

Developing Household Social Accounts in Ireland

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Abstract

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In common with other statistical institutes, the Central Statistics Office (CSO) is examining ways of leveraging the Irish statistical infrastructure to respond to the Stiglitz-Sen-Fitoussi report on 'Measurement of Economic Performance and Social Progress'. Irish GDP is currently based on independent estimates using the income and expenditure methods, and reliance on administrative data for the income method may prove to be a strength in relation to the Stiglitz agenda. Transmission of incomes from corporates to households in the 'allocation of primary income account' is a by-product of the Irish administrative system at microdata level. There are some weaknesses in the available administrative data in relation to household identification, but there are also cross-Government strategic data initiatives in place to potentially resolve these issues. Much of the analysis in this paper is a proposal to build microdata-based Personal Consumption Expenditure (PCE) estimates based on HBS expenditure data to facilitate granularity on both the uses and resources sides of the household sector. While many of the additional consumption data items to HBS expenditures are both uses and resources of households, or otherwise cancel each other out in savings calculations, there is merit in having accurate separate income and consumption profiles as risk groups appear to be different based on an initial analysis of these profiles.

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1. Introduction

In common with other statistical institutes, the Central Statistics Office (CSO) is examining ways of leveraging the Irish statistical infrastructure to respond to the Stiglitz-Sen-Fitoussi report on 'Measurement of Economic Performance and Social Progress'. Irish GDP is based on independent estimates using the income and expenditure methods, which is unusual by international standards¹. The income measure is based mostly on administrative data from the national tax authority, which is a historical legacy of limited sectoral coverage of structural business statistics in the 1970's and 1980's. Reliance on administrative data may prove to be a strength in relation to the Stiglitz agenda as transmission of incomes from corporates to households in the 'allocation of primary income account' is a by-product of the administrative system at microdata level. This paper (i) sets out developments in CSO and in the Irish 'National Data Infrastructure' that will facilitate more detailed analysis of the household sector in the coming years and (ii) our preparatory work for microdata based Personal Consumption Expenditure (PCE) estimates based mainly on 2009/10 Household Budget Survey (HBS) data.

2. The National Data Infrastructure and household sector data pilot

Gaining more value from administrative data is a key strategic concern of the oversight body for CSO – the National Statistics Board (NSB) – and this is reflected in its most recent policy statements on the 'National Data Infrastructure' (references in section 7). The NSB strategy is based on implementation of three key identifiers to facilitate linking of persons, businesses and locations across administrative datasets. This approach was originally set out in MacFeely and Dunne (2014). The 'person' and 'business' identifiers are well developed in Ireland, at least in relation to economic data on incomes and social transfers, but location data has traditionally been a weakness. While location data is not necessary for the core national accounts², data linking individuals at household level is central to the compilation of household accounts. The tax and welfare system in Ireland is becoming increasingly individualised, and thus household level data are not always consistent in the tax or welfare system. However, a national system of postcodes

¹ The CSO is required to produce an output based measure of GDP as part of the core National Accounts from reference year 2015 by the end of September 2017

² It would improve the accuracy of inter-regional flows in the regional accounts

 - 'Eircodes' – is being implemented at present which should be the missing link in terms of location data and will also potentially link individuals to unique household addresses.
 When fully implemented in tax and welfare administrative data holdings/collections, the NSB strategy will be largely delivered in terms of data requirements for household accounts.

In tandem with administrative data developments, CSO is redeveloping its in-house macroeconomic and household survey infrastructure in a multi year programme of work. For macroeconomic statistics, an IT system is being developed to underpin the national accounts business and estimation processes. The new system has the capability to process large volumes of administrative and survey data, and the first phase of the project included development of an 'enterprise file' with comprehensive matched survey and administrative data relating to the non-financial corporations (NFC) sector. The file integrates information from corporate taxation, income tax, structural business surveys and various national accounts processes in a systematic and rigorous business process that delivered the main aggregates for NFC's in the income and expenditure methods this year. 'Phase two' of the IT system development will include meeting the needs of the supply and use tables, the sector accounts and the output method in an integrated system and process. It is also proposed, on a satellite/pilot basis, to start work on a 'households file' which will hold the additional data needed for household accounts. The data includes;

1. Household identifiers – Eircodes should eventually be the basis and implementation in administrative data systems will be assessed in 2016

2. Personal identifiers with work incomes also rolling up to enterprise identifiers (already available from the tax system) and location/households rolling up to Eircodes

3. Data on taxes and transfers for personal identifiers (already available) also rolling up to Eircodes for household identification

4. Household consumption data; a more regular HBS (currently 5 year intervals) is being implemented as part of the household survey re-development. C. 88% of the most recent survey data for 2015 were returned with accurate personal identifiers that link to administrative data holdings. Consumption profiles can be expanded on a

representative basis for non-surveyed households, with the methodology to be confirmed in the pilot project.

The pilot household social accounts project will use data from the current HBS and national administrative data for 2015, which will be available on a similar timeline to the HBS data. Social welfare data is available more or less immediately, while income tax data for 2015 will become more complete over the course of 2016. The possible weak link remains Eircode implementation, as it will need to be collected in administrative processes to ensure that it is up to date and comprehensive in the source economic microdata. This pilot will hopefully provide useful data for research purposes, but will also inform a more robust IT/process development at a later stage when results from the more regular HBS are becoming available.

Possible uses for the household accounts data will need to be examined in conjunction with experts in the third level and government sectors. It is clear that there will be some value in having disaggregations by income level for the methodologically consistent data for corporates and households in the ESA framework. Some suggested applications are –

1. Household savings by quantile of household incomes - already available for many countries, including participants in the OECD Expert Group on Disparities in a National Accounts Framework , but possibly not widely available at microdata level.

2. Estimation of the impact of social transfers on demand levels – disaggregation of incomes, taxes, transfers and product consumption on a microdata basis should facilitate useful analysis by researchers. In conjunction with the annual Supply and Use analysis of domestic supply, wider economic effects could also be considered.

CSO will develop the data infrastructure (initially on a pilot basis) and will then consult with experts on a partnership basis in relation to useful analysis, and this approach is already working well for various administrative data projects. Until the 2015 data flows are in place, we are focussing on estimating PCE aggregates in as much detail as possible based on HBS microdata. While many of the missing consumption data items in HBS are both uses and resources of households, or otherwise cancel each other out in savings calculations, there is merit in having accurate separate income and consumption profiles as risk groups appear to be different based on both resource measures.

3. Literature review for consumption estimation and risk group analysis

Research on the relationship between income and consumption dates back to the development of the Permanent Income and Life Cycle Hypotheses in the 1950's and 1960's, and the subsequent empirical analysis was initially based on the US Consumer Expenditure (CE) survey in the 1980's and early 1990's. Poterba (1991) responded to US analysis at the time of publication that the gasoline tax was regressive based on the percentage of income spent on gasoline for low vs high income households. He argued that annual expenditures were a much better basis for household well-being than income, since income was inherently unstable and often transitory. This proposition is also well supported by economic theory on the life cycle and permanent income. Lowexpenditure households devote a smaller share of their budget than their counterparts in the middle of the distribution, and gasoline's budget share is generally much more stable across the population than the ratio of gasoline outlays to income. His analysis was based on CE survey data from 1985. In addition to gasoline shares of the different resource measures he also examined the joint distribution of income and expenditure and found a strong correlation at the top and bottom of each distribution, which is not borne out in subsequent research. Cutler and Katz (1992) extended the Poterba analysis of CE expenditure data to measure economic consumption. Using expenditure as a base, they excluded contributions to social insurance, replaced spending on owner occupied houses with rental values, replaced spending on new vehicles with a consumption equivalent from the vehicle stock and excluded cash contributions to non-household members. They equivalised their consumption and income³ measures as this was essential for consistent time series analysis over three time points - 1980, 1984 and 1988. They found that the elderly were poorer in 1988 based on income vs. consumption, but otherwise the percentage of population groups in income or consumption poverty was broadly similar in each year.

O'Neill and Sweetman (2001) decomposed Irish inequality based on both expenditure and income from the 1997 and 1994 HBS cohort microdata. They compared the income and expenditure distributions in 1987 and 1994 based on kernel density estimates. Both distributions moved to the right between 1987 and 1994 in line with the increase in average income, and otherwise the distributions did not change significantly. Poor

³ Incomes were from the US Current Population Survey - CPS

households (bottom decile of income and expenditure) were examined by economic status of head of household and three main conclusions were drawn; (i) long term unemployed account for the largest share of income/consumption poor in both years, (ii) farmers are overrepresented by the income measure and underrepresented by the consumption measure, which was related to the life cycle hypothesis and (iii) the opposite applies for retired and home duties households, which was related to UK research on older peoples' savings rates and Irish research on in-kind transfers.

Meyer and Sullivan (2009) examined income and consumption data from the US CPS and CE surveys respectively, similarly to Cutler and Katz. They produced a comprehensive analysis of poverty based on various resource measures, in addition to a critique of the official US poverty measure⁴. They constructed consumption based poverty measures which include significant improvements over earlier studies; they (i) used detailed housing characteristics to calculate housing consumption for public/subsidised housing and replaced housing costs for owner occupiers with a rental equivalent, (ii) measured flow value of vehicles to calculate related consumption more accurately and (iii) imputed values for public and private health insurance. They compared data from the CE survey to PCE in the national accounts to address concerns about under-reporting of consumption⁵. Then they examined various income and consumption series for 1960-2005, including analysis of alternative measures to the official standard (poverty based on different thresholds, poverty gaps and relative poverty), for a range of family types. They gave potential explanations for changes in poverty over time, including divergences in income and consumption poverty. The two most plausible explanations for differences are measurement error and saving or dissaving. The most interesting findings for risk groups were that family type, employment, race and religion have little impact on poverty rates, while education has a large poverty reduction effect for consumption but not income. This is explained by the strong relationship between consumption poverty and permanent income.

Brewer and O'Dea (2012) were influenced by the work of Meyer and Sullivan but also included a number of extensions. They examined in detail the reliability of consumption

⁴ Which compares the pre-tax money income of a family to predetermined poverty thresholds based on minimum family budgets appropriate to family size and composition. The threshold is adjusted for inflation ⁵ This is mainly used to inform a measure of 'core consumption' rather than corrections for the various items that are underreported vs PCE – these 'core consumption' items are well covered for low income groups

vs income for measuring UK living standards (Households Below Average Incomes – HBAI - for incomes and the Living Costs and Food Survey for consumption), and also produced evidence that spending reported by low spenders is more accurately reported than for high spenders. They went on to analyse inequality and poverty based on income, income before housing costs, consumption⁶ and 'broad income⁷⁷. Outcomes for pensioners were different for different resource measures; poverty rates under the broad income measure are particularly low. Brewer and O'Dea then focussed on the bottom decile across the different resource measures and found that working age shares have increased on all measures while pensioners have decreased. Pensioners have a higher share based on consumption compared to income which reflects high savings rates, i.e. pensioners have lower consumption than income.

4. Data used for building microdata based consumption estimates

The anonymised HBS datasets lodged with the Irish Social Sciences Data Archive (ISSDA) for the survey years 2004-5 and 2009-2010 are used for this analysis. HBS data can be used to analyse trends in inequality and poverty in Ireland as it includes detailed income information which is highly consistent with reported SILC data in the same survey years. Household incomes, expenditure and consumption are equivalised in this analysis based on the National equivalence scale used in ESRI/CSO analysis of incomes, which assigns a weight of 1 for the first adult, 0.66 for the second adult and 0.33 for children aged 14 and under⁸.

There are two supplementary sources (National Accounts and Census of Population) used in this paper to replicate the Meyer and Sullivan/Brewer and O'Dea analysis of consumption in addition to the expenditure and incomes data already available in the HBS. Both MS/BoD compare expenditure from the US/UK versions of HBS with PCE estimates from the National Accounts at commodity level, with a focus on accurate representation of consumption at the lower end of the distribution. Housing ('imputed

⁶ This includes adjustments for housing consumption (imputed rent) and vehicles using a similar methodology to Meyer and Sullivan. The base for consumption is cash outlays less spending on vehicles and housing. Otherwise, expenditure on other durables equals consumption.

⁷ This includes the two consumption items mentioned above. It also excludes payments to students from the student loans company

⁸ There are a large number of possible equivalence scales; Callan et al (1996) argue that analysis of poverty over time is not sensitive to the choice of scale. They also say that there is a strong case for using the person as the unit of analysis rather than the household, mainly for accurate presentation of incidence by population subgroups – that is not in scope for this paper and thus equivalised household income/expenditure is the unit used.

rents') and free medical services are also obvious differences in the Irish comparison, and this a methodological issue common to most countries. As with the US and UK, the adjustments for these items are particularly concentrated in lower income deciles either due to policy design (for medical services and social housing) or life-cycle income patterns. MS/BoD made an adjustment for vehicles based on economic theory which is also applied here. There is consistent underreporting of alcohol and tobacco in the Irish HBS vs PCE estimates⁹ which does not appear to be an issue in the US/UK analysis – though as it is not a theoretical issue it may not have been a concern. An additional adjustment is included here in the consumption measure of resources to represent PCE expenditures. Finally, there are many smaller methodological items which result in undercoverage of 'Miscellaneous Goods and Services' (COICOP divisions 08-13 in table 1 below) using HBS expenditure as a consumption estimate. These items include the adjustment for investment income as insurance consumption for households, State support for student fees and various other Social Transfers in Kind (STiKs). These differences are either not large enough individually or widely distributed enough to consider as specific adjustments in this paper.

Product	group	HBS 2005	PCE 2005	HBS 2010	PCE 2010
1	Food (including meals out)	€142.74	€137.51	€131.28	€133.41
2	Alcohol and tobacco (including out)	€47.18	€139.18	€39.48	€126.14
3	Clothing and Footwear	€42.67	€46.24	€40.11	€35.11
4	Housing and utilities	€125.16	€194.25	€183.08	€199.83
5	Furnishings and household equipment	€52.97	€54.94	€46.55	€35.54
6	Health	€33.93	€56.39	€37.34	€71.21
7	Transport including vehicles	€122.74	€125.89	€116.31	€116.32
8-13	Miscellaneous services	€219.68	€265.17	€216.47	€247.32
1-13	Total Expenditure/Consumption	€787.07	€1,019.57	€810.62	€964.88
	Total Expenditure/Consumption adjusted for 2/4/6/8-13 differences	€787.07	€836.02	€810.62	€827.60

Table 1 Comparison of HBS and PCE estimates¹⁰ by commodity (COICOP) group

⁹ Collins (2014) examined underreporting in detail and a similar approach is followed here

¹⁰ Of weekly average household expenditure and consumption

More detail on the Table 1 comparison follows. The HBS in each case was conducted across 2 calendar years, namely 2004 and 2005 and also 2009 and 2010. The latter HBS was conducted from September 2009 through to August 2010 which suggests if we are using HBS estimates for National Accounts, we should use the Consumer Price Index (CPI) of the given commodity to bring HBS expenditure in line with calendar year i.e. HBS expenditure *(1/(0.33*(CPI 2009/CPI2010)+0.67) which gives a more accurate representation of household expenditure in the desired calendar year. The same method was used for calendar year 2005. It is also necessary to establish the average number of households in the country in the required year.

While the majority of expenditure in the State is by the residents of households which are representative of households in the survey, there are other consumers within the State. Therefore for National Accounts categories that utilise HBS estimates, adjustments need to be made to HBS results for expenditure by non-profit making institutions serving households (NPISH) and also tourists. For HBS based results in National Accounts (NA), tourist expenditure is added on to individual HBS estimates before a total amount is stripped out for PCE results. Finally, there are some areas of expenditure by households which are subsidised by the Government, particularly in the area of Health provision.

Coicop 01 Food and Non-Alcoholic Beverages

Many of the NA estimates in this area are based on the commodity flow approach (i.e. Production +Imports +Mark Up – Exports = Consumption). The comparison between NA and HBS in this area produces similar results. When comparing various components at a more detailed level they all appear to compare favourably (e.g. meat , oils and fats , bread and cereals , fruit and vegetables). Slight differences in this area can be caused by the accuracy of the mark up percentages which need to be revised regularly.

Coicop 02 Alcoholic Beverages Tobacco and Narcotics

Internationally it is accepted that household surveys tend to produce results for alcohol and tobacco expenditure which are well below the actual expenditure of the population. When compared to the industry based estimates generated for NA, the estimates from HBS account for approximately one third of the total estimates for tobacco and alcohol in the NA. Revenue (the Irish tax authority) supply data on the amount of various types of alcohol based drinks and tobacco which have been released from bond in a given year. The drinks industry provides data on packaging (draught vs bottles/cans) and also the estimated percentage sales of on trade and off trade. Using this data in conjunction with National Average Prices for each variant, estimates on consumer spend are derived. A similar approach is taken with tobacco while allowances are also made for illegal consumption. Based on the level of undercoverage in HBS, we should continue to use industry based estimates for NA. See 5.4 below for the approach followed to replicate this adjustment for undercoverage at HBS microdata level.

Coicop 03 Clothing and Footwear

The figures for clothing and footwear compare reasonably well in both 2005 and 2010. The NA estimates are based on the commodity flow method and it is interesting to note that in 2005 the HBS estimate was higher while in 2010 it was lower. The application of percentage mark up rates may be the cause of the variances.

Coicop 04 Housing , Water, Electricity, Gas and Other Fuels

Households cannot be expected to calculate the imputed rent of their abode and is therefore not collected as part of HBS. The microdata-based adjustment for housing required is outlined in section 5.1 below which is a simplified version of the NA method. Electricity , Gas and other Fuels compare extremely well where many of the NA estimates are based on data received from industry and industry regulators.

Coicop 05 Furnishings, Household Equipment and Maintenance

There are much more significant changes in NA estimates than there are in HBS estimates between the 2 reference years. Traditionally, NA used commodity flow based estimates for expenditure in this category. In recent years there has been an upsurge in the quantity of less expensive furniture available to the consumer. It could be that mark up percentages have changed significantly and it may be time for NA to review the methodology in this area.

Coicop 06 Health

Much of what is included in PCE estimates for Health Expenditure is actually paid for by the Government on behalf of Households such as Nursing Home Expenditure, Pharmacy

costs, GP costs , Dental costs etc. Also, many hospital procedures and accommodation in same are paid for by Health Insurance. In many instances the Household simply do not know the cost and cannot include it in HBS expenditure. For these reasons there are large variances between HBS estimates and PCE estimates (5.2 also refers).

Coicop 07 Transport

These estimates compare extremely favourably with each other. Vehicle Registration Tax is used in PCE estimates .Total expenditure on cars is the sum of new cars, secondhand cars (both adjusted for trade ins) and domestic resales (based on number of change of ownership forms) . The majority of this value is PCE Expenditure and the remainder is Capital Formation (business cars). The estimate of the percentage split between business and private cars may cause some variance between PCE and HBS estimates. The adjustment for vehicles described in 5.3 is based on economic theory rather than a difference between HBS and PCE.

Coicop 08-13 Miscellaneous Goods and Services

This includes items such as expenditure on FISIM, Pension Fund Administration charges and NPISH expenditure which are not captured by HBS. NPISH expenditure included in PCE is not captured by HBS in this area. It also includes items such as communications, television service providers and accommodation services. Much of the PCE estimates in these areas are based on industry returns. However, these areas are becoming more complex with alternatives coming to the market such as Airbnb, bundled communication services, the way music and books can now be purchased etc. It is proving more challenging to align traditional Coicop categories with equivalent HBS expenditure. Bearing all of the above in mind, the differences in Table 1 for these commodities are to be expected.

5. Construction and analysis of consumption estimates

5.1 Adjustment for housing

The adjustment for imputed rent used in the consumption measure is a simplified version of the calculation used in the Irish National Accounts. Estimates of private rents for tenants from the 2002, 2006 and 2011 Census of Population (CoP) replace mortgage expenditures for owner occupier households and rents for social tenants in the HBS

microdata. The CPI private rent sub-index is used to interpolate intervening years to match the survey reference periods for HBS. The effect of the adjustment for imputed rents is relatively higher in 2004/5 than in 2009/2010 which reflects the rapid increase in HBS mortgage expenditures between the two years, and also lower private rents. Estimates based on the 2011 CoP are in Table 2 below; the cell structure used for the CoP data matches the level of detail available for households in the HBS microdata.

		Detached	Other	Purpose Built	Other
		nouse	nouse	Apartment	Apartment
1-3 rooms	Small urban	€98	€99	€101	€78
	Large urban	€105	€106	€109	€88
	Dublin	€152	€153	€166	€118
	Rural	€84	€88	€93	€80
4 rooms	Small urban	€116	€112	€122	€99
	Large urban	€123	€119	€124	€110
	Dublin	€191	€187	€198	€187
	Rural	€103	€103	€112	€97
5 rooms	Small urban	€122	€120	€138	€113
	Large urban	€130	€127	€148	€138
	Dublin	€202	€198	€232	€222
	Rural	€107	€107	€125	€118
6+ rooms	Small urban	€152	€136	€142	€103
	Large urban	€175	€160	€151	€126
	Dublin	€283	€245	€208	€150
	Rural	€146	€129	€145	€119

Table 2 Imputed weekly rent calculations based on 2011 Census of Population

5.2 Adjustment for medical services

An imputed value (in cash terms +/- €20 per household on average) is applied to private health insurance costs for households with medical cards who are entitled to free services. This value equalises total medical expenditure between households with and without medical cards. There is evidence that medical services consumption is higher for households with medical cards (c.f. Madden, Nolan and Nolan, 2005) but consumption is assumed to be similar to non-medical card holders in this paper.

5.3 Adjustment for cars

An annual consumption value per car per household is used in the consumption measure of resources instead of expenditure to represent a flow value. As an example,

in the bottom decile of expenditure in Table 3 below, $86\%^{11}$ of the 44% of households with cars have a replacement consumption estimate of €14.51 per car owned by the household instead of zero expenditure as reported in HBS.

Table 2 Davis for some communities activate 2000 2010 has some ditage desile

Table 3 Basis for cars consumption estimate 2009-2010 by expenditure decile					
	% with cars	Total cars	% Zero cost	%€100+cost	Exp. per car
CO1	44%	293	86%	3%	€14.51
CO2	67%	431	83%	2%	€9.87
CO3	76%	517	79%	4%	€13.06
CO4	83%	590	74%	4%	€15.46
CO5	87%	660	70%	8%	€19.40
CO6	88%	731	61%	13%	€26.42
CO7	90%	786	62%	16%	€27.58
CO8	91%	851	61%	17%	€31.97
CO9	94%	919	56%	24%	€41.07
CO10	96%	1108	56%	25%	€39.07

5.4 Adjustment for alcohol and tobacco

The adjustment for understatement of alcohol and tobacco consumption/expenditure vs. PCE estimates is applied pro rata to households that report such expenditures in HBS (i.e., consumers are assumed to consistently underreport expenditures rather than reporting missing values).

5.5 Distribution of the different resource measures

Equivalised expenditure and income closely track each other, following the single peaked/skewed to the right distribution identified by O'Neill and Sweetman for 1987 and 1994 HBS data. Kernel density estimates for the three distributions are presented in Figure 1 following the O'Neill and Sweetman presentation. There is an emerging gap in expenditure and income at low income levels which has been widely discussed in recent Irish economic commentary¹². More generally, the distribution of consumption is much flatter than incomes or expenditure, which is also found in MS¹³/BoD. Most

¹¹ The same replacement value is also applied for the 14% of households with expenditures in this decile ¹² Note that while the three distributions presented here are independent, the joint distribution of income and expenditure more clearly shows dissavings at low income levels – see 5.6.

¹³ In a 2013 unpublished paper referenced below; as with their 2009 paper, MS analyse inequality (mainly using P90/P10) across the different resource measures from 1960-2007 and find that income inequality increased by much more than consumption inequality over the five decades, and that these differences are much more noticeable at the bottom of the distribution.

importantly from a welfare point of view, there are relatively fewer households in the lower tail of the consumption distribution than in income or expenditure.

Figure 1 2009/10 Distribution of equivalised disposable income, expenditure and consumption



It should be noted that the distribution of income in Figure 1 is based on household disposable incomes. When the additional resources of households included in the consumption measure are included in incomes (STiKs and imputed rent) the lower end of the income distribution should align closer to consumption. Also, there are some missing compensation of employment methodological adjustments required (employer social and private pension contributions mainly) that will demonstrate savings higher up the income distribution as they are more concentrated at higher income levels.

5.6 Risk groups identified by the different resource measures

Despite the shortcomings in the household resources side of this presentation, it is clear than any differences in risk groups in the base data for the analysis (disposable income and expenditure) should also come through in the more comprehensive resources vs. uses based analysis for the household sector. The income distribution for the PCE estimates described earlier is also shown in Figures 2 and 3 below as additional information. For all households (Figure 2), there are clearly dis-savings based on expenditure in the lowest decile of income, while savings increase higher up the income distribution. The 'risk' of low incomes or expenditures is not consistent for different population groups however.





Figure 3 shows the same distribution as Figure 2 for single adults aged over 65, with continuous savings all the way up the income distribution. This not in line with economic theory but is similar to findings in MS/BoD for pensioners in the US and UK. Thus the risk of low expenditure is higher for single pensioners than the risk of low income, and both profiles give useful information on pensioners' living standards. The corollary to pensioners is that unemployed people, lone parents and single working age households have dis-savings up to quite high levels of the income distribution and thus have a higher income risk than expenditure risk; this is more in line with economic theory, as these groups are more likely to have experienced income shocks.

Figure 3 Median HBS 2009/10 incomes, expenditure and consumption by income decile (single adults over 65)



6. Conclusions

In common with other statistical institutes, the Central Statistics Office (CSO) is examining ways of leveraging the Irish statistical infrastructure to respond to the Stiglitz-Sen-Fitoussi report on 'Measurement of Economic Performance and Social Progress'. Irish GDP is currently based on independent estimates using the income and expenditure methods, and reliance on administrative data for the income method may prove to be a strength in relation to the Stiglitz agenda. Transmission of incomes from corporates to households in the 'allocation of primary income account' is a by-product of the Irish administrative system at microdata level. There are some weaknesses in the available administrative data in relation to household identification, but there are also cross-Government strategic data initiatives in place to potentially resolve this issue.

The 'National Data Infrastructure' is based on implementation of three key identifiers to facilitate linking of persons, businesses and locations/households across administrative datasets. In tandem with administrative data developments, CSO is redeveloping its inhouse macroeconomic and household survey infrastructure in a multi year programme of work. For macroeconomic statistics, an IT system is being developed to underpin the national accounts business and estimation processes. The new system has the capability

to process large volumes of administrative and survey data, and it is proposed, on a satellite/pilot basis, to start work on a 'households file' which will hold the additional data needed for household social accounts. Possible uses for the household social accounts data will need to be examined in conjunction with experts in the third level and government sectors. It is clear that there will be some value in having disaggregations by income level for the methodologically consistent data for corporates and households in the ESA framework, and early suggested uses are detailed analysis of household savings and estimation of the impact of social transfers on demand levels.

Much of the analysis in this paper is a proposal to build microdata-based Personal Consumption Expenditure (PCE) estimates based on HBS expenditure data to facilitate granularity on both the uses and resources sides of the household sector. While many of the additional consumption data items to HBS expenditures are both uses and resources of households, or otherwise cancel each other out in savings calculations, there is merit in having accurate separate income and consumption profiles as risk groups appear to be different based on an initial analysis of these profiles. While there are shortcomings in the household resources side of this presentation, it is clear than any differences in risk groups in the base data for the analysis (disposable income and expenditure) should also come through in the more comprehensive resources vs. uses based analysis for the household sector.

For all households, there are clearly dis-savings based on expenditure in the lowest decile of income, while savings increase higher up the disposable income distribution. The 'risk' of low incomes or expenditures is not consistent for different population groups however. Single adults aged over 65 show continuous savings all the way up the income distribution. This not in line with economic theory but is similar to findings for pensioners in the US and UK. Thus the risk of low expenditure is higher for single pensioners than the risk of low income. The corollary to pensioners is that unemployed people, lone parents and single working age households have dis-savings up to quite high levels of the income distribution, and thus have a higher income risk than expenditure risk. This is more in line with economic theory, as these groups are more likely to have experienced income shocks.

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