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The role of the underground economy in Italy's economic performance

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[1]Paper prepared for the Conference on "The non-observed economy: measurement and policy issues ", *University of Rome Tor Vergata, Faculty of Economics,* 20-21 January 2003. In this paper I'll be using underground economy, hidden economy, irregular economy and the like as synonymous.

1.The general setting and the size of the underground economy before the Euro year.

To many "observers" Italy has characterized by a wide underground sector which is thought to be larger than the correspondent sector in the other european union countries, with (possibly) the exception of just the mediterranean ones, and ever growing. While it is difficult to measure this by definition unknown sector, figures have been produced by several institutions and authors including myself (and a coauthor). Several methods have been elaborated and used in order to arrive at an accurate as possible measure of the size of the hidden economy in several countries and for many years. Although no such accuracy can exist with respect to the *level* of hidden economy, by using the same method of calculation through the years one can be sure of capturing with accuracy the *dynamic* of the hidden economy. I therefore like to focus more on the dynamic of the hidden economy than on the size of it, as far as the general setting of Italy is concerned.

As a sketch of the working of the Italian economy in the last 50 years or so, up to the euro year 1999, I would single out the following three generally recognized features. An export led growth model can be thought of been at the root of the economic miracle; an expansionary or "benevolent" fiscal policy has in general accompanied the working of the system while the monetary policy has plaid the watchdog role. To fulfill the export target the tool of devaluation of exchange rate has been (largely) used while an expansionary fiscal policy has been responsible for the accumulation of the huge public debt (still a concern) as a way of financing larger deficits. To these structural factors I propose to add another one, as basic as those mentioned, which is the underground economy.

As I already mentioned, in the last six years or so I have been doing some deep applied investigation into the hidden economy in Italy with a coauthor[2]. Our study has brought us at least two rather clear results. First, the share of the underground economy with respect to GDP has been fairly stable since 1970 and second, the share of the underground economy in our Mezzogiorno has always been higher than the one for the rest of the country. And while the latter

[2]Bovi M.-Castellucci L., Cosa sappiamo dell'economia sommersa in Italia al di là dei luoghi comuni? Alcune proposizioni empiricamente fondate, *Economia Pubblica*, 2001, anno xxxi, n. 6.
----------, "What do we know about the size of the underground economy in Italy beyond the common wisdom?", *Quaderni Ceis,* 1999, n.120;
----------,several brief papers on the *Newsletter Ceis*, in 1996, 97,98,00.

result was indeed expected, the first one came as an unexpected one. In other words, our calculations confirm what a general observer would say about Italy that is, there is a larger hidden economy in the south of Italy than in the Center-North Regions and this has always been the case. Actually, the size is in fact greater in the south than in the rest of the country but this is neither the only difference nor the more important one among the two parts of the country. There are very important qualitative differences among those two parts ; such differences depend on the causes of the hidden economy which are very specific to the socio-economic environment and have to be kept in mind when try to contrast the very existence of the underground economy by way of enforcing an ad hoc policy intervention.(see below).

As far as the first result is concerned, the unexpected one, we dare to call it Natural Rate of Underground Economy. What we mean by that is to underlying the fact that the hidden economy, putting aside for the moment the problem of the true size of it, fluctuates around an average value during the years of observation (from the 1970 up to 1997, Graph 1) without actually showing the increasing trend we are commonly told about (not even in the more recent years which are not represented in the graph but whose figures we have calculated and been analyzing, although with some extra difficulties, as I will mention later on). We arrived at this result by using an indirect method of measuring the underground economy, namely the monetary (adjusted) Tanzi method[3], but we found confirmation of the result by using other methods. One is the direct method of measuring tax evasion, and another one, making use of the labour market data, considers the ratio between non regular and regular workers (or working position) which can also be seen as an indicator of the underground economy. Tax evasion (namely of VAT) varies during the period of observation but it shows signs of a declining rather than rising trend (it will be interesting to see whether the signs of a declining trend will be reversed by the very recent tax amnesties introduced by the present government). Even the ratio between non regular to regular workers seems to fluctuate rather than following a precise growing trend, at least until the very recent years.

1.1 The south vs the Center-North.

The definition of Italy as a “dualistic” economy must be given a strong meaning. The two parts

[3]See the brief appendix to the present paper and/or the full text *in Economia pubblica, n.6.* 2001.

of the country, the South and the Center-North are not simply two areas at different stages of development[4] or just showing different levels of per capita income, they are in a sense two different realities. This is true under many respects (labor and capital productivity, public administration efficiency, sociological aspects such as fertility rate, number of divorces, school attendance, ecc.) including the underground economy. What I mean by that is that the hidden economy [as a synonymous of underground economy, (HE)] in this part of the country is not a different size of a same phenomenon, but it is a substantial different phenomenon having different motivations and causes to its root. The relevance of this remark , if it is correct, is in terms of policy because no policy is effective unless it goes to the causes of the effects it wants to cure . And to give an explanation of this believe one has only to think about the fact that indeed the HE or simply tax evasion, in the South is of a larger size than in the rest of the country (as the common sense expects and data confirms) notwithstanding the fact that the governments, in the past, (all of them) have always granted extra fiscal incentives, aimed at accelerating the development of the region, in terms of reduction (and for some years and some cases they have been just nihil) both in the corporate income tax rate and in social security contributions. Corporate tax rates and social security contributions are generally considered responsible for firms' decision to go underground or at least to partially evade. From a policy point of view this is an important lesson to be really learnt and from a more theoretical point of view this is an encouragement to look for more specific explanations. For this reason we already tried to find out a (convincing) way of measuring the HE in the two parts of the country independently. The procedure, which is a little complicated (see again our 2001 paper), is based on an equation (equation [5] in the paper) representing the demand for irregular workers by the firms and which could incorporate our reasoning and be estimated with reference to the country as a whole and to the south part of the country. The two important regressors in the equation are the rigidity of labor market and the "expected penalty". We propose to think about the latter as the "credibility" of the state and we expect it to play a more important role in explaining the HE in the South than in the rest of the country. What it matters is not the fact of having to pay less taxes, (it did not work as already mentioned), but it is the believe of being detected with a (subjective) probability

[4]I am very skeptical about the catching-up story of the south which is the natural explanation of the dualism of the country when starting from the idea of geographical parts experiencing two different stages of development. To me there are no safe signs fo this explanation to be believed: neither per capita income nor per capita consumption are closing the gap.

that matters. In other words, the credibility of the state in general is absolutely and relatively low in this part of the country. In terms of our empirical exercise, in which the credibility of the state enters through the subjective probability of being detected, we expected to find that the variable incorporating this aspect plays a more important role in explaining the HE in the southern regions than in the others, and this was indeed what we found. Finally, is worthwhile to notice that our regression equation does not show structural breaks and this implies that in the sample nothing happened of the kind that is necessary to change the natural rate of underground.

2. The Natural Rate of Underground Economy.

This somehow puzzling stability in the size of the underground economy, needs tentative, and possibly empirically based explanations. From a statistical-econometric point of view we actually found an equilibrium relation among the variables proposed by Tanzi to explain the underground economy. From an economic point of view the interpretation of our results is more difficult because the concept of an economic equilibrium is complicated in itself. In other words, the substantial stability observed in the percentage of the underground economy to GDP says that our economy has always functioned with more or less constant proportion of the irregular to the regular economy, and this is what we consider the NRUE.

Now, having found the HE as a relatively stable structural phenomenon , a further question comes to one's mind. How is it possible that during the years of observation no government (and there were many, since several of them lasted only months) succeeded in combating the HE? Is it just another "government failure" or do we need another explanation? And the answer we propose is that no government has been ever committed to combat it, because the underground economy *may* have a positive role to play in terms of some economic return and putting aside the moral dimension. From a government economic point of view it is possible to gain from a given size of the HE either in terms of tax revenue or in terms of an actual rate of unemployment less than the official one. My point is to check whether there are reasons to believe no government was really determined to combat HE in the past for the mentioned expected gains and whether those reasons have now disappeared.

3. The underground economy and the social welfare.

In fact it is not unusual to find in the literature evidence (theoretical or empirical) of the possibility of gaining from the existence of an underground sector or simply from tax evasion in terms of tax revenue[5]. This is the case for Italy in the period 1970-1985. It is possible to show that during these years the existence of the HE is associated with revenue gains. To see this one has to carry out an empirical exercise along the von Zameck methodology[6] and calculate the rate of growth of nominal GDP necessary to avoid tax losses from tax evasion. Graph 2 in the appendix shows these findings. As it appears from the graph after 1985 things start to change; what happened then; the government resorted to its first (and from the revenue point of view very successful) tax amnesties and when the extra revenue from tax amnesties tend just to counterbalance the loss (eventually) coming from tax evasion, is the labor market that can explain why the government continued not to commit to fight HE or evasion. It is in fact in 1984 that the rate of unemployment reaches its two digits figures, namely 10.4%, and since then never falls below 10% up until 2001. When the official rate of unemployment is high, non-regular employment is favorably seen by the government, (probably) the trade unions and the workers themselves who would have no other choice but to be unemployed. The year 1993 is very important to explain my position. In 1993, (and in the following two years) after 8 years of fairly stable HE, the share of HE registers a significant increase of two percentage points according to the figures obtained by using the (adjusted) Tanzi method mentioned at the beginning. What is remarkably is that one finds the same size of increase in HE by a different method of measurement, the one that makes use of the labor market.(i.e. the rate of real, at 1990 prices, per capita production from concealed workers, jumps up by two-three percentage points in the very year of 1993). The reason for this can be found in the Maastricht agreements coming into effect. In order for Italy to meet the terms, public debt had to be drastically reduced, namely public expenditure reduced and/or tax revenue increased. The huge debt was the result of economic policy choices made in the past, as already mentioned, aimed at securing "social peace" by increasing public expenditure. The restriction imposed by the Maastricht treaty required the government to enact a restrictive budgetary policy (which it did), but since nothing was required concerning the size of the irregular economy, it could therefore replace the function plaid by public expenditure in the past. In other words, I am

[5]A classic reference is, Peacock A.T.-Shaw G.K.,"Tax evasion and tax revenue loss",*Public Finance/finances Publiques*, 1982, vol.37, n.2.

[6]Von Zameck W., "Tax evasion and tax revenue loss: another elaboration of the Peacock-Shaw approach", *Public Finance/Finances Publiques*, 1989, vol.44, n. 2.

inclined to see the "peak" in the underground economy as a counterbalancing force, in terms of social effect, of the "new" restrictive budgetary policy. After a few years, the structural reasons prevailed once again and the rate tends to revert to its natural level.

The story I have been telling comes out from a careful study of the macro data for the period analyzed (the analysis goes back to 1970 and comes as close as possible to our days[7], in fact to 2001) and the fact that the proportion of regular to irregular economy has been more or less stable, therefore requiring some explanation in terms of structural reasons, is not too strange: after all no substantial changes in the (relevant) structural features of our economy are traceable. Those features can be found in the very foundations of the working of the private and the public sectors and their reaction going both ways. I do not deny that a reduction in tax rates or in the social security wedge may help reducing tax evasion [8], or that a temporary increased probability of being detected when evading, can do the same but I see such interventions just able to affect tax evasion or HE in a marginal way and unable to reach out to the structural roots. These structural roots can be found primarily in:

i. a structure of the economy which "boosts" evasion and HE, based as it is on very small non-technological firms;

ii. a low "level of credibility" of the state;

iii. a high level of "inefficiency" of the public administration and its interaction with the private sector;

iv. a "bureaucratic approach" to any kind and level of public organization which enhances *rent seeking* , makes the working of the system very confused and delay decisions.

The following part briefly addresses the first two points. About the third point I want just to draw attention to the fact that an inefficient public administration not only is bound to tolerate the existence of a large irregular sector, (it is of course true that the more efficient is the fiscal administration the less is the evasion), but it also creates the best opportunities for firms to go

[7]Incidentally we are working on updating our measurement of the HE through the adjusted Tanzi method and actually we already have sort of an updating of table 1 up to 2001 (a ghost table 2), but we do not want to circulate it yet. There have been several structural breaks in the time series, not least in the currency and M2 of the families , to require more investigation.

[8]This is the standard way suggested in theory and practice.

underground and for public employees to add a second (black) job. An example ca be the service sector, for some services that should be provided by the public administration are in fact not produced or produced with much delay. To improve the efficiency of PA is not easy and it takes time but to leave it as it is seems more a decision than an inevitable outcome. The iv point is indeed the content of another paper.

i. It is known that the HE or simply tax evasion is not independent of the structure of the economy in which they manifest themselves, the size of the firms and the efficiency of tax authorities being the most important. There is now some evidence, extended to several countries, that smaller firms do evade more than the larger ones and there are also some tentative explanation of the link between the size of the firm and tax evasion[9] in the sense of explaining the limited dimension of a firm as a result of a decision to remain small in order not to give up the ease to evade. The fact that the 95% of our firms employ less than ten workers[10] may explain at least part of our structural evasion. Moreover some activities are "visible" while other are less so and therefore in a comparative better position to evade.

ii. as already mentioned, a law credibility of the state can explain another part of our structural evasion. In the standard modeling of tax evasion, originated with the Alligham-.Sandmo seminal paper[11] , a utility maximizing taxpayer, with given income, decides how much to invest in the risky activity that is represented by income tax evasion. In order to decide if and how much to evade, the taxpayer consider its tax rate, the penalty he has to pay in case of being caught and the probability of being caught. Tax rates, the level of penalty and its probability are parameters which affect the taxpayer decision and which have been analyzed in the literature. Without going through this literature one can easily imagine cases in which an increased probability of being detected is more effective in reducing evasion than an increased penalty while in other cases the opposite is true. In the case of Italy we argue that in Mezzogiorno the level of tax rates and of penalty are definitely less effective in curbing evasion than the probability. The same is true with respect to

[9]See for example CER, n.3, 2001. It is argued that the consequences of evading are greater than the amount of the penalty that has to be paid in case of being caught by the tax authority , as it is assumed in the modeling of tax evasion as a choice under risk. Presumably the entrepreneur cannot use the same production technology in the hidden sector and in the official one.

[10]Bank of Italy, Annual Report, may 2002, p.19

[11]Alligham M.G.-Sandmo A., "Income tax evasion: a theoretical analysis", in *Journal of public Economics*, 1972, n.1

the HE, which is just a broader concept than tax evasion, and as I have already mentioned in the previous section.

4 The general setting after the Euro year.

Although I consider that a government should always commit to curb evasion and eradicate the irregular economy on the base of equity (moral) considerations, I can see that in some circumstances the existence of evasion and irregular economy can be beneficial rather than detrimental to a country's welfare . It has been shown that when the simple modeling of tax evasion à la Alligham-Sandmo is enlarged to remove the hypothesis of a given income and to introduce labor supply (i.e. taxpayer income depends on the hours of work chosen) it is possible to end with a social benefit from tax evasion in that it boosts risk taking and income growth[12] . In a similar manner, it has been mentioned earlier that the HE can bring about tax gains instead of loss and can reduce the actual rate of unemployment. In so doing it can be welfare improving. If those were the case with Italy in the past years, one can wonder if after the Euro year "circumstances" have substantially changed to rule out the possibility of getting a social benefit from tax evasion and/or HE.

At the roots of the Italian economic miracle of the 50s and 60s there were very many small (and medium) firms, very flexible and eager to compete in an international market where few technological goods were exchanged. The economic growth proceeded at a lower rate (3.8% versus the previous 6%) in the 70s with the growing importance of larger firms: a process of vertical integration capable of reaping the economies of scale seemed at work and to be just at the beginning. Unfortunately the 70s marked the peak in the increase of the average size of the firms. In the following decades a reduction in the average size of the firms started to develop worldwide but at a greater pace in Italy. At present Italy is losing grounds in the international competition and it is losing more in the mature sectors and in the sector were the small firms prevail. Given the export led model, the shrinking of the rate of growth of GDP is not a surprise since we are losing in terms of international competition. Moreover the resort to a devaluation of exchange rate is just a memory of the past while the stability pact constraints the budgetary

[12]Cowell F.A, *Cheating the government,*1990,CA, MIT press.
----------,Tax evasion with labour income,*Journal of public economics,*1985, vol.xxvi

policy. In this substantially changed scenario there is the risk of resorting to the underground economy to alleviate economic problems such as unemployment, instead of committing to curb those phenomenon. There are reasons to believe this was what happened in the early nineties (see above) and could happen once more. After all the reduction in the average size of the firms, makes the environment even more suitable to evasion and HE. Here I see a real threat to Italy's economic recovery: what was debatable in the early nineties could be harmful ten years later given the changes in the international setting. Namely non catching-up in international competition is possible through un-innovative micro firms; no gains in exports can come from a devaluation of exchange rate for the simple reason of being in the Euro era; and no tax gains can possibly come from tax evasion because the changes that have taken place in the globalization era[13] are all producing ever and worldwide increasing risks of revenue loss[14] and Italy is no exception to it.

5. Policy suggestions and concluding remarks.

It is my opinion that no government has committed in the past to eradicate or at least to reduce the size of the underground economy. The reason for this may be found in true (or more often supposed) immediate gains in terms of higher employment, or higher growth or simply larger tax revenue. Even leaving aside equity or moral considerations the above results are not all granted, as it has been the case in the past. However my point is that now circumstances have so changed with respect to the past, to reduce even further the possibility of gaining in the international arena from the very existence of an underground sector. The challenge ahead, mainly a substantial improvement in our international competitiveness, needs the government to take policy decisions which depart from the past as much as present circumstances have departed from the past. Of the three (plus one) structural features listed at the beginning, only the restrictive role of the monetary policy has survived (although with somehow changed perspective, from a national one to a European one). Will the fourth one, i.e. the NRUE, survive? If the government will not intervene, I suppose the correct answer will be yes since there are signs, such as the size of the firms, in favour of it. But would the government decide not to intervene (with a commitment), the welfare loss would be inevitable this time, even to be restricted to the economic aspects, because the

[13]Just to use a greatly abused word.

[14]Among other works see: Tanzi V., Globalization, technological developments and the work of fiscal termites, *Brooklyn Journal of International Law*, 2001,vol.xxvi, n.4. Tanzi V., *Globalizzazione e sistemi fiscali*,BancaEtruria/Studi e Ricerche,2002.

underground economy does enhance the "weaknesses" of our economy, such as lack of innovation, mature goods of production, little technological content [15].

From the above discussion we can conclude that the present situation appears to be a great opportunity for the government to commit to contrast the underground economy. The need for tax revenue, already threatened by the evolution in the working of the integrated economies (capital taxation being the best example), can only be satisfied by a recovery of the economy. To this aim structural changes are needed, one of those could be to get rid of our NRUE. As specific policy suggestions, I can list the following.

i. a nationwide economic policy would probably be little effective because the country is dualistic even with respect to the underground. The typical rule of reducing marginal tax rates of income tax and social security contributions will presumably have a small effect on the Center-North of the country and presumably non effect in the Mezzogiorno area.

ii. for the Mezzogiorno the suggestion is therefore the one of increasing the "credibility" of the state (we saw in the empirical exercise the relative importance of the credibility expressed in the subjective probability of being detected). The credibility increase would of course positively affect also the rest of the country.

iii.do not count on large positive effects coming from the reduction of social security contributions since there is evidence that they are not an important variable per se, but their importance in the firms' decisions is dependent of other variables[16].

iv. do not resort to (frequent) tax amnesties: they do harm the credibility of the state and do not increase tax revenue in the long-run.

[15]See again BI, Annual Report, 2002

[16] Although it might appear rather strange, given the importance attached to the social security contributions in the literature and in general discussion, this is the result we got from another applied exercise we carried out. The exercise consists in a sort of a "spacial" analysis of the underground economy by using the measurements produced by few authors for several countries and circulating in the literature. See , Bovi M-Castellucci, Un'analisi "spaziale" del sommerso e qualche timido suggerimento di policy, *Newsletter Ceis, 2002,* december.

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Appendix

Tanzi method applied to Italy- Demand for currency estimated:

[1] $(LC_t - LM2_t) = b_0 + b_1 LTDIR_t + b_2 LWSNI_t + b_3 LR_t + b_4 LYX_t + e_t$

where:

L=log

$= coefficients (I=1,..4)

C= currency holding by households

M”= stock of money (defined as M”, i.e. currency holdings+bank deposits+other deposits) held by the household sector

TDIR=effective rate of direct taxation

WSNI= ratio of wages and salaries in agriculture and building sectors to total wages and salaries

R=net return to bank deposits

YX=domestic real per capita demand

e=error term due to the stochastic nature of the equation

Long run solution: $(LC - LM2) = 3.61 + 0.44 * LTDIR - 0.20 * LR - 2.41 * LYX$

Demand for labour in the underground sector:

$$CMA = RUT_n + CAM = (RUL - RUT) + (RUT - RUT_n)$$

$$CAM = (RUL - RUT) + (RUT - RTU_n) - RUT_n$$

were:

CMA= expected marginal cost

CAM=expected marginal penalty (probability of been detected multiplied by the magnitude of the penalty)

RUL=gross unitary wage for regular worker (in equivalent units of labour ULA)

RUT=unitary wage for regular worker (idem, regular ULA)

RUTn =unitary wage for the non regular worker (idem, non regular ULA)

Long run solution:

$$LIULN = 11.7 + 0.33 * LIDIS - 0.42 * LICAM$$