

**COMMENTS BY: ROBIN LYNCH, OFFICE FOR NATIONAL STATISTICS, LONDON SW1V 2QQ**

Origin : .André VANOLI

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Dear members of the ISWGNA,

**Object : Military expenditures**

I have numbered the paragraphs red in the letter for simple reference purposes

1. The Advisory Expert Group (AEG) on the updating of the 1993 SNA will discuss by the middle of February 2004 the treatment of destructive military durables. The issue has been discussed beforehand by the Canberra II group which took the view that these durables should be included in Gross Fixed Capital Formation and then in Assets in the Balance sheet. Apparently the Canberra II group was unanimous in this respect. Such a substantial change, which would have far reaching implications, needs a careful examination. I like to let you know my views on this issue.

2. There is of course nothing new in the fact that military durables are lasting equipments. Those who built national accounts starting from the forties knew that. Nevertheless all countries preparing accounts in the pioneer time excluded military durables from GFCF and this position was taken when the process of international standardization did start at the turn of the forties. This treatment was not based on welfare considerations (I do not want to enter here in the sometimes complex views of Simon Kuznets). Such considerations could have lead to excluding military outlays from product and final expenditure. On the contrary national accountants took these expenditures into account, though treating them as final current consumption expenditure. The important word here is **current**. Although not many explanations were provided in order to justify this treatment (see Carol Carson. An Informal Documentary History of the Treatment of Military Durables and Construction, March 16, 1988), it seemed evident at that time that military operations in war time and by extension military services in general were not considered to be an activity similar to economic activities. My own interpretation is that implicitly military operations were not considered a process of production. As a consequence military equipments were not inputs in a process of production. What happened internally in the sphere of military activities was judged external to the domain of economic activities.

3. Thus the origin of the treatment adopted by the SNA was rooted in the experience of the recent World Wars. The actual use of arms was evidently destruction.

**Paragraphs 2 and 3** make it clear that the view of output by the military was engagement of the enemy and the associated use of military equipment. The key message is in paragraph 3 - recent experience was World War II, and the main purpose of arms was to be used to engage the enemy.

4. As other durable goods that are not arms are used in the overall process of preparing or fulfilling military activities, all military expenditures until the 1993 SNA were treated as current. When production accounts for general government were explicitly introduced (1968 SNA) a conventional presentation of a production account for defence activities was introduced. However in substance the same treatment - everything being current - was kept. The meaning was still in fact that what happened across the border of the military activities to the package of goods and services, and labour, used by them was not useful for portraying the economic activities. For the latter it was enough to analyse and measure the demand coming from the military.

5. Unfortunately the 1993 SNA, by including in GFCF durable goods acquired by the military and potentially utilizable for civilian use, made the message confused and weakened the traditional SNA position. The latter was based on the peculiar nature of the military activities whatever resources were used, whereas the 1993 SNA relied on the criterion of the type of products used. Let me recall that I was against such a change which was decided in march 1988 by a very narrow majority (one voice ! moreover two experts opposed to the change were absent from the meeting at the time of the vote). Actually this change was decided as a kind of compromise with the small minority favouring treating all military durables as GFCF.

**Paragraph 5** makes the reasonable point that the 1968 SNA solution, to treat only as assets those which could also be used for civilian purposes, is confusing, not easy to measure, and not well founded on conceptual principles. This is a good example of a compromise between two extremes, which gives neither position what they want, and is arguably worse than either pure position.

6. I am still convinced that the 1968 SNA solution, in line with what had been done before, was the most convenient one in the context of the central framework of the SNA/ESA. I think the analysis of the nature of military activities must be primarily based on what these activities are in time of war. This is what they are prepared for. It is then that weapons and equipments to release them are actually used according to their characteristics designed for that purpose. The output of military activities during conflicts consists basically in sets of impacts of weapons against targets. Of course military activities take also other forms during war time. Similarly they take also various forms in peace time. However all of them are connected with the final destructive potential of armaments.

**Paragraph 6** repeats the main message of M Vanoli's argument. "The analysis of the nature of military activities must be primarily based on what these activities are in time of war." Which raises the question - why? This is certainly the direct opposite of the view taken by the Canberra group. They believe that measurement of military output should reflect the experience of peace or non-engagement, not engagement.

So which is the most appropriate view - to measure military output in the context of non-engagement or engagement? Obviously it is legitimate to measure military output under either context; the dilemma is to decide which is most appropriate. A relevant fact must be - what is the prevailing state of military assets over time - engaged or not engaged? The answer must be that the vast proportion of military equipment is not engaged in an act of combat. Most countries are not at war. Of those that are, only part of the military establishment is actually engaged. A bold estimate might be that over the last 60 years, less than one per cent of military equipment has been engaged.

Consider the analogy with the private sector. The security business weapons are almost all used as deterrence - the capital assets are not engaged, and the services are services of deterrence. Paragraph 6 states that "the nature of military activities must be primarily based on what these activities are in time of war." But this argument suggests that security firm armoured cars should only have the capital service measured when the armour is acting as protection against attack. This is clearly wrong, in that the armour delivers the capital service of deterrence throughout virtually all of its useful life, not actual protection against attack.

7. I am a bit surprised to notice that, in the on-going discussion, the main emphasis is on the contrary laid on the analysis of defence services in peace time. This can be explained perhaps by the fact that the memory of World War II is becoming remote. However it is hard to say that the planet was peaceful everywhere since 1945. Actually the terminology mostly used itself did change. Apart from periods of war during which expressions like War Office, War Department, Ministry of War were generally used, the most frequent terminology to be found during the nineteenth and the first decades of the twentieth centuries is something like Army Ministry, sometimes with various types of Army Ministries. During the second half of the twentieth century, denominations using the term Defence (Department, Ministry...) became prevalent. Everybody speaks of "defence services". It is of course nowhere possible to find an "Aggression Department" or "Aggression Services". The evolution in wording may convey contradictory significances, from commendable real peaceful intentions to pure hypocrisy.

**Paragraph 7** suggests that war is the common state, in intention if not in fact. My impression is that the evidence does not support this.

8. However that may be, it is noticeable that the analogy of defence services with prevention

or insurance activities seem to have been widely used in the recent debate. Following such a line of reasoning the emphasis is laid on peace-time periods. I do not pretend that prevention is unimportant. However these frequent references to prevention or insurance - two different notions actually – do reflect some confusion between certain activities, the goods or services that are the output of these activities, the purpose for which expenditures on certain types of goods and services are made and the outcome of the use of the goods and services in question. Moreover, the analogy with prevention and insurance activities can hardly be pursued to the time of armed conflicts. It is quite unusual for insurers to cause themselves the losses that occur when the insured risks materialize. More importantly perhaps the analogy with insurance seems basically fallacious. Being insured is a means of avoiding at least partly the consequences of a given risk if it occurs, not a means of avoiding the risk itself. On the contrary, defence expenditures in the prevention approach are incurred in order to avoid the risk itself, not to cover the possible losses if prevention fails (though they may aim secondarily at limiting the extent of the losses). No parallel can be drawn of course between the accumulation of insurance technical reserves and the accumulation of weaponry.

**Paragraph 8** raises the comparison with insurance, and points out various fallacies in the comparison. But measuring output of the military does not depend on the insurance analogy.

9. In the prevention approach, in peace-time then, one cannot avoid the issue of the nature of the output of services that are supposed to be produced. This output does not consist in prevention or deterrence services. Prevention or deterrence is a possible outcome. As a matter of fact, I am not sure that someone intends to analyse concretely the types of defence services that would be produced, in the new methodology, during peace-time. Presumably they will be qualified as defence services without any further description. Of course one can argue that in the present SNA no more analysis is made. This is correct. However the SNA (I refer preferably in this context to the 1968 SNA) did not intend really to analyse defence activities as actual processes of production, something that the new proposed treatment is supposed to do as soon as equipments are treated as fixed assets giving rise to a consumption of fixed capital and weapons as entering inventories when acquired and leaving them when actually used as intermediate inputs.

**Paragraph 9** proposes that it is impossible to measure defence services in peacetime, pointing out that deterrence is only a possibility and not an actual service. This seems wrong - an asset can act as a deterrent even though it may fail.

**10.** It is interesting to note that in peace-time military equipments would be treated as inputs into a process of production when not actually used according to their full technical characteristics, except for training and exercises. They die of old age (physically or by obsolescence), some by accident. They follow the rates of consumption of fixed capital estimated for them. Probably those rates would be estimated under the assumption of absence of any combat episode, which may look strange at first glance.

**Paragraph 10** points out that it is strange that something, which is designed to engage, actually provides services by not engaging. Again it is useful to think of an armoured security car - designed to withstand attack; most security cars will very rarely experience attack. And yet we would accept that the armour delivers a stream of deterrent services during its life.

**11.** From what I read, people participating in the Canberra II group discussions seem to feel a bit uneasy when envisaging war time. As said above, they like to treat military durables like any civilian fixed asset when those equipments are not actually used for military purposes in a period of actual combat. Their service life would be estimated then according to their peace-time use, not taking into account any probability of being destroyed in combat. When such episodes of combat occur, one could normally expect a revision of service life's in order to take into account the new circumstances. This would imply higher rates of consumption of fixed capital for equipments more intensively used though not destroyed and a full consumption for those that are destroyed in combat. Surprisingly this does not seem to be what is suggested. In war time, service lives would not be changed and the value of military equipments destroyed would be recorded as other volume changes in the other change in volume of assets account of the SNA/ESA. What is the rationale behind such a proposal ? It is said that the losses occurred by the Army forces in combat due to the action of the enemy forces are externalities (the effect of externalities in the SNA is not recorded in transaction accounts but as "other flows" in the OCV account referred to above).

**Paragraph 11** suggests that Canberra Group II members feel uneasy in envisaging the performance of weapons during engagement. But we are simply acting on the assumption that non-engagement is the overwhelmingly usual state of affairs. Then it seems sensible to devise measures to address this case and treat the relatively rare occurrence of engagement as an exception to the norm.

**12.** I must confess that I was totally amazed at reading this. It seems to me that there is confusion here between the damages caused to civilian populations, that are externalities, and those caused to the military forces engaged in the conflict. The losses of the latter are internal to the process of engagement of the forces, though most of them are due to enemy actions. The

destructive capability of military equipments is tightly connected with their capacity to be destroyed in combat. They are the two sides of the medal. Perhaps an illustration can be provided by referring to the example of boxing. Each boxer likes to strike blows at his opponent and is at the same time exposed to receiving blows from him. Striking and receiving blows are parts of the game. There is no externality involved, except if the rules of the game are not respected. A parallel can be drawn in this respect with military combats in case the laws of war are not respected, a problem that may arise for soldiers rather than for equipments. In war circumstances, destructions of military equipments are normal losses, not exceptional ones, and they are internal to the process of combat itself, not the result of external causes. I do not think the emerging implicit idea in Canberra II of a kind of "exchange of externalities" (the wording is mine) is relevant.

**Paragraph 12** suggests that the proposed solution for output during engagement is wrong. Instead of treating engagement as an exceptional event, similar to a catastrophe such as an earthquake, one should adopt a different model during engagement as the assets carry out a completely different function. M Vanoli suggests that the engagement should not be treated as an exception to the deterrence role, but an alternative role of active engagement. If this were accepted then we would have two different ways of measuring the output of military services, either as deterrence or as engagement.

**13.** The reference to externalities in this respect seems attempting a kind of conjuring trick in order not to bear all the consequences of the proposed treatment. This reason was clearly brought forward in the Canberra II Group discussion. If consumption of fixed capital were calculated during periods of war in order to cover both more intensive use and frequent destructions of military equipments, GDP (estimated from the cost side for general government) would be increased accordingly. People feel embarrassed with this perspective, which demonstrates again that their way of reasoning relies basically on peace-time considerations. By the way, one may note that, following what is proposed, the total contribution to GDP of a tank for instance would be greater during its life if never used according to its characteristics and *raison d'être* than if actually used according to them. One aspect perhaps escaped the attention. Net fixed capital formation, in time of war, would record the effect of the presumably higher acquisition of military equipments whereas the consequences of higher rates of consumption of the latter would not be reflected in higher consumption of fixed capital. It is true that exceptional losses in fixed assets are not recorded in CFC by the SNA. However as I stated above destructions of military equipments in period of combats are not exceptional losses.

**Paragraph 13** develops the idea that if war is not a wholly exceptional state, then an alternative model of use can be used to measure military output.

**14.** More deeply I have the feeling that Canberra II participants were afraid of admitting that they want to include destructive military durables in a process of production in war time when obviously the output provided by the latter is destruction. According to their views these durables are supposed to participate in the production of some kind of prevention or insurance "services" (see above for the confusion with the purpose or outcome) all along their life, including in war time. However, by definition, when war breaks out, it means that prevention failed and the analogy with insurance activities is even more irrelevant. Then either destructive durable are deemed to be used in war operations treated as a production process and people have to face the moment of truth, or people do not accept the truth and continue to hide themselves behind purpose - type or outcome - type notions such as prevention and insurance. In the latter case, why not then stick simply to the SNA tradition, the 1968 version being in my view preferable, which by convention allocates all the expenditures for defence activity to the time when they are born ?

**Paragraph 14** suggests that it is unease with measuring the act of war that caused the Canberra group to avoid directly facing the issue.

**15.** In the previous paragraphs, I discussed some aspects of the proposals recently made, including some irrelevant uses of the SNA concepts. What I like to stress again however is that in my view military equipments and weapons are not economic assets engaged in a process of production. They are political assets.

**16.** There are other issues in treating the acquisition of military equipments as gross fixed capital formation. One is that saving and the rate of saving will be changed. I read somewhere that saving measures would be improved. From the point of view of economic analysis, I am very doubtful about that. Would saving be more significant for economic growth when military durables are accumulated ? When asking the question I have in mind all countries in the world, both developed, developing and backward countries and all periods of time, including peace and war.

**17.** Another aspect to be stressed is that, in case a net operating surplus is included in the future SNA 1993, revision 1, when calculating non market output, the same procedure would have, I suppose, to be followed for military durables if they are included in GFCF. This means that a net rate of return would be calculated on the stock of accumulated military durables. The

economic benefit (economic, not political, the latter being not in discussion here) derived from holding a stock of nuclear bombs or missiles or other equipments and weapons - I know that the borderline between military durables to be treated as fixed assets and those to be treated as inventories is not yet settled - is, at least, not totally obvious. I suspect that some people have in mind the simple following logic. Military durables are objects whose acquisition has been costly. So they are economic assets. As a consequence they bring economic benefits. In the absence of measures derived from objective observations, these benefits are estimated by imputing a rate of return (gross, net) to the stock of assets owned. Instead of starting from the analysis and measure of possible economic benefits, if they exist, the process is the other way round. That is, instead of deriving the qualification of military durables as economic assets by proving the existence of economic benefits, the existence of such benefits is derived from the pre-qualification of these durables as economic assets. Is not this way of reasoning circular ? I see the benefits derived from holding military durables as being political, not economical.

**Paragraphs 15, 16 and 17** suggest that holding military durables is a political act, not an economic one. This therefore suggests there can be no useful economic interpretation of the service provided. Again, the analogy of the security service armoured car helps us to see that it may be very difficult to measure exactly the capital service provided by the armour as a deterrent. Never the less this is the only possible model which accounts for the security firm deciding it is worth while to invest in an armoured vehicle, and they must have some concept of the armour providing a capital service until obsolescent.

**18.** An issue, apparently not looked at in the on-going discussion, is the existence of unofficial military forces, sometimes with more than one army claiming to be official. Leaving aside the fact that data are missing, what would be the conceptual analysis applied to them ? Would the analogy with prevention or insurance also be referred to ?

**19.** Finally, my conclusion is that the proposed treatment of the acquisition of military equipments as GFCF is not sound, would complicate the system and, I dare to say, pollute the SNA/ESA central framework. A deeper analysis of what happens in the field of military activities, both in peace and war time, could be done in the context of a satellite account for defence activity. If public accountants like to include military assets in the balance sheet of government - there is apparently a move in this direction -, the links between Public Accounts and National Accounts could, in this respect, be designed between Public Accounts and such a satellite account. However a memorandum item could be added to the Balance Sheet of government in the SNA central framework



**20.** As a consequence of the practical difficulties involved when dealing with military affairs, due to political concerns, even a satellite account could probably not be too much ambitious, except in some more advanced and more open countries.

**21.** The data problem should not be underestimated for the central framework if the proposed treatment of military durables is to be applied. In my own experience in technical assistance to a number of countries, I experimented always the difficulty of collecting the data from the military authorities : data, reliable data, data detailed by product, data permitting to go from payments to actual deliveries, etc.. Often the condition to obtain the necessary information was that the data should not be separately shown or identifiable. I cannot imagine that, in addition to the difficulties met in the context of the limited requirements expressed by the simple SNA/ESA traditional treatment, it would be any easy to get data on the value of the stocks of military equipments and the inventories of weapons, with asset accounts explaining how one goes from opening to closing balance sheets, including losses in combat. Practical reasons go in the same direction as conceptual analysis, even if the latter is in my view the deciding factor.

**Paragraph 21** suggests it is difficult to collect the data. But this is true under any assumptions.

**22.** Perhaps you would like to circulate these comments to the A E G.

With best wishes

André VANOLI

## **Conclusions**

The main point of the letter is that weapons are made for engagement, and that it is their use in war which best characterises how they should be treated in the national accounts. The Canberra Group has taken the opposite view that the weapons are mainly acting as deterrents during times of peace.

I see no reason why both views should not be accommodated in the accounts - in times of peace the solution of the Canberra Group seems the most appropriate. However, where a country is in continuing state of engagement, and most of its weapons are used up in short time, then as current expenditure, then the use of the weapons is quite different and they should not be seen as capital.

This would require a slight amendment to the Canberra Group proposal, in that where a state of engagement was the norm, then purchase of weapons for use in that war should be seen as consumption, and not treated as exceptional events during the normal state of peace.

Robin Lynch

### **War and Peace - comments from Martin Kellaway, head of UK ONS Public Sector Accounts**

Robin,

While disagreeing with André Vanoli's conclusions, he does raise some interesting issues. It strikes me that the difference between the correspondents is wider than they need to be. There is a solution which brings these views closer, possibly even aligning them to everyone's solution.

The first point is that Military Expenditure assets **are** economic assets, despite the negative connotations associated with them, and this can be demonstrated using the description of assets in the manuals. I struggle with the notion in Vanoli's paragraph 14 that expenditure should be allocated at the time the asset is born. Consider a warship. Under the existing classifications this has been consumed when it is ready to start its service, and has to "reappear" if it is sold onto a third party. It's very difficult to explain this notion of reappearance, or negative consumption. That it can get resold implies it is an asset of economic value.

Since the time of the first SNA there has been an economic shift in countries like the UK from production to services. The first SNA naturally concentrated more on production. The Military provide a service, in implementing the policy of Governments, irrespective of whether their intentions are defensive or aggressive. This prevents the discussion being stalled by whether one accepts the concept of deterrence or not.

My solution is that military assets are recognised as capital assets at all times. In peace time they do provide services, whether the activity is considered defensive or preparatory for war, and Governments are willing to pay for these services. During peace time capital consumption occurs at rates that assume assets life lengths based on peace and technological obsolescence.

If the situation changes to peace to war and the asset are destroyed, then it should be fully depreciated by an immediate impairment cost of its remaining value.

This could lead to GDP rising during war (interestingly probably more for the losing party than the winning one), but this is justified in that more economic assets are being consumed. Note that a similar situation arises if buildings were made with defective

material and were falling down. Capital consumption rates increase due to the shortened life length - and GDP rises.

That GDP may rise during war is not a flaw in itself, it perhaps focuses attention on whether GDP or NDP is the best measure of economic activity during that time.

Paragraph 5 of your reply to Vanoli should say 1993 instead of 1968. The parallel of a security firm is a good one.

I think Vanoli is correct in his comments in paragraphs 11/12 - if Canberra II is really contemplating recording destruction of military goods as other changes then this seems wrong. Another point to note is that treating impairment costs as capital expenditure brings National Accounts closer to GAAP accounting, and actually fits the existing SNA definition of capital consumption.

I think the response in your paragraph 12 reply is wrong. Peace and War are different states, so output will be different in such times. The capital service continues, but at different rates. There are plenty of parallels for this - for example the capital service of a rentable holiday home will have different returns depending on the season.

Your paragraph 13 reply does not answer Vanoli's question that under Canberra II more capital services are consumed for a tank if never used than if used. Given its dual purpose (peace and war) then conceptually this should be equal. Under my solution, they are.

Another parallel to consider here, if you believe the rationale for military equipment is defence, is the "similar" activity provided by security guards. We are familiar with the notion of private security guards, and payments for the services they provide. In some countries there are private armies - if the private army was a corporation how would its military assets be viewed?