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Paolo Tenuta

Department of Business Science
University of Calabria

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FORWARD CONTRACTS, FUTURES, SWAPS AND OPTIONS.

The "creative accounting" of Italian local authorities.

Paolo Tenuta – Contract Professor and Research Fellow – Department of Business Science, University of Calabria **e-mail:** ptenuta@unical.it

Abstract: Derivatives are certainly useful instruments, but they should be used appropriately. The Legislator intervened on this subject, but the legislative response should have been quicker on such a risky ground. In fact, it is possible that several hundreds of local authorities, urged by the need for generating cash flows, would have been prompted to devise "creative accounting schemes" and that their situation would now be irremediably compromised.

1. The origins of derivative financial instruments

Derivatives are financial instruments whose values depend on the value (or other variables) of an asset (known as the underlying). The underlying asset can be another financial instrument, a currency, an interest rate or an index (financial derivatives) or a commodity.

The parties involved in the derivatives market are basically the intermediaries (banks or securities firms) and the end users. End users include all categories of financial intermediaries and institutional investors, non-financial corporate enterprises, public entities, supranational institutions and individuals. Each of these end users participates in the derivatives market for either speculative or hedging purposes. In the first case the investor acquires a risk hoping to obtain a profit, in the second case the derivative is used to hedge against a risk (Fabrizi et al. 2002).

The original goal of derivatives is risk hedging, but soon after they turned into a system to speculate or a practice to hide or carry forward losses that could not be easily compensated. The first to bear the burdens arising from the use of such instruments were the Italian banks which paid high costs to the foreign banks that had introduced derivatives. For a few years now, many of these foreign banks, together with some Italian banks, have been working with the same objectives: selling derivative products to Italian small and medium-sized enterprises first, and more recently, to local authorities, even the smallest-sized ones.

The use of derivatives by local authorities dates back to 1994 when the abolishment - by Law No. 724 of 23 December 1994 - of the obligation for local authorities to have recourse to the *Cassa Depositi e Prestiti* to have access to credit, opened up new financing opportunities. In spite of the attempt to keep the mechanism under control, by introducing restrictions to the use of derivatives to hedge against exchange rate exposure in case of foreign exchange transactions (Decree of the Ministry of Treasury No. 420 of 5

July, 1996), the 2002 budget law paved the way to the use of derivatives by local authorities. The introduction of a new provision in the budget law which led local authorities not to consider these instruments as hazardous, the continuous need for cash flow, and the devolution of important functions from the central government to local authorities, resulted in the development of anomalous schemes of financial support. In those years, *the interpretations* of the law resulted not only in serious violations – the *spending power* of local governments was virtually *unlimited* and budget deficits and extra-budget liabilities were generated –, but they also led to the misuse of derivatives for obtaining immediate resources against larger debt burdens in the future. If the first *interpretations* of the law have already "paid dividends" – in fact, from 1989 to 31st December 2007, 428 local authorities were declared in financial default.

2. The different types of derivatives

The value of derivative financial instruments is derived from the price of an underlying asset; the underlying asset may consist of a real asset (commodity derivatives), a financial asset (financial derivatives), or a price index or a stock market index. Different classes of derivatives may be identified on the basis of the following criteria:

a) the type of underlying asset;
b) the exchanges where derivatives are traded;
c) the technical characteristics of the various instruments.

Although several variants exist within each of the above-mentioned criteria, four main types of instruments can be identified: the forwards, the futures, the swaps and the options.

Forward contracts are derivatives whereby an agreement is made between two parties to buy or sell an asset on a specified future date at a pre-

determined price. Under a forward contract, therefore, the parties involved set out the terms and conditions for the performance of a transaction on a future date. This type of derivative is usually entered into "over the counter" and is used to hedge against an exchange rate risk.

Futures are like forwards. Also in this case there is an agreement to buy or sell an asset on a future date and at a specified price. The difference from forwards is that futures are usually traded on exchanges. Futures contracts are highly standardized, therefore the contract subject-matter, the unit value, the settlement date, the settlement terms and conditions and everything but the price are pre-determined by the market.

Interest-rate swaps are contracts whereby two parties agree to exchange interest payments based on a notional principal amount over a specified period. The most common and simplest type of interest-rate swaps is known as the plain vanilla swap, whereby a party makes floating interest rate payments and receives fixed interest rate payments for the entire period of the contract. Swaps (the plain vanilla being certainly the simplest example) are used to manage a position in the interest rate market. Hence, if interest rates are expected to rise the operator would be willing to pay a fixed rate and collect the floating one.

Finally, the option contract is a forward purchase agreement by which one of the parties involved reserves the possibility to buy or sell an asset on a set date against payment of a premium to the counterparty.

Several variants may exist within the above-mentioned categories and they lead to two different types of activity. If a derivative is used for speculative purposes, the operator acquires a risk based on his expectations and he can have a profit or a loss. When derivatives are used to hedge against a given risk, operators may create a series of assets and liabilities with characteristics that meet their financial needs. Under this perspective, derivatives might have been a useful tool to reduce risks, but they have been used improperly and mainly for speculative purposes (Fabrizi et al. 2002).

3. From UK to Italy: the size of the phenomenon

Derivatives *packaged* for the Italian local authorities, mostly in the UK, are transactions based on a debt and its relevant interest. In other terms, a proposal to hedge against the risk of rising interest rates by taking out an insurance policy (derivative) is made to an indebted institution. Local authorities believe that with such policy they are able to convert the floating interest rate on their debts into a fixed one, but they actually worsen their position. An oversimplified explanation would be that derivatives are a form of speculation in that, in some cases, local authorities sign a contract – the content of which they do not really understand due to its objective complexity – whereby they are driven to bear implicit operation costs that they ignore, against an immediate income and the shifting of their debts to the future administrations. Indeed, not all derivatives carry the same risks: with some derivatives, the entire invested capital may be lost, with other derivatives not only the invested capital is put in jeopardy, whereas other derivatives are real insurance policies carrying little risk. Of course, the latter were the least proposed and sold by banks, because the lower the risk, the lower the return on the operation.

The lack of standardization of the products and the complexity of derivatives operations make it difficult to assess the phenomenon. However, even from such fragmentariness it is possible to understand how diffused and dangerous the phenomenon is.

In June 2004, the notional amounts of the derivatives positions held by companies and local authorities in Italy reached approximately 146 billion Euro, with the average losses incurred by local authorities being much higher than those suffered by corporate investors (approx. €430,000 for local authorities versus €76,000 for enterprises; this was also due to the higher

size of contracts concluded by the public sector, with an overall notional amount of approximately 12 million Euro vs. 2.6 million Euro for enterprises).

At the end of 2006, regional, provincial and municipal governments had a derivatives exposure to Italian banks estimated at around 13 billion Euro in terms of notional value, corresponding to 36 percent of the total indebtedness toward resident intermediaries.

According to the data reported by the Department of Treasury, the phenomenon is continuously increasing; in fact, until 31st December, 2007, more than 900 derivatives contracts were written by 559 public bodies (497 municipalities, 44 provincial governments and 18 regional governments), with a negative mark-to-market value of over one billion Euro, that is approximately 2.9% of local authorities' cash indebtedness. The data mentioned above, although high, underestimates the phenomenon, since it does not take into account the recourse by Italian local authorities to foreign intermediaries, for which precise data is not available.

The above-mentioned data shows a growing phenomenon, whose size is unknown, and the reasons of which are to be found in the legislative provisions in force prior to the coming into effect of the 2008 budget law. In fact, prior to the amendments brought about by the last budget law, the mark to market or the potential loss at the expiration of the contract did not represent an expenditure item in the three-year economic planning of a local authority and there was no obligation to record it *off* the balance sheet, with risks and potential losses that were disregarded in the balance accounts.

The 2002 budget law opened up the opportunity for local authorities to have recourse to derivatives and the legislative provisions enacted in 2003 and 2004 to set out permissible operations and provide local authorities with rules in this respect were of little use. Subsequently, several legislative provisions have been enacted over the years to exercise preventive control over

the use of derivatives by local authorities, until the 2007 and 2008 budget laws.

The 2007 budget law, in paragraph 737 et seq, laid down an obligation for local authorities to submit all the underwritten contracts to the Department of Treasury so that preventive control measures could be taken prior to the conclusion of said contracts, and an obligation to send the contracts concluded in violation of the prescription above to the Court of Auditors so that the necessary measures could be taken.

Also the 2008 budget law established rules providing for a "double level" transparency. The first level of transparency consists of the obligation to include in the contract all the information required and specified under Decree of the Ministry of Economy and of an explicit declaration by the authority's administrators in which they state to be aware of the risks involved in the derivative; such declaration of awareness is an acknowledgement and acceptance of the responsibilities arising from the operation.

The second level of transparency is based on the inclusion of a note to the accounts in which budget commitments and obligations are reported. This is a considerable step forward since, for the first time, these operations will be entered into the accounts, indicating the mark-to-market value, the inflows and outflows generated from the transaction date, the projected cash flows for the next three years, the quarterly mark-to-market adjustments and a report on the operation performance (Pozzoli 2008). Furthermore, Article 62 of Decree Law No. 112, enacted on 25 June 2008, in stressing the riskiness of such instruments, laid down a prohibition for local authorities to underwrite derivatives until the Ministry of Economy, having heard the Bank of Italy and the National Commission for Listed Companies and the Stock Exchange (CONSOB), establishes a set of rules for the subscription of such financial instruments.

4. Rules to be followed when entering into a derivative contract

The first large bankruptcy due to the improper use of derivatives involved the U.S. municipality of Orange County, California. In 1994, this local authority lost about $2 billion because of the derivatives transactions carried out by treasurer Robert Citron, who bet against the rise of interest rates. The British municipal council of Hammersmith and Fulham had experienced a similar destiny in 1988. This British local authority lost about $600 million on swaps and options written on GBP interest rates, even though the contracts were later declared void by British Courts to the detriment of the banks acting as counterparties in the transaction. Now the matter is regulated by legislative provisions, but probably such legislation, mainly aimed at providing protection prior to contract conclusion, comes too late, the financial situation of hundreds of local authorities being now irremediably compromised. In the light of the considerations above, derivatives transactions should be effected on the basis of unequivocal rules and transparent information. Therefore, besides law provisions, it is essential that local authorities deploy internal supervision and rules aimed at:

1. *being sure that they have thoroughly understood the nature of the operation that is being performed.* The operations that cannot be understood or evaluated should not be performed. The officers who effected the Orange County and Hammersmith Fulham derivatives transactions, although facing multi-million dollar exposure, had poor knowledge of the financial instruments they were buying.

2. *setting out well-defined limits of the risk that they are willing to assume.* Obviously, these limits must be set out by the authority's council, must be binding on the financial managers and prevent them from being drawn into the vortex of speculation. At the same time, the supervision of the authority's council must be firm and must ensure that the pre-established exposure limits are not exceeded even when a gain is generated. The initial

operations conducted by Robert Citron in the early 1990's were very profitable for Orange County. For this reason, the authority's managers disregarded the risks taken by the treasurer, who hoped for new profits. As a matter of fact, things did not go in the right direction and in 1994 Orange County suffered losses that were much higher than the previous gains.

3. *not thinking to be able to beat the market*. A very experienced trader will be able to predict the future market trends in 60 percent of cases. If such percentage is exceeded, it is due to fortuitous circumstances that are unlikely to be replicated and that should not result in the rise of the pre-established exposure limits. Therefore, local authorities must ensure that a hedger, tempted by a successful operation, does not get sucked into speculation becoming exposed beyond the pre-established exposure limits.

4. *diversifying the risk*. A spread strategy allows investors to reduce the risk considerably. If the investment were concentrated on a single security, then the investor would have to show great ability in choosing the right security.

5. *performing scenario analysis and stress testing*. A correct choice would be that of using historical data series and choosing the most extreme events as scenarios and limits to be set out (Hull 2003).

Internal supervision, in connection with the enforcement of existing legislative provisions, must be aimed at defining the investment strategies of local authorities performing transactions in derivatives. It is fairly obvious that rules are not effective if they are circumvented with the complicity of those responsible for supervision.

5. Final remarks

The Legislator intervened on the subject, but the legislative response should have been quicker on such a risky ground.

In fact, it is possible that several hundreds of local authorities, urged by the need for generating cash flows, would have been prompted to devise "creative accounting schemes". Something similar had already occurred in Italy in the 1980s and 1990s. At that time, "adjustments" to legislative provisions, carried out by local administrators inclined to consider the maintenance of a balance between revenue and expenditure only a formal obligation and to omit the inclusion of unquestionable and due liabilities in the estimate of expenditure, resulted in financial defaults.

In accordance with Tuel (the consolidation act on local authorities) a local authority is in financial default when *it is not able to ensure the performance of the essential functions and services, or when it is not able to validly meet the liquidated and payable claims of third parties in accordance with the procedure set out in Art. 193, as well as the procedure set out in Art. 194 as for the specific cases described therein.*

In Italy, between 1989, when the establishing provisions were enacted, to 31st December 2008, 430 municipalities and the provincial government of Naples declared themselves to be in financial default.

Derivative financial instruments might have represented a new opportunity of financial management for local authorities, enabling them to diversify risks and facilitating flexibility in the budget management. Nevertheless, derivatives bought by Italian local authorities have been used erroneously in most cases, generating unprecedented indebtedness that will fall upon the future administrations over the next decades with deleterious consequences for the involved authorities. Such debts, not reported in the accounts, are extra-budget liabilities considered as legally due, even if they are not recognized on an accounting basis (Tenuta 2007).

We believe that supervising the transactions carried out by local authorities is fundamental, but we are also convinced that rules alone are not sufficient and that the derivatives entered into by local authorities so far have irremediably compromised their future accounting situation.

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