Gilbert CETTE: Are we at a U-turn in the growth system?

I am Deputy Director of Research and International Affairs at the Banque de France. Within the framework of my research, I work at the same time in the field of growth (employment and productivity), in the field of economic policy and in the field of social and labour law.

I am going to talk about GDP per capita and productivity growth from 1890 to 2013. I chose 1890 because of the availability of data, it is difficult to compare countries over a long period of time. I will give a comparison on a country level between 17 developed countries. My colleagues and I worked on a database on GDP, employment, capital, education etc. First, I will compare the end point to the first point. After that I will look at the waves in between, of GDP per capita growth and productivity growth. Then I will compare the level between the main countries. I will slightly focus on ICTs because they are the vector of the last “industrial revolution” and how we can compare different countries, what we could get from structural reforms. I will finish with elements related to what Yves BAROU said.

Let us compare the level of 2013 to that of 1890 (GDP per capita in percentage – figure below):

For Japan, GDP per capita increased by 2,200% over this period, it was multiplied by a factor 22. Even in countries with high starting points like the UK, GDP multiplied by factor 6 to 7 from 1890 to 2013, so this is unprecedented growth. In France, it was multiplied by factor 9 over this period.

I added the increase of productivity per hour, which increased by a much larger factor than the evolution of GDP per capita. In France, GDP per hour worked was multiplied by factor 24 from 1890 to 2013.
The first question to be raised is: why is there such a big difference in GDP per hour worked and the evolution of GDP per capita? The difference is the mobilisation of the population, the evolution of employment rates and of working times. Over this period, working times were divided by factor 2 in all these countries in average. For the employment rate there’s a large decrease too but a lower decrease and sometimes even an increase, in the USA and the UK for instance.

We get the following message: first, a large increase of productivity per hour, that allowed to increase the standard of living by raising GDP per capita and secondly, more leisure, proven by the decrease of working time (average number of hours per year for the workers). It is an interesting message because it is true in all countries; everyone wants to increase their standard of living and have more leisure time.

Let us look at the waves of GDP per capita.
2. Growth waves

Average annual growth rate of GDP per capita – United States
Smoothed indicator (HP filter, $\lambda = 500$) - Whole economy – 1891-2013 – In %
Source: Bergeaud, Cétique and Lecat (2014)

For the USA, at the beginning of the period, there is a first wave, then a second wave over the 20th century, and a small third wave at the end. Keep in mind this decrease at the end of the period. It means that GDP per capita growth is lower now than ever over this very long period. If we compare the USA, the largest economic area, the Euro area, the UK and Japan, we observe quite the same evolution but with a delay: the USA is in advance of 2 to 3 decades for these GDP per capita waves.

Why don’t the other economic areas enjoy the same waves? I decomposed the 4 main countries of the Euro area and found quite the same evolution over the period, with some specificities due to the Civil War in Spain, but the cycles are well synchronized:
What determines these waves? Let us look at the same waves for productivity per hour.

In fact the main decisive factor of GDP per capita growth waves is productivity, the wave is exactly the same. At the end of the first Industrial Revolution, there is a long wave over the 20th century that matches the second Industrial Revolution. There is a little step during the Great Depression (1930s) then a long decline with an acceleration at the beginning of the engagement in the Vietnam War. World War Two was a fantastic acceleration of productivity in the USA but, during the Vietnam War, there was a decrease in productivity growth. The third wave is the third Industrial Revolution, supported by the development of ICTs. This wave seems short and small compared to the big one of the second Industrial Revolution. If we compare the impact of ICTs on productivity growth during this period, it seems small compared to the impact of the use of internal combustion engines, electricity etc. This decline suggests that we could be at the end of the ICT impact on productivity. We
see a larger diffusion of ICTs but they have a smaller impact on productivity compared to the 1990s, even before the current crisis from the first half of the decade 2000-2010. In the USA and the Euro area, we can see the same waves but with a delay of 2 to 3 decades and a particularity: countries that experienced WW2 on their own soil suffered from a large slowdown of productivity but countries engaged in WW2 benefited from a huge acceleration during WW2 (Australia, New Zealand, the USA). This impressive decrease of productivity growth at the end is everywhere. In Germany, France, Italy and Spain, we can see the same evolution but with some specificities.

For Spain there is an acceleration at the end of the period linked to the housing sector. Its importance decreased during the crisis, and the sector has a low level of productivity. It was divided by factor 3 from 2008 to 2012, which means a productivity acceleration but there was a general slowdown.

I would like to focus on the last point: what should we expect for the future? A low level according to Gordon, an economist working on growth. Another colleague thinks the contrary – that we could expect an acceleration from the new ICT productivity wave. Other economists think that we could suffer from “secular stagnation” for a very long period.

Let us now compare GDP per capita and productivity levels between countries.
The USA corresponds to level 100. First, leadership changed. In the beginning, the country with the highest level of GDP per capita was Australia, then the Netherlands and the UK. Then we observe a decline in the UK, stagnation in Japan and the Euro area, with the impact of WW2 and a process of catching up during the golden period. There is a long catch-up but it is not achieved and never was. The Euro area, at its best, was at 80% of the US level. In the current period from the end of the 1980s there was a decline of around 10 points of GDP per capita compared to the USA, which is alarming.

If we look at the 4 main Euro countries, we get the same picture with the same increase-stabilisation-decrease.

In Germany however, the situation is not so bad. The stabilisation of GDP per capita level is better than in France, the UK, Japan and Spain. The same comparison appears for productivity per hour.
The UK was the leader in the beginning of the 20th century, after which there was decline and stabilisation in other areas, followed by a long catch-up phase and then stabilisation.

For productivity levels the catch-up was achieved at the end of the 1980s.

In France, the productivity level was higher than the USA from the beginning of the 1980s to the beginning of the 21st century. I found this to be puzzling so I spent time with colleagues researching and trying to explain this phenomenon. Performance is not so fantastic, because employment rates and working times are a lot lower than in the US. The first to be employed are the most productive so there is a higher level. Working times are lower in Europe than in the USA. But we never reached the US level. Many papers tried to explain it. We are not more productive than the USA, but we work less.
France started at 3,200 hours of work per year in average and is now around 1,600 hours, a division by factor 2 over this period. This decrease did not happen at the same time in all countries but it is not a French specificity. The employment rate remained at a stable level in all countries.

Now, let us look at the differences of GDP per capita level for countries in different factors: labour mobilisation (working time and employment rate) and labour productivity (capital intensity and total factor productivity). There is a small correction term and difference compared to the USA in 2013.

In all countries, the mobilisation of the population is lower. What I call employment rate is employment divided by the whole population (not the active population). There are some differences in productivity, which is higher in France but for the wrong reasons.

Let us now focus on ICT diffusion, the 3rd Industrial Revolution.
Take the ICT capital coefficient for instance: productive capital in stock divided by GDP at current price. We observe a long diffusion of ICTs over this period. From the beginning of this century, it is completely stable. Diffusion has stopped, which is surprising but true. In volume there is still an increase but the value is stable, in the Euro area and Japan as well. How is it possible to get stabilisation at different levels? For France, education levels and rigidities can explain the difference with the USA – I mean rigidity regarding the institutions on labour and markets. We need more educated people to use ICTs and also flexibility on products and the labour market. To take risks you need some incentive from the competition and it is easier to do if you can go back.

This raises the question of structural reforms: indicators on the differences in regulations and on education.
Regarding the average number of years of studies of the working age population in all countries, there is a long increase of length everywhere and at the end, stabilisation to 12 to 13 years in average. It happens at different levels: France is slightly below the USA but the Euro area is one year below the USA. This means 8 to 9% of productivity in average.

Let us look at figures from the OECD indicators in 5 non-manufacturing industries, with sub-indicators on state ownership, price regulations etc.

France is one of the countries with the most regulations (the lowest are the USA and the UK). The best indicators are those that are the same for all countries but they are imperfect. In business activities we have chosen 5 to 6 professions in terms of regulations.

The same goes for the manufacturing sector with an import tax indicator in all sectors.
France is in the average. Concerning the labour market, the OECD built the EPL indicator.

It focuses mainly on the procedure of dismissals, etc. France is one of the highest regulated countries for regular and temporary workers. The lightest practice is in the USA, the UK and Canada.

What could we expect from the implementation of structural reforms? It is a lot of work to explain the impact of regulation on productivity in all countries with many observations. From this we can assess the benefit of the structural reform for each country (adoption of the lightest practice concerning labour and product market regulations).

France’s gain could be 6 GDP points (2.5 on the labour market, the rest on the product market). There’s a dynamic impact: France, from the first year, could benefit from growth by 0.35% for several years. Many didn’t believe these results that seemed too positive. We looked at countries with large structural reform programs.
Our assessment showed that these countries have a large increase of GDP growth at national level (1% in the Netherlands, 0.8% in Canada, 1% in Australia and 1.5% in Sweden). Why such an impact? Because they have implemented at the same time a large and ambitious state reform and a currency devaluation. In France, we implement fiscal devaluation but we don’t implement ambitious structural reforms.

I will finish with some considerations regarding Yves BAROU’s introduction. Gordon says we will suffer from a long period of low productivity growth, which is debateable; others say we have measurement problems, or that there will be a new wave. Many articles talk about the 3D chips, saying that we haven’t taken advantage of the ICT potential in terms of productivity impact. That’s the current debate. Gordon says that we will suffer from this long period, a reversal of demographic dividend, which would be alarming for Spain, Italy and Germany. The education level has reached a plateau. We will suffer from wealth inequalities: increase of inequalities in the USA, a little less in Europe, while in France there is a decrease in inequalities. There’s a low potential of wage increase. It is a heavy consideration.

There is a debate in the debate: some say that there are good and bad inequalities. If it comes from innovation it could be good for growth and even for social mobility. It shows that more innovation brings growing inequalities but growing social mobility. Regarding globalisation, a large part of the world wants its share of the cake. Our growth, even slow, is unsustainable in the future. We will suffer from big changes and debt. To decrease the debt, there will be more taxes or less spending from states, which is detrimental. An idea was published in the first issue of “Droit social” 2015: there is little potential for wage increases in the coming decades. What are the sources of improvement of the standard of living? The only answer from our point of view was that there could be a better link between personal and working lives. With this revolution we have to reconsider this source of improvement.