

FINANCIAL CRISIS AND FUTURE TRENDS FOR PPP IN LOCAL GOVERNMENTS

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Abstract

PPPs consist of three simultaneous reforms: 1) involving private sector supply of infrastructure assets and services that have traditionally been provided by the government; 2) introducing the need of the assessment of risks and efficiency gains to support capital budgeting within the public sector; 3) reforming the regulatory framework as a general background for public financial management.

The crisis that started in the US over a year ago has sent shock waves around the globe and deeply changed the mind-sets and the system-thinking regarding risks and opportunities which are related to the investment policy.

Taking into account both the financial and the economic dimension of the global crisis, PPPs has been affected on each one of the three basic pillars which it consists of:

1) different vicious cycles of declining confidence and unwillingness to lend froze the contribution from the private sector. The final effect was a trend of reduced interdependence of public and private actors;

2) adopting as main goal “supporting people through the crisis” led to concentrate public money (even the amounts related to EU structural funds) in measures aiming at maintaining existing jobs (short-time working allowances, reduced social security contributions, wage subsidies and support to SMEs); at ensuring rapid (re-) integration into the labour market (vocational training and support for the disadvantaged, changes in sickness or disability benefits, and new eligibility rules for unemployment benefits); at strengthening social protection and investing in social and health infrastructure. The effect on the assessment of risks and efficiency gains for PPPs has been twofold: i) reducing the public contributions in the construction phase as a result of the “crowding out” by social expenditure with an increasing risk of consolidation of the total cost of investments in private budgets; ii) enhancing investments in housing, hospitals, primary care, long-term care infrastructure and schools so to change the private profitability among the different sectors of possible investment through PPPs;

3) using the flexibility provided by the renewed Stability and Growth Pact allowed for return of government deficits far from positions consistent with sustainable public finances. The effects have been to make the general regulatory framework supporting sound financial management not sufficiently clear and stable and to regenerate the concrete risk of public debt trap, which will open a different scenario on future marginal propensity to invest and to sustain operating expenses within the public sector.

The paper applies system-dynamics and system-thinking methodology to the analysis of the current situation of PPPs in three different countries so to highlight the set of variables and perceived advantages that are affecting the behaviour of the stakeholders and that can be used to underpin causes and future trends for the development of PPPs.

1. INTRODUCTION

As EHMA (European Healthcare Management Association) stated in its newsletter of the past march: *“the impact of credit crisis on health care is as yet unclear; what is certain is that will be significant and will impact at many different levels across health systems, from capital planning and co financing to potential increases in demand for health care”* (www.ehma.org).

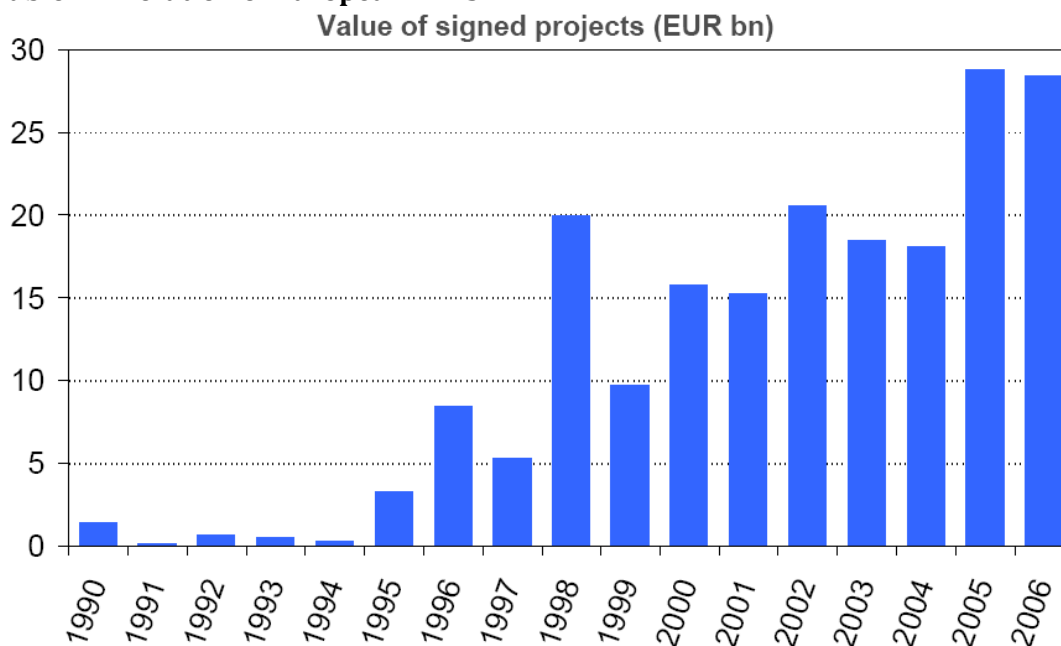
PPP structures are typically more complex than traditional public procurement of fixed assets, although traditional procurement's apparent simplicity becomes more questionable when proper account is taken of the risks involved. PPP complexity is due to the number of parties involved and, particularly, the mechanisms used to share the risks. The funding costs of PPPs are also higher, reflecting : the impact of the risk being carried by the private sector, the cost of the additional loan structuring, and the private sector's higher financing costs. For the public sector, this is compensated by the private sector accepting a proportion of the risks and, in certain cases, the acceleration of investment programmes otherwise subject to public sector borrowing constraints.

Taking the move from the EHMA assumption, it's undoubt that the economic and financial crisis will affect financial and investment decision in the public sector. What remains to be highlighted is how the crisis will product its effects on PPPs and whether all the sectors of public investments will be affected in the same way.

1999 to 2006 European Investment Bank research has identified over 1000 PPP projects in the EU with a capital value of almost EUR 200 billion. The significance of PPP is confirmed by a further 'pipeline' of almost EUR 75 billion joint to a significant political commitment to PPP evidenced by legislative development in e.g. France, Germany, Greece, Italy, Poland; Czech Republic and by a commitment to 10-15% PPP share in public capital expenditure in France, Germany, UK, Poland, Turkey (Blanc-Brude, Goldsmith and Vålilä, 2007)

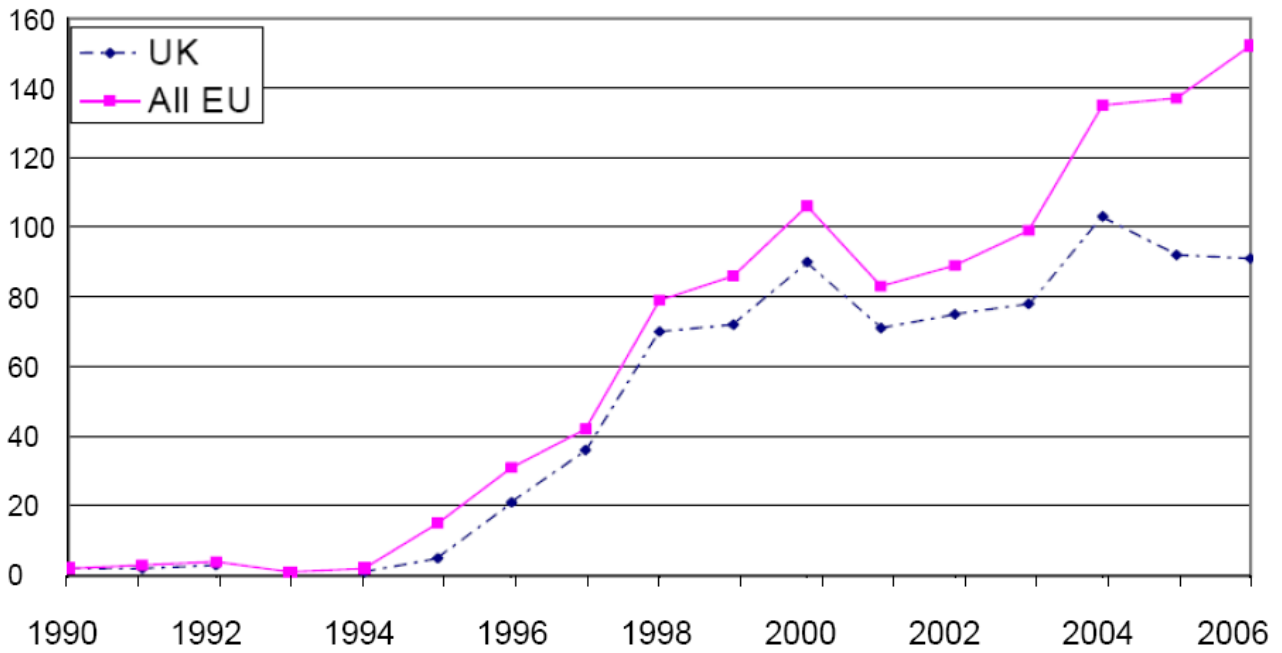
Variation in country records catches a photo of Portugal, Spain and UK at the 75% of deal value; France, Germany, Greece, Italy: 15% of deal value; Czech Republic, Hungary, Latvia, Poland, Romania, Slovak Republic, Slovenia: 4% of deal value.

Table 1: Evolution of European PPPs



Source: Blanc-Brude, Goldsmith and Vålilä, 2007.

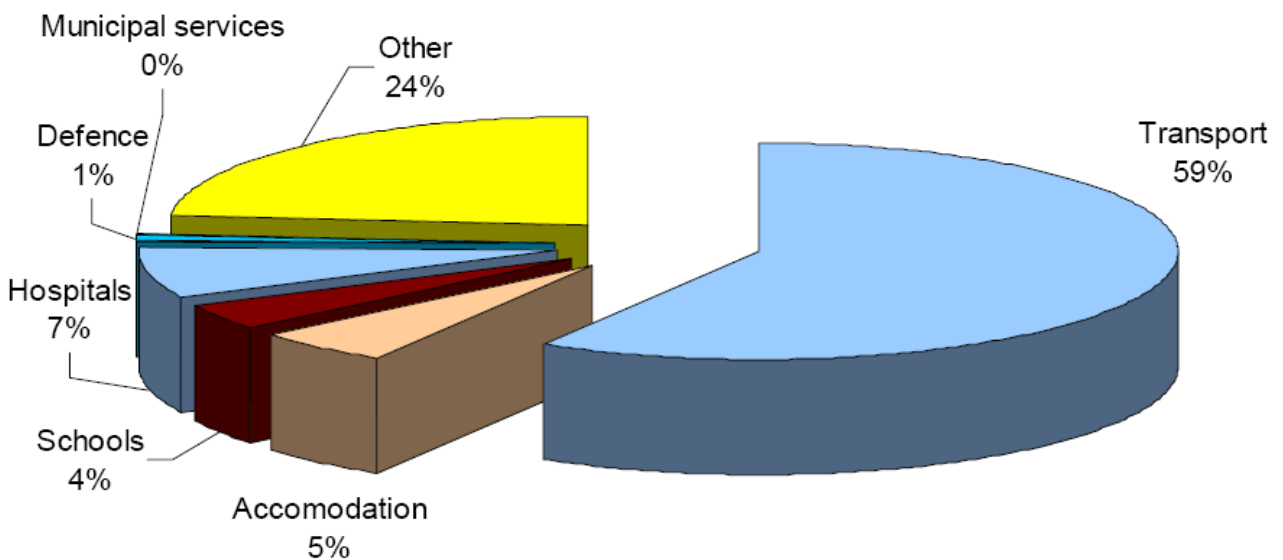
Table 2: Number of deals reaching financial closing per year



Source: Blanc-Brude, Goldsmith and Vällilä, 2007.

The sectoral distribution of PPPs is mainly concentrated on transport sector. Considering the non-UK EU PPPs, the health sector is at the second position.

**Table 3: Sectoral distribution of non-UK EU PPPs
...by number of projects**



Source: Blanc-Brude, Goldsmith and Vällilä, 2007.

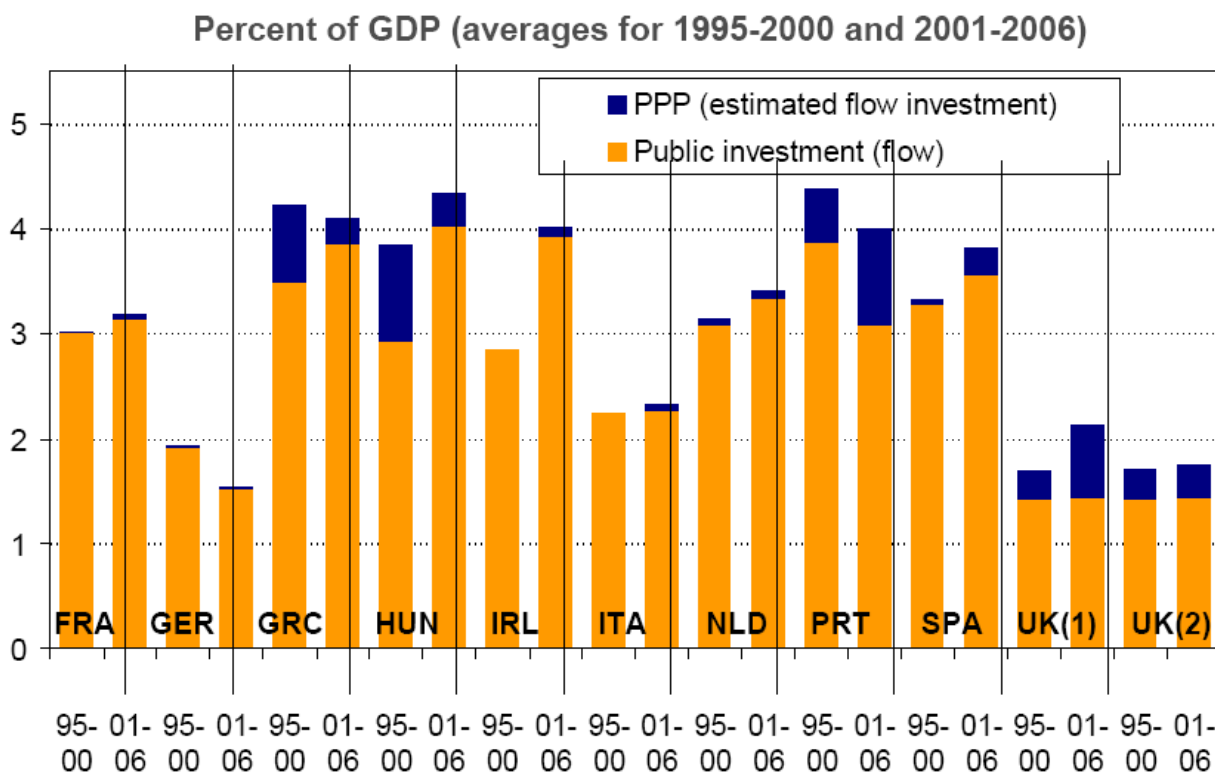
The present paper drives the attention on the investment policies of the local governments. A specific focus is on how PPPs can help and sustain infrastructural investments creating a positive leverage for private capitals also during a financial crisis. An interpretation of the financial strategies according to the impact of the “recovery plans” which have been drafted by the Regions in Italy and how such an impact can affect Project Financing and PPPs in Italy will be based on the adoption of the system-thinking approach (Fiorani-Meneguzzo, 2008; Fiorani-Kunz-Meneguzzo, 2009).

The Italian situation can be helpful since, even if the spread of PPP is not so huge as in other EU countries, the volume of operations both as Project Financing and PPP is hardly affected by differences that can be seen as results:

- a) Of the difference in the level of government (central, regional, sub-regional);
- b) Of the different geographical position (highly variable performance can be registered among Northern, Central and Southern Regions)
- c) Of the different sectors of intervention (i.e., public services, infrastructures, educational and social sector, health sector).

Testing models for examining performances of PPP and the impact of the crisis on different public financial tools can consequently be made on a quite wide variety of examples.

Table 3: PPPs and public investments in Europe



Source: Blanc-Brude, Goldsmith and Väilä, 2007.

Furthermore, in Italy the legal framework is quite recent and emphasizes a growing attention on PPPs (even as a consequence of the public consultation on the European Commission Green Paper on PPPs and Community Law on Public Contracts and Concessions that has been launched in 2004).

The Legislative Decree n.163/2006 lastly modified in 2008 defines the actions which are going to be taken in order to improve coordination among different institutional bodies dealing with PPP at local

and national level and to ensure transparency and coherence across accounts of Central Government Units.

In particular, the forthcoming Reform Law of the General Public Accounting and the Public Finance Law will foresee specific provisions concerning: 1) the monitoring of PPPs; 2) the setting of accounting rules for PPPs which can be harmonized at European level; 3) the introduction of a “Code of Sound Financial and Operational Management”; 4) the introduction of compulsory requirements on public administrations in order to ensure the creation of a national data-base of good practices and the transmission of information to the national PPP Unit (that will be connected with and supported by the European PPP Expertise Centre – EPEC; www.eib.org/epec)

2. METHODOLOGY AND APPROACH

“System thinking/System Dynamics analysis and modelling” to analyse current performance and challenges for PPP in Italy is used. In the Box 1 some general definitions of basic terms are provided. The approach enables strategic modelling of non-linear relationships within complex organizations (Wolstenholme, 2005) and may prove particularly useful for promoting effective management solutions.

During the 1950s and 1960s several highly considered social and organizational scientists started to integrate computer simulations into social science methods.

At that time computer simulation was often enthusiastically described as the “wave of the future”. In the following decades its impact on the international research agenda was, however, rather small. Simulation models became tolerated but only few studies were conducted and disseminated in mainline journals (March, 2001).

More recently, however, computer simulation seems to have entered its “renaissance” period. More progressive perspectives have started to take into dynamic complexity and hence non linear effects, such as mutual influence (feedback loops) and time delays (March, 2001; Sterman, 2000; Davis et al. 2007).

As a consequence, computer simulations re-emerged as a significant methodological approach and have been chosen in various important research projects as the primary method (Davis et al. 2007). System dynamics modelling for example was used as an approach in numerous recent studies focusing on the field of public management & policy and healthcare systems at the macro (health policy evaluation and health strategy development) as well as at a micro (management of hospital wards) level.

Box 1. The SYSDYN approach – Basic glossary

Variables: The relationship between two variables (x and y) may be positive or negative. A positive relationship exists if (ceteris paribus) the independent variable (x) increases, the dependent variable (y) increases above what it would otherwise have been, and if the cause (variable x) decreases, the effect (variable y) decreases below what it would otherwise have been. A negative relationship between two variables exists if (ceteris paribus) the independent variable (x) increases, the effect (variable y) decreases below what it would otherwise have been, and if the cause (variable x) decreases, the effect (variable y) increases above what it would otherwise have been.

Causal loops: Causal loops may be defined as chains of two or more variables influencing each other. By counting the number of positive (“+”) or negative (“-”) links between variables within a loop, it is possible to determine the polarity of a loop. If the number of negative links is even, the loop is positive; if the number of negative links is odd, the loop is negative. Positive feedback loops are sometimes also defined as *reinforcing loops* because they amplify external stimuli in an exponential way. Negative feedback loops are often called *balancing loops* as they dampen external stimuli.

Structure of dynamic systems: Each variable included in a causal loop may contemporaneously also be part of one or more other causal loops. Due to such “linking variables” dynamical systems with a more or less complex structure may be modelled.

Archetypes: Archetypes are paradigms or mental models, which may be used to interpret dynamical phenomena observed in the real world. Fundamental elements of an archetype in SYSDYN are: (1) the description of a problematic situation or behaviour; (2) the description of the system that may have caused the problem or behaviour; (3) an insight or a principle which emerges from the interpretation of the dynamics observed within this system.

Box 2. Recent ST and SD applications

In the field of public management & policy:

- Bianchi C., Montemaggiore G.B. (2008), "Enhancing strategy design and planning in public utilities through 'dynamic' balanced scorecards: insights from a project in a city water company", *System Dynamics Review*, vol. 24, n. 2,
- Cavana R.Y., Clifford L.V. (2006), "Demonstrating the utility of system dynamics for public policy analysis in New Zealand: the case of excise tax policy on tobacco", *System Dynamics Review*, vol. 22, n. 4,
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In the health policy field:

- Wolstenholme E. (2005), "The potential of system dynamics: A new area of strategic planning?", *Leading Edge Series NHS Confederation*, n. 10,
- Homer J., Hirsch G., Minniti M., Pierson M. (2004), "Models for collaboration: how system dynamics helped a community organize cost-effective care for chronic illness", *System Dynamics Review*, vol. 20, n. 3, pp. 199-222.
- Royston G., Dost A., Townshend J., Turner H. (1999), "Using system dynamics to help develop and implement policies and programmes in health care in England", *System Dynamics Review*, vol. 15, n. 3, pp. 293-313.
- Dangerfield B.C. (1999), "System dynamics applications to European health care issues", *Journal of the Operational Research Society*, vol. 50, n. 4,
- Homer, J.B. and Hirsch, G.B. (2006), "System dynamics modelling for public health: background and opportunities", *American Journal of Public Health*, vol. 96, n. 3,

In the light of the above it becomes evident that SYSDYN may be considered as a valid approach to integrate as well as to enrich economic models currently in use.

Business practice has frequently adopted SD even if it's well-known that the academic elaboration and adoption can speed up the dissemination of innovative methodological tools (Barlas 2007; Forrester 2007)¹.

The main content of the paper is divided into four sections.

The following section 3 describes the present situation of Project Financing and PPPs in Italy.

Section 4 presents a strategic chart mapping the impact that has been produced on public financial management by the subprime collapse and by the financial crisis, frequently referred to as the "credit crunch" which struck the world's financial markets during the summer of 200 and has been ongoing ever since. Empirical evidence and some theoretic suggestions are used to support the construction of the model (Marty -Gianella, 2008).

System-thinking sustains also the comparison between the US and the French situation (Marty-Trosa-Voisin, 2006; Marty, 2008) which is described in section 5. This section includes observations on what to list and what to delist looking at the influence of bonding on capital budgeting decisions in the public sector (Ernst&Young, 2009). Using the same strategic map, different models to shape different scenarios affecting the future trends of PPPs in Italy can be suggested as possible directions for further studies

3. PROJECT FINANCING AND PPPs IN ITALY: THE GENERAL FRAMEWORK

At the end of 2006, the global amount of investments supported by PPPs and Project Financing in Italy has been 58 billion Euro, from which 32 billion Euro concerning only one year (2006). The average per-year growth rate of innovative financing solutions for public infrastructure has been 19% in the period 1999-2006. The present incidence of PPP on the global budget for public infrastructures and services is around 30%.

¹ An average 9,5% of the papers that have been submitted during the past three editions of the International Conference on System Dynamics focused on health policy.

This rate of progress has directly been caused by different variables:

1. EU funding especially addressed to PPPs (both EIB and structural funds);
2. Increased capacity in national financial market for PPPs;
3. Different national programs to support the development of the market both blending grants and loans and building public sector capacity (even by creating at the end of '90s the national Unit for PPP and the Regional Units for Project Financing²)

The sectoral distribution of PPPs is 48% in public utilities (water/waste, gas, ICT and energy); 21% in transport; 9% in health sector; 4% for parking areas and 4% for urban regeneration.

Considering the value and the number of operations, Italy is the second European market for PPPs in health sector (following UK)³.

Nevertheless, a lack of competition in the procedural phase (for many projects just one competitor), a regulatory framework not yet sufficiently clear and stable (changes in regulation can occur even after the awarding of the project and can be also due to other bodies than the contracting authority), the weaknesses of feasibility studies and limited support from financial intermediaries and building sector can still be mentioned as basic problems of PPPs in Italy.

Considering the number and the value of investments activated using PPP either by private promoter (ex art. 37 bis) or by public initiative, the growth rate accelerate after 2002 but the role of the public sector as promoter still maintains the main relevance.

Table 4. PPPs in healthcare in Italy

	Number of operations (private promoter)	Value of operations (private promoter)	Number of operations (public initiative)	Value of operation (public initiative)
2000	6	€ 99.263.016,00	24	157.327.602,00
2001	10	€ 100.605.798,00	110	853.264.424,00
2002	20	€ 275.317.224,00	128	733.357.456,00
2003	60	€ 1.899.560.435,00	141	3.143.722.976,00
2004	86	€ 1.215.094.657,00	198	1.361.074.740,00
2005	115	€ 1.120.973.804,00	117	615.363.583,00
2006	47	€ 2.761.496.961,00	148	4.059.057.166,00
Total	344	€ 7.472.311.895,00	866	10.923.217.947,00

The trend should be seen in the context of a re-modulated general framework aimed at innovating the traditional financial management model in local governments.

Auditing, local fiscal policies, tariffs and price leverage on public services and facilities, operations in pool, capital budgeting, debt restructuring and a more careful cash management are the components of the general scheme for financial management deriving from a new institutional framework that was concentrated on the organizational and financial autonomy of local governments.

² The Regional Units usually cooperate with the Regional Development Agencies and the Regional Development Fund so to cross all the linkages that need to be activated to succeed in PPPs.

³ This performance can be explained considering the drivers for the development of PFIs in healthcare: a) a positive public funding framework (a national law of 1998 assigned 20 billion euro to be distributed at local level for financing investments in hospitals and healthcare services; many regions issued local laws to promote PPP in healthcare by activating own regional funds and dedicated transfers from the National level); b) more than one contracting authorities who can kick off the procedure (Local health units, Public Hospital Trusts, Foundation Trusts)

The attention to be paid on financial balance and the autonomy in deciding quantity and quality of public service to be provided to the local population have been the main driver to a new centrality of finance for the effective local government.

4. THE COLLAPSE OF SUB-PRIMES AND ITS IMPACT ON FINANCIAL MANAGEMENT AND INVESTMENT DECISIONS IN THE PUBLIC SECTOR

According to the general scheme for ST, variables and strategic charts for highlighting the cause-effect relations able to influence PPPs have been identified by mapping relations and actors following an empirical and deductive approach.

Two different charts have been created to simulate the effect and to support a foresight exercise concerning the PPPs in local government.

The first chart is related to the US context. Due to the general structure of funding public services and healthcare, US are a topical arena to point out in what extension the crisis on sub-primes affected the investment decisions of local governments and, as a consequence, the municipal hospitals.

It's commonly aware that the US healthcare system is based not on public hospitals (especially in the big metropolitan areas). Multi-hospital systems (2436 hospitals in 2006) and networks (1440 hospitals in 2006) are the prevalent supply model, except for the Health and Hospital Corporation of NYC, the most significant safety net in United States.

The second chart was built on the Italian context by putting into evidence some main distances from the US model. An exercise on the French context has been carried out so to shape a situation more similar to the Italian one.

How and to what extent can the collapse of subprimes and the consequent credit crunch affect capital budget decisions in local governments by reducing the possibility for self-financing and for municipal bonds? And if the crisis reduces the margins for issuing bonds and using own resources to cover infrastructural investments, there is a realistic spread to a wider diffusion of PPPs? Which can be the variables and the reinforcing/rebalancing loops that can impact on PPPs?

US is a topical arena where to re-create the stimulus and the feedbacks activated by the crisis in sub-primes. Different essays and papers⁴ focus on serious difficulties:

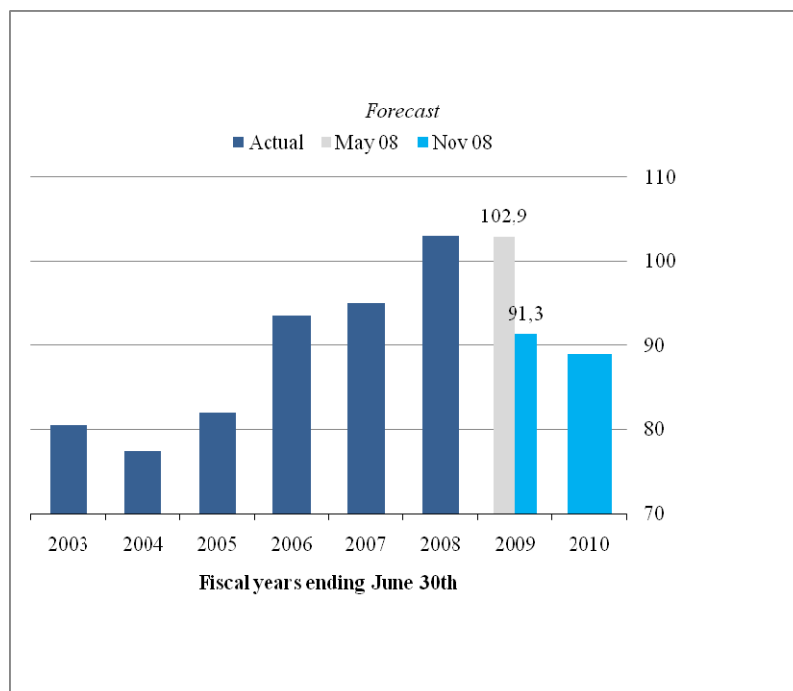
- 1) In maintaining the financial balance of States: this aspect affects mainly California⁵, Illinois, Arizona, Pennsylvania. The *Center on budget and policy priorities* estimated, by the end of 2010, cumulative fiscal gaps in 50 States for a global amount of 350 billion USD;
- In financial management of big urban areas⁶; Detroit, Columbus, Phoenix, Kansas City, Chicago e Los Angeles had already collected more than 10% decrease in general fund revenues

⁴ Bailey S.J, Asenova D. Hood J. Making widespread use of municipal bonds in Scotland Public money and management Vol 29 number 1 January 2009

⁵ See i.e. *No gold in State (California's budget crisis)*, Economist may 23rd 2009; *California: the ungovernable state*, Economist May 16th 2009; *State budget in crisis*, Economist July 4th 2009

⁶ See i.e. *Cities and their deficits:starring into the abyss* Economist may 30th 2009

Table 5. California General Fund Revenues Forecast (\$bn)



Source: California Office of the Governor

Marty (2008) emphasises three main loops that are generated by the crisis in sub-primes and produce impacts on capital budgeting in local government.

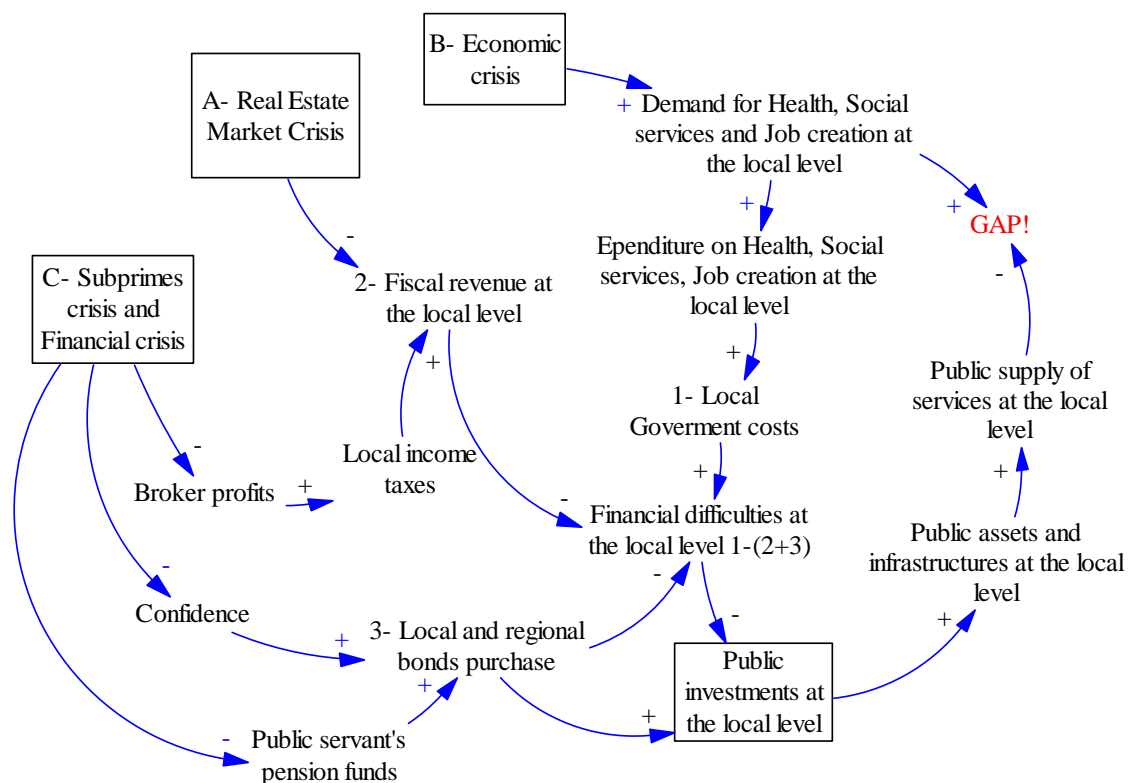
The first loop starts the step from the crisis in real estate market. The immediate effect of the crisis in the market was the reduction of transactions and the decrease of property values and prices. The reduced volume of transactions and the lower value for each registered transaction impacted on property taxes and stamp duties collected at local level. One of the main source of revenue in the local budgets started to squeeze.

The second loop is based on the connection between economic crisis and the unemployment effects. Local governments move to face the crisis on the labor market enhancing the investments on social policies, safety networks and active and passive labor policies. The effect was to increase the running expenditure. A lower level of fiscal revenues acted simultaneously to the financial need deriving from bigger current expenditures. In California, e.g., the *personal income tax* reduced to the 51% of the previous year due to the drastic reduction of capital gains and stock options.

The lack of resources deriving from self-financing (as a consequence of the negative balance between revenues and expenditures) reduces the available budget for investments in infrastructures. Different sources of funding can be consequently considered in the capital budgeting decision: bond issuing, leasing, project finance, PPP.

Unfortunately, the third loop reduces the strategic space for such a sort of decisions. The recourse to innovative sources of funding is stopped by the liquidity crunch and by the loss of confidence in the financial markets. Both of the two variables make the municipal bond placement extremely hard.

Table 6. ST and analysis of impacts of the crisis on financial decisions of local governments: the basic loops



Institutional investors and financial intermediaries faced resistance in absorbing the issue of new municipal bonds. The main subscribers of municipal bonds are in fact families (669,4 bnUSD owned in 2006), *mutual funds*, pension funds and trust funds (787,2 bn USD in 2006) (Meneguzzo-Matraia 2007)

Lower income and the lack of confidence in the bond market can easily explain the position for the families.

At the same time, the credit crunch affected also the credit capacity and the liquidity for private enterprises. The more rigid risk propensity of the financial intermediaries reduced the availability of external source of funding business investments. Even the corporations need to concentrate their own resources on self-financing re-structuring or development investments. This affects the attitude and the propensity to create or to become a member of SPVs (Special Purpose Vehicles), that are the basic driver for PPPs.

Local governments are so put under a double pressure: less attractiveness and high issuing cost of municipal bonds on one hand and decreasing interest for PPP on the hand of private investors.

5. THE EUROPEAN POINT OF VIEW AND SOME SUGGESTIONS FOR FUTURE STUDIES

If we adapt the strategic map of section 4 to the French context, some basic differences are put in evidence.

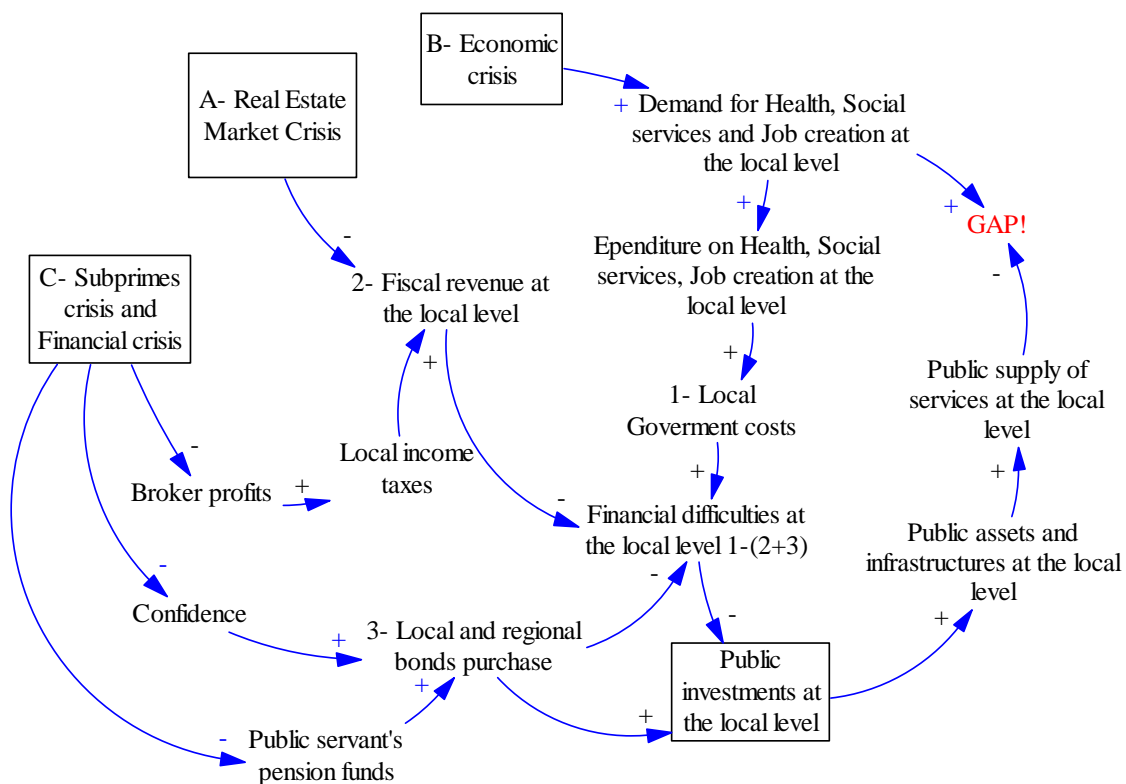
The French framework is quite significant to take some considerations and adapt them to the Italian context, especially if we consider the new deal toward a federal order of the State.

If we represent the impact of financial crisis on local governments in France, the first loop is completely the same of the first one that we have described in section 4.

Even if the intensity, the numbers, the phenomena of the crisis of the real estate market are very different from the US ones, the French local governments were affected as well from a significative decrease of the fiscal revenues deriving from the *quatre vieilles* (property tax, business tax, VAT ro-rata and personal income taxes).

The second loop derives from the economic side of the crisis. The French model for the direct public intervention in the economy implies a wide presence of the State as entrepreneur, especially in social and cultural services at local level.

Table 7. ST and analysis of impacts of the crisis on financial decisions of local governments: the French case-study



A similar scheme can be built even for the Italian reality. The strategic map allows to build “what -if” scenarios and helps to select possible dimension to be used as leverage to enact both the private and public sector.

The higher risks for operations to be held by PPP, budget and financing constraints increase at the moment the (potential) divergence between private goals (high and quick return of investment) and public good (sustaining public expenditure and public investments to help exit the economic crisis). The use of public grants and subsidies, some added-value consultancy service to properly assess the risks and the gains in the PPPs contracts, the enforcing of coordination among institutional bodies (EIB, Regions, Local government, Financial Institution), the reduction of time for the procedures can help to reduce the distance between the two different mind-sets and can foster the reconciliation of a cooperative public-private partnership.

By the end, the nature of the current credit situation is complex, but its impact on the PPP market can be summarised as follows:

- 1) The collapse of the inter-bank lending market has drastically reduced liquidity. Most banks, particularly those with limited deposit bases, are struggling to raise funds even on short maturities
- 2) Project finance and PPP lending is competing for scarce regulatory capital allocations with more attractive corporate opportunities. This is testing the viability of the current PPP model
- 3) The syndicated loan market has stalled and deals are closing as 'club' transactions. This has an impact on the speed with which deals close
- 4) Bank margins have increased substantially
- 5) Senior bank debt tenors have significantly reduced
- 6) Some banks have partially or totally withdrawn from the Project Finance market. There is also evidence that previously active international players have become more orientated to their domestic markets. "Relationship banking" is back in force
- 7) No viable capital market solution has emerged to replace the wrapped bond market which closed with the demise of the monoline business

However, the PPP market has not collapsed. Deals are still being brought to market and closing, albeit more slowly. There is a high degree of selectivity on the part of banks and a general lack of consistency in the terms and conditions required by funders.

In such a context, response available to public authorities are on these three line:

Remedial actions within procurers' control

The existing procurement approaches are adapted to what used to be a highly competitive buyer's market. The current credit crisis implies a revision of these approaches, as fully committed bids can only be obtained at a late stage of the procurement process, often not long before financial close. It becomes increasingly necessary to optimize the access to a currently, scarce banking market by applying a form of funding competition or "competitive book-building".

In addition, procurers have to get familiar with "miniperm" structures, which may become the new market standard. Sharing the refinancing risk could deliver value for money but raises significant structuring issues.

Structural changes to the PPP model may also need to be considered, with shorter debt maturities and a changed risk-reward balance leading to higher project ratings.

Remedial actions within States' or Public Authorities' control

In addition to expanding already existing forms of public support to PPPs, such as grants or multilateral lending, there are two main new avenues which are being explored by several countries:

- State guarantees, applied to project debt or project bonds (e.g. the French or Portuguese guarantee facilities).
- Co-lending by the State, such as the Infrastructure Finance Unit of the UK Treasury.

There is evidence of strong potential demand for direct comprehensive guarantees applied to capital markets, filling the gap left by the defunct monoline model. The banking market would probably benefit more from indirect or partial guarantees.

There continues to be very limited experience of colending by the public sector, but this appears to be an efficient short term fix to "close the syndication gap".

Its longer-term effects on the financial markets for PPPs and whether it can remain a "bridging" measure only, as expected by its promoters, has still to be confirmed.

Remedial actions facilitating the entry of new investors

There is a general consensus that the institutional capital markets are the "natural" lenders to PPPs. However, bringing institutions back to this market will require either

- a restructuring of the PPP model to access the unwrapped market, or
- developing an equivalent of the former monocline model to wrap “vanilla” bonds, as suggested by the European Commission (EPEC, 2009)

Concrete solutions on these directions can be usefully examined in further studies.