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Abstract

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The proposal to include labour accounts in the System of National Accounts from 2025 (UN, 2021) provides the opportunity for the economic statistics community to reflect not just on how to best take account of migration in economic data, but also to consider whether economic statistics has a voice which needs to be heard whilst the social statistics community discusses the definition of migration. In particular, is there merit in considering a wider alignment of definitions across both economic measures of labour and social measures of population?

Keywords: Migration, Labour-force, Demographics, Population, Employment

JEL Codes: C82, C83, E01, J11, J15, J21, J48, J61, J82

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Executive Summary

Official statistics come in many shapes and forms. Economic statistics are generally governed by the System of National Accounts (2008), whilst many social statistics are governed by separate manuals and guidance. As we move into a period where migration is increasingly important, alongside other population and demographic trends such as aging and urbanisation, the need to ensure national accounts and other economic measures reflect a modern understanding of these concepts is increasingly vital to ensure statistics remain relevant and reflect society as it is.

The proposal to include labour accounts in the System of National Accounts from 2025 (UN, 2021) provides the opportunity for the economic statistics community to reflect not just on how to best take account of migration in economic data, but also to consider whether economic statistics has a voice which needs to be heard whilst the social statistics community discusses the definition of migration. In particular, is there merit in considering a wider alignment of definitions across both economic measures of labour and social measures of population?

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¹ All Office for National Statistics. This paper is the work of the authors and not necessarily the views of the Office for National Statistics or the UK Government.

1. Migration and the National Accounts

Migration across the globe has become a more complicated picture since the Covid-19 pandemic. Countries were more likely to have international travel restrictions than school closures, restrictions on gatherings or stay at home measures. In the case of the United Kingdom (UK), the pandemic caused enormous volatility in the resident population, which the existing method of population projections (which rely on a stable, predicted growth rate) and weights used in social and economic surveys derived from these estimates were not designed to cope with. In the year to June 2020 UK net migration was 88,000, which rose to 504,000 in year to June 2022². In addition, there were an estimated 137,000 excess deaths in the UK between March 2020 and June 2022³. This has resulted in a substantial change in the structure of the UK's population.

The UK is not alone in this experience. Migrants make a huge contribution to economies across the globe. As of 2020 there were an estimated 281 million migrants who live outside the country they were born, comprising 3.6% of the world's population⁴. The scale of these numbers and their capacity to stimulate rapid changes in the population of a country highlight the importance of developing more frequent and timely information about this group and how it changes over time, which are reflected in the ongoing transformation of population statistics in many NSIs, including the UK's Office for National Statistics (ONS), to make use of more timely data from a range of sources including administrative, commercial, surveys and other sources.

Given this, it is imperative, at a time when the national accounts community are considering once-in-a-generation changes to its methods, that national accountants should be taking active account both of this phenomenon and the efforts of population statisticians and demographers to keep pace through changes to their methods and data sources.

National Accounts serve two functions: they present a view of the size and composition of the whole economy, and they present a way to perceive the change happening at the innovative frontier. Whilst one can simplify this to understanding stocks and flows, the nature of change in the accounts is of fundamental importance. Growth can occur either through the process of more output being generated by the factors of production within the production boundary, *or* it can occur by activity, or factors of production moving from outside the production boundary (and therefore out of scope of the national accounts), to moving within the production boundary and hence into scope.

Movements across the production boundary (and for capital assets the equivalent asset boundary) can make understanding economic growth inherently more complex. Given that in the UK, as with most other economies, labour inputs are the most important factor of production⁵ understanding how they change and adapt is vital to understanding whether more is being *produced* or simply more is being *counted*. As we observe with an aging population

² See ONS (2022b)

³ See ONS (2022c)

⁴ See UN DESA, (2021)

⁵ ONS (2022a) estimated that the UK's inclusive net worth, including productive assets, environmental assets, human capital, financial assets, and financial liabilities was £36.2 trillion in nominal prices in 2020. Environmental assets, as measured in the natural capital accounts, were worth £1.7 trillion, while human capital was worth £23.8 trillion or more than double the value of the traditional non-financial capital stock captured in the national accounts.

that unpaid work undertaken in the household is now nearly equivalent in value terms, when estimated in the UK Household Satellite Account, to GVA generated from paid employment in the private sector⁶ the importance of understanding how labour effort is deployed, how it moves across the production boundary, and how we should conceptualise and track its change are increasingly vital. As a commentator at a UK seminar on Beyond GDP⁷ recently articulated their perception of the national accounts excluding human capital:

“Trying to understand the UK economy without taking account of human capital is like trying to understand the Himalayas without taking account of the mountains.”

Of course, changes in the labour allocated to productive work within the national accounts is not merely a domestic issue: movements of inputs across national boundaries are equally as important as movements of goods and services in terms of international trade. A failure to account for either would fundamentally bias measures of productivity and gross value added. Migration, in so far as it characterises this movement of labour, has to be a primary consideration in ensuring economic statistics are meaningful and accurate. As we move into a period where migration is increasingly important, alongside other population and demographic trends such as aging and urbanisation, the need to ensure national accounts and other economic measures reflect a modern understanding of these concepts is increasingly vital to ensure statistics remain relevant and reflect society as it is.

Nevertheless, despite the centrality of this concept, it is not the case that there is universal agreement on how flows of labour between countries should be measured. The Office for National Statistics (ONS), for example, compiles social and economic statistics for the UK which have a perspective on population and migration. The current statistical guidance landscape requires us to produce data on three different bases:

- **Population statistics** defines a person as a usual resident at their permanent address where they spend most of their time. This usually has a residency requirement, or the intention to reside, for at least twelve months. This includes those who migrate into or out of the UK.
- **ILO labour statistics** also capture a domestic resident population, including those who work abroad, and excluding those who reside overseas and work in the domestic economy (e.g., those who cross the border between Northern Ireland and the Republic of Ireland)
- **National Accounts** requires labour statistics which align to the production boundary and therefore capture those who work in the domestic economy, that is excluding those who work abroad and including those workers who reside overseas (such as those living in the Republic of Ireland and working in the UK).

However, this landscape is changing. UN (2021) is a guidance note for the Systems of National Accounts 2025 which proposes the introduction of labour accounts into the national accounts. Whilst there is currently ambiguity on whether this new account will feature in the

⁶ See Bucknall, Christie, Heys, and Taylor (2021)

⁷ <https://www.betterstats.net/november-2022-conference/>

core sequence of economic accounts, or simply be a thematic satellite account, the question of how to achieve close consistency and alignment between ILO consistent and national accounts consistent data is clearly of key importance.

Many National Statistics Institutes (NSIs) will not have the resources to produce two sets of labour data on different bases and even if they are, previous experience in the UK suggests that users find such a model complex and challenging to interpret. Indeed, the availability of two labour series potentially showing different growth paths opens the door to less scrupulous politicians and commentators to ‘cherry-pick’ on a monthly basis whichever metric best fits the political narrative they wish to communicate. Runge and Hudson-Sharp (2020) identified that:

‘...large parts of the UK public have misperceptions about how economic figures, such as the unemployment and inflation rate, are collected and measured, and who they are produced and published by. This sometimes affected participants’ subsequent views of the perceived accuracy and reliability of economic statistics.’

Within this work they identified that labour statistics were viewed by the UK population with a particular dubiousness, driven by historic political decisions to change the definitions underpinning labour market measures, such as the employment rate, which led many to view that these data were subject to political interference rather than produced by the independent NSI. This was mildly exacerbated by the UK previously giving greater prominence to both national accounts and ILO consistent series. Today the UK headlines its ILO consistent measures and publishes its national accounts consistent series within its productivity publications, where they are generally only accessed by ‘expert users’.

Clearly, clear transition tables between the new national accounts labour account and the ILO metrics will be key to attempting to circumnavigate such issues, whilst as a community we will also need to carefully consider the public presentation of such data, including which measures to prioritise as headline measures for the public.

However, simply ensuring consistency between ILO and national accounts measures is insufficient in a world where the definition of migration within population statistics is also under review. The current debate around the definition of migration emerges from a UN review of conceptual frameworks and concepts and definitions on international migration in 2021. Where previously definitions were rigid about length of stay and who to include, the upcoming amendments (UN (2021a)) to the 1998 Recommendations on Statistics of International Migration support the need to align statistical institutes’ measurement of resident populations.

The opportunity to consider whether wider alignment is possible is clearly open to the economic statistics community at present. In particular, is there merit in considering a wider alignment of definitions across both economic measures of labour and social measures of population?

This paper will consider these questions as follows. Sections two to four of this paper will provide headline detail on how each measure is estimated. Section five will comment on the conceptual alignment, or lack thereof of these three measures and section six will present some of the challenges this presents, particularly around survey design and data collection,

the necessity of being able to access data from other countries whose residents work in the domestic economy, and make proposals for how countries can co-operate to resolve these.

2. Population Statistics – their definition and scope

Population statistics are essential in underpinning nearly all social and economic statistics. Accurate population counts are important in their own right for planning services and developing policies. Equally they form the basis, or the denominator, of detailed statistics from vaccine rollout to GDP per head and to the UN 2030 agenda for sustainable development.

International guidance on population statistics is governed by ‘UN Principles and Recommendations for Population and Housing Censuses’, 2017. They make clear the need to measure a “usually resident population” which requires a threshold of 12 months when considering place of usual residence according to one of the following two criteria:

- (a) The place at which the person has lived continuously for most of the last 12 months (that is, for at least six months and one day), not including temporary absences for holidays or work assignments, or intends to live for at least six months;
- (b) The place at which the person has lived continuously for at least the last 12 months, not including temporary absences for holidays or work assignments, or intends to live for at least 12 months.

Similarly, the UN Recommendations on Statistics of International Migration, 1998, records an international migrant as someone who changes their country of usual residence⁸ similarly suggesting a period of 12 months.

There is a reasonable argument for a ‘usual’ resident population. Having an accurate distribution of the population supports long-term planning, particularly in small geographic areas to avoid short term volatility. This is also important for projecting future population estimates and is crucial for producing high quality sampling frames for surveys which draw on population or households, such as the Labour Force Survey.

On the other hand, the rise of global mobility has changed the way countries need to provide services. A usual resident population doesn’t consider those who live in a country for shorter periods but still needs access to schools, hospitals and other public services, and might be engaged in meaningful employment. The Final Report on Conceptual frameworks and Concepts and Definitions on International Migration, April 2021, calls on a need for a “present population” comprised of both the resident population and a temporary population component. The temporary population can make a significant contribution to both the economy and society and attributing this contribution to the usually resident population (often the denominator) misrepresents the reality.

A final question is whether data can meet the challenge of alternative population bases. Historical estimates of long-term international migration in the UK using the International Passenger Survey measured a person’s *intention at the point of arrival* rather than *actual*

⁸ See paragraph 32 in particular.

observed migration. ONS (2019) presents evidence people can change their intentions after entering or leaving the port facilities (both air and sea) where the survey takes place. Administrative data allows for the measurement of actual observed migrations. There are limitations with this too, however. For example, electoral roll data can provide insights on those populations who have a right to vote in certain elections (in the UK this eligibility can vary across local and national elections) given the caveat that registration is voluntary and so only those who apply to vote are captured, resulting in obvious biases (see, for example, de Coulon et al (2020)). Similarly accounting for a shorter period of migration using methods of “interactions” with administrative data risks wider reasons other than migration being the cause for why such interactions may stop, presenting an obvious potential bias.

However, the risks are greater with the continuation of an intentions-based survey which would fail to properly address the changes to migration behaviours following the recent shocks of the pandemic and exiting the EU. Using administrative data will allow for quick changes to policy that may affect migration. Given travellers intentions may subsequently change, their behaviour in the administrative data will generally capture this.

3. International Labour Organisation employment statistics – their definition and scope

The number of people in employment in the UK is estimated in line with international standards and definitions laid down by the International Labour Organisation (ILO). This measure consists of people aged 16 years and over who did one hour or more of paid work per week plus those who had a job that they were temporarily away from (for example, because they were on holiday or off sick).

The measure of employment, and related measures of unemployment and inactivity, alongside estimates of jobs are measured in line with many other developed economies, through a sample survey of households labelled the Labour Force Survey (LFS). The LFS adheres to international standards and can be readily compared with equivalent surveys in other countries. The LFS is dependent on UK population statistics through the population weights which are applied to its sample which are derived from the decennial census of population undertaken in every year concluding with a 1. This dataset has been collected in the UK continuously save the Second World War since 1841. This measure consists of people aged 16 years and over who did one hour or more of paid work per week and those who had a job that they were temporarily away from (for example, because they were on holiday or off sick).

The International Labour Organisation (ILO) defines migrant workers (ILO (2018)) as someone in employment who has changed their country of usual residence. The information can be measured in two ways by looking at the recorded nationality or country of birth.

The main source for measuring migrant workers is through labour force surveys of households. However, there are some measurement issues to be considered when the data is confronted with national accounts data:

- Labour force surveys often exclude communal establishments, and so will miss some migrant workers. Communal settings, such as barracks and hospitals can obviously also capture domestic workers, but there is evidence that migrant workers can be

disproportionately represented in certain types of households in rented and multiple occupation. As a result of the coronavirus (COVID-19) pandemic, the contact method for the LFS had to change from face-to-face interviewing to telephone-based. This change had an impact on the non-response bias of the survey, particularly for housing tenure with lower response rate for rented accommodations. This impacted on the estimates of non-UK born residents, who are more likely to live in rented accommodations. ONS (2020) explains how this was mitigated through adding a housing tenure variable into the LFS weighting methodology.

- Looking just at people in usual residence will miss those employed who have been in the country for fewer than six months. This can particularly affect those in seasonal employment. In the UK, there exists colloquial and media evidence that this can be disproportionately biased towards certain industrial sectors, such as agriculture, and sometimes particular sectors in particular geographies⁹.
- Household surveys can pick up people who are resident in one country but work in another. (This could be due to commuting across a border or working remotely.) Clearly this can cause ILO labour metrics to come out of alignment with the national accounts production boundary which focuses on domestic production and the inputs which feed into this.
- People can change their nationality, both whilst abroad and whilst resident in the domestic economy.
- Finally, there can be significant differences between an individual self-reporting their sector of employment and the industry which they would align to within the national accounts. A simple example is a van driver who works for a chain of shops. Whilst they may self-identify as being in the logistics industry their employer would be categorised within the retail sector. This challenge is addressed in the next section.

4. National Accounts consistent labour statistics – their definition and scope

Chapter 19, ‘Population and Labour Inputs’ of the present System of National Accounts (UN (2008))¹⁰, provides the definitions of relevance to this paper. It defines the population in general terms¹¹ as *‘all those persons who are usually resident in the country.... that is persons are resident in the country where they have the strongest links thereby establishing a centre of predominant economic interest. Generally, the criterion would be based on their country of residence for one year or more.’* This clearly is a definition with a direct antecedent in those used in population statistics, Para 19.11 caveats this by noting two particular groups– *‘usual residents who are living abroad for less than one year are included in the population but foreign visitors (for example, holidaymakers) who are in the country for less than one year are excluded from the measured population’*. Clearly the first group are an erroneous inclusion from the perspective of alignment to the production boundary if their employment is not captured within the domestic economy, whereas the second group is correctly excluded from a production perspective but are clearly of importance in terms of tourism and trade statistics.

The SNA also outlines how the national accounts uses labour estimates:

⁹ See, for example: <https://www.bbc.co.uk/news/uk-politics-eu-referendum-36258541>

¹⁰ The Balance of Payments Manual aligns on the following definitions

¹¹ Para 19.10

*19.5 Clearly, if a ratio is to be formed between measures of output and labour input, the concept of labour used must match the coverage of production in the SNA. The relevant standards ... confirms that the **economically active population is defined in terms of individuals willing to supply labour to undertake an activity included in the SNA production boundary.**¹²*

19.6 Not everyone who is economically active works for a resident institutional unit. It is therefore particularly important that the concept of residence underlying the population estimates be consistent with that for labour force estimates and that the residence of individuals included in employment estimates are consistent with the criterion of resident institutional unit in the SNA.

How to tackle the question of those who are in active employment with less than twelve months residency is addressed as follows:

19.18 Because the labour force is defined with reference to a short period¹³, the number of persons in the labour force at any time may be smaller than the economically active population. For example, seasonal workers may be included in the economically active population but not in the labour force at certain times of year.

As such, National Accounts looks to capture all labour involved in production, irrespective of length of tenure in the domestic economy, whilst also trying to align on the fundamental definition of the population for GDP per head type metrics.

The exact practice which countries use to calculate the national accounts consistent data can vary, as mapped by Ward et al (2018):

'In most countries, labour force surveys (LFS) form a primary source of information for employment related statistics, such as persons employed, employees and hours worked. However, because the coverage of LFS does not fully align with the coverage of activities used to estimate GDP, additional adjustments relying on complementary sources, such as administrative or business statistics, are often applied to bridge conceptual differences, and in many countries, the use of these sources is often preferred to LFS data. Evidence from the 2018 OECD/Eurostat national accounts labour input survey shows that the adjustments made to align measures of labour input with the corresponding measures of production according to the domestic concept, vary considerably across countries, with many countries making no adjustments, in particular, for the measurement of hours worked.'

In essence countries can use several alternative methods to source the required data:

- Household surveys, such as the Labour Force Surveys
- Other surveys of employment, generally business surveys. In the UK these include:
 - The Annual Survey of Hours and Earnings (ASHE), carried out in April each year, is the most comprehensive source of information on the structure and distribution of earnings in the UK. ASHE provides information about the

¹² Bold text as contained in UN (2008). It should be noted that paras 19.17, 19.19 and 19.20 all replicate some version of this definition from slightly different perspectives,

¹³ Noted as 'usually a week' in para 19.17

levels, distribution and make-up of earnings and paid hours worked for employees in all industries and occupations¹⁴.

- The Short-Term Employment Surveys (STES). STES is a group of surveys that collect employment and turnover information from private sector businesses. In December of each year, the jobs estimates are "benchmarked" to the latest estimates from the Business Register and Employment Survey (BRES).
- the Business Register and Employment Survey (BRES) captures employee and employment estimates at detailed geographical and industrial levels and is regarded as the official source of employee and employment estimates by detailed geography and industry.¹⁵
- Administrative sources
 - Real-Time Pay-As-You-Earn (PAYE RTI) Tax administrative data provides a count of workers on employer payrolls that feed information into the tax system. This covers the vast majority of employees and can provide counts and earnings information by geographical area and can be matched with data that provide nationality information.
 - Other tax and benefits administrative data, for example from Self-Assessment tax returns, can provide a count of self-employed workers that feed information into the tax system, similarly to PAYE RTI.

As Ward et al note specific adjustments are generally required to be made to a) achieve conceptual alignment with the production boundary and b) address known biases in the data, in a fashion tailored to the limitations of the particular data source used.

4.1. Conceptual Adjustments

Broadly four types of conceptual adjustment are required to align with national accounts requirements if one begins with household survey data, such as the LFS:

- Territoriality – the issues of cross-border work have to be adjusted for in a household survey, whereas a business survey, which only covers domestic businesses does not face the same biases.
- Seasonal work adjustments where the population weights which are used to derive whole economy estimates are generated from a population estimate which fails to take account of short-term economic migration, which we have already observed is of more significance in particular industries. As with the other issues described in this section, the effect here is to bias the geographical or industrial distribution of potentially both estimates of output and productivity.
- Alignment with industry groupings. As Ward et al describe the challenge – *‘industry coding is often conducted on the basis of information given by the respondent about the type of product, service or function provided by his/her place of work, which may not align with the industry coding of that firm in the business register, and hence national accounts (although in some countries this alignment is improved by*

¹⁴ For more detail see

<https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/annualsurveyofhoursandearningsash>

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¹⁵ For more detail see

<https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey>

matching respondents information, such as the name and address of the firm with equivalent information on the business register). In the UK, LFS data is re-weighted using the STES to address this distributional issue, which would otherwise serve to bias measures of productivity derived from the national accounts.

- Coverage – Ward et al (2018) note that *'the LFS does not cover some groups of the population such as persons below or above certain age thresholds (which varies by country), those living and working in communal establishments (such as prisons or long-term care facilities), collective households (such as religious institutions) and the armed forces, all of whose output is included, at least in theory, in estimates of GDP.'*

When administrative data or business surveys are used, alternative adjustments are required. This is specifically to convert the number of hours worked from usual or contracted hours to actual hours worked. This can be sufficient to bias productivity estimates directly or, if FTE numbers of staff in particular occupation classifications are used to derived estimates of output for particular products or assets (see for example own-account software and database assets), through biasing both the numerator and the denominator in productivity calculations.

4.2. Bias Adjustments

Of more general concern are the issues relating to LFS biases, specifically those which affect measures of actual hours worked. As Ward et al (2018) identify these can be significant, either due to cultural issues of deliberate mis-reporting (certain professions / societies over-report hours as an issue of personal pride), error (where self-declared actual hours cannot be replicated from self-declared 'usual hours' plus over-times minus absences of all types), or methods issues (rolling forward hours worked for survey respondents who are absent for a month who may be on leave can lead to over-estimation of key variables. These biases can all be expected to be relatively consistent through time.

Other biases which may be inconsistent through time result from periods of relatively high (or low) immigration or emigration of labour, specifically during the period up to twelve months of residency point where such individuals start to be included in population measures and hence LFS weights. In addition, survey weights, which often use projections, can be subject to time lags: changes in migration patterns can take a number of years to be reflected in survey weights. The UK method for adjusting weights in the Labour Force Survey, for example, requires updated annual population estimates, followed by biennial population projections, and finally new survey weights.

Administrative or business surveys of employment are less likely to suffer from such issues as it can be relatively safely assumed the survey respondent will be doing so from a staff list or wage report, and are unlikely to differentiate in their report between those who have met the twelve-month residency threshold.

5. Conceptual Alignment

As can be seen above, the two key issues relating to migration, taken at its widest to mean any movement of labour across borders, and those captured within the measurement of the economy are: a) around those in paid employment with fewer than twelve months tenure, and

b) those who work in the domestic economy and live overseas or vice versa, as demonstrated in the following table:

Table One: Conceptual alignment of the three metrics

| | Those living overseas and working in the domestic economy¹⁶ | Those working in the domestic economy, but fewer than twelve months residency | Those working in the domestic economy, and more than twelve months residency |
|------------------------------|---|---|---|
| Population Statistics | Excluded | Excluded | Included |
| ILO Labour Measures | Excluded | Included conceptually, but excluded in the weights as these come from population statistics | Included |
| National Accounts | Included | Included conceptually, but excluded in the weights as these come from population statistics | Included |

Being able to have the clarity on where these differences lie allow us to then consider where these may lead to our metrics behaving differently as patterns of migration change. This aspect of change is vital to consider, as with many economic statistics this can wash through to different challenges in terms of levels and growth rates:

- In normal times, if rates of migration or cross-border working remain relatively consistent across time periods then the growth rates should not be significantly biased, although the stock level may be more subject to bias.
- However, in circumstances when migration trends change this can result in three problems:
 - Faster growth in net migration, where these individuals are allowed to work, will result in national accounts capturing faster GVA growth in the first year whilst *not* observing labour inputs growth. This results in accelerated growth in GDP per head and labour productivity measures.
 - Wider discrepancies in dis-aggregations, both of industry and geography if migration relatively greater affects some industries and regions than others, which can distort the appearance of where the drivers of growth can be observed.
 - If migration also has a greater or lesser impact than average on particular occupation classifications which are used for cost of production type estimates, such as for intangible capital investment (e.g., software and databases) this could distort perceptions of investment rates and again the drivers of growth in the national accounts.
 - The impact will also be dependent on the relative size of the sector of the economy.

¹⁶ Those living domestically and working overseas are obviously included in Population Statistics and ILO measures, but excluded from National Accounts

6. A Simple example of potential impact

It is possible to illustrate the impact of these challenges using the agricultural industry, which is one of those who are relatively intense users of migrant labour for short-term, often seasonal roles, particularly during the harvest season in late summer / early autumn. If one was to incorporate these seasonal workers in population estimates the following impacts could be observed:

- The population weights for this industry would be increased in the Labour Force Survey.
- Seasonal statistical adjustments applied to the Labour Force Survey would be applied. This would have the effect of spreading this workforce throughout the year. Overall number of workers and hours worked would however be affected
- National Accounts data on gross value added would remain unchanged, but where this is already seasonally adjusted the relationship over the year between employment should improve in accuracy. Growth rates should be relatively unaffected.
- Labour productivity measures which conflict gross value-added and measures of hours worked or workers would fall recognising the increase in the total number of employees and hours worked, more accurately capturing the true position. The present model where the same output is shared amongst the resident workforce naturally exaggerates their productivity levels, although again, if the number of seasonal workers remains constant over the years, annual growth rates will be relatively unaffected.

7. Conclusions

Whatever the issues affecting economic measurement, it is important to be aware that this is not a conversation which occurs in isolation of wider challenges. Waiting twelve months to confirm usual residency, in addition to collecting and processing data, creates an inevitable time lag, which reduces the timeliness of population and migration statistics. This is an issue of increased salience for many statistical systems and political debate, and clearly has the ability to impact economic statistics.

The issues around the conceptual alignment between the three treatments described above indicate clearly that economic measures can be differentially affected both when migration patterns change, but could also shift if one or more of the three definitions of population and migration statistics methods are revised. This leads us to twin questions: 1) whether these conceptual differences aide or hinder the production of statistics and their improvement, and 2) if it does aide, are new data sources or methods available to permit us to consider viable alternatives?

In a fast moving, modern, digital economy, where data is becoming more readily available in ever-increasing quantities, the prospect of moving to a system where issues of population and migration do not need to wait for the twelve-month threshold, and can be measured within a shorter period obviously present themselves as increasingly feasible options. Where these may better align to user need, whether this concerns students, seasonal workers, cross-border workers or other groups, or may reduce mis-alignment between measures this should clearly be explored in greater depth to ensure we reach an end-state which is optimal for all users of these data. Noting any revised definition of migration would need to meet the needs of a variety of population and migration statistics and above all be coherent between stocks and flows, it would also be the case that economic measurement would need to consider the

potential for any such change to impact key measures of GVA, investment, GDP per head and productivity measures, as well as human capital and education satellite accounts.

As national statistics institutes continue to improve on the timeliness and quality of their population statistics, many looking to replace a decennial census, now is the opportunity to ensure the entire statistical system benefits from this. Users may no longer have the appetite to tolerate a large time lag in estimating a usual resident population that doesn't reflect the entire population who still contribute to the economy and society.

To move this debate forward, it is clearly vital to understand the current debate within population statistics. The agenda at the 54th UNSC (see UN (2023a)) will consider the role of temporary mobility and its importance to economy and society. Having greater recognition and clear conceptual framework of this group enables wider possibilities of how international statistical institutes integrate these into future economic and social statistics. Much like the System of National Accounts, a new System of Population and Social Accounts/Statistics could give greater clarity to definitions and their use. In addition, the recent creation of a Friends of Chair Social and Demographic Statistics (see, UN (2023b)) can help accelerate progress on horizontal integration across social, economic, and environmental statistics - and closer alignment.

However, even once we understand this debate, the next step has to be for the economic measurement community to consider how far do we want to align economic measures, how we wish to use population statistics in the future and whether wider alignment would allow users to transition across these datasets in a way which is more intelligible to the general public and relates better to their lived experience.

The current debate around including Labour Accounts into the updated SNA 2025 is the perfect opportunity to consider these points and to reflect on whether as a community we have sufficiently tackled this vital question. However, the draft annotated chapter outline circulated in December 2022 on Labour Accounts, did not mention the word 'migration', despite for many users and members of the public migration is a fundamental economic question, in terms of the impact on labour markets, but also their wider net contribution to society, if only through taxes and use of public services. Ensuring we tackle this question means we need to consider three fundamental questions:

- Does our reliance on population statistics on a different basis affect the validity of our data?
- Does our current data reflect real experience if we exclude migrants with fewer than twelve month's residence?
- How should we consider inflows and outflows of human capital / education output, if we wish to consider the issue from a stocks perspective?

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