

**Underemployment as a Measure of Labour Market Well-Being: Measurement and
Meaning Across Countries**

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This project builds on a long tradition in labour economics of challenging the validity of the unemployment rate as a measure of hardship or diminished well-being. There are well-established alternative and supplementary measures, which are available for, cross country comparisons. The concept of underemployment is widely used in both discussions of underutilized labour capacity and of hardship. While underemployment could manifest itself in many forms, in empirical work it has come to be associated with discouraged workers and involuntary part-time workers who are relegated to the status of non labour force or employed in standard labour force statistics but presumably want and are available for work, or more work. While workers can be underemployed in relation to their skills or education (PhD driving a taxi), this is not easily measured. How well do the traditional concept and measures of underemployment fit our need to develop measures of labour market well-being? What avenues should we pursue in deriving an expanded measure, or a series of measures, which capture the dimensions of well-being relevant to this project? How do institutional differences across countries affect the interpretation of such measures? We bring to this issue is a concern with hardship, rather than labour market slack, a concern to capture the variety of ways and degrees by which people experience inadequate employment in today's world, and the need for our indicators to be useful in debates around labour market and income security policies.

This paper reviews issues related to these three challenges, and offers preliminary suggestions for further work on an expanded underemployment measure(s). First, standard usage and evidence is reviewed; second, directions for expanding the concept and the measure are discussed. Third, issues related to the meaningfulness of the measure and its interpretation across countries are discussed.

1. Traditional Underemployment Measure

The traditional measure of underemployment adds discouraged plus involuntary part-time workers to the standard unemployment count. The underemployment rate is then calculated as a percentage of the labour force. The measure reallocates people from one labour force state to another, and is typically one of a series of alternate or supplementary unemployment rates calculated by national statistical agencies or international bodies such as the OECD or the ILO. For example:

- Canada reports 8 supplementary measure of unemployment (R1-R8). The R8 measure of underemployment (as defined above) also adds in those waiting for recall or replies or a job which will start in >4 weeks (these people are classed as NLF, but are clearly interested in working). The Canadian measure also adjusts the involuntary PT to full-time equivalents, to more clearly capture the extent of underutilized hours.
- The US (BLS) published 7 alternative unemployment measures (U7 is the corresponding measure of underemployment) until 1995. U7 discounted the number of PT job seekers and the hours shortage of involuntary PT to more or less create FT equivalents. In 1995 the BLS measures were revised, resulting in 6 measures, of which U6 is the comprehensive underemployment measure. A notable change is that the FTE weighting was discontinued (Bregger and Haugen 1995). Since 1995 the BLS U-5 measure of marginally attached workers includes discouraged workers (not looking for work for job-market-related reasons) as well as others who want and are available for work but are not currently looking (due to other problems such as child care). The BLS measures adjust the denominator as well as the numerator to include marginally attached workers.
- The OECD publishes data series on the components of an underemployment measure, and also the combined measure (OECD Jobs Study 1994: 42). The underemployment rate is given as a share of the labour force. The OECD Jobs Study warns that there are serious issues of comparability across countries due to differences in definitions of discouraged and involuntary PT workers.

- The BLS published comparative analyses of various unemployment and underemployment indicators (Sorrentino 1993, 1995), exploring issues of measurement and comparability (based on the old U1-U7 definitions).

How would the measure differ if our concern were well-being, not labour market slack? Would we be interested in the number of persons affected, or the degree of underemployment experienced? If the latter, we would want to use the full-time equivalent adjustment to involuntary PT, as in the Canadian case, and we would also want to similarly adjust those unemployed who are looking for PT work. Leore used such a method in a longitudinal study of labour market slack in Canada (1999), where he used the departure from full-time hours of the involuntary PT, as well as an hours adjustment for PT job seekers. The BLS also used it until 1995. However, for a measure of well-being, I think we would want to count bodies, as does the traditional UR. This is an estimation of the number of individuals (or share of the LF) who have no employment, or less employment than they would like. This emphasizes the incidence of underemployment.

As this is a well-established procedure, what can we learn from existing studies using this measure? Do the component elements (UN, involuntary PT, discouraged) move together? Does the underemployment rate tell a different story than the unemployment rate? Many studies have been done in a national context, where the emphasis is on trends over time, and sometimes variation by age, gender or region. For example Leore (1999), using Canadian data (weighted to FTE), finds that while the rates move more or less together, there has been a sharp upward trend in the gap between official unemployment and underemployment, especially for younger workers. The gap also widens during recessions. Similarly, the gap is wider in regions of chronic high unemployment and for women compared to men. These results seem to be driven by the discouraged worker component of the measure - demographic groups/regions, which have high unemployment, also have high rates of discouraged workers.

The Economic Policy Institute has reported underemployment rates in The State of Working America for many years (unweighted). The US underemployment rate and the UR have moved together over time, with the ratio of the underemployment rate to the UR hovering around 1.45-1.5 from 1983-93 under the old U-7 measure and around 1.8

from 1994-97 with the new U-6 measure. There is no noticeable time trend in the gap until 1998, when it declines (Howell 2002). The gap widens in recessions, consistent with the Canadian finding (both involuntary PT and discouraged workers increase in recessions).

Cross-national comparisons have also been made. Sorrentino (1993), using 1989 data from 9 countries, found that the proportion of discouraged workers varied widely, and was especially high in Italy and Japan. In all countries the combined underemployment rates were significantly higher for women than men as was the gap with the standard UR. Female UN thus tends to be more “hidden”. The rates of involuntary PT were highest in the Netherlands, US and Canada, followed by Sweden and Italy. She also found that the ranking of countries by the combined measure differed from the traditional UR ranking. In particular, the ranking of France improved and that of Italy declined. The spread among countries decreased overall, compared to the UR. In other words, the underemployment rate may better capture the variety of ways unemployment is manifested in different countries. In some countries workers may take marginal jobs, in others they stay unemployed, and in still others they may be absorbed back into the home. Thus some countries may have high discouragement, reflecting cultural and institutional differences, while unemployment is disguised in others by the availability of PT work.

These issues were explored further by Sorrentino (1995) using data from 1989-1993. She finds that while for each country the trends over time in the alternative measures of unemployment are similar, the extent to which the underemployment measure (or its components) diverges from the standard UR varies considerably across countries, as do the relative importance of the components. In terms of rankings on average rates over the ten year period, Japan and Sweden had the lowest UR and underemployment (underutilization) rates; the rankings of France and the UK notably improved with the underemployment measure, while Italy declined. As in the earlier study, there was convergence across countries, as the ratio of the highest to lowest underemployment rate was 2 compared to 4.4 for the UR (1995: 43, Table 6 and Chart 2). Sorrentino notes that Japan and Italy have dramatically high rates of discouraged workers, and further notes differences in the institutional meaning and context of these

numbers. She says the discouraged workers in Japan are predominantly women who withdraw from the labour force when they lose their jobs, whereas discouraged workers in Italy are predominantly workers awaiting the results of job applications and hence not actively searching for work (1995:43). A recent study comparing US and Japanese utilization of labour, adjusted to US definitions, reiterates the high rates of marginally attached women workers in Japan, and also finds relatively large numbers of involuntary part-time workers compared to the US, which is interpreted in the institutional context of how firms have been able to adjust labour during the economic downturn (Yamagami 2002).

Similar results are noted by Cornwall and Cornwall (2001), in a comparison of conventional unemployment rates and underemployment rates in the US, UK and Canada. While the 1983-93 average unemployment rates in the US and the UK were 6.8 and 9.9, their underemployment rates were almost identical (about 12.4 and 12.7). In particular, the US had higher rates of involuntary PT.

The OECD (1994), using 1991 data on 20 countries, found rates of involuntary PT were especially high in Australia, the Netherlands, Canada and the US. Discouraged workers were high in Italy and Japan, as above, and to a lesser extent in Belgium and Finland. Overall, France's ranking improved using the underemployment measure, while Australia, Netherlands, US and Belgium notably declined.

Thus, it is clear from the evidence that the underemployment rate does not just tell the same story as the unemployment rate. Country rankings differ by component, and the overall measure of underemployment seems to capture at least some of the institutional differences (including gender differences) in labour markets across countries.

2. Revising the Underemployment Measure

While the traditional underemployment rate (and its components) is consistent with our aims, can we improve on it as a measure of well-being related to employment inadequacy, which will integrate with our work on overall labour market well-being (Sharpe) and entitlements (Lettieri, Columbaro)? This section considers ways to expand the measure of employment inadequacy, and raises questions about working with unemployment measures in the context of well-being.

Underemployment in its broadest sense connotes inadequate paid work - thus, the inclusion of involuntary part-time workers who clearly want and are available for more work. What other aspects of inadequate paid work do we want to pursue, and what conceptual and measurement issues are involved? One alternative has been developed by David Howell (2002), focusing on the incidence of low pay. His measure of employment inadequacy includes no work (UN plus discouraged), plus inadequate work (involuntary PT, plus low pay). To avoid double counting, either low wage involuntary part-time workers are excluded from the low wage count or else all low wage workers are included but the involuntary PT measure is dropped. Data limitations may further necessitate limiting the low pay count to full-time workers. Furthermore, while a low pay measure based on hourly wages seems ideal, data for international comparisons seems only to be available for weekly earnings.

Another direction would be to focus not so much on the outcome (wages) but to stick more closely to aspects of working time and job insecurity. In this regard, the traditional underemployment measure may not adequately capture the forms of precarious employment that interest us. There is considerable concern with how contingent work, non-standard work and alternative work arrangements affect labour market well-being. While there is a lot of confusion in the literature around these terms, it is clear that an increase in such work, and variation in its incidence across countries, is relevant to discussions of adequate employment (Vosko, Zukewich and Cranford 2002). What labour market statistics would be most useful in this regard, and how could they be added into an expanded notion of underemployment or employment inadequacy?

i. Contingent and temporary work:

The term contingent and non-standard work have sometimes been used interchangeably to encompass all forms of employment differing from ongoing FT jobs, with the latter term being more common in Canada and the former in the US. In the past decade the BLS in the US has narrowed its focus in an attempt to clearly define and develop a set of measures of contingent work. Their definition is “any job in which an individual does not have an explicit or implicit contract for long-term employment” (Polivka 1996a). This concept focuses directly on the risk of unemployment, or expected continuity of employment, regardless of the type of job (FT, PT, self-employed). They

first collected data to operationalize the concept in February 1996 in supplementary questions in the CPS. The questions identify people whose jobs are temporary or who don't expect them to last (for reasons other than personal choice or general economic turndown). They created three estimates of temporary work. Estimate 1 includes wage and salary workers in jobs for less than one year who expect their jobs to last less than one year, plus those who define their jobs as temporary (with the same one year restrictions). Estimate 2 adds self-employed and independent contractors (with the same one year restrictions). Estimate 3 drops the one-year restriction, thus including all who don't expect their jobs to continue (who lack an implicit or explicit contract for long-term employment). While analysis has been done using each of these estimates (Hipple 2001, Polivka 1996 b,c), the broadest measure, Estimate 3, seems to be the most widely used. Some relevant findings (Hipple 2001) include:

- the majority of contingent workers (53%) reported they were working only until a specific project was completed; 18% were hired for a fixed time period
- contingency rates (expressed as % of employment) were 4.9% in 1995, 4.4% in 1997 and 4.3% in 1999 (compared to unemployment rates of 5.4%, 5.3% and 4.4%).
- contingency rates were higher for youth, women, non-white, and foreign born workers.
- contingency rates were higher (10% compared to 3%) for PT than FT workers
- contingent workers were much less likely to be members of unions.
- contingent workers earned less than noncontingent - \$261 vs. \$479 for all, \$415 vs. \$542 for FT (77%) and \$114 vs. \$160 for PT (71%).
- between 1997 and 1999 the earnings gap increased, due to stagnation of earnings for contingent workers and rising wages for noncontingent.
- contingent workers were much less likely to be eligible for health insurance (47.8% vs. 86.8%) or pension coverage (23% vs. 59%) through their work (though many had coverage through other family members)

As we can see, contingent workers, with their risk of unemployment, are vulnerable on other measures of well-being (wages, entitlements) and other risk factors (race, gender, form of work, union protection).

The BLS questions and estimates are more detailed than generally available in population or labour force surveys. They are based on workers' expectations. Other countries also have measures of temporary work, though definitional differences exist. More typically temporary work estimates are based on job forms that, by definition, offer non-permanent work. Research in Canada by Leah Vosko (2002), using Statistics Canada data, estimates temporary work by aggregating across types of jobs considered temporary (seasonal job, term or contract job, other temporary job). She further considers full-time versus part-time temporary employment, and finds that full-time temporary employment increased from 4% to 6% between 1989-2000. Full-time permanent employment has dropped from 67% to 63% in the same period, and women are less likely than men to have this form of employment (59% vs. 66%) (Vosko 2002: 16). The mean hourly wage of full-time temporary employees was 72% that of their permanent counterparts (18), almost exactly the same as the BLS finding, while that of part-time was 89% (higher than the BLS finding).

The OECD publishes a series on temporary employment (work under a fixed term contract). "Temporary employment has been an important component of employment growth in many OECD countries since the early 1990s" (OECD Employment Outlook June 1999: 147). While the share of employment that is temporary is mostly in the 7-15% range, it is over 25% in Australia, Iceland and Spain. These countries, along with France Italy, Austria and Sweden, had particularly dramatic increases during the 1990s. Temporary employment as a percentage of total dependent employment in 2001 ranged from 3.4% in Luxembourg to 44.9% in Iceland (Table 1). Canada, Germany, Greece, Switzerland and Japan have similar (moderate) rates (12-13%), while their unemployment rates range from 2.7% (Switzerland) to 11.1% (Greece). Similarly, in 2000 very high rates of temporary employment in Iceland, Australia and Spain were accompanied by low, moderate and high unemployment rates, respectively. Unemployment and temporary employment thus seem to be independent of each other.

This preliminary evidence suggests that measures of contingent, or temporary, employment belong in our set of indicators of labour market well-being. What would be involved in adding a measure of temporary employment to our underemployment measure?

- we would want to express temporary employment as a percent of the labour force (rather than employment), to make it comparable to the other components.
- the only component of the underemployment measure with which there is potential overlap is involuntary PT, who could also be in temporary jobs (10% of PT workers are contingent, according to the 1999 BLS estimate, and 2.4% of the LF is involuntary PT).
- we could explore the possibility of taking account of preference (as with involuntary PT) by counting only those contingent/temporary workers who are involuntarily in such jobs. The BLS (Polivka 1996c) found 56% of all contingent workers preferred noncontingent work (76% of contingent workers whose prior labour force status was unemployed). Analysis of 1999 BLS data (Hipple 2001) showed that the rate of involuntary contingent work was over 70% for men 25 and older, and over 60% for women 25 and over. It was also higher for blacks and Hispanics than for whites. While most countries' statistics would not enable such a calculation, we should certainly advocate moving in this direction.

Researchers at Statistics Canada have calculated an underemployment rate that includes the unemployed, involuntary PT and those employed in non-permanent jobs (seasonal, temporary, contract, term and casual jobs, and those done through a temporary help agency; Drolet and Morissette, 1997). In 1995, this measure was 17.1% for men and 23.5% for women, compared to unemployment rates of 8.7% and 8.5% respectively. The rate decreases with age for both sexes, and is 35.5% for young men (15-24) and 38.7% for young women (p. 21). While discouraged workers are not included, the promise of this indicator is apparent. The importance of age and gender in understanding underemployment is starkly demonstrated. Table 2 compares OECD countries on each component of a revised underemployment measure, including temporary work.

ii. Forms of employment

Some researchers focus more directly on forms of employment, rather than on direct indicators of employment inadequacy (lack of security; low wages), discussed above, which are associated with them. We need to consider the merits of each approach for our purposes. There are many ways non-standard or alternative forms of employment have been categorized and measured.

The BLS links its estimates of contingent workers with estimates of employees in alternative work arrangements. The latter are defined “either as individuals whose employment is arranged through an employment intermediary such as a temporary help firm, or individuals whose place, time and quantity of work are potentially unpredictable”(Polivka 1996a:7). The emphasis is on the unpredictability, and therefore precariousness, of work. The BLS supplement measures workers in four arrangements: independent contractors, on-call workers, workers paid by temporary help firms, and workers whose services are provided through contract firms. Note that their measures of contingent work and alternative work arrangements are not mutually exclusive.

- about 10% of employees in 1995 had these alternative work arrangements.
- 10% of those worked for temporary help agencies, while two-thirds were independent contractors (mostly self employed).
- in terms of preference, 63% of temporary help workers and 57% of on-call workers would prefer a traditional work arrangement, or are “involuntary”, as discussed above. However 82.5% of independent contractors express a preference for their alternative work arrangement.
- only temporary help agency workers tended to also be contingent workers (two-thirds).

There are other ways to categorize and measure non-standard work forms. A current Canadian research project (Vosko 2001, 2002) is trying to sort out definitional and measurement issues related to non-standard employment relationships and precarious work. Vosko’s ideal definition of standard employment is ongoing FTFY employment with the same employer, with extensive statutory benefits and entitlements. Government and academic researchers using Statistics Canada data (building on Krahn 1991) have tended to loosely group part-time work, own account self-employment, temporary and contract work, and multiple job-holding, as forms of work which do not involve full-time full-year work with a single employer, or to work with a subset of these measures. This is different from the BLS approach, particularly in the inclusion of PT work, the more limited definition of self-employment and the inclusion of multiple job holding (which, as Vosko notes, is not a job form but a worker behaviour). In this scheme, the forms of non-standard employment are not mutually exclusive. Vosko (2002) finds that:

- the % of FTFY employment decreased from 67% to 63% from 1989-2000, with most of the increase in non-standard work occurring between 1989-1994.
- the percent of the workforce which is engaged in at least one of PT work, temporary work, own account self-employment or multiple job holding is 34%.
- PT work is the most prevalent form of non-standard work, accounting for about half of all non-standard workers.
- 3 in 10 non-standard workers engage in own account self-employment and a similar number are engaged in temporary work (seasonal, term, contract or casual).

Vosko relates these forms to indicators of 'precariousness', such as the likelihood of continuing work, control, level of regulatory protection and earnings level. Using proxies for these, she finds that precariousness increases the further the work form is from FTFY employment. For example, wages are lower in PT temporary than in PT permanent jobs. Precariousness is sharpest in the forms where women predominate. Vosko also focuses on the variation in precariousness within the forms (for example the lower wages of women compared to men within each form).

In examining the available data cross country, and selecting our preferred indicators, it is important to keep straight the distinction between the forms of employment, and the well-being outcomes (insecurity, low wages, etc.). Both the BLS studies and the work of Vosko's group attempt to do this. They also highlight the variation *within* the forms of employment. Furthermore, in building a revised indicator of underemployment the issue of whether categories are mutually exclusive is important. In their work with Statistics Canada Vosko, Zukewich and Cranford (2002) address this problem of overlap by using mutually exclusive categories that can be interpreted in terms of precariousness, subdividing FT and PT paid employees into permanent and temporary, and subdividing the self employed into FT and PT own account and FT and PT employers. FT, PT and SE are associated with different regulatory protections, union coverage and income policy entitlements (such as UI), while the categories of temporary, permanent, own account connote important differences in risk of unemployment and entitlements *within* FT, PT and SE. These distinctions facilitate both measuring and interpreting trends in non-standard or precarious work.

The category of self-employed is perhaps the most unclear in terms of an association with inadequate employment. Self-employment groups in both the US and Canadian studies are less associated with contingent work and are more heterogeneous. This is likely even more of an issue in terms of international comparisons. A recent Canadian study (Hughes 1999) emphasizes that the quality of work is highly variable, whether measured by earnings (which are more polarized for self employed than employed workers) or benefits or security. Self-employed own account workers (both male and female) have higher rates of PT than paid employees, however self employed employers of both sexes are more likely to work FT than are employees. The own account self-employed also earn significantly less than those in paid employment. 55% of own account SE earned <\$20,000/year, compared to 25% of paid employees (28). Her evidence suggests that own account self-employment has more in common with the other forms of non-standard work. In Canada, the majority of self-employed workers are own account (own account SE represent 11.2% of total employment versus 6.3 % for SE employers).

A 1999 Statistics Canada study (Lin, Yates, Picot) examined the expansion of self-employment in the 1990s in relation to unemployment. They point out that in the international literature the evidence is contradictory and inconclusive about whether unemployment affects self-employment positively (“pushing” people into SE) or negatively (discouraging entry into SE) (1999:7). Self-employment contributed to 3 out of 4 new jobs in the first 8 years of the 1990s. Their statistical analysis showed a statistically significant but empirically small negative relationship between self-employment and unemployment in Canada in the 1990s. This relationship is of far less importance than non-cyclical factors in explaining the increase in self-employment during the period.

Our project can help articulate what data are needed to compare forms of employment internationally. We can also consider whether, and how best, to integrate these into a composite measure that is meaningful for the analysis of labour market well-being. As we have seen, at the moment the measures being used are a mix of job characteristics (non-permanent; casual; short-time, temporary help, self-employment) and worker behaviour (multiple job-holding, turnover/tenure). We need to argue for

efforts to standardize definitions and measures of contingent/temporary work and non-standard forms of work.

We also need to argue for questions that probe “reasons for” choosing different forms of work, similar to the questions that enable us to isolate involuntary PT and discouraged workers. The Canadian Survey of Work Arrangements, a supplement to the Labour Force Survey, asks such questions. Using this data, Statistics Canada examined Canadian preferences for working hours (Drolet and Morissette, 1997). Workers were asked whether in their current job, at their current wage rate, they would prefer to work fewer, more or the same hours. Drolet and Morissette analysed the preferences of wage and salary employees. They found that 27% of employees wanted more hours (both men and women). This extends the involuntary PT concept to all employees. PT workers are not the only ones who may be underemployed. Interestingly, the overall rate of wanting more hours (27%) is very similar to the involuntary PT rate for Canada, implying similar underemployment rates for both FT and PT. The study also found that approximately half of those with non-permanent jobs wanted longer hours, compared to 25% of those with permanent jobs. Also, the preference for more hours was inversely related to wage rates. 57% of men, and 56 % of women with wage rates <\$7.50/hour preferred more hours, compared to 13% and 11% of men and women respectively who were paid >\$25/hour.

In a similar vein Statistics Canada reported that 13.3% of self-employed women and 11.3% of self-employed men gave “no other work available” as the reason for being self-employed (Statistics Canada 1997). The figure for own-account self-employed was 15.4%, compared to 6.9% for employers. These people can be considered to be “involuntarily” self-employed.

One final point in terms of non-standard forms of employment concerns shadow employment (informal sector or underground activity). It is unclear whether there is consistency across countries in how such workers would be identified (or self-identify) in labour force surveys. If they identify as employed, then they would in principle be picked up in the measures of atypical or inadequate employment discussed here. Similarly, they may consider themselves to be unemployed, or discouraged. However, it is also possible that in some contexts they may be categorized as inactive, even using an expanded notion of underemployment. Better measures of the informal economy are

needed to explore how to fully take account of this important aspect of underemployment.

iii. Other measures of continuity of employment

Before concluding this discussion of ways of integrating concerns about precariousness of employment into an underemployment measure, we should consider other measures of job stability and their place in our indicators of well-being. Other potential measures that have been used in the literature are job tenure and rate of layoff (Osterman, 2001, discusses data sources and issues for the US). These would not be part of an aggregated underemployment measure, but should be investigated for comparability cross nationally.

In the discussion above (contingent work and alternative forms of work) the figures presented represent stocks, not flows. They are estimates at a point in time, and do not convey the number of workers who experience precarious jobs over a period of time. Osterman, in a study for the ILO research programme “Adjustment of labour markets to economic and structural change: labour market flexibility, security and labour market policies” (2001: 18) notes that the BLS estimates give surprisingly low figures for the percent of workers in alternative arrangements (less than 10% in 1999). However, he argues, the flow numbers would look larger, given the short duration of employment in these forms of work.

Thus, we should consider the merit of using indicators based more on labour market flows, and identify possible new data needs in this regard. For example, trends in the average length of completed job spells, or the proportion of short job spells have been analysed (Heisz 1996). Other studies have focused on transitions. Osterman compares one year labour market transitions of contingent and regular workers, and finds workers in most alternative forms of work are far more likely to change employers, become unemployed, or drop out of the labour force than are regular employees (2001:21).

Similarly, there is interest in the extent to which workers get locked into contingent employment, or whether many workers cycle through this on their way to more permanent employment. This can be interpreted as an issue of incidence versus duration of contingent work and is similar to the concern in the segmentation literature with workers who are locked into SLM jobs. A recent Canadian study, using longitudinal

data from the Survey of Labour and Income Dynamics, found that almost 10% of employed women and 6% of employed men had never had a full-time job in the six years of the panel (Townson 2002).

iv. Unemployment and well-being

Our project should also re-consider the unemployment component of the traditional underemployment measure. Are there alternative unemployment measures that focus more on well-being? Duration measures are available from the OECD data series. Perhaps the unemployment rate should be weighted by the share of longer term unemployment (> 6 months or > 1 year). It is also possible to weight the unemployment rate by its concentration in certain groups (prime age), however such an attempt to better reflect “hardship” runs the danger of enforcing a priori judgments about who suffers most from UN (dismissing the unemployment of youth or women). These differences are probably better explored by estimating rates for the age/gender subgroups rather than constructing an age/gender weighted aggregate indicator. Much of the interpretation (discussed below) will hinge on the composition of unemployment.

Labour market flows can also be considered, building on the literature on incidence and duration of unemployment. Ideally our understanding of labour market well-being would be enhanced by data that would allow us to examine continuity of employment, and “spells” of unemployment, contingent and alternative forms of work, and low wage work (see, for example Carrington and Fallick 2001, on “career” minimum wage workers).

3. Interpreting Underemployment Measures

Ultimately, we are interested in measures that better enable us to understand the way well-being is, or is not, achieved in different countries. In an underemployment measure we are focusing on what the *market* fails to deliver. However, ultimately we need to relate this to the entitlements that may mitigate the loss of well-being associated with unemployment. These entitlements can come from the state or the market (private benefits), and the former can be more or less reliant on employment (for example UI versus welfare). Furthermore, the family is important as a safety net and source of well-being. As countries differ in how the state, market and family interact in the provision

(or lack thereof) of well-being, the labour market measures in and of themselves are limited. The challenge is to pick the most relevant labour market indicators, which can be easily interrelated with the other dimensions to analyse the overall state of well-being, and identify issues for each country.

Labour market indicators reflect differences in the cultural/institutional characteristics of countries. For example, more generous UI entitlements may result in higher UR, as both the incidence and duration of UN may increase. For our purposes it is not just a case of weighting unemployment by entitlements. It is to better understand how the structure of entitlements is reflected in the observed labour market patterns and vice versa. This point has been most clearly made in the feminist literature on the welfare state that examines the interaction between the evolution of the “family wage” and single-earner/male breadwinner models of income security policy (MacDonald 1998; Lewis 1993; Sainsbury 1996; Folbre 1994; O’Connor, Orloff and Shaver 1999; Vosko 2002). Comparative research underscores different clusters of countries in terms of women’s equality and entitlements, depending on how the market and state interact (Plantenga and Hansen 1999).

This work intersects with the political economy literature on welfare regimes (Esping-Anderson 1990). Esping-Anderson’s most recent book (1999) attempts to integrate some feminist insights with his analysis of three regimes of welfare capitalism and their evolution in the current context. The addition of the family strengthens the analysis but does not alter his basic constellations of welfare regimes – liberal, conservative/corporatist and social democratic. These regimes differ by how welfare production is allocated between the market, the state and the households. On the state side, it is not only income transfers but also services that are important, especially in understanding the intersection with the labour market (for example, day care services versus child benefits). And on the market side it is not just employment opportunities, but also the price of services that affects behaviour (e.g. cheap services as an alternative to the self-servicing done by families/women). Both Esping-Anderson and feminist writers emphasize that these are not stable configurations, but are in fact regimes under pressure, particularly with the breakdown of the single-earner model and the crisis in social reproduction.

This analysis suggests expected differences amongst countries in some of the measures discussed above as part of an underemployment indicator. Esping-Anderson finds interrelated differences by regime in self-employment, youth relative unemployment rates, female relative unemployment rates, duration of unemployment, and share of low wage work (1999: 127, 136, 139). For example, he notes a tradeoff between a mass of joblessness (unemployment, long term unemployment, non-employment) and a mass of inferior jobs (Germany vs. US). He characterizes Germany as having strong labour market regulation, a social insurance based welfare state, and an emphasis on the family's responsibility for welfare (familialist) (1999: 83-4). The US is characterized as having low labour market regulation, a residual welfare state and low reliance on the family for welfare provision, creating both a demand for and supply of low wage workers, particularly in services. In Germany, he argues, labour market regulation restricts low wage services, which reinforces family self-servicing and low female participation and also restricts employment opportunities for lower skilled entrants and displaced workers. We would thus expect the low wage share underemployment indicator to show convergence between the US and Germany, compared to unemployment rates (confirmed by Howell 2002).

How would such a welfare regime analysis inform our interpretation and expectations of the other elements of underemployment? Interpretations of country configurations on involuntary PT are complicated by the fact that while countries may differ in the proportion of PT work that is involuntary, involuntary PT as a percent of the LF is also driven by the relative importance of PT work overall, both of which reflect the role of the family and the welfare state as well as labour market regulation. PT work is significant in some countries and not others, and is related to forms of regulation and private or public provision of services. Similarly, the extent to which PT work is involuntary also reflects the extent of reliance on own earnings for well-being. The Netherlands has high rates of PT work (as a % of LF), but low rates of involuntary PT (as a % of all PT), reflecting the importance of family welfare provision and universal state welfare supports. Low rates of both PT and involuntary PT in southern Europe are associated with the difficulties of combining PT work with family welfare provisioning, in the absence of state services. New Zealand, on the other hand, has both high rates of

PT and high rates of involuntary PT, reflecting the greater importance of the market for well-being. Sweden has moderate rates of PT but high rates of involuntary PT, consistent with an emphasis on the market for income, supported by state transfers and services. The interpretation of this measure in terms of well-being across countries is complex.

Similarly, self-employment may have different meanings across welfare regimes. It may be part of a familial emphasis, reflecting family responsibility for well-being. Thus, persistently high rates of self-employment exist in southern Europe (familialism, conservative welfare regime) and low rates in Scandinavia (non-familialist, social democratic welfare regimes). A resurgence of self-employment is also associated with the increased reliance on the market in liberal regimes. In my own research in Newfoundland, a region of high unemployment and underemployment, I have seen a resurgence of a familial strategy of self-employment as welfare state provisions and labour market opportunities decline – it is a way to keep money in the family and to integrate work with unpaid family welfare provisioning.

While an understanding of welfare regimes (however characterized) may help guide both the choice of indicators and their interpretation, it is by no means a straightforward exercise. This complexity suggests we need to consider what is gained and lost by aggregating across the dimensions into one indicator. The story is mostly in the components, though a summary measure may be politically useful in challenging narrowly focused interpretations of employment adequacy. Analytically we are interested in understanding how the components relate to each other, how this differs across countries and how to interpret this in terms of well-being. For example, what do discouraged workers fall back on (state income supports? support from other family members? why don't they take on PT work or become self-employed?)? This requires very concrete understanding of family patterns, labour market structures and national models of entitlements. While the very presence of discouraged workers may indicate the existence of supports, by definition these people would rather be in paid employment. In Canada, the UN, involuntary PT and discouraged measures move together in regional comparisons (e.g. my region is high on all three and the regional ranking of provinces within Canada is similar on each measure). Cross nationally, as noted earlier, the components offset each other somewhat. For example, the Netherlands has high PT, but

a relatively low share of temporary work, whereas Spain has the opposite combination. The OECD analysis tends to emphasize that these are all responses to high or increasing unemployment (OECD 1994, 1999). Is one combination preferable to another in terms of well-being (*whose* well-being)? While a welfare regimes perspective points to systematic variation in labour market indicators, it also highlights ideological differences in how well-being is achieved and normative issues of interpretation (see Bolle, Kemmerling and Litta 2002).

Distributional questions are also central to our interpretation of underemployment measures and their implications for well-being. All studies of underemployment, low wages, contingent work and alternative work arrangements show significant gender differences. Women are more likely to be involuntary PT, more likely to be discouraged, more likely to be in the lower quality segment of self-employment, as noted in the earlier discussion. Furthermore, within each category women are more likely to be paid less, or be temporary, or to lack union protection. Sex segregation and wage inequality are overlaid on the alternative work arrangements. As Vosko (2002) argues, we are dealing with a gendered precariousness. Thus, it is largely inadequate employment for women that is made visible when an underemployment measure is used instead of the unemployment rate (Yamagami 2002).

While Esping-Anderson has taken on the importance of the family, and some differences by sex, feminist writers argue that gender relations and gender inequality have not been incorporated into his (and most) welfare regime analysis. O'Connor, Orloff and Shaver, for example, note that women's poverty and economic independence (key dimensions of well-being) are only partly explained by his welfare regime categorization: "Policy strategies of countries with low poverty rates for women and low gender gaps differ qualitatively" (1999: 21) (for example, Sweden, Netherlands and France), while at the same time "gender roles have a significant influence on outcomes apart from differences in regime types." Furthermore, while some feminists have found that the organization and support of care work reflect regime differences (public provision, as in Sweden, family in the Netherlands and market in the US), feminist work also draws attention to important differences *within* groups of countries identified with a particular welfare regime. O'Connor, Orloff and Shaver analyze similarities and

differences in the market/state/family nexus, gender relations, and gender inequality, among the four countries most often associated with a liberal welfare regime, Australia, US, Canada and the UK (1999). In another study, Plantenga and Hansen (1999), create EU country clusters based on an assessment of performance on a variety of equal opportunities indicators, and relate these to determining factors similar to those used to characterize welfare regimes, including fiscal regime, working time regime, and child care service provision. The gendered patterns of underemployment need careful and explicit interpretation.

Age differences are also important. In fact, the OECD (1999: 147) argues that employment rates for prime-age males are remarkably consistent across OECD countries, with the variations in unemployment rates of youth, older workers and prime-age women accounting for most of the cross-country variation. This reflects the differences in welfare/family regimes, and the crisis in these regimes as states, markets and families restructure and the single-earner model erodes. As feminists have pointed out, the promise of full employment in the post-war period was implicitly full employment for male breadwinners.

This discussion raises the related issue of how the family is taken into account in the measurement and interpretation of labour market indicators. While labour market measures are individually focused, well-being is usually considered from both an individual and family perspective. Family work patterns are crucial to understanding the evolving labour market, and changing welfare regimes. To what extent, and how, should we try to take account of any changes over time, or cross country differences, in family work patterns and family supports? For example, a recent Statistics Canada study examined the rate of family unemployment (families with at least one member unemployed as a proportion of families with at least one member in the labour force) compared to individual unemployment, using both monthly and annual data (Sussman, 2000). She found the family rate to be about one-and-a-half times the individual rate, with one in seven families with at least one member in the labour force affected. She also found that annual rates of unemployment were on average twice the monthly rates, for both individuals and families, and on an annual basis 19.7% of the population were affected either directly or as family members by unemployment.

A final issue which may be of concern when comparing underemployment measures internationally is regional variation within countries. Several countries have notable pockets of high underemployment, or may have marked regional differences in labour markets. Italy is a case in point. The extent to which underemployment is unevenly distributed within a country is important for analysis, just as we are concerned with earnings inequality, not just average earnings, in cross-country comparisons.

4. Conclusion

This paper has explored conceptual and data issues related to developing a revised underemployment indicator to measure employment inadequacy. The focus is on precariousness employment, linking to the literature on the growth of non-standard and contingent work. One approach is to include a measure of temporary employment. Another is to include forms of employment that typically have weaker entitlements than “standard” employment, whether those entitlements are delivered by unions, labour regulations or state income security policies. These measures build on information on type of employment commonly collected in national labour force surveys. Such a measure can then be related to entitlements (wages, UI) and changes in entitlements, in evaluating performance across countries. This is an alternative to directly adding low wages, one measure of well-being, to the underemployment measure (Howell 2002). As has been shown, the story for cross-country comparison (and trends over time) is mainly in the components – the way underemployment is manifested. The more detail we have on these components the better. The labour market indicators need be situated and interpreted in the particular economic and institutional context, thus the *form* that underemployment takes is important.

One issue that arose repeatedly is the need for data that can support the development of mutually exclusive categories of employment. Basically, the broad categories of Employment, Unemployment and Non-labour force are no longer adequate to understand well-being in the labour market. Also, particularly for measuring well-being, it is important to have data on the “reasons” for particular employment states, building on the concept of involuntary PT. More data on labour market flows is also needed.

Finally, this paper draws attention to the importance, and challenges, of interpreting cross-country underemployment patterns in the context of not only labour market structures and regulation but the broader context of the interaction of the market, state and family in gendered welfare regimes.

Table 1. Percentage of Temporary Employment¹ 2000

Country	Men and Women	Women 25-54	Men 25-54	Unemployment Rate
Australia	27.3	26.6	17.1	6.3
Austria	7.9	4.7	3	-
Belgium	9	9.5	4.4	6.6
Canada	12.5	9.8	7.8	6.8
Denmark	10.2	8.9	4.2	4.5
Finland	16.5	16.6	9.5	9.8
France	15	12.3	9.9	10
Germany	12.7	8.1	7.1	8.1
Greece	13.1	13.4	10.1	11.1
Iceland	44.9	46.5	47.9	2.3
Ireland	4.7	3.5	1.6	4.3
Italy	10.1	10.6	7.3	10.5
Japan	12.9	19.3	3.1	4.8
Luxembourg	3.4	3.5	-1.5	2.3
Mexico	20.5	9.5	22.2	2.2
Netherlands	14	12.7	7	3.3
Norway	9.3	9.2	4.7	3.4
Spain	32.1	29.4	26.2	14
Sweden	14.7	13.6	9.4	5.8
Switzerland	11.7	6.5	3.9	2.7
UK	6.8	6.6	4.1	5.5
US	-	-	-	4
Turkey	20.4	12.6	19.8	6.6

Source: OECD database; http://www1.oecd.org/scripts/cde/viewbase.asp?DBNAME=ifs_indicators

¹ Temporary as % of dependent employment (% of total employment is unavailable for most countries)

Table 2. Components of a revised underemployment rate 2000 (both sexes)

Country	UN (% of LF)	Involuntary PT (% of LF)	Discouraged (% of LF)	Temporary (% of EMP) ¹
Australia	6.3	-	1.1	27.3
Austria	-	0.9	0.3	7.9
Belgium	6.6	2.8	-	9
Canada	6.8	-	0.3	12.5
Denmark	4.5	1.5	0.2	10.2
Finland	9.8	1.9	1.4	16.5
France	10	2.6	0.1	15
Germany	12.7	2.8	0.1	8.1
Greece	11.1	1	0.3	13.1
Iceland	2.3	-	-	44.9
Ireland	4.3	1.8	-	4.7
Italy	10.5	1.7	1	10.1
Japan	4.8	-	2.1	12.9
Luxembourg	2.3	-0.6	-	3.4
Mexico	2.2	-	-	20.5
Netherlands	3.3	1	1	14
Norway	3.4	1.7	0.3	9.3
Spain	14	1.5	-	32.1
Sweden	5.8	2.8	1.6	14.7
Switzerland	2.7	-	-	11.7
UK	5.5	1.5	0.3	6.8
US	4	0.7	0.4	-
Turkey	6.6	-	-	20.4

Source: OECD database; http://www1.oecd.org/scripts/cde/viewbase.asp?DBNAME=ifs_indicators

¹ Temporary employment as a percentage of the labour force is unavailable. This is % of dependent employment.

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