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**MEASURING TOMORROW'S ECONOMY:
WHY IT MATTERS AND
WHAT NEEDS TO BE CHANGED**

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- Understanding today's economy and its residuals
- Charting the development of the 21st century economy
- Capital formation activities in today's economy
- Assets and property rights - sources of confusion
- Intangible assets in the SNA: originals, innovation and human capital formation
- The Final Report: The measurement of intangibles in macro-economic statistics

PRISM is a multi-disciplinary European initiative aimed at gaining a deeper understanding of the issues surrounding the management and measurement of intangibles in the modern economy. The PRISM group believes that intangible investments are *the* drivers of both competitive advantage and economic value creation, and that they are inadequately evaluated by current measurement and management tools which were devised for an economic context that no longer exists.

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**Measuring Tomorrow's Economy:
Why it matters and what needs to be changed**

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Abstract

This paper argues that our measurement systems are misaligned to today's economic realities. A shift in emphasis has happened – but we have poor data on it.

The main reason for this apparent misalignment is that some of the crucial assumptions of national accounts – the focus on physical goods production and trade, the choice of a nation as the main reference, and the stable sectoral groupings and classifications - are grounded in a specific vision of the economy, one which has its roots in the agricultural and industrial economies of centuries past. National accounts do not embrace the productive process of knowledge, information, creation and design in its underlying logic.

The paper makes clear that national accounts matter given the number of decision-makers who pore over, and rely, on its various outputs. Doubts about their accuracy and adequacy are worrisome given their centrality in much decision-making, especially in Europe.

A truly long-term strategic plan is needed to overhaul our accounting and statistical systems. Some of the changes involved will take a long time to decide on, plan and implement. We need to plan accordingly. This is as appropriate to business accounting standards as it is to the SNA. Indeed, ideally the two would be planned in unison given the extent to which national accountants rely on a data feed from companies.

This long-term plan would not only include tackling some specific issues within the current set-up, but also undertaking a comprehensive appraisal of the measurement business as a whole. It would involve developing alternative measurement approaches in recognition that in the 21st century economy it will be harder and harder to rely on single “reductionist” data points such as GDP.

1. Introduction

Whether it is the start of a new millennium or the psychological impact of the global economic malaise, this seems like an ideal time to reflect on today's economy – what is driving it, and what determines growth and economic value creation.

Serious debate on these issues has been ongoing for many years, mainly in specialist circles of academia, economists and statisticians. This debate was fuelled by the apparent take-off in growth and productivity in western economies in the 1990's after two seemingly “flat” decades. The debate was also hijacked in a sense by the widespread popularisation of the idea that something new was going on in the economy, which went so far as to declare that a “New Economy” had been born.

The rapid acceptance of this idea at the end of the last century may say as much for our lack of historical perspective as anything else. It may be fashion, vanity or a combination of the two to believe that we are living through a time of unprecedented change. Imagine someone transported from 1800 to 1900 to view the transformation of economies from ones based on small, self-sufficient agricultural communities powered by animals to ones whose principal units were now large, urban-based manufacturing companies powered by machines. The changes we are experiencing seem small and incremental in comparison.

Notwithstanding, a proliferation of vocabulary and terminology used to refer to today's economy has resulted. The concern is that the widespread use of such language and labels creates the illusion that we actually understand today's economy, that we agree on its development path.

In previous papers¹ we have established that, in our view, no fundamentally new economy has been created. The available literature & empirical data suggests that a gradual shift has been taking place for many years within our economy, within the drivers of growth and productivity – and we have not detected it. We have not detected it, partly because we probably weren't looking for it, but also, more importantly, because many of the changes have gone undetected by our measurement systems – these changes lie outside their scope.

No longer is it sufficient to trace the investment into physical capital and the hours worked by labourers to track change. Factors which have up to now been hidden from us, mis-classified, or lumped together as “residuals”, have gradually emerged as important factors in our economy. These factors are crudely described as intangibles, but more meaningfully can be identified with expenditure and time investment made into the development of skills and talents, and into the stimulation of ideas, creations and scientific breakthroughs.

A key issue that emerges from these papers is that, if indeed these areas are the key elements in our economies, we have a problem in that our measurement systems have not kept pace with these developments. Therefore, while numerous people have tried to empirically chart this transition, our understanding remains severely limited and will do so until we start to address the underlying problems and re-appraise our data systems.

This paper will first of all address the bigger picture. It will argue that our measurement systems are indeed misaligned to today's economic realities. A shift in emphasis has happened – but we have poor data on it. It will argue that measurement matters given the number of decision-makers who pore over, and rely, on its various outputs. Are we taking more and decisions founded on a shakier and flakier information set?

Second, it will highlight the various issues and problems which exist in today's statistical systems and which need addressing. Some of the changes involved will take a long time to decide on, plan and implement. We need to plan accordingly.

2. Macro-economic measurement systems – why they matter

Measurement may not be sexy, but it matters. The collapse of market confidence in accountancy's ability to provide a true and meaningful view of corporate performance has reminded us all that accounts are more a collection of interpretations and judgements than a statement of hard facts.

This is a suitable backdrop against which to consider how adequately national accounting is actually set up to represent the economic realities of the 21st century economy. As Greenspan recently put it,

¹ “Understanding today's economy and its residuals” and “Charting the development of the 21st century economy”

*“over time, and particularly during the last decade or two, an ever-increasing share of GDP has reflected the value of ideas more than material substance or manual labor input. This ongoing development is imposing significant stress on our statistical systems.”*²

Measurement matters because human society is, and has been so throughout history, very number-centric in its pursuit of understanding. As Lord Kelvin put it:

“When you can measure what you are speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind: it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science.”

It matters because the output of our measurement systems are key inputs into the many daily capital allocation decisions made around the world by politicians, by central bankers, by companies and by individuals. Trillions of dollars shift on the basis of, say, a move in GDP, a change in inflation, a change in productivity, etc. National accounts’ data is also used to build models to forecast future developments on the one hand, whilst on the other hand is used to retrospectively evaluate the impact of past monetary policy measures.

It matters, in short, because today’s economy is highly data-sensitive and information is both a key resource and a key output (Braman, 1995).

End users - in particular policy makers and financial analysts - pore over macro-economic data for its insights into different nations’ economic health. The data is used, inter alia, for forecasting the economy’s potential for growth, for conducting monetary policy and understanding the trade-off’s between inflation and full employment, and for projecting tax revenues and conducting fiscal policy. It is undeniable, therefore, that accurate and up-to-date measurement is an essential tool for the provision of “an objective baseline for assessing the effects of a wide range of policies, regulations, laws and tax rules”³, all of which will in turn have economic impacts for the future.

And just as there has been a shift in the composition and drivers of the economy, so too the focus of policy has been transformed. It is essential for measurement systems to be responsive to their end users. Writing about the US, the Progressive Policy Institute (1998) put it thus:

“Old economic policy, shaped by the Great Depression, largely focused on creating jobs, controlling inflation, and managing the business cycle.....The real challenge of economic policy now is to support and foster continued adaptation, including policies that lead to a fully digital economy characterized by continuous, high levels of innovation and a highly educated and skilled workforce.”

Similar rhetoric is apparent in European policy circles. In 2000, at the EC summit in Lisbon, Europe set itself the stiff challenge of becoming the most competitive and dynamic knowledge-based economy in the world by 2010. As a statement of its priorities, the EC developed the Broad Economic Policy Guidelines supported by a scoreboard covering what it regards as the most important driving forces of a knowledge-based economy:

² “The challenge of measuring and modelling a dynamic economy” (Alan Greenspan, Chairman of the Federal Reserve Board, Washington Economic Policy Conference of the National Association for Business Economics, Washington DC, March 27 2001)

³ Landefeld and Fraumeni (2001)

- Human potential
- The creation of new knowledge
- The transmission and use of knowledge
- The financing of innovation, output and markets

National statistics are widely used by individuals who have little knowledge of, nor little desire to have any knowledge of, the principles which underpin the data produced. They take it, as a matter of faith, that they are reading what they are reading, despite the fact that the measurement of, say, a country's GDP contains judgment calls and plenty of estimation techniques in its compilation, similar to a company's profits.

And yet GDP matters to markets – because markets think it matters. However, would market participants have a unanimous answer to the question, “what is the question to which the answer is GDP”?

National accounts, where successful, are sufficiently transparent, accurate, and timely so as to be used confidently in government and business planning. National accounts rely on sound, high-frequency source data, which must actually be collectible from the accounts or other records of the enterprises and institutional units in the economy. (Moulton, 2002)

In Europe national accounts are becoming increasingly and intrinsically linked with the key decisions that shape the formulation and implementation of EU policies. Data from national accounts have served as the main information input in the creation of Europe's Monetary Union, which is guided by the Maastricht criteria. GDP is a key output in determining budgetary contributions to the EU. To this extent national accounts and statistics play a determining role in selecting countries' fitness to join the club.

Given all these factors, we are confident that national statistics measurement is important, and that its significance stretches quite broadly across our lives. Doubts about its accuracy and adequacy are worrisome given their centrality in much decision-making, especially in Europe.

3. Macro-economic measurement systems – their purpose and underlying principles

In this next section we look at national statistical data's theoretical underpinning – in particular, what national accounts are intended to represent.

The objectives of national accounts – as found in the introduction to the SNA93:

“It (the SNA) provides a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision-taking and policy-making. The accounts themselves present in a condensed way a great mass of detailed information, organised according to economic principles and perceptions, about the working of an economy.”

In essence, this says that the SNA aims to give a systematic picture of the economic reality. However, as noted by a growing number of economists and statisticians, the SNA is providing a systematic picture of only *part* of the economy: many economic determinants lie outside the

scope of the SNA's production boundary. According to Griliches, it provides accuracy on the productivity of less than a third of the economy (Griliches, 1994). This prompted Duncan and Gross (1995) to point out the weakening or loss of relevance of the conceptual-methodological framework of the Statistical System's framework:

“As the 21st century approaches, it is increasingly clear that our current conceptual net, designed for earlier realities, fits our current situation only very imperfectly.”

The main reason for this apparent misalignment is that the crucial assumptions of national accounts – such as the choice of a nation as the main reference, the stable sectoral groupings and classifications, and the neglect of non-material trans-border flows - are grounded in a specific vision of the economy, one which has its roots in the agricultural and industrial economies of centuries past.

It postulates that the production of physical goods is the main source of value and does not include the productive process of knowledge, information, creation and design in the logic that comprises the “construction of current classifications, which have a strong industrial bias related to mass production, based on mechanical technology.” (Porcaro, 2002)

Part of the measurement problem may be attributable to the “reductionist” approach to rational enquiry, the development of which has been well traced in a recent article (Carrs, 2002). Descartes' principles of “rational analysis” have evolved into reductionism where the sum of the parts is regarded as no greater than the whole, and thus the whole can be described entirely by analysing the parts. This thought process is evident in Taylor and his Scientific Management methods, as well as in the Business Process Re-engineering trend of the 1980's. The base premise of these methodologies was that complex activities could be broken down into simple, comprehensible and measurable parts and that cause and effect are known and knowable.

This is the theoretical underpinning of the National Accounts. Since cause and effect are known, then a direct link to inputs and outputs can be established. And this worked well for the more inherently stable economy of the industrial era. Production could be defined by the SNA as the beginning of almost all economic activity and, therefore, also as the beginning of the analysis; and this production could then be seen to be utilised or consumed, and whose value added could be redistributed.

4. Macro-economic measurement systems – a way forward?

The relevance and usefulness of statistics depend on the underlying methods and concepts. Current economic statistics are mainly concerned with the *inputs* and *outputs* of the production unit. However, given the ongoing and gradual changes in today's economy, we should also be interested in the *throughputs* – the processes linking input to output.

Economic statistics should provide a clear picture of what broad changes are occurring in the economy and what factors are driving these changes. If the concepts, classifications and methods inherent in the SNA were appropriate to the contemporary economic landscape, it might be argued that no one would have been prompted to go looking for a new economy, “since its existence and impact would already be evident in the national accounts” (Edwards et al, 2002). Indeed, we would not be writing this paper nor finding data on intangibles so hard to come by if indeed the national accounts were truly representing the realities of the economy.

There are quite fundamental misalignments between today's national accounts' set-up and the realities of today's economic system. The next section will highlight *some* of the bigger issues which currently evade solutions. For the way forward, we are left with choosing between two courses on what to do next.

One school of thought argues that consistency and reliability are every bit as important as accuracy. This viewpoint argues that we have lengthy historic time series measured on a more or less common and consistent basis. Making fundamental changes to our data systems will render this data to the archives. Having learnt to pilot the ship with these controls, faulty as they may be, do we want to change?

The alternative school of thought – and the one to which we belong – argues that it is better to be approximately right than precisely wrong. The SNA actually presents itself as being a conceptual system in which economic theory and principles should take precedence. In general, difficulty of implementation is not accepted as sufficient reason for not doing something. The 1993 SNA itself stated that “the System is designed primarily for purposes of economic analysis and policy-making.”⁴ This suggests that perhaps too much emphasis is placed on the production of reliable data, forgetting that a lot of data that is already in the system is based on judgements and estimations.

Some argue that we cannot capture concepts such as knowledge as it has no natural unit – no countable stock. Whilst that may indeed be true, that is no reason not to try and explore more, to develop patterns of meaning, to develop indicators that help us observe knowledge accumulation and to learn more about their empirical meaning and relationship with other measures. Similarly with innovation. It can only be traced by developing indicators that identify the footprints left by its dependent processes, not the products. R&D expenditures or patent counts are very poor indicators of what innovation is about - namely, the integration, coordination and organisation of dispersed learning processes.

The lack of solutions does not make the problem disappear nor should it make us give up; on the contrary, it increases our accountability to recognise the gaps in our understanding and to increase our efforts to improve our “meagre and unsatisfactory” knowledge.

5. Macro-economic measurement systems – identifying some key issues

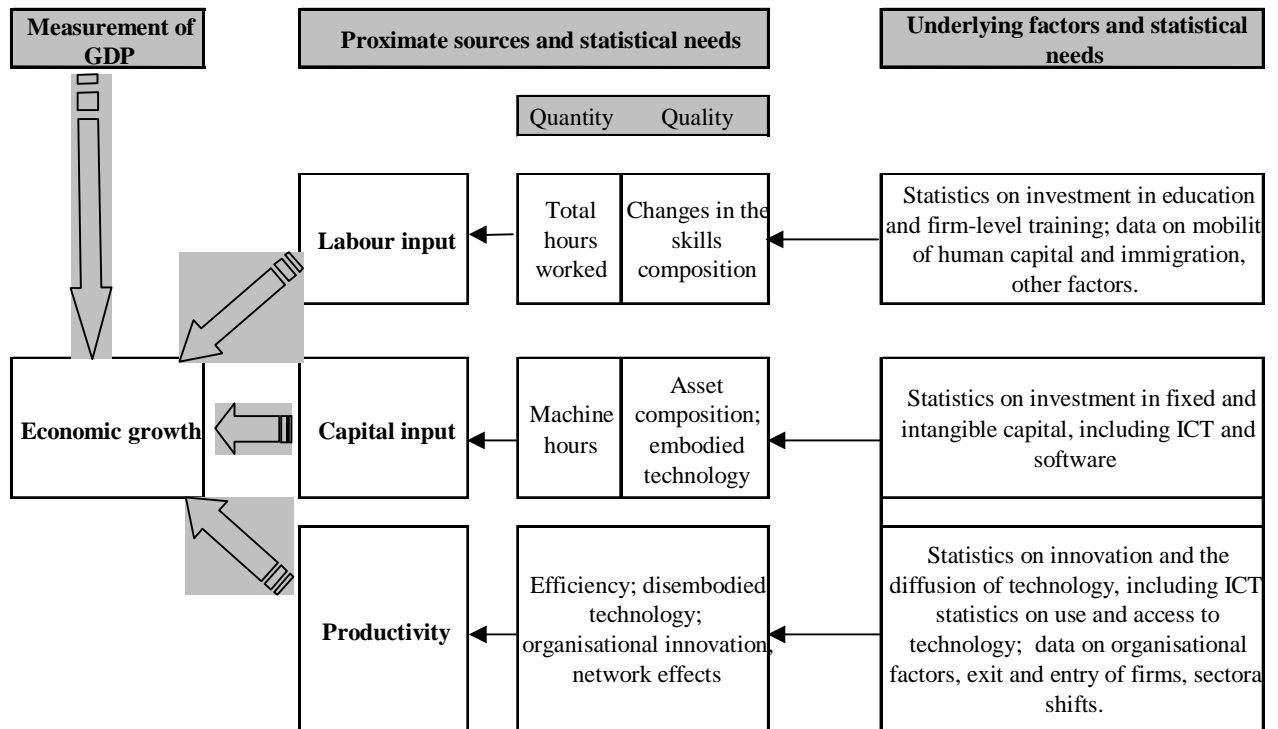
The OECD growth project drew on a wide range of statistics and indicators. In so doing, it drew up a map to plot the various information feeds to facilitate the analyst in trying to examine growth patterns. This is reproduced below. This map is perhaps too linear in its construction; as argued in another paper⁵, we do not see production, value creation and growth in quite such a linear, cause and effect, manner.

However, the map is useful in allowing us to highlight some of the main issues which need solving in the coming years. Many of these are well known but are worth re-iterating.

⁴ SNA 1.59

⁵ See “Intangible assets in the SNA: originals, innovation and human capital formation”

Analytical framework and statistics required to examine growth patterns



Source: OECD.

5.1 Services

The service sector started out as a residual category for those activities which could not be classified as either manufacturing or agriculture. In its 1991 survey of service business, INSEE acknowledged that it covers “heterogeneous activities, whose only common point is that they are neither industrial nor financial.”

This definition introduced heterogeneity from the outset which has only become more pronounced as the sector has gradually grown to become the dominant portion of western economies, representing more than 70% of output in most cases.

Hill (2000) traced the historical background of services in the economic literature. In doing so, it is clear to see how goods have become identified with material objects and services as immaterial products, a term first coined by Jean-Baptiste Say. It is also made clear in this paper how the concept of productive activity has become pervaded with the idea of a stock of material wealth. This has meant that flow concepts such as production or income have become subordinated to a stock concept, the end result of which has been that today’s taxonomy of goods and services is inadequate and inaccurate. Immaterial or intangibles goods are erroneously subsumed within the service sector.

We reason in another paper⁶ that there are four types of output from the production process. The first three of which might either be capital items (if they provide productive services for periods greater than one year) or they may be consumables. Services, by definition, are consumables.

⁶ See “Understanding today’s economy and its residuals”

Hence, it is plainly a mistake to describe the production of originals, for examples, as services, as described at length by Hill (2000).

Classification is just one challenge with services. Another is to measure GDP in constant prices, and to understand productivity in services. Traditional measures of productivity suggest that productivity in services has been declining, but a key input of “quality” is missing from our assessment of the input. There is some tentative evidence that ICT may have helped some service sectors, such as financial services and health, to improve productivity performance (Pilat, 2002).

A recent study by the US Bureau of Labor Statistics identified construction, insurance and health and, to a lesser extent, banking as those sectors in the US with persistent and significant negative multi-factor productivity (MFP) growth. Together with the finding that the high tech effects – both manufacture and use – are the dominant explanation for productivity growth in the 1990’s, a concern that the “measurement playing field” may not be level should be expressed.

Intricate means have been developed to make quality adjustments to high tech goods, but few means are available to make such adjustments to other service sector outputs. It is possible, therefore, that the contribution of the high tech sector is exaggerated, and the real outputs trends of the service sector are underestimated.

5.2 Classifications

The service sector highlights a wider problem with an approach that tries to reduce economic activity into a taxonomy of static and mutually exclusive and exhaustive classifications. One crucial aspect of the developments in the economy is that much of it is becoming cross-sectional – the structure and the borders of the existing system for classification of economic activities become less and less adequate.

The boundaries between industrial sectors, and even between goods and services, are blurry and change continuously. Typical activities are no longer characterised by uniformity but rather by inter-linkages with other activities.

And yet, the present classifications of economic activities, such as ISIC and NACE, are based on material production and take little account of services or immaterial products of today’s economy. They build on likeness in production and output.

New innovative ways of constructing the classifications are called for, perhaps classifications built on distribution, markets or purpose. Improved descriptions and definitions of products and especially service outputs are essential for understanding business processes and changes in the business structure, and how productivity and economic growth are impacted.

5.3 Measuring GDP and Capital Formation

Measuring GDP is clearly a major output of the SNA. Gross Domestic Product (GDP) is basically the total market value of all the goods and services produced in a given year by resident producers, for sale on the market or for their own use. The goods and services produced (plus imports) are used for purposes of either final consumption, investment or exports.

Two aspects are worth noting. First, GDP is trying to accurately reflect economically *productive* activities. Second, the system makes a fundamental distinction between consumption and investment. Consumption expenditures are split between final and intermediate. Final

consumption involves the consumption of goods purchased by, or for, the ultimate consumer or the end user. It is split into two components – that done by households, and non-profit institutions serving households, and that done by government. Such expenditures are treated as "final" because the goods and services acquired are used to satisfy the needs of consumers, either individually or collectively, and do not enter into further production. Intermediate consumption, on the other hand, involves the consumption of goods and services which are completely used or consumed in the production process.

Investment here refers to net acquisitions of fixed, not financial, assets and is therefore known as gross fixed capital formation (GFCF). It is treated separately from intermediate expenditure as the goods involved are not fully used up within the production process in an accounting period (i.e. within 1 year).

The current version of the SNA, the 1993 SNA, considers the following categories of fixed assets as constituting investment or GFCF:

1. New dwellings – excluding land
2. Other buildings and structures (mainly industrial and commercial buildings, and infrastructure (e.g. roads, hospitals, schools, etc.))
3. Transportation equipment (road vehicles, railway stock, ships and aircraft)
4. Plant and machinery
5. Costs associated with the transfer of ownership of non-produced assets
6. Intangible fixed assets

A major question with regard to GDP, in addition to the measurement problems at constant prices for services, is where to define the production boundary – in particular how to deal with intangible investments, such as R&D, which are made with the clear expectation of future benefits.

A second important question is how to incorporate and measure production for own account production, not for market sale. Again, using the example of R&D, the underlying processes of research and development have changed and no longer necessarily follow a cause and effect, laboratory-centric model. Statistics, however, have not really adjusted to this reality and work is ongoing to improve the methodology used to measure R&D expenditure.

5.4 Measuring Human Capital

The idea of human capital as a central pillar of growth and productivity is not new. While statistics on education are well developed, there are also some clear additional statistical needs. Formal education is an important part of human capital, but the skills and experience people attain after they have completed formal education may be equally, if not more, important. Little information is available on this point, although some work is ongoing to assess the distributions of skills by economic activity on the basis of occupational categories. These data have the advantage that they give insights in the actual functions and tasks being performed by individuals, irrespective of their educational attainment.

This indicates the importance of developing concepts and measurements related to competence and skills, not only for formal education and training, but also for experience, personal capability and performance, mobility of high-skilled professionals. This includes measurement of available skills, skills mismatch and skill gaps.

This issue was highlighted by the NewKInd final report – “one of the most important issues identified by this body of work is the problem of quality adjustment in the valuation of inputs.” (NewKInd, 2002) If one only counts the number of person hours of labour employed in modern economies, a significant fraction of labour’s contribution to growth in productivity and output will be forced into the “residual”, into Total Factor Productivity. This is because the skills of the labour force evolve significantly over time.

6. Closing Thoughts

This is a daunting problem. Our measurements systems, with the SNA at its heart, are inadequately aligned with the new-look economy and the one that will continue to develop in the 21st century. They are not telling us the full story of what we need to know about the economy, and all the while the proportion of “residuals” in macro-economic statistics – such as multi-factor productivity – continues to rise.

And whilst it would not be healthy to be panicked into a series of short-term fixes, it would be even worse to not recognise that real changes are ongoing and that the existing tools and systems we use for trying to track and understand these changes are unsatisfactory and are only going to become more so.

We need a truly long-term strategic plan to overhaul our accounting and statistical systems. This is as appropriate to business accounting standards as it is to the SNA. Indeed, ideally the two would be planned in unison given the extent to which national accountants rely on a data feed from companies. This long-term plan would not only include tackling some specific issues within the current set-up – as indeed we have done in the course of our work – but also undertaking a comprehensive appraisal of the measurement business as a whole.

In so doing one must be cognizant and realistic as to how quickly changes could actually happen. Such considerations place limits on the changes that may be considered, and in some cases it may be preferable to first of all develop new concepts through satellite accounts and supplementary reports rather than in the core accounts.

Notwithstanding, such a review could be looking at the problem from the following two perspectives:

6.1 Revisiting the conceptual foundations

Many of the changes which might be necessary cannot be easily captured through a series of simple extensions and revisions of the current framework. What might prove necessary is a closer examination of micro-economic processes, as opposed to a reliance on macro-economic aggregates.

Understanding knowledge-related inputs’ role in production and productivity may require an industry-specific approach. As the NewKInd project concluded, “the processes of transforming inputs related to knowledge creation, acquisition and use are both highly complex and appear to be industry-specific.” (NewKInd, 2002)

We may need a less rigid system if we are ever to truly be able to describe the economy and its evolution. By way of illustration, Gärdin (2002) cited three examples:

- The borders are blurring between working life and life outside work, between employee and self-employed as well as between producer and consumer.
- The measured economy is represented by paid and taxed hours of work. Unpaid hours of work and "black" work represent an equal or even larger part of the total economy.
- The increasing "connectedness" of households, as shown by readiness and intensity indicators, changes the interaction between the household sector and the business and government sector. An example is "Internet banking", where the "customer" produces the service – transfer between accounts, paying bills etc. – and the bank provides access to the information system for updating data bases.

6.2 Developing alternative views

If cause and effect are no longer known or knowable, analysts who pore over the economic data are likely to start to demand a range of statistical measures, knowing they can no longer rely on one single, "reductionist" data point such as GDP or productivity growth.

Recent OECD work on productivity provides an insight as to why combining data-points is more meaningful (Scarpetta et al, 2000; OECD 2001). In the 1990's, countries such as the US, Australia, Ireland and the Netherlands, improved both labour productivity *and* labour utilisation. In contrast, several European countries had stronger productivity growth, but low employment growth (particularly in the first half of the 1990's). This may have been achieved by a greater use of capital or by dismissing (or not employing) low-productivity workers. Such a finding shows why measures of labour productivity growth should not be examined in isolation. The experience of several European countries shows that it is feasible to increase labour productivity by means such as shedding labour or forcing reductions in the hours worked. However, such increases in labour productivity are not sustainable in the longer-term as they lower the employment rate and narrow the base on which growth can be built. Such an observation is only possible with a range of statistics.

This range might incorporate both financial and non-financial measures. Time use, for example, may prove to be an appropriate statistical and measurement technique to describe the integrated development of the economic, social and personal spheres. Change in time use patterns might reveal the essence of socio-economic development.

One way to achieve this, suggested Goldfinger, might be to develop a more open approach to other suppliers of economic data and statistics (Goldfinger, 1996). Official statistical agencies could go so far as to establish - or in some cases reinforce - working relationships, exchange data and develop joint projects with such suppliers.

Such an approach may mean that, rather than – as suggested above – completely overhauling the fundamentals of the current frameworks, the answer may lie in building additional frameworks and toolkits to help support the analysis. This, in turn, suggests there would need to be a parallel transformation in the skillset and mindsets of the analyst who has been trained in a reductionist world where, it is believed, that cause and effect is always knowable and there is one answer.

Whichever route might be chosen, it seems essential that the "stakeholders" of macroeconomic data are involved in the consultation/review process. On the one hand, this would be the myriad of analysts who rely on the National Accounts and other macroeconomic data systems as a key

input into their work. On the other hand, this would mean consultation with the suppliers of information – companies, for example.

The “holy grail” must surely lie with the enticing possibility that, many years into the 21st century, we might be able to develop a degree of seamlessness into the accounting, measurement and reporting frameworks utilised in different ways and from different perspectives at micro, meso and macro levels.

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