

Evaluating Government in the GDP

Some Points still pending

Alfred Franz

Generally the System of National Accounts (NA) appears as a wealth of clear-cut concepts on Sectors, Transactions and Accounts (and related data where available). Delving into this System more thoroughly, we will discover that its inner life is governed by a sort of "dualistic" architecture, which applies to most of the systemic concepts. The distinctions of this "two-storey building" originate in the fundamentally different nature of the so-called "Statistical Units" (SU), which are either of a genuinely institutional character; or they are more operational ones, often more detailed and hierarchically subordinated to the former species. Statistically, either of these populations of SU represents a "Level" in its own right, yet neither of them is viable on its own. To remain within the metaphor of "building" the need of careful distinction between the mentioned Levels is obvious.

Whether pursued in terms of conceptual design or in terms of statistical data only, the "Inter-Level" respect is the concern of the present exercise, which is further confined to the particular field of Government. In this context the needs of Inter-Level harmonisation become all the more critical: applicable for Government are quite specific rules regarding the evaluation of Output as well as the concomitant evaluation of the SU in terms of their being Market or Non-Market. Therefore, the interplay of these concepts assumes crucial importance, and even more so when such target is by no means achieved automatically. To analyse that issue a rather comprehensive review of all the "official" reference concepts has proved necessary. In addition, more practical respects like the prescribed sequence of observations – i.e. Top down (TD) vs the alternative Bottom up (BU) – and their validity in terms of the ultimate superiority of either of them must also be taken into consideration. To narrow what could become an excessively wide scope a couple of equally pertinent points or of a merely theoretical kind or in a view of "de lege ferenda" have been excluded, so that the outcome refers to the given legal state of the art.

Conveniently supported by a series of Diagrams the remaining conceptual framework was developed step by step, and evaluated accordingly. On that basis alone situations of imminent Inter-Level incongruence have been recognized. Similarly supported is the importance of systematic evaluations at the lower Level (i.e. BU rather than TD). Only brief consideration is given to the options of the respective treatment in the accounts of a given country, where sufficiently detailed evidence is still extremely poor. Anyway, certain reservations with regard to the safety of the given concepts of Level-linking must be concluded.

1 Introduction

1.1 A few Reservations beforehand

Within the scope of the modern Systems of National Accounts (SNA) a variety of segments can be brought to bear that are not as popular as the use of growth rates of GDP or the National Income per capita, but which are still indispensable for the working of the whole. Only with such qualification the topic of the present text is "Government in the Accounts" – not in its universal meaning but with

regard to the so called "Two-Level" structure of the economy, which is also fully reflected in the Government accounts. From such a perspective the idea of a "two-storey building" might be a suitable metaphor of the working of an economy, even with its necessities of mutual "match" and proper "statics". If shortcomings are found in that respect – all the better (or: all the worse). With

such an understanding it seems appropriate to begin this text with a recapitulation of the related and often quite detailed concepts, which are not necessarily known to everybody. A broader approach is all the more appropriate as the official Systems on NA¹ are not particularly explicit on the present topic but deal with it rather summarily.

Dealing with the said "dualism" some preliminary questions may arise, e. g.: are the two Levels somehow interrelated? If yes, how? Is it really necessary to deal with both, either together or separately? In view of consequential further complications, we might also ask whether a monistic alternative could actually exist (indeed, the so-called "institutional" Level could be a self-sustaining alternative). Apart from the still valid principal decision of the Systems in favour of "dual", the complementary "other" Level is an indispensable prerequisite for any more detailed breakdown of data.² Therefore, right from the start, we can see the need for methodologies that take both Levels into account.

1.2 Some primary notions

Attempting to portray "the" economy in terms of accounts, the official Systems of the NA have adopted this fundamentally dualistic view, as indicated. This duality affects their entire accounting framework as it is built on the concepts of "Agents" as well as on the notions of "Transactions" (and even the well known Aggregates, like GDP). At its very roots it results from the recognition of the Statistical Units (SU) either as "Institutions" (enterprises, governments...) on the one hand; or as "operational" units ("establishments"; "offices") on the other: in other words, the said dualism is essentially a dualism of SU. Although separate in view of their function, these concepts stay closely interrelated in a natural hierarchical order. Speaking statistically, it is simply depicted in terms of two "Levels" of different "populations", each of its own kind, but mutually corresponding and interacting in defined tracks of transactions. Parts of the latter overlap as between the Levels, whereas the remaining ones are exclusively reserved for the "institutional" Level. Here, the overlapping ones are at the centre of interest.

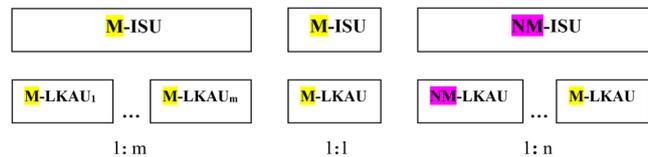
However, the SU as well as their transactions are to be investigated jointly. In either respect, there is an additional but major distinction to be made, which governs the whole topic: the quality of being Market (**M**) vs Non-Market (**NM**). While the meaning of **M** vs **NM** is intuitively clear the exact details are most critical for "Congruence"

(further discussion is found in a separate Annex). A couple of more technical tools of the present analysis are to be mentioned in advance. The so-called "Top down" (TD) procedure deals with the "other" Level (which is the lower – "operational" – one) from above, which implicitly means that all answers are found there; whereas the "Bottom up" (BU) approach goes the other way round. As far as both Levels are involved at the same time (with an alternative TD or BU effect), the distinction of *prima vista* (*p.v.*) vs *secunda vista* (*s.v.*) observations is used in addition.

1.3 A few preliminary decisions

The small Diagram shown next gives an idea of the possible interlinks that exist between the given Levels. The appearance of SU 1: m or 1: n is of utmost importance whereas in a simple 1:1 world there would not be any further problem. In the former situations the principal question of Congruence arises, at least in terms of the Totals. It is not achieved automatically but requires detailed measures of alignment on either Level. In a way, all concepts of the SU are involved accordingly, with all their distinctions by Level and **M** vs **NM**, as well as the associated transactions, which is Output in the main. Accordingly, an examination such as the present one must go into a similar degree of detail as regards the SU as well as their transactions (quite apart from any further breakdown on the basis of their related classifications). In this understanding several options may be considered:

The Level-Hierarchy of the Economy (outline)³



- » Firstly, a sort of combined comparison of the two Levels, automatically tending towards a sort of cross-classification. If detailed enough, such an approach almost automatically furnishes evidence on the various parts where the inter-Level congruence is sufficient, vs the rest where "there is some problem", and which is awaiting solution. In other words, "Hygiene" of the inter-Level situation is at issue.
- » A wider perspective comprises a setting that revolves around the peculiarities of the two Levels each as such, each representing a self-contained System to be reviewed in its own right. Its outcome provides an idea of the specific information furnished by a given Level and is only later on recovered and

¹ In the following, for short: "the Systems". Since the 50ies a sequence of organically developed versions has been issued, lastly in close cooperation of UN/OECD/EU/IMF/WB.- If not otherwise specified, in the present text the EU version ("ESA") is meant.- For further details see the respective References in the Annex.

² Input-Output statistics and Systems of regional accounts are prominent but not the only examples.

³ ISU = Institutional SU; LKAU = Local kind of Activity Unit, which is the technical term for the operational SU. For simplification the conditional possibility of the of **NM-LKAU** appearing under **M-ISU** has been disregarded for the moment. For further details see section 2.1(a).

fitted in the greater dual context at a later point. In the first instance, however, deviance is allowed and interesting as such.

Against such principal options, some limitations are indicated to avoid an excessive scope of more theoretical rather than practical use. In this respect preliminary decisions suggest themselves as follows:

- » The discussion revolves around the given *de lege lata* situation only, as stipulated by the Systems; outright juridical discussion was not at all intended.
- » Purely academic variants within the above outlines have not been pursued further.

Any shortcomings brought to light on that more practical basis are all the more interesting.

1.4 Organisation of the text

On the above basis the forthcoming text is organized as pointed out next.⁴ Use has also been made of diagrams, which can often transport the message more easily than any text.

- i. The Conceptual Equipment. At the very beginning the systemic building blocks and the main lines of the entire examination are outlined or recapitulated in greater detail, as useful. A special Annex is reserved in context to show the **M** vs **NM** distinctions as issued by the "Systems". As to the References, the really relevant sources are the official NA-Systems issued of the UN and the EU (in the latter case with formal legal validity); a related instrument is issued by IMF and more specifically meant for Government; a couple of Classifications complete the family. A rather representative list can be found in the Annex.
- ii. The Framework discussion. This part is essentially based on the already mentioned cross classification of the kind:

ISU-Level × LKAU-Level

 Step by step it shows the degree of congruence achieved and finally leads to an ultimate "hot" confrontation. By the latter stage, the suspected shortcomings of the accounting system for the Government are identified as well as further needs to arrive at an incontestable outcome. The other alternative (see Section 1.3) has been considered only in the sideline, as suitable.
- iii. The Outcome. At the end the outcome is in summary considered in terms of its actual importance and with a view to the possibilities and/or desirabi-

lities of how to deal with them at the present state of the art. Within the current standards on accounting the main outcome can be anticipated as follows: for **M** vs **NM** elements situations of incongruence arise whenever a mixture of elements (SU; Output) of **M** with others of a **NM** nature is involved. While still questionable whether allowable in a **MISU** context, incongruences is the untested consequence in a **NMISU** context whenever an **MLKAU** is involved. – Beyond that, **NM**-Sales raise particular problems of application to be in line across the Levels. Since all these situations require inter-Level feedback, at the present state the choice of either Level as "the only one" is as dubious as the choice of TD to be "the only saving".

2 The Conceptual Equipment

2.1 Basic notions and operative concepts

First, the most significant concepts needed for any analysis of the present kind are summarized, and this first for those ones which are of general application and as such issued by the mentioned official Systems. Next a couple of more specific notions are dealt with, which proved to be useful if not absolutely necessary.

(a) Concepts as briefly already touched upon and so found in the "official Systems":

- » Statistical units (SU; as an entity of observation): The "Institutional SU" (**ISU**) vs the "Local kind of activity Unit" (**LKAU**; = "Establishment" – the "I-O" type of SU⁵). The ISU represents a juridical entity which receives its specifications from the law and is thus able to acquire assets and incur liabilities (e.g. the Government/s/; corporations like companies, and the like); whereas the LKAU is represented in merely operational terms (factory, workshop, plant, office...) and so recognized by contrast to the ISU. However, each LKAU belongs to a super-ordinate ISU (the i:1 case, with i=1...n), or is co-extensive therewith (the 1:1 case).
- » Output (gross; net / =gross output net of production costs: Value added [VA] /)
- » Market (**M**) vs Non-Market (**NM**), as applicable to SU as well as to Output; accordingly distinguished are **M**- vs **NM**-ISU; **M**- vs **NM**-LKAU; and **M**- vs **NM**-Output. For further detail on these major distinctions see the mentioned separate "**M** – **NM**"-Annex.

⁴ Up to date, access to more detailed national sources as well as any scientific discussion of the present topic is limited, at best. As to the official Systems see the indications given in footnote 1.

⁵ A related concept is the "Departmental Enterprise", which is tantamount to the "Establishment" but focuses on the specific situation of SU in the context of government rather (primarily so used in the GFS).

- » Non-Market(**NM**) Sales (further on called "**NCS**"⁶) need special attention: By contrast to **M**-Sales, **NCS** are evaluated by their Sales as well as at their costs; there are special rules as to the Allowableness of their appearance;
 - » Classifications: The relevant official instruments refer to Goods and Services (applicable on any component of the commodity flows); and to Activities (industries, branches, etc), otherwise: The classification categories of the latter kind are in their turn based on the LKAU's output. Related implications are discussed later on, as suitable (2.3(d); 4.2(iv)). For both versions instruments exist of legal quality similar to the SNA.
 - » Top down (TD) has been established by the Systems as the main "Regime" to achieve Symmetry between the ISU- and the LKAU-Level. Its complementary Regime follows next.
 - » Significance Test: By means of the "50% criterion" it evaluates the very economic nature of the Outputs as well as of the SU themselves. In any case of "mixture" of **M** and **NM**, the 50% ratio of Sales to Cost demarcates the "break-even point" of the individual SU as well as of its aggregates (ΣLKAU under ISU; and ISU, which is always "Total").
- (b) A couple of further concepts are not directly found in the Systems but either easily derived from them or against that basis particularly useful for the present exercise on that basis:
- » Levels: As already largely anticipated, these are represented by the ISU (further on: Level **II**) or by the LKAU (Level **I**), otherwise. Due to the common "**1: n**" pattern of ISU : LKAU, a hierarchical relation between **I** under **II** emerges.
 - » Inter-Level Congruence: The very central concern whenever relations between the two Levels (**I**; **II**) are at issue; its meaning is either qualitative or – more important presently – quantitative (or some combination of them). Further methodical detail is found below in Section 2.3(e). Synonymous with Congruence, "Symmetry" etc may also be used.
 - » Bottom up (BU): Once the given Level structure has been adopted the use of TD (see (a) above) is not automatical, but there is the principal BU alternative. Apart from the position by the Systems taken in favour of TD, BU may still be worthwhile as a means to dig into alternative detail, or even more so, as a necessity in terms of "feedback".
 - » Exclusive vs overlapping design of the Classifications: This refers to the application of the **M**- vs **NM**-distinction to the individual categories of the Classifications (see (a) above). While Exclusiveness would
- not seem the primary "official" doctrine it could still stabilize a certain shakiness of the present inter-Level relations that is difficult to avoid otherwise. The other way round, a feedback effect from **M** / **NM** to a classification structure may also happen.
- » Allowableness: On the basis of the legal provisions of the present Systems, most of the Inter-Level questions are unambiguously solved, and will be identified accordingly. However, certain points may still arise which are not fully clear on that basis alone. (For further details see Section 2.3(b) below).
- (c) A few equally important distinctions are of a more operational kind:
- » Observation "*a prima vista*" (p.v.) vs "*a seconda vista*" (s.v.), as the stages of the Sequence of statistical observation in a Level context when proceeding with the mentioned "Regimes" (TD vs BU). While the former would remain within the scope of information available at the given Level, the latter involves precisely this Inter-Level reference. Only for "p.v." further subdivisions apply as taken up later (Section 2.3(a)). – A certain redundancy of "Sequence" vs "Regime" is true for the p.v. Stage only.
 - » Feedback: In the application of TD vs BU necessities may arise from the "other" Regime to borrow information needed for further implementation. It always involves a s.v. element, when it first appears in the stage of the primary identifications (**I** → **II**; **II** → **I**), but of greater interest are situations of circularity, where it is needed to complete the application of TD or of BU, respectively (**I** → **II** → **I**; **II** → **I** → **II**).
 - » Overheads (OH): In any situation of the distribution of such cost on basis of the 50%-rule there is a problem of attribution of OH across the many LKAU.
 - » Aggregation: For the NA, only the aggregates of the SU are drawn upon; however, the criteria used for the aggregates equally apply to the individual SU (and their Output), too. And across the Levels (**I** ↔ **II**) there is the possibility of a deviant mix: under a given ISU, a variety of LKAU may be found which are not automatically of the same **M**- vs **NM**-kind as that ISU, at least at first sight (i.e. before any subsequent intervention).
 - » The contexts of "**M**-ISU" vs "**NM**-ISU": These comprise all the LKAU assembled under either of the respective ISU; the former represents a "**M**-context", the latter a "**NM**-context".

2.2 Legal Provisions

Nowadays, the System of NA together with a variety of neighbourhoods is thoroughly regulated by instruments of international law, as itemized in the forthcoming Annex on References. For the present text, the EU has been given priority (**ESA'10**, etc; with the quotations of the number

⁶ The term "Non-commodity Sales" (NCS) is a reminiscence of the SNA 1968, which seems to have introduced this as a separate transaction for the first time.

of the respective article: "§..."). With a view to the many Concepts presented above, all of which have some direct or indirect legal basis, it makes sense only to point out those provisions that are of crucial importance to the present discussion of the dual Level structure and its implications on congruence. Due to the NA-typical "inter-linking of everything with everything" a given article may redundantly overlap with the application of related reference of similar kind (not further pursued here).

- » "No **NM** in **M**" – **ESA§3.38**: **M**-producers at the LKAU-Level cannot supply any **NM**-Output (obviously, for such outcome the foregoing identification of a producer of such kind is presupposed).⁷
- » (A-)Symmetry – only in the old **ESA'95** an explicit indication is found: **§3.40** and Table 3.2. Accordingly, **M**-LKAU are adopted as the second kind of SU allowed to be contained in a **NM**-ISU. This rule is another central pillar, as mentioned before.⁸
- » TD (as opposed to BU) – **ESA§3.16** & **§20.30**: TD is introduced as the governing "Regime" when dealing with the significance test and any other question of the Inter-Level relations; whereas BU is not even mentioned as an alternative. However, the critical point is not so much BU as an outright alternative than BU as a feed back necessity, as set forth later.
- » In terms of the legal basis, the before mentioned three sets of provisions are the very central pillars on the achievement of congruence (see the Framework Diagrams later on).
- » 50% test – **ESA §3.26** & **§3.32**: general applicability to output as well as to SU (notwithstanding the reservation on the application to **M**-producers).
- » NCS – **ESA§3.19**: the significance of the price test applies, but only after an **NM**-SU has been as such identified (otherwise: see **§3.38**).

2.3 A "Hygiene" for the delimitation of "Government"?

Before entering into the Analytical Framework (and its final evaluations...) we may raise the question whether the above points would not be suited to define a sort of minimum standard to guarantee the "good statics" of our two-storey building – or a sort of "hygiene" when it is about sound practice in inter-Level statistics. From such a perspective a set of reference points are recapitulated for which a clear, consistent solution is absolutely indispensable.

⁷ To this is complementary the assumption of the allowableness of **NM**-LKAU in a **M**-ISU context (as taken up in the Diagrams). Otherwise, a specific regulation of this kind would not be necessary. .

⁸ Another Asymmetry is mentioned in the Annex on the **M** – **NM** Distinctions, i.e. the acceptance of **M**-ISU in the Public Sector, where it was necessary for systemic reasons. For the present purpose, however, it is not of similar use.- Remarkably, not any provision directly addressing a requirement of Congruence is found in the "Systems".

(a) Primary Identifications (i.e. p.v. type):

- i. The very first action of this kind is the identification of an SU as such. The next step is the distinction of the SU as an "ISU" (Level II) vs a "LKAU" (I), which is achieved by the respective statistical instruments (census; survey...). Essentially concerning Inter-Level relations, however, such record is absolutely necessary.- The same applies to the Output side, which cannot easily be imagined other than by relation to a SU; production cost are an obvious complement identified in the same step.
 - ii. On that basis the identification of the "economic nature" (**M**; **NM**) of those SU and their Output follows. It is usually proved by the SU's overall character but may require more detailed evaluation in terms of the well-known 50% criterion. As with the SU before, the outcome may first be determined without reference to the "other" Level. Output of the NCS-type may appear that way, even if it does not hold as such later on.
- (b) Allowableness: this criterion directly refers to the legal basis of the application of **M** vs **NM** under 1: m/n conditions (1 ISU, m/n LKAU). The theoretical range of allowableness goes from zero to 1, which means: from "no deviation acceptable" to "any deviation acceptable". The ISU : LKAU relation is straightforward only if their original qualification (**M** or **NM**, respectively) is similar but becomes less and less so if there is more and more inter-Level asymmetry between them. Note that (unlike the foregoing individual "identification" mentioned earlier), allowableness also applies to the aggregate (Σ LKAU).
- (c) Evaluation of NCS: output of this kind raises preliminary points of concept, identification, allowableness and use at the same time. In terms of "hygiene", a very first point to be clarified is its apparent appearance in a **M**-context: is this possible at all? And if yes: is it allowable? Similar questions remain even in the **NM**-context, because **M**-LKAU are allowed there.
- (d) Classifications: affecting structures as well as delimitations the instruments on Activities on the one hand, and on Products (Goods and Services) on the other are fully applicable there, too. Rather than in terms of Levels they are closely interrelated in terms of goods and services defining the activity categories; and the other way round for the activities.- On that basis it is possible to describe ("define") the classes identified as being activities of government in terms of the classes of output produced⁹.

⁹ The mutual interlinks are based on "characteristicity", which is a major concern in Input-Output statistics when applying classifications to the LKAU Level. It is not of primary importance for the present topic, except the eventual "Exclusiveness" variant (see above section 2.1(b)).

(e) Congruence: Whether Inter-Level Congruence is achieved (or not achieved...), and in which constellations achievement happens (or fails to happen...): this is one of the primary targets of the present exercise. It may relate to more qualitative criteria (e.g. a certain classification structure) or to scope, which is a more quantitative meaning (i.e. in numerical terms), and even the latter may vary (e.g. VA vs Investment).- The present context is about Congruence of Output only, and that for ISU's output vs output of the LKAU in aggregate (Σ LKAU) only.- As mentioned, in a system of Levels the systemic conditions of achieving Congruence are not yet fully working, however.

3 The Analytical Framework

3.1 Examination as a Sequence of Steps

For the further Analysis a sort of tabular framework is used in which account is taken of the various points of any analytical relevance, and that in a continued cross classification of the ISU part with the LKAU reference. When following this framework step by step the argument develops in the same order.

In **Diagram No. 1** the conceptive "raw material" is outlined, which essentially distinguishes SU by **M** vs **NM**; for LKAU the aggregate is also included (Σ LKAU). In addition to the SU, the head row also distinguishes Output, because sufficient detail is available only at that Level. Among **NM** Output (in the trunk column) NCS are introduced as a special case because of the additional detail useful with regard to the effects from their varied SU environment.- Already at this stage the necessity to consider all combinations of ISU (**M**; **NM**) with the various references of LKAU (**M**, **NM**; and their aggregates) is obvious.

Continuing this overview in **Diagram No. 2** a few additional elements of analysis are introduced:

- » NCS are now separately distinguished in the head row, too, to account for further asymmetries recognizable that way.
- » Similar to the ideas on "Hygiene" above, in the cross classification itself (ISU \times LKAU) question marks ("?", "¿") have been used to directly indicate any situation where some problem of Inter-Level Symmetry in terms of **M** vs **NM** announces itself. Any situation of this kind needs concrete answer in terms of Allowableness, etc.
- » For the sake of completeness a special Classification part has been added, as a reminder of the applications of Classifications, which are often co-determining the further outcome in terms of **M** vs **NM** (e.g. via an "Exclusiveness" application).

On that basis **Diagram No. 3** introduces the "Regimes" (TD; BU) and the Steps of "Sequence" (p.v.; s.v.) as well, that way enabling the ultimate analysis. Before this "finale", however, a number of conceptive or formal preliminaries must be clarified in advance.

3.2 Preliminaries of Concept

Particulars of Presentation (referring to the rectangular "boxes" used in Diagram 3) with a variety of situations, as follows:

- » **Symmetry**: 1) "Straightforwardness": Due to similar economic characters (i.e. **M** : **M** or **NM** : **NM**, respectively) at the aggregate Level there is no problem of Asymmetry in these cases, nor of Incongruence at all; 2) whereas possible "Asymmetry" may thoroughly be effective at **NMISU** \times Σ LKAU; and for **NCS** in **NMISU**.¹⁰
- » **Allowableness**: Further divergences must be taken into consideration for the remaining situations, which feature **M** and **NM** as meeting one another: 1) While **MLKAU** are easily allowable under a **NMISU**, for the other possibility, i.e. **NMLKAU** under **MISU**, the situation is less obvious, as already pointed out.¹¹ 2) For the aggregates ("**M+NM**"...) the principal situation is analogous: Asymmetry is throughout allowable for the **NMISU** (i.e. a **MLKAU** in the Σ LKAU-aggregate is acceptable) but the question remains about any **NMLKAU** featuring under **MISU**.

Introducing "**Regimes**" and "**Sequence**" combined: For better overview, subsequently a sort of formulae type presentation is used.

- i. Primary observations (and consequential identities):

Level I : $BU_{p.v.I} = BU_{s.v.I}$ [or (for short): $BU_{p.v.} (=s.v.)_I$]

Level II : $TD_{p.v.I} = TD_{s.v.II}$ [or (for short): $TD_{p.v.} (=s.v.)_{II}$]

To each Level a "Regime" (TD; BU) is specifically related via its "primary" step of the Sequence of observations, happening at its genuine starting Level (p.v.); its outcome is determined only by the circumstances prevailing at that Level. E.g., $BU_{p.v.I}$ refers to the observations made at Level **I** immediately and alone. As a consequence, for the "primary" situations Level and Regime coincide: p.v. = s.v... - Involving contact to the "other" Level all other observations are secondary, and they are of

¹⁰ So to say, a rule of "independence" applies in the former case (no reference to be made to any other reference); and a rule of "parimony" in the latter (evaluation of NCS at Level **II** not to be counter-checked with Level **I**; however, on this point cf below, 3.3(iii)).

¹¹ "**NM** in **M**" has already above been recognized as a major problem of the principal methodologies (2.2; and 2.3(b)), but is probably not recognized as a real possibility in country practice. Requiring de lege ferenda reform, this point should be on the Agenda but is not discussed as separate category at length later on.

This is first addressed for the **M**-ISU context:

- » To begin with a situation with **M**-LKAU throughout, any Output originally supposed to be "NCS" would turn immediately into **M**-Output. This is due to the cogent rules of §3.38 (allowing no **NM**-Sales as **NM**-Output in **M**-LKAU) in combination with §20.30 requiring the lumping together of all kind of Sales for the 50%-test). This holds independent of whether TD or BU is applied.
- » Things are different in a (conditional) situation where **NM**-LKAU would also be allowable, because with the latter the NCS would fit in perfectly. Under the above shown formula (3.2(i)) [$_{BU}p.v. \leftrightarrow$ $_{TD}p.v.$] the question was whether under TD that NCS would be as closely identified as under BU, with consequential inter-Level discrepancy of the respective LKAU. Therefore, feedback from **I** → **II** would be indicated, with the said options of acceptance vs adjustment, but without the effects on the Total (because in **NM**-LKAU the basis of Output is Costs, so that the Total does not change). However, the latter should not discourage from attempting reliable estimates of NCS, which may be important for various purposes (e.g. the evaluation of "Social Transfers in kind", net).

Next, on NCS in a **NM**-ISU context:

- » As far as NCS figure in the Output of an eventually included **M**-LKAU, the situation is as simple as described above for the **M**ISU-context (provided the tests have been performed properly...).
- » What remains in the other case – NCS in **NM**-LKAU – this again raises the point of symmetry between BU and TD, which is not automatically granted. Thanks to their genuine allowableness in the **NM**-environment there are no other problems otherwise.

4 Outcomes tentatively summarized

The above discussion is now wrapped up with a couple of conclusions, partly of a more serious, systemic character, partly of a more parenthetical, qualitative kind only. In either case, the focus is on diagnosis rather than on recommendation.

4.1 Critique of the Systems

- i.* A moderate number of related legal provisions are provided by the Systems which are, however, not suited to solving the problems recognized as still

pending. Allowableness of **NM**-LKAU in a **M**-ISU context and a reconcilable treatment of deviant **M** or **NM** nature of LKAU are of the utmost importance.

- ii.* The main point concerns the congruence of the Output Totals of the two operative Levels of the System (the lower Level **I** = LKAU; the upper Level **II** = ISU). Congruence is missing if LKAU(s) of different quality in terms of **M** vs **NM** are involved (the "**M** in **NM**" or the "**NM** in **M**" case, respectively). At the present point no solution is in sight since the provisions on the evaluation of the SU – i.e. Costs for **NM**-SU; Sales for **M**-SU – are both obligatory, and thus inevitably end up contradicting each other.
- iii.* As to the Top Down (TD) Concept, which has been officially established to interlink the two Levels of the System, the operability is defective as long as there is no advice on how to project the circumstances prevailing at Level **II** down to Level **I**. On the contrary, the circumstances prevailing at the lower Level (composition of LKAU in terms of activity classification as well as their **M**- vs **NM**-quality) provide the otherwise largely blank ISU with operational content: ISU needs Feedback, which turns TD into BU (Bottom up).
- iv.* Incongruent Totals (*ii*) and Feedback (*iii*) are in a way interrelated, as the latter automatically includes the independent Total of Level **I**. However, the problem with (*ii*) exists even if it has not been made explicit on either Level. Therefore, and apart from any reasoning in favour of more detailed information, with (*ii*) and (*iii*) together a specific argument is found in favour of the availability of both Levels side by side.
- v.* In the present context Non-Market Sales (NCS) are an omnipresent point of particular significance in the **NM**-environment. Reliable recognition is possible only when taking account of their appearance at Level **I** whereas any evaluation at Level **II** is lacking in sufficient distinction against Market Sales.

4.2 Complementary Considerations

- i.* After all, Level **I** ("BU") is not only indispensable for a picture completed by way of feedback and avoiding otherwise concealed problems of inter-Level discrepancy (see 4.1(II)) but is an integral constituent of the System of NA anyhow. The most important, but not the only applications are Input-Output (I-O) analysis and Systems of Regional Accounts (SRA). With the increasing involvement of Governments in the provision of social, communal and a variety of other services the interest in this kind of information automatically increases.
- ii.* For actual practice of the countries' NA, it seems to be an attractive a priori to circumvent (rather than to really avoid) the problems of the above kind by way of outsourcing the questionable LKAU as much

as possible: these are then figuring as "Quasi-corporate Enterprises" (QCE). Whether such conversion is legitimate depends on the degree of autonomy of that SU as well as the actual availability of the then much more demanding accounts. Another "way out" was ignorance of the dual Levels, which are then reduced to Level **I** or – much more likely – to Level **II**¹⁴; or even complete ignorance of the respective candidates as SU to be separately identified. Reservations vis á vis such practices are obvious, and in particular so when it is about international comparability of the data, which may be affected by different practices of the above kind.

- iii. Instead of rating NCS as a stepchild they deserve particular, primary attention in a world of further and further involvement of government at the borderlines of "Market". However, such data is useful only if it achieves a reliable state of differentiation. Unfortunately, in this respect (as in many others) the present state of accessible documentation is poor.
- iv. Official instruments of Activity and/or Product Classifications (ISIC; CGS) are not particularly elaborate with regard to "Government". Activities and / or goods and services, which are apparently governmental, can be found side by side with other ones, in such a way without clear positioning with regard to their "characteristicity" in terms of "Government". In that respect, concepts of "Exclusiveness" are a (possibly here and there already utilized...) alternative means to facilitate the delimitation of Government as a whole and, likewise, to improve international comparability in that field.

4.3 Tentative Lessons for the Practitioner?

- i. An explicit review of the present practice as a start, with regard to the treatment of the Levels "in dual" (recognized Incongruence) and the handling of inter-Level relations (e.g. by way of feedback).
- ii. On the current situation of Incongruence (the "**M** in **NM** / **NM** in **M**", situations) there is not much to deduce in practical terms directly: identification of the Incongruence and some "method" to get rid of it but, hopefully, in a more "respectable" way than by cheating it away through ignorance or a forcible redefinition of the respective SU.
- iii. Consequentially, a comprehensive "feedback regime" is to be recommended, which applies to the situation addressed just before as well as in particular with regard to the NCS.

Instead of an Epilogue

In the above text it has been mentioned at several places that in the official Standard Systems on the NA, for which UN/OECD/EU/IMF/WB stand as editors, the current topic is neither addressed nor all the less systematically dealt with; nor has it found sufficient – if any – attention in the pertinent scientific discussion. In the latter respect, two of the below quoted references would deserve particular mention, not only as having been published with a considerable distance in time: both originate with widely renowned experts (Blades, Lequiller, Pathirane...), and both co-cover a field like the current one, but none of them has taken up the inherent problem: not the only ones, regrettably.

¹⁴ Last, but not least, the Austrian NA of the immediate post-war period could be quoted as an example of the Level **I** kind.- By the way, Austria is also an example of a country where the bulk of governmental **M**-SU is separated out as QCE, but at the same time a substantial number is still left within Government.

References

International Standards on the National Accounts:

European System of Accounts, ESA 2010, Eurostat, (2013); with its still relevant preceding versions: ESA 1995 and ESA 1979

System of National Accounts 2008, UN etc, (2009) (for short: SNA 2008); with its still relevant preceding versions: SNA 1993 and SNA 1968

Government Finance Statistics Manual 2014 (for short: GFS), IMF, (2014); with its still relevant preceding versions: GFS 2001 and GFS 1986

International Standards on the Classifications:

International Standard Industrial Classification of All Economic Activities (ISIC Rev.4), UN, New York, (2008) (and its counterpart for the EU, Eurostat, Luxembourg, 2008)

Central Product Classification, Version 2.1, UN, New York, (2015) (and its counterpart for the EU, Eurostat, Luxembourg, 2013)

Classification of the Functions of Government, IMF, available as Annex 6 of the GFS Manual

Nomenclature of the Territorial Units for Statistics, (2013), Eurostat, Luxembourg

Manuals and other references of some concern:

Handbook of Input-Output Table Compilation and Analysis, UN, (1999)

Manual of Supply, Use and Input-Output Tables, Eurostat, (2008)

National Accounts: A Practical Introduction, UN, (2003)

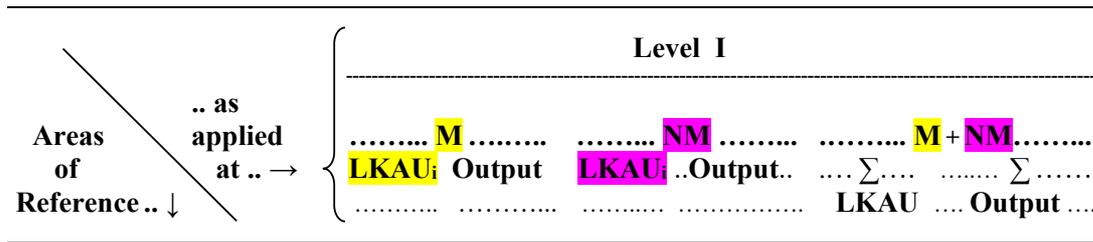
Statistical Units, UN, New York, (2007)

Lequiller, Francois & Blades, Derek, Understanding National Accounts, OECD, 2nd edition, Paris, (2014), pp 277ff

Blades, Derek & Pathirane, Leila, "Defining and Measuring the Public Sector", The Review of Income and Wealth, 28(3), pp 261 ff

Annex: Statistical Units and their Output in a Level ("I" – "II") Framework

Diagram No. 1: Delimiting the Areas of Reference applicable in principle



1. Statistical Units (SU) – Level II *

M -ISU	x	x	x	x	x	x
NM -ISU	x	x	x	x	x	x

2. **NM** Output (Level II × Level I)

2.1 “**NCS**” **

.. in M -ISU, with..						
.. M -LKAU only	--	--	--	x	--	x
.. NM -LKAU also	--	--	--	x	--	x
.. in NM -ISU, with..						
.. M -LKAU also	--	--	--	x	--	x
.. NM -LKAU only	--	--	--	x	--	x

2.2 “**Other**” ..***

.. in NM -LKAU only	--	--	--	x	--	x
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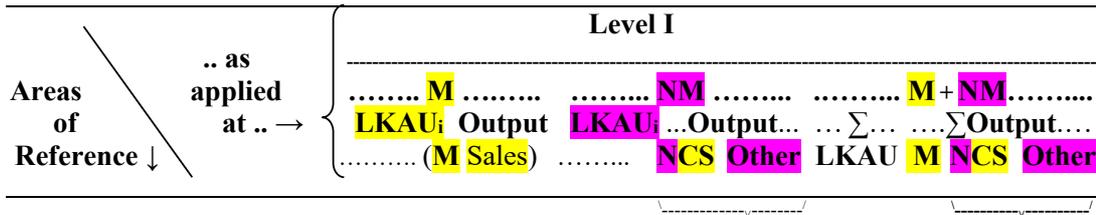
“x”: applicability; “--”: combination *inapplicable*, by definition.

* “SU” - Level II = ISU_{M/NM}; Level I = LKAU_{M/NM}

** Distinctions by composition of the respective ISU in terms of **M**-/**NM**-LKAU are necessary in view of the different effects on the identification of **NCS**

*** “Other” = the “balancing item” in the Production Account of **NM**SU

Diagram No. 2: Identifying those Situations which require particular Solution



1. Statistical Units (SU) – Level II

M-ISU	x	x	?	?	x _i ; ?	x	?
NM-ISU	?	?	x	x	x _i ; ?	?	x

2. NM Output (Level II × Level I)

2.1 “NCS”..

.. in M-ISU , with..							
.. M-LKAU only	--	--	--	?	--	--	?
.. NM-LKAU also	--	--	--	?	--	--	?
.. in NM-ISU , with..							
.. NM-LKAU only	--	--	--	x	--	--	x
.. M-LKAU also	--	--	--	?	--	--	?

2.2 “Other”..

.. in NM-LKAU only	--	--	--	--	x	--	--	x
---------------------------	----	----	----	----	---	----	----	---

3. CLASSIFICATION

3.1 Exclusiveness (‘M’ vs ‘NM?’):

M only	x	x	--	--	--	x	x	--	--
NM only	?	--	x	x	x	x	--	x	x
Σ(M & NM) combined	--	--	--	--	--	x	x	x	x

3.2 M/ NM – Overlapping *

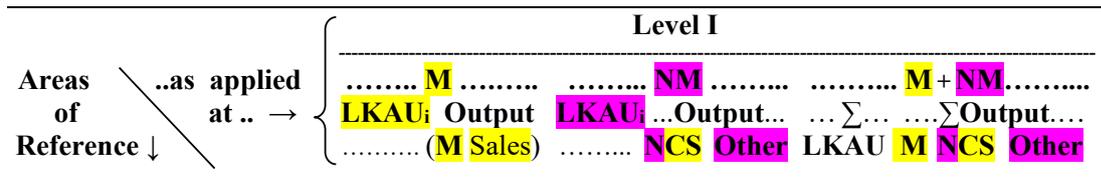
M or NM	x	x	x	x	x	x; x	x	x	x
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“x”: applicability; “--”: combination *inapplicable*, by definition.
 “?”; “? ”: indicates questionable “*Allowableness*” (with still outstanding solution (NM-LKAU under M-ISU?).
 “?”: cases of apparent NCS firstly occurring at M-LKAU but, due to explicit legislation (§338), ready for immediate adjustment to be made at the *same* Level (i.e. LKAU /“Intra-Level”/)

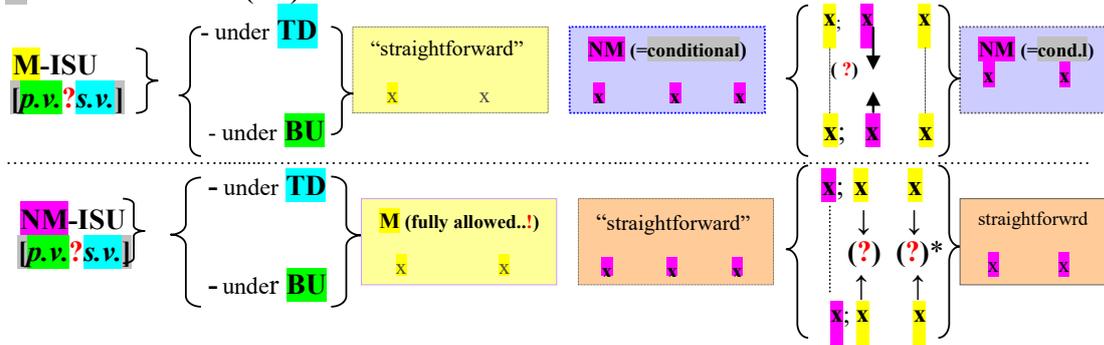
x x Indicates situations of automatic *coincidence* (i.e. definitional conformity/compatibility) existing from the beginning; that way “straightforward” there is not any further problem to be expected!

* Presumably the legal state of the art

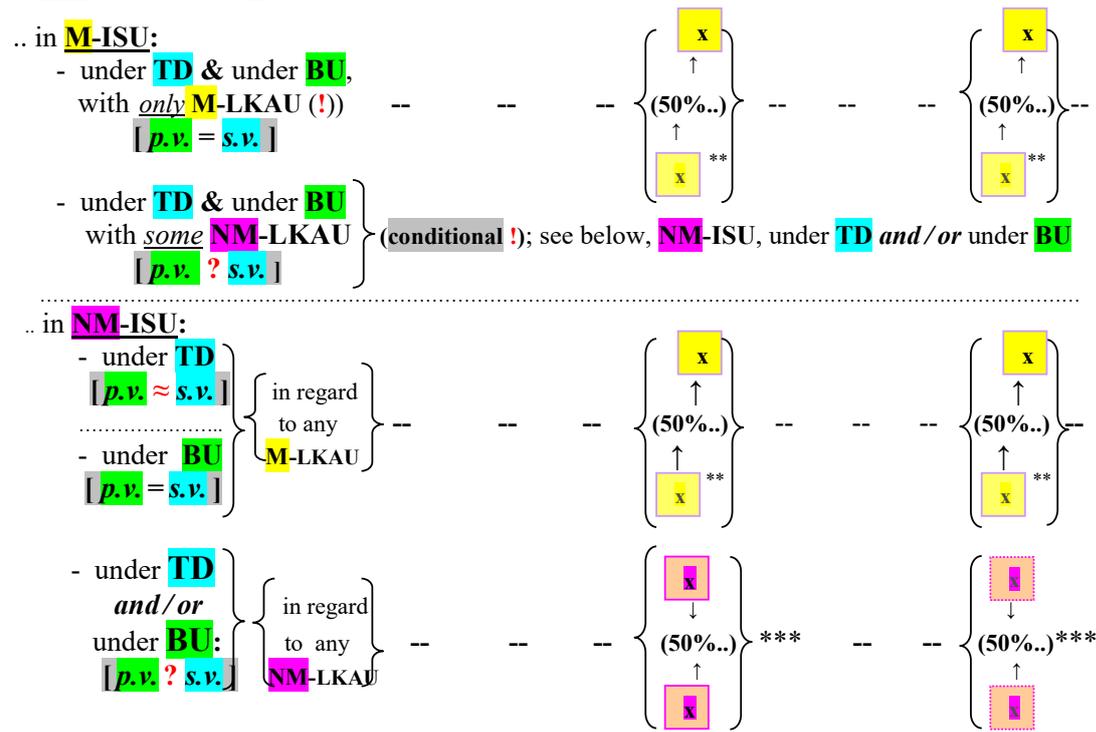
Diagram No. 3: Introducing the "Regimes"(TD / BU) & Inter-Level "Sequence"(p.v./s.v.)



1. Statistical Units (SU) – Level II



2. NM Output – "NCS"



* Note that for "M in NM" the BU : TD symmetry is not maintained at the ISU-Level (=ΣLKAU)
 ** The §3.38 case; due to the clear legal stipulation, the respective adjustment becomes feasible at a most early stage of the course of the Sequence of observations (viz the BU stage / [p.v. = s.v.]/).
 *** The Test takes place on the NCS as such, which would remain in the NM-context anyhow

The MARKET vs NON-MARKET Distinctions in the NATIONAL ACCOUNTS: A SUMMARY

"Market output consists of output that is disposed of on the market" (or intended to be so disposed of), and "Market producers are LKAUs or institutional units the major part of whose output is market output" (for the Non-Market part it goes the other way round). Laconic sentences as found in the official Systems do not really define 'Market', nor 'Non-Market', nor are they ready for immediate application. However, on the basis of the above wording more operational definitions applicable to Output as well as to Producers can be provided (both capable of being either **M** or **NM**; 'producers' are either ISU /Level II/; or LKAU / Level I/).*

The situation is a bit specific insofar as mutual interlinks exist where the economic nature of the producers is at issue: for the "commercial" part of them some individual sales may look **NM** but actually the decision follows the sustainable operative "mission" of asserting oneself in the Market. Therefore, the suggested uniform application of the above notions is without reservation applicable to the remaining producers, which are somehow related to the Government (and to the so-called Private Non Profit Institutions /not at issue here/).

Therefore, only for the latter kind of "producers" the distinction of Output by **M** vs **NM** is the very beginning. For this purpose a relatively simple operational rule has been introduced, i.e. the renowned "economically significant price" criterion. In numerical terms it says that an output price is economically significant when more than 50% of its production costs are covered by that sale – a handy rule for an all-encompassing testing of the Sales-Output of those producers. Production costs are defined as Intermediate consumption plus "Value Added".

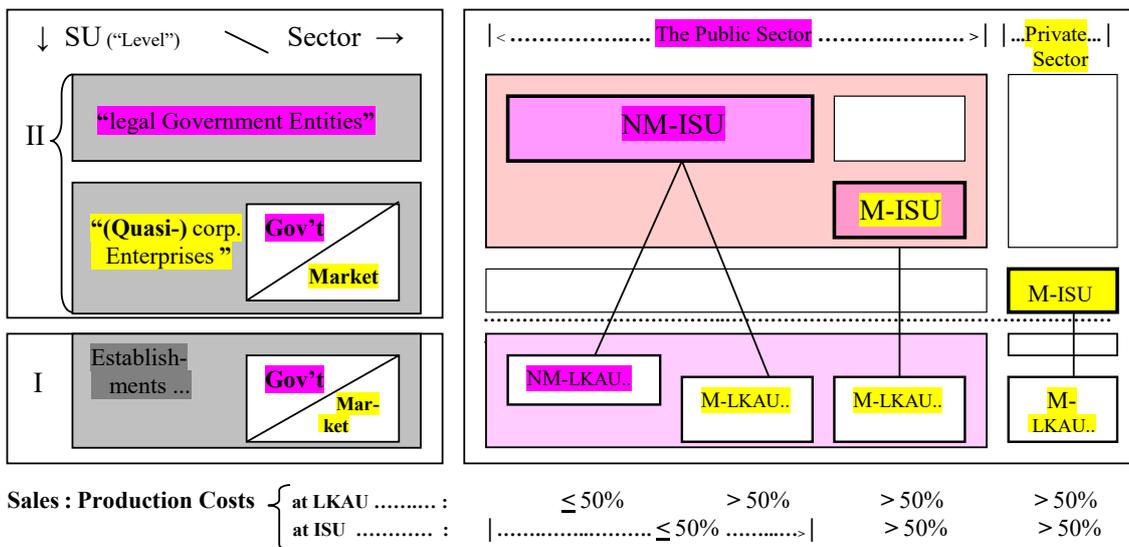
That way, total Sales-Output of those producers is subject to the same 50%-criterion so that the testing of the Sales overall coincides with the testing of the respective selling producers themselves. In other words: the populations of **NM**-Producers represent a population of SU whose Sales receipts do not exceed an amount of half their production costs, neither individually nor when put together.

In practical applications, two points assume major importance for the overall outcome:

- i. Once identified as **M**-LKAU the identification of any Sales as **NM** is prevented by the law. That way, the adoption of the "significance rule" reaches its limits, viz. by being inspired by the economic circumstances rather than by an increasing **M** share.
- ii. Under **NM**-ISU, **NM**-LKAU as well **M**-LKAU are a source of a major asymmetry when comparing the Totals at Level II: Government contains **M**-LKAU side by side with **NM**-LKAU.

An additional point of Asymmetry is the allowableness of **M**-ISU to be included in the "Government Sector" (as represented by its **NM**-ISU), whereas no similar provision allowing **NM**-elements under **M**-ISU is found. That way, the expected "pure" **NM**-character of the Output of Government is somewhat diluted, and all the more so when **M**-ISU of the government ((quasi-)corporate enterprises contained in the Public Sector) are also taken into account.

Symbolically (not to scale...) the Diagram shows the composition by **M** vs **NM**; extending from Government to commercial ISU, "Public Sector" is the widest notion. Asymmetries see Boxes with a mixture of **M** and **NM**.



* Abbreviations: "M" = Market; "NM" = Non-Market; "LKAU" = Local kind of Activity Unit; "ISU" = Institutional Statistical Unit