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bottom line *in the new economy*

michel godet*

Tempting as it is to be deterministic about world trade, Western economies are facing a number of new challenges. The collapse of hi-tech stocks has prompted a re-evaluation of the new economy, yet traditional economic models no longer offer reliable predictions for the future. New information and communications technology has unquestionably jump-started America's economy, yet its re-found prosperity is in many ways illusory. While the economists debate the relevance of classical theory, one inescapable fact confronts the nations of Europe: the inexorable decline of their population – and with it, their intellectual capital.

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Renewed growth, lower unemployment, and no more crisis! We can only be pleased with the economic outlook, which evokes the postwar boom years. Only recently have the siren voices been heard. Why did the experts not predict this new golden age? Is it all built on new technology, and if so, can the blue skies stay blue? Is all this growth not at the mercy of a new oil crisis or a US stock market crash?

As recently as four years ago, when the Left returned to power in France, we were being exhorted to effort and sacrifice. There could be no gain without pain, we were told, with the Japanese held up as paragons of industry and enterprise. Few could have predicted the stasis and sclerosis that would grip their country's economy by the turn of the millennium.

As so often before, the global economic upturn was born in the USA. The first signs of recovery were detected in 1992, and by the middle of the decade they were taking root, encouraged by low inflation, low interest rates, record-breaking job creation figures and near-negligible unemployment rates. By the summer of 2000, the USA had enjoyed nine years of uninterrupted growth. Europe has not been far behind. After overcoming the restrictive monetary policies of the early 1990s (high interest rates, cost of German reunification, budgetary policies for EU convergence), its economy has also grown steadily for some seven years.

Yet this phenomenon of long prosperity is not as exceptional as some maintain. Since 1960, the USA has gone through other long, even steadier growth periods. For example, there were nine years between 1961 and 1969; five years between 1975 and 1979; seven years between 1982 and 1989, punctuated by much shorter recessionary phases (one or two years on average). Table 1 provides an overview.

Table 1 Characteristics of recent American economic cycles

Cycles	*Number of quarters*	*GDP growth in volume (%)*
Q1 1961 – Q4 1969		
Expansion	36	4.7
Recession	4	-0.1
Q4 1970 – Q4 1973		
Expansion	10	4.8
Recession	7	-1.3
Q2 1975 – Q4 1979		
Expansion	20	4.2
Recession	2	-0.2
Q3 1980 – Q3 1981		
Expansion	4	2.4
Recession	4	-1.6
Q4 1982 – Q2 1990		
Expansion	31	4.1
Recession	3	-1.6
Q3 1991 – ?		
Expansion	35	3.5
Average		
Expansion	23	4.0
Recession	4	-0.9

Source: le Point mensuel Aurel-Leven SA, Washington Plaza, March 2000.

ICT – the wild card

There may be parallels with the recent past, but there are also new elements to this US boom. The first thing is that this time, inflation has been contained, despite low unemployment. Under the careful stewardship of Alan Greenspan, head of the Federal Reserve Board since 1987, the pay-off for Americans has been stable interest rates. The second new thing is that the growth appears less volatile, in other words, less vulnerable to the vagaries of the stock market. Yet at the same time, we have to attribute some of America's economic success story to the new business mantra of just-in-time (JIT) delivery. This philosophy of production and distribution would have been impossible without the lever of technology, in particular the ability offered by the internet to send data in real time, at derisory cost, to scattered networks linking manufacturers to consumers.

All of the above was remarkably well analysed by Philippe Lemoine[1] and Michel Didier.[2] Indeed, for Lemoine, Vice-President of the Galeries Lafayette group, 'The new economy is the computerized exchange, as opposed to the old economy, [which is] still dominated by the strategic model implied by the computerization of manufacturing and management.' The old economy sought to increase productivity through downsizing, and job cuts were a way to improve the balance sheet.

The old economy could also be characterized as one of 'value retention', where selling prices remain high, despite productivity gains. This has been observed even within the computer industry, where Moore's Law has operated since 1965, halving the cost of products every 18 months. Lemoine continues, 'The best gets cheaper… it's the law of price inversion: the products are improved and increasingly cheaper'. It is also the inversion of value chains. Demand increasingly affects supply. The client ends up giving the manufacturer an 'opportunity to bid'. There is greater transparency in terms of the information available to consumers, while isolated manufacturers can improve the connection between supply and demand. In short, competition thrives as prices tumble.

The new economy is therefore a virtuous cycle, in which there is innovation to meet ever more diversified needs, inventory reduction and greater rotation of inventory, new services to satisfy consumer expectations (meaning more jobs) – and of course, lower prices. Lemoine provides a surprising illustration of this model by comparing a French 'hypermarket' (combined food and soft goods store) to America's Wal-Mart. Similar in format, Wal-Mart employs twice as many employees for comparable annual revenues. Why? Because it rotates its stock 25 times a year, versus 10 times a year in France. Another example that Lemoine gives is the merchandising of bespoke personal computers by Dell Computer Corporation. The company has pioneered a distribution model in which no more than five days' worth of components are kept on hand, from which computers are assembled to order. In other words, one-tenth the amount of inventory held by its competitors!

We should add here that certain activities experience exponential growth through networking. It is an example of Metcalfe's law, whereby the usefulness of a good or service increases according to its number of users, as seen in the spread of the fax machine. Among the surprises of the new economy, Michel Didier points out, is that lower prices now extend as far as free service.[3] Once again, we have the internet to thank. Information has a set investment cost and a very low, marginal operating cost. Economic theory teaches us that in a balanced market, the price of a good is equal to its marginal cost. If the marginal cost is zero, Didier reasons, the price is set to drop right off the page. In the case of the internet, the explosion has been particularly dramatic because of the speed and scale of the network effect.

1 Philippe Lemoine, 'Qu'est-ce que la nouvelle économie?', *Cahier Laser*, No 3, July 2000.
2 Michel Didier, 'Quelle croissance longue pour l'économie française?', *Revue de Rexecode*, No 66, Spring 2000.
3 *Ibid*.

New technology = new economy?

Yet how can all of this explain away the unbelievable twists and turns on the NASDAQ? Early in 2000, AOL.com and Time Warner shared a stock market capitalization seven times that of General Motors. Some companies, which may never be profitable, saw their value plummet as their true economic state emerged. If that is the new economy, then the old one will likely return, for it was more in touch with reality.

'Virtual exchanges' may be much easier, but at some point or another, reality sets in and the product must be manufactured, delivered on time and at a profit. Mastering information technology is not enough to control the logistics and organization of the production line and distribution system. The well-publicized bankruptcy of Boo.com is but the first of a long series of wake-up calls. It is interesting that the giants of mail-order sales in France (La Redoute, Les Trois Suisses) are not dashing to put their catalogues on the net. Of course, there is nothing really new in all this. People speculated on tulip bulbs in the 18th century, railroads in the 19th century and utility companies in the early 20th century – and it wasn't always the first wave of investors who took the prizes.

It seems that the past may be repeating itself. Although there are distinct elements to the new economy, ranging from production in real time and JIT, to supply-based demand, lower inventories and prices, in effect these concepts touch all sectors of the economy. It is therefore ridiculous to reduce the new economy to the sector of information technology alone. One thing that characterizes the old economy is value retention, limited competition and passive consumers – but its most productive sectors integrated new technology to improve performance and productivity a long time ago. And we should remember that some pockets of activity, e.g. local telecommunications, are still part of the old economy by virtue of old-fashioned, protective regulation.

Illusions of the age

In its conjunction of lateral and free market thinking, new technology and liberalization, the new economic age can seem like 'Bill Gates meets Margaret Thatcher'. In other words, there may be many new things in the economy, but they refer primarily to the classical concepts of competition, pricing and transparency of markets. Information and communications technology (ICT) has been merely the facilitator. We smile when reminded that each generation, even our own, is tempted by the idea of a new age. This was the case in the USA at the start of the 20th century. History records Roosevelt's 'New Deal' in the 1930s,[4] and more recently we have heard or read about the 'New Management' and the 'New Society'. The expression 'New Age' is now generally understood to refer to a quasi-religious movement begun in California in the early 1980s. France saw its own New Age, with new economists and new philosophers. And of course advertising has used and abused the word 'new' since time immemorial to rejuvenate products when they become tired.

Nevertheless, our memories are short and it is tempting to invoke one of Kondratieff's long trade cycles,[5] with technology as the driving force behind growth. In fact, a purely economic, monetary, and above all liberal explanation should be equally attractive, if not more so. Besides considering why Kondratieff always

4 This period was very active and many 'new' books were published: *New Theology, New Nationalism by T. Roosevelt (1910), New Diplomacy* by W. Wilson (1915), *New Freedom, New Federalism, New Idealism, New Deal* by F.D. Roosevelt (1932).

5 A trade cycle of very long duration – Schumpeter applied the term to a cycle of 56 years. Named after the Russian economist N.D. Kondratieff, who made important contributions in the 1920s to the study of long-term fluctuations.

enchants newcomers and old timers alike, we should delve deeper into current and future growth in the USA and Europe, the role of ICT and the risks of a recession caused by an oil crisis or economic crash.

Solow vs Kondratieff

By lowering prices and facilitating liberalization, ICT has promoted healthier growth that is less inflationary and less volatile. Yet how do we quantify the percentage of economic growth for which ICT is responsible? This type of measurement is only beginning to be used, but official statistics bureaux including the OECD and France's INSEE have made estimates: in the United States, new technology represents 2% of the capital stock and 8% of the GDP with service sales. It also accounts for 15% of the growth, in other words, 0.6% of the growth of the past few years. In France, we have nearly 5% of GDP attributed to ICT, which would explain 10% of the growth, or 0.3% of the annual GDP.

Yet experts on the new economy say that a driving force does not have to be momentous to fuel the economy and boost productivity. Is this the end of Solow's paradox? As early as 1987, the Nobel Prizewinner for Economics pointed out that we can see [the influence of] computers everywhere, except in productivity statistics. The MIT professor was recently reminded of his words. He replied prudently, 'It may possibly be the end of the computer paradox, but I'm not sure.'[6]

It is certainly true that the recent acceleration in labour productivity is far from the figures seen in the 1950s, when there was nary a computer in sight. As Michel Didier points out, 'Accelerated labour productivity is limited to the computer sector alone: 42% between 1995 and 1999, versus 18% between 1972 and 1995… but that hardly affects other sectors.' Apparent gains in labour productivity of the magnitude of 2.2% since 1995 are twice as high as those of the 1970s and 80s, yet clearly lower than those of the 1950s and 60s (2.6%), when there was an average, old-fashioned economic growth rate of 5% per year.

The INSEE recently examined the other side of the coin: slowing technological progress. The answer revealed that indeed, in France, 'labour productivity is slowing down overall, and more sharply in the tertiary sector'. Yet deep down we know that current statistical tools are incapable of proving the possible link between technology and growth. The same incapacity does not, however, prevent anyone from proving the contrary. In other words, we can all cast doubt, give hope and even stir up controversy. It all helps to perpetuate the Kondratieff myth.

The whole issue of measurement arises anew if we take an indicator considered less sensitive to growth rates and more significant over the long-term: the total productivity factor (TPF). This measurement takes into account the productivity of capital invested - and herein lies the surprise! According to Robert J. Gordon, an expert in the field, the TPF was less than 1% per year during the period 1975-1995, in other words, one-third less than it was in the 1950s and 60s, and one-half of what it was in the 1970s![7]

The miraculous effect of new telecommunications and information technology could scarcely be seen in the TPF until a few months ago. This curious situation seemed to confirm Solow's paradox. But the USA reviewed its way of calculating things and revised its GDP up 0.5%. At once, the TPF rebounded. In the end, productivity appears to be a residual, something which cannot be explained by an increase in either labour or capital. Moreover, according to estimates from the French business conference board, Rexecode, the TPF has almost doubled since 1955, settling at 1.8% per year. The figure is soon expected to reach the rates of the period

6 *Le Monde de' l'Économie*, 18 April 2000.

7 Robert J. Gordon, *The American Economic Review*, May 1999.

1965-1973.[8] This spurt in productivity could not have come at a better time to convince all those banking on the new economy, yet it remains inferior to the pre-computer years, 1950-65.

The latest results also point to a somewhat embarrassing paradox for the new economy. For over a quarter of a century, the TPF figures were higher in France than in the USA, at a time when the French were supposedly behind in their implementation of technology. Can we say that Solow's paradox is over? We have to wait to decide, but more analyses are needed to confirm the correlation between cause and effect. In the meantime, the productivity debate continues.

The US – boom or bust?

Classical economic factors continue to play a more important role than technology in the new growth. These include:

- consumer confidence, shown to be essential in development;
- the reduction of budgetary deficits (and even a surplus in the USA);
- cheap money;
- investment in R&D (which has increased in the USA at twice the rate of turnover since 1980);
- replacement or upgrading of technological equipment (on which the USA spends twice as much as Europe);
- more efficient organization of companies;
- market liberalization and stimulation through competition; and
- maintaining demand through a decline in prices and increase in quality.

These factors of the new economic climate, were they to remain stable, could inspire hope for sustained growth for many years to come. Unfortunately, not all the pillars of the American economy are solid. The first crack appears in the enormous foreign trade deficit: $170 billion in 1998, $265 billion in 1999, $350 billion in 2000. The USA enjoys an enviable privilege which allows it to finance deficits of such magnitude with its currency. Dollars lost in trade return in the form of capital investment. However, the Fed's base rate was 5.75%, while the inflation rate was 3.1% in 2000. When average inflation is 1.7% within the Euro zone, obviously this is more attractive than the Central European Bank's 4.25%.

American consumers use a 'negative savings' technique which enables them to live beyond their means using the rest of the world's savings, notably Japan's. Average Americans will even borrow to play the stock market and possibly get rich, as the past few years have shown. The Dow Jones has risen by 300% since 1990; the NASDAQ, 700%. Terashima Jitsüro points out that '40% of personal assets in the United States are actually real estate. The percentage reaches 60% for individuals with an annual income exceeding $100,000'.[9] When the financial bubble does burst, as it will one day, the effect of virtual wealth will be real impoverishment for much of the population. Consumption will slow down; growth will grind to a halt. The high foreign debt that the United States contracted when the American dollar was strong can always be repaid using devalued dollars. But while the 'greenback' remains high, low American inflation rates appear to be the result of imported deflation rather than new technology.

Those European economies that have entered the euro have not experienced the same upsets in their national currencies. In the past this has led to stop-and-go policies, staggered from country to country, with resulting paralysis. Today, the euro zone is operating in sync, helped by the fact that 93% of what is produced in Europe

8 Denis Ferrand: 'Accélération de la productivité globale des facteurs aux Etats-Unis', *Revue Rexecode*, third quarter 2000.

9 Terashima Jitsüro: 'Etats-Unis: entre désillusion et espoir', *Cahiers du Japon*, Winter 1999.

is also consumed there. Since its launch the euro may have suffered a devaluation of 25% in comparison with the US dollar, but as a competitive devaluation it has actually helped Europe get back on track in terms of growth.

As a political and monetary entity facing the future, Europe is still too fragile to do anything but ride on the coat tails of the US dollar. In fact, unlike the USA, Europe is threatened by a foreseeable demographic implosion. This fact also explains the weakness of the euro vis-à-vis the US dollar, and does not augur well for future growth. It is worth remembering that ultimately there is no wealth other than intellect; ie, educated citizens, and when there are no more people, there is no future. But before returning to the demographic issue, let us try to understand why Kondratieff's cycles come back into fashion regularly.

The temptation of determinism

We have already seen how the hypothesis that the new economy has been ushered in by information technology remains unproven. Yet we recognize that neither is the opposite proven, given our apparent incapacity to measure the phenomenon. In Kondratieff's famous long cycles, the market economy is punctuated every 50 years by the rhythm of innovation, such as the railroad between 1845 and 1870; electricity and the automobile between 1895 and 1914; oil and durable consumer goods between 1945 and 1973, and now, information technology and biotechnology.

The analysts have already split into camps on this issue. Neo-Marxists, always ready to crow when inbred capitalist crises arise, have lined up with Schumpeter in his theory of creative destruction. Here it is technology, innovation and entrepreneurship that play the determining role, with monopoly capitalism abandoning competition on price and ultimately giving way to socialism.

As a futurist, I see the future as the fruit of will and determination. I cannot help but be sceptical about readings in which we exchange yesterday's religious determinism for a form of technological determinism with scientific pretensions. The social sciences have little to do with the physical. Let's face it, people do not behave like electrons, their movements straitjacketed by equations, and we should gladly remember that we have a certain freedom when facing the future. Quite some time ago, we realized that if long cycles exist, they are socio-organizational rather than technological.[10] Naturally, that type of thinking does not make headlines.

Imaginary cycles and conspicuous consumption

Perhaps our analysis has been more ideological than purely logical. There are indeed many long fluctuations in prices and interest rates, but they are not cyclical. A better term would be alternating. Moreover, we know that they are not linked to industrialized capitalism because they can be traced to the end of the Middle Ages. Already by the 1940s, analysts had concluded that the long waves identified by Kondratieff stemmed essentially from statistical techniques and time series that were too limited. Kondratieff's identification of turning points in economic history was somewhat arbitrary. Paul Samuelson even ranks them with sci-fi. Wassily Léontief, on the other hand, excludes the idea of periodicity over long periods, in which the structure of the economy undergoes radical transformations. We refer to these Nobel Prize winners because it is unlikely that they are merely making conversation.

The recurring theme of long cycles stems from our incapacity to explain crises. If there is a Kondratieff cycle, it is a movement of long duration affecting the prices of

10 Michel Godet, *Crises Are Opportunities*, Gamma Press, Montreal QC, 1985.

raw materials; in other words, what used to be the only known factor. Nevertheless, the era of the gold standard has faded in memory, and the prices of manufactured goods are determined by other factors. During the past century, there have indeed been many long phases of declining prices and nominal increases – but not since 1945, since when the increase has been constant at one or two digits. Wassily Léontief is certainly correct in speaking of radical changes. But it is no longer the gold price cycle that punctuates the long fluctuations. It is rather price cycles in the cost of raw materials and, in the first instance, energy prices that affect economic trends.

Many therefore believe that the new growth model cannot be replicated globally without generating a new oil crisis.[11] There is no real danger, but the situation is simply the confluence of two trends: growth fuelled by cheap energy, and the abandonment of energy substitution programs in the US. It is well known that more energy is wasted in the USA than anywhere else and that statistically, American consumption per capita is exactly twice the European figure. But for the recession of the early 1990s, it might have precipitated another oil crisis, to which the US economy remains uniquely vulnerable.

Meanwhile, American growth has settled at an average of 3.6% over the past few years, with European growth far behind at 2.2%. How can we explain this difference, if we leave aside the already doubtful technology argument? The answer lies in the question, yet the question would not even have been asked if we noticed that growth in per capita GDP is the same on both sides of the Atlantic. The simple explanation lies in a head count. The demographic implosion in the old world could not provide a greater contrast to the dynamic American population, which is expected to grow by 50 million between now and the year 2025.

Your country needs you[12]

Post-war prosperity and the baby boom went hand-in-hand. Hence the difference in the economic dynamics of the USA vis-à-vis Europe may be explained not just by innovation, but also by healthier demographic rates. For the past 20 years, the fertility rate has been an average of two children per woman in America, versus 1.5 in Europe. The American population continues to rise, due partly to major immigration flows, while the European population stagnates. As the French post-war demographer and economist, Alfred Sauvy, put it, economists simply refuse to see the link between economic growth and dynamic demographics. They do not even test the hypothesis.

Yet the correlations are startling, for they reveal that the industrialized countries that have created the most jobs are the ones in which the population has risen the most dramatically. It is a pipe dream to think that everything will be fine after the year 2000 because of a decrease in Europe's active population. On the contrary, with its preponderance of senior citizens the demographic implosion will only heighten social and economic tensions.

Europe's main market is Europe. Its quickly greying population does little to encourage growth because investing and consuming usually imply confidence in the future, as well as the need to buy equipment and supplies. Unfortunately, both confidence and the need to purchase major items decrease with age. In sum, the European perspective is clear: white hair means soft, fluctuating economic growth.

11 Andrew Oswald, 'Fuelling false hope', *Financial Times*, 10 September 1999.

12 This point was the focus of an article published in *Le Monde de l'Économie*, 8 February 2000.

Table 2 Variations in Population, Employment and Unemployment Statistics from 1975 to 1997

	Variation in population (millions)	*Trend seen in % 1975/1997*	*Variation in employment (millions)*	*Trend seen in % 1975/1997*
USA	50.8	24%	39.1	45%
Japan	14.7	13%	13.4	26%
Five main European countries*	17.2	7%	3.1	3%
France	5.9	11%	0.5	2%

Source: Estimates based on OECD figures: France, Germany, Italy, Spain and UK.

Investing in the future

The demographic implosion in Europe will be spectacular, especially when we consider that in 1975, France had 1.7 million more under-20s than it has today. Similarly, over the past 20 years, the fertility rate in Northern Italy has fallen below one child per woman. (Note that the rate would have to be 2.1 to ensure population replacement.) European countries are like orchards which have reached maturity without anyone thinking of replanting.

In 2025, Europe's 15 member states will have as many inhabitants as in 1999 – 380 million. The population of the southern and eastern shores of the Mediterranean, by contrast, will have more than doubled. Among the developed nations, only the United States will continue to be the exception. During the period 1999 to 2025, its population growth (+63 million) will be comparable to that of Brazil (+50 million) or Indonesia (+75 million), in contrast with the Japanese regression (-6 million) and the Russian decrease (-8 million).

I will go hoarse trying to make European leaders hear the message: there can be no lasting economic recovery without a dynamic demographic rate. Indeed, the factors are the same in both economics and demographics: a certain 'lust for life' may be expressed by an economic initiative and by having children. It seems that a corporate spirit is similar to a family spirit. Fortunately there is compensatory immigration. Yet there is no greater national resource than educated citizens, and if we are to integrate the maximum number of children from elsewhere properly, we will need more native-born children in the schools to do the job!

Michel Didier proposes average annual population growth of 2.2% for the next 20 years in France – with, of course, the habitual rider, 'if all goes well'. This is still far from the 3.5% put forth by the French social and economic council for the next 40 years! Let us not forget the lessons of history, specifically the spectacular demographic decline of the Roman Empire. Its population fell by almost 50% in the 200 years preceding its economic and political collapse. Technology may do many things, but without people, there can be no future!