highlighted such measurement issues.[4] Others argued, more negatively, that the computer did not actually contribute to greater creativity or to more judicious decisions. Instead, the computer just reduced the cost of making revised drafts, leading to more work being produced, not a better final product. Others contended that portable computers and mobile phones increased the number of hours worked rather than output per hour.

In contrast to these pessimistic assessments, a highly influential article by Paul David argued that productivity gains from computers were just over the horizon; it was only a matter of time. David (1990) drew a historical parallel between the impact of the computer and that of the electrical dynamo in the early twentieth century. Although visionaries could see the revolutionary implications of electrical power from the mid-1890s on, the effects would not be realized in meaningful ways until the 1920s. Building on the prior work of Richard Du Boff (1964) and Warren Devine (1983), David noted that the first uses of electricity

Table 1.2 *Productivity in the US nonfarm business sector, 1974–2001*

	1974–1900	1991–1995	1996–2001	Post-1995 change
Growth of labor productivity	1.36	1.54	2.43	0.89
Contribution from capital deepening	0.77	0.52	1.19	0.67
IT capital	0.41	0.46	1.02	0.56
Computer hardware	0.23	0.19	0.54	0.35
Software	0.09	0.21	0.35	0.14
Communication equipment	0.09	0.05	0.13	0.08
Other capital	0.37	0.06	0.17	0.11
Labor quality	0.22	0.45	0.25	−0.20
Multifactor productivity	0.37	0.58	0.99	0.41
Semiconductors	0.08	0.13	0.42	0.29
Computer hardware	0.11	0.13	0.19	0.06
Software	0.04	0.09	0.11	0.02
Communication equipment	0.04	0.06	0.05	−0.01
Other sectors	0.11	0.17	0.23	0.06
Total IT contribution	0.68	0.87	1.79	0.92

NB: Growth in percent per annum.
Source: Oliner and Sichel (2002).

in manufacturing involved plugging the new power source into the shaft-and-belt factory designed around steam engines. Only over time did the new system of production with straight-line product flows, small-horsepower motors, and material handling devices evolve, allowing the full realization of the potential of electrical power. David argued that, in a similar way, the first decades of the diffusion of the computer would be spent in redesigning production to make use of the new technologies. Outweighing the initial benefits of using new hardware or software were the investment costs in updating to version 2 of better hardware or software. Eventually, though, the net gains would be realized.

In the United States, the recent past has borne out David's prediction of an acceleration of productivity growth based on the application of the new computer technologies. Table 1.2 illustrates this acceleration and indicates its proximate causes, using data gathered by Stephen Oliner and Daniel Sichel