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Has There Been an Investment Gap in France and Europe since 2007?

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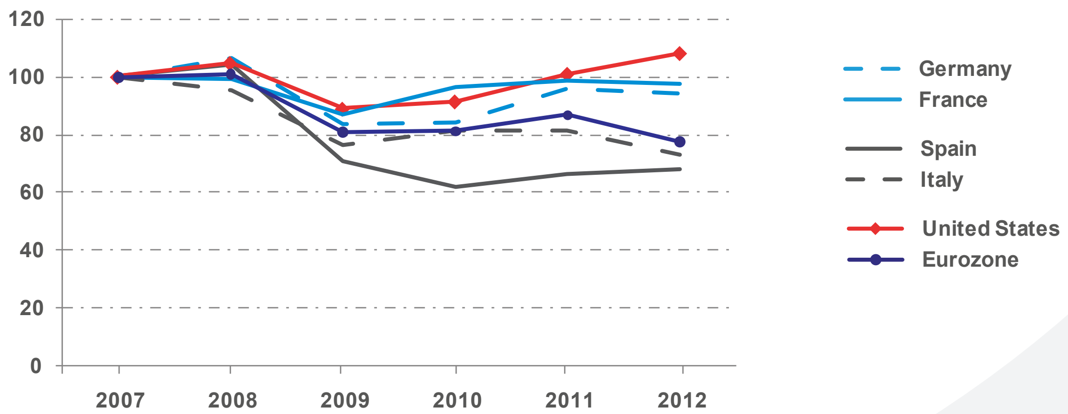
The slowdown in the business recovery in the Eurozone since spring 2014 triggered a debate on investment in Europe in the wake of the European elections of May 2014. Investment is an economic notion enabling the establishment of a connection between the issues of supply and potential growth in the medium and long-term, on the one hand, and shorter term demand, on the other.

At a time when the Eurozone is facing a shortfall of aggregate demand, related to the present economic climate, and major structural challenges in terms of competitiveness, reduction of the investment gap seems to be a well-balanced recommendation.

Between 2007 and 2013, in spite of an initial stage in which investment remained relatively healthy, the Eurozone increasingly lagged seriously behind the United States. Spain and Italy, in particular, have seen a very pronounced reduction in all investment components.

The situation is more difficult to assess with regard to France and Germany. Germany has shown chronic public underinvestment for many years, which has not been slowed by the crisis, quite the reverse. France, on the other hand, is faced with poor investment: insufficient formation of highquality productive capital (R&D in particular) and direction of resources to sectors lacking in pertinence in terms of preparation for the future (real estate in particular).

Gross fixed capital formation in the manufacturing sector* (in volume)



*Investment as defined according to national accounts. All GFCF data is based on 2005 and does not therefore take the recent revision based on 2010 into account.

Source: France Stratégie, based on data from Eurostat.

*Sustainable Development, Economy and Finance Departments.
English version of « Y a-t-il un retard d'investissement en France et en Europe depuis 2007 ? », *La Note d'analyse*, n°16, September 2014

INTRODUCTION

On July 15th 2014, the new president-elect of the European Commission, Jean-Claude Juncker, announced a 300 billion euro investment programme for 2015-2017 that symbolises the political importance of the debate. However, at this stage, both the elements of assessment and the recommendations concerning investment in the Eurozone alone, and even in France, are to a large extent incomplete.

At a time of difficulty in the emergence of discussion on the focus of policy mix within the EMU, in spite of the call launched in the speech delivered by Mario Draghi at Jackson Hole on August 22nd 2014[1], while the emphasis placed upon investment is a seductive option in political terms, the fact remains that it is giving rise to a certain amount of confusion from an economic point of view.

In this respect, the precise identification of an investment gap that might be filled conceals a certain number of ambiguities: is it a gap in public investment, in infrastructures for example, or in investment by companies, whose productive capital may be too weak, too old, or simply unsuitable for the economy of the 21st century? Is the gap related to difficulties that may be encountered in financing SMEs in particular, or does it also affect major groups? Is there also an investment gap as far as households are concerned, with regard to housing in particular?

In the southern Eurozone countries (Italy, Spain), the sovereign debt crisis has led to adjustments which, beyond their various specific characteristics, share the common characteristic of their negative impact upon growth potential, in particular due to the damage caused to the stock of productive as well as human capital by several years of sluggish investment and a massive increase in unemployment.

In Germany, the long-conducted and very rigorous budgetary policy has weighed heavily upon public investment. It is henceforth established that the state of public infrastructures constitutes a potential brake upon business and debate is in progress, in both the academic world and the political sphere, concerning the need for a public investment plan[2].

As far as private investment is concerned, effective demand constitutes the principal short-term determinant: since measurements of deviations from this trend are difficult to assess, priority needs to be given to conducting the right policy mix. Admittedly, financial constraints may play a restrictive role, particularly with regard to poor countries in which the banking sector still needs to be stabilised. In France, there is no indication of pressure upon companies due to credit rationing, and the setting up of the BPI public investment bank[3] is improving provision of finance for those business activities (innovation in particular) that face constraints in this regard. Completion of the banking union, and in particular the stress tests to be conducted in the autumn of 2014 and the recapitalisations set to follow, will make it possible to progressively bring the channels for financing the economy back into operation. The programme of purchases of ABS and covered bonds, announced by the ECB in September 2014, should also contribute to this restoration.

In the longer term, the decisive factor is the "Europe" site's overall attractiveness for flows of investments and as a place of establishment for new activities creating business and employment. This is a reason for assessing the investments necessary to ensure this attractiveness. It involves infrastructures in the broad sense of the term (transport, telecommunications and energy as well as the whole of the "infrastructures" contributing to the quality of human capital), which are traditionally to a large extent, though not exclusively, financed by public funds. Although reflection concerning the need for investment in order to promote attractiveness and competitiveness is perfectly justified from an economic point of view, the quantification thereof nevertheless comes up against major methodological obstacles.

In this context, public policy can act at several different levels in order to fill any investment gap. On the one hand, by removing any obstacles to private investment that may exist and regulatory obstacles, as well as obstacles linked to lack of predictability with regard to relative prices and taxation, etc. Creating the conditions of greater predictability is a matter for the authorities, which thus facilitate private investment and shape an environment favourable to long-term investment. In a more direct manner, on the other hand, the authorities can remedy any public investment gap that may exist and even, in a macroeconomic context of sluggish demand in the face of the structural risk of stagnation, accelerate any investments that may be needed in the medium-term and which can be anticipated without any major disadvantages.

1. http://www.ecb.europa.eu/press/key/date/2014/html/sp140822.en.html
2. The research conducted at the DIW (Berlin) since 2013 and the book by Marcel Fratzscher, *Die Deutschland Illusion*, constitute the most recent contributions to this debate.
3. *Banque publique d'investissement*.

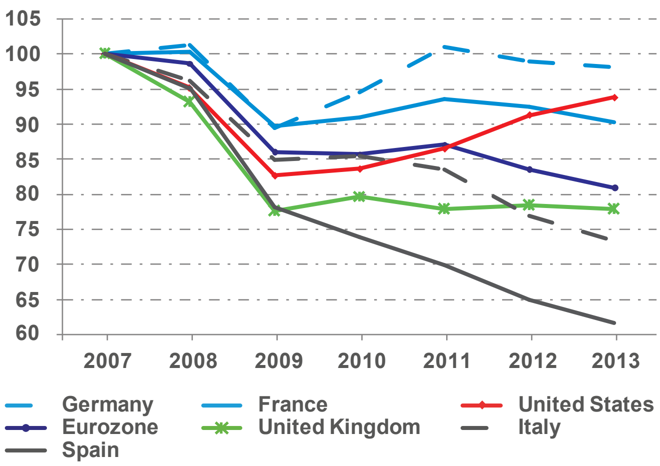
THE FALL IN INVESTMENT IN THE EUROZONE SINCE 2007

Since the outburst of the financial crisis, the share of investment (as defined according to national accounts – gross fixed capital formation – GFCF) in GDP has fallen in all developed economies. Although the Eurozone initially withstood the crisis better than the United States, its levels of investment were in decline at the end of 2011, whereas GFCF in the United States had begun to recover (Graph 1).

This decline is connected with the combination of a pronounced fall in Italy and Spain with a situation in Germany and France that was rapidly stabilised, though without any recovery.

These developments confirm the observed underinvestment in the South of the Eurozone (and in the United Kingdom); on the other hand, as far as France and Germany are concerned, the question remains open and requires more detailed analysis of the investment components.

GRAPH 1 - GROSS FIXED CAPITAL FORMATION
(IN VOLUME)



Source: France Stratégie, based on data from Eurostat.

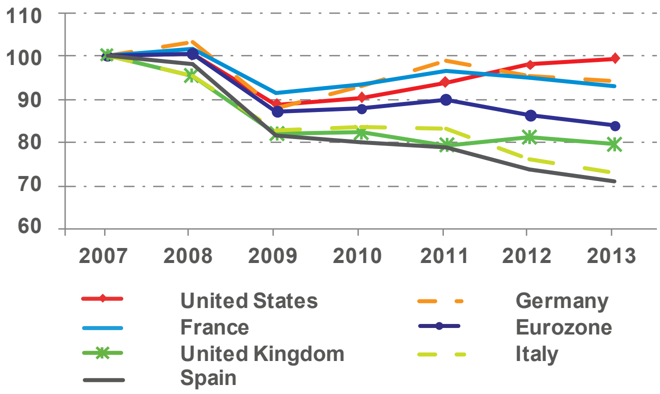
Investments in Housing only Partially Contributed to this Fall

Investments in housing constitute a very large component of GFCF in France, in particular, where they represent 30% of total GFCF.

The development of this kind of investment (on the part of households, but equally on the part of the private sector and the public administrations) is the result of a pronounced downward trend, in particular in countries which experienced a real estate bubble before the crisis (fall of between 30 and 50% in investments in housing in the United States, Spain and the United Kingdom over the period), accompanied (except in the United Kingdom) by overdevelopment of the construction sector, with regard to residential construction in particular. France and Italy showed a more moderate fall. Germany forms an exception with considerable growth in investment in housing after 2010.

On the whole, these changes in housing investment profoundly increased the variations in GFCF throughout the crisis. Yet non-housing GFCF also fell in the course of the period (graph 2). However, in France and Germany the fall (5 percentage points) was far less marked than the Eurozone average (15 percentage points).

GRAPH 2 - GFCF EXCLUDING HOUSING
(IN VOLUME)



Sources: France Stratégie, based on data from OECD, Eurostat and Bureau of Economic Analysis.

Discussion about the existence and economic consequences of an investment gap principally focuses on "productive" investment: infrastructures, facilities in the manufacturing sector and services. The construction industry component, and housing in particular (as well as business real estate), is not given priority in this analysis[4].

Any build-up of a gap in private productive investment would constitute the principal threat to future growth.

4. It should, however, be recalled that the vitality of housing investment is related to the issue of competitiveness in two respects at least. On the one hand, when any underinvestment in housing contributes to a housing shortage and raises real estate prices, it harms the competitiveness of the economy, in particular through the upward pressure that it tends to exert upon wages. On the other hand, the housing sector contains high potential for investment, and even innovation, through thermal habitat improvement.

Contrasting Developments of Productive Investment in the Eurozone

From an examination of the investment levels of non-financial companies (value-added / GFCF), a pronounced fall in the Eurozone has to be acknowledged, with a constant downward trend, whereas these levels have been recovering in the United States since 2010.

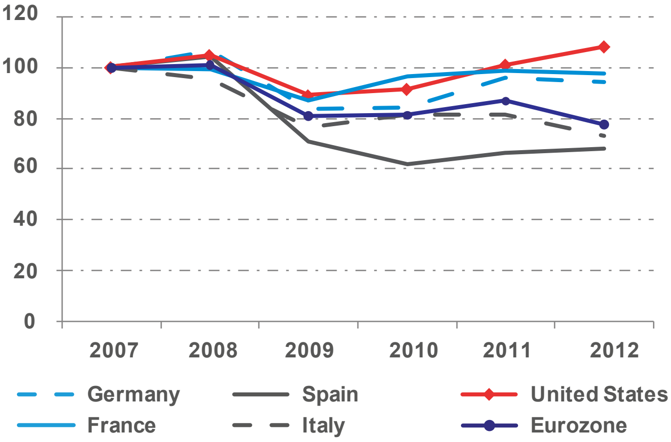
The Eurozone shows great heterogeneity, with France giving the impression of being a harbinger of recovery since 2009-2010, although 2012 marked the beginning of a contraction. Research based upon an investment equation by the INSEE (the French national institute for statistics and economic studies) comes to a similar conclusion: from 2010, the observable level of investment for French non-financial companies, with the exclusion of the construction industry, appears to be in accordance with, if not greater than that suggested by its determinants[5]. Conversely, the INSEE study suggests possible underinvestment on the part of German companies[6].

By restricting the field to the manufacturing sector, the findings can be analysed with greater pertinence (graph 3). For Eurozone countries, the effective maintenance of productive fixed capital formation in France and Germany is confirmed, to a slightly lesser degree, with Spain and Italy still showing a very large gap. The United States have displayed a more pronounced recovery profile since 2010, exceeding pre-2007 levels by more than 10% in 2012.

Once again, although the lost years for the South of the Eurozone undoubtedly have to be acknowledged, the picture is more qualified in the case of France and Germany.

The behaviour of investment flows only constitutes one particular determinant of development of the capital stock at the private sector's disposal. In particular, the average age and rapidity of obsolescence of capital stock, as well as the quality of new investments (buildings and machines, ICT, modernity of facilities etc.) need to be taken into account in order to assess the overall effect of the observed changes upon the growth potential of the economy.

GRAPH 3 - GFCF IN THE MANUFACTURING SECTOR
(IN VOLUME)



Source: France Stratégie, based on data from Eurostat and Bureau of Economic Analysis.

SLOWER GROWTH OF INVESTMENT IN ICT AND R&D

How did investments in information and communications technologies (ICT) behave (here approached *via* investment expenditure on IT equipment, telecommunications facilities, software and databases)? In view of their weight in overall investment (around 15% in Europe and 18% in the United States), ICTs alone are not in a position to change the trend. Conversely, with regard to the technologies that form the basis of the third industrial revolution, the maintenance of an adequate level of investment is essential in order to make the efficiency gains at the heart of tomorrow's growth.

The development of GFCF in terms of ICTs shows a less marked impact from the crisis and faster recovery than for investment in general. Nevertheless, as in the case of total GFCF, recent trends show weak growth in the Eurozone, whereas a return to strong growth appears to be taking hold in the United States.

The investments made in the telecommunications sector also show faster recovery than for investment in general, without however returning to pre-crisis growth rates.

There is therefore a deficit of investment in the ICT sector as compared with previous patterns.

Research and development expenditure, which also constitutes a decisive form of investment for future growth[7], is growing at a slower pace. In the case of France, after a

5. Insee (2013), "L'investissement des entreprises repartira-t-il en 2014?", *Note de conjoncture*, December.
6. The above-mentioned Insee research may be compared with that of Baldi et *al*. conducted on panel data: the authors find that the French level of investment between 2010 and 2012 is in line with its estimated value. Conversely, for the same period, Germany and the Eurozone appear to have underinvested. Cf. Baldi G. *et al.* (2014), "Weak investment dampens Europe's growth", *DIW Economic Bulletin* 7.2014, Berlin.
7. This point has recently led to a change in how this expenditure is taken into account in national accounts; from 2014 it is henceforth included in gross fixed capital formation (changeover to base 2010) and no longer in intermediate consumption.

marked increase of 2.3% in volume in 2011, domestic expenditure in R&D (GERD – gross domestic expenditure on research and development) appears to have increased less rapidly in 2012[8].

With a level of investment in R&D of about 2.25% of GDP, the regularly recalled objective of devoting 3% of GDP to thereto is still far from being met, a fact which is also a consequence of a form of investment gap.

The slowdown in investment observed in the Eurozone since the beginning of the crisis is leading to ageing of the production apparatus. According to *Banque de France* data, the average age of capital in the form of machinery and equipment has increased considerably since 2008 (graph 4)[9].

This increase is particularly pronounced in the case of Italy and Spain (increase of approximately one year). In France and Germany, the return of investment to pre-crisis levels has not been enough to prevent considerable ageing (approximately 6 months). This ageing of the production apparatus has a non-negligible impact upon potential growth[10].

CHANGES IN INVESTMENT AND EFFECTS OF THE SECTORAL COMPOSITION OF THE ECONOMY

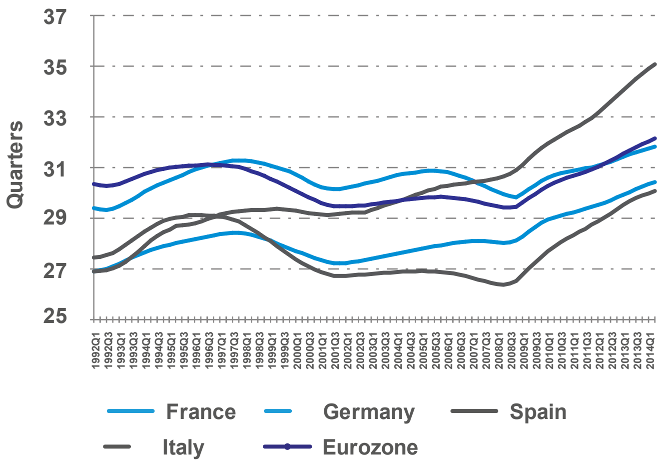
Differences in levels of investment between countries depend to a large extent upon the proportional size of each sector in the national economy. It can therefore be assumed that each sector responded differently in terms of investment during the crisis. Might recent changes in aggregate levels of investment, in which some countries appear to be under-investing while investment has remained steady in others, be attributable to the effects of sectoral composition?

Preliminary research[11] concerning seven European countries[12] indicates that the maintenance of French non-financial companies' levels of investment in the years following the crisis does not seem to be connected to the structure of the French economy (which appears to possess a relatively high number of resilient sectors in terms of investment), but rather that France's level of investment is higher than six other countries' with equivalent productive structures. This research needs to be further developped, in particular in order to take into account the effects of uneven changes in value-added on levels of investment.

For Southern European countries (Italy, Spain), which have not always returned to their pre-crisis production levels, a pronounced slowdown, or even a halt in investment, can be shown. Although the effects of sectorial composition are established (for example, the virtual disappearance of the construction sector, a business activity with a high rate of investment, in the case of Spain), they probably do not explain the whole of the observed developments. Ageing of capital stock is therefore to be expected in this part of the Eurozone.

This phenomenon means reduction of the economy's capacity, not only to attain the highest levels of technological research as it emerges from the crisis, but also to recover its pre-crisis potential, which is a more serious consideration in the short-term: a proportion of its unused capacities may be disappearing.

GRAPH 4 - AVERAGE AGE OF CAPITAL IN MACHINERY AND EQUIPMENT



Source: France Stratégie, based on data from Banque de France.

For the countries at the heart of the Eurozone, France and Germany, the diagnosis is more difficult to establish in detail. In view of the deficit of aggregate demand from which the Eurozone has been suffering for several years, it does not appear likely that the history of investment flows involved any pronounced deterioration of the state of capital stock. However, the quality of this stock (age, technological intensity, etc.) is a pertinent question for France in particular.

In order to assess the changes in investment patterns since the beginning of the crisis, it is necessary to supplement

8. http://www.insee.fr/fr/ffc/tef/tef2014/T14F161/T14F161.pdf
9. Estimated on the basis of volume flows of investment, updated at the single constant rate of 4%.
10. According to a study by the *Banque de France*, the financial crisis resulted in a reduction of total factor productivity in the Eurozone of 4 percentage points, of which 2.8 points were connected to capital ageing. In the case of France, the impact of the crisis was 6.2 percentage points, of which 2.9 points for capital ageing. See Chouard V., Fuentes Castro D., Irac D. and Lemoine M. (2014), "Assessing the losses in euro area potential productivity due to the financial crisis", *Applied Economics*, vol. 46(23), p. 2711-2720.
11. Penanhoat-Aubry P. and Nicolaï J.-P., "*L'hétérogénéité des comportements d'investissement post-crise en Europe*", unpublished note, France Stratégie.
12. Germany, Denmark, Spain, France, Italy, United Kingdom and Sweden.

the analysis of productive investment, which is for the most part in the hands of companies, with that of infrastructure investment, in whose financing the public administrations sector plays a central role.

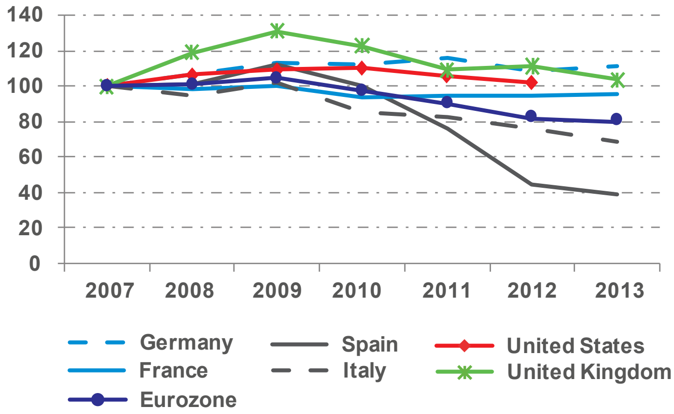
INVESTMENT IN PUBLIC INFRASTRUCTURE FALLING IN THE SOUTH OF THE EUROZONE

In France, the GDP share of public investment is particularly high as compared with the European average and the major European countries, but lower than the share of public investment expenditure in the United States[13]. Unlike the majority of other European countries, whose public investment expenditure fell after the putting in place of recovery plans in the wake of the 2008-2009 crisis (graph 5), France has maintained a relatively stable level of public investment.

Whatever the area considered, public GFCF in the Eurozone fell markedly between 2007 and 2013. It is brought down by the southern countries (Spain in particular), without the changes being entirely offset by the relative stability of France and Germany.

However, this public expenditure does not cover the whole of infrastructure investment of general interest since, depending on the country, certain infrastructures are owned by private or semi-public operators that cover their costs through payments made by users, or even by public charges, which are not recorded in national accounts. This is thus the case for virtually the whole of investments in energy.

GRAPH 5 - GFCF OF PUBLIC ADMINISTRATIONS (IN VOLUME)



Sources: France Stratégie, based on data from OECD and Eurostat.

Investment in transport, whether public or private, comes under a separate accounting entry, which shows a fall of around 20% at the European level since 2008. In France, the level of investment in transport infrastructures is within the European average, at more than 4% of total GFCF. This expenditure continued to increase in 2012 and 2013, thanks to the dynamism of rail and urban public transport investment, while investments in roads, ports and navigable waterways were maintained.

Within the Eurozone, and in spite of a very pronounced downward trend in Italy and Spain, investment in infrastructures was confirmed, in particular thanks to the dynamism of France.

13. This is due, in particular to the share of military GFCF in GDP, which is one percentage point higher in the United States than in France.

CONCLUSION

At a time when debate is developing in Europe with regard to investment, both as a tool for short-term economic recovery and as a factor for improving productivity, competitiveness and attractiveness of the Europe site in the medium to long-term, this study makes a reasoned assessment of investments in France and the Eurozone since the Great Recession and brings out very different courses of change as compared with the United States.

This overview is qualified according to the countries concerned and the areas considered. However, several major overall facts need to be emphasised: after an initial stage which it withstood relatively well, the Eurozone showed a large gap as compared with the United States. The available elements of partial assessment concerning very recent developments (2014) tend to emphasise an acceleration of this phenomenon rather than any reduction of gaps. Within the Eurozone, Spain and Italy show very pronounced decline in all of the investment components.

The assessment is more difficult with regard to France and Germany. Germany has been experiencing chronic public underinvestment for many years, which the crisis is far from having slowed down, quite the reverse. France, for its part, is rather affected by poor investment: inadequate formation of high-quality productive capital (R&D in particular) in favour of a diversion of resources to fields which do not prepare for the future (real estate in particular). To a lesser extent, the same assessment may be made with regard to public investment, which is holding up well in France, but neglecting the formation of human capital in favour of improvement of infrastructures (with regard to transport in particular, but not exclusively, the improvement of local authorities' facilities also representing a large share of public investment).

This situation is set to burden growth potential in two respects:

- in the short-term, underinvestment (poor investment) within the firms of the Eurozone site is liable to damage both their capacity for immediate recovery (permanent loss of potential) and their ability to reach the highest levels of technological research – thereby raising European economies to the top of the global value chain;

- in the medium-term, public underinvestment is harmful to the attractiveness of the Eurozone site and therefore to its ability to attract investment.

Keywords:
investment, gross fixed capital formation,
Eurozone, capital.

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