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The Measurement of Job Search and Unemployment in a Retrospective Setting

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THE MEASUREMENT OF JOB SEARCH AND UNEMPLOYMENT IN A RETROSPECTIVE SETTING

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EXECUTIVE SUMMARY

The accurate measurement of job search and unemployment has been a recurring problem in retrospective surveys. However, strategies to improve recall in such surveys have not been especially successful. Proposed solutions have included a) reducing the recall period and b) questioning whether the standard operationalization of labour force concepts is appropriate in a retrospective setting.

One difficulty in arriving at an appropriate line of questioning is that there does not exist a reliable benchmark source indicating what sort of search patterns one should be observing over the year. Current notions of labour force dynamics have been heavily influenced by linked-record gross change data, which for various reasons, cannot be considered a reliable source. These data show numerous changes in status from month-to-month and generally paint a picture of labour force participation that suggests little behavioural consistency.

Under these conditions, an appropriate strategy would appear to be to examine how respondents actually report job search under unconstrained conditions, such as existed under the former Annual Work Patterns Survey (AWPS). This data source reveals that:

a) job search is generally reported as continuous;

b) most job search is reported as ending with the start of a job;

c) non-search periods immediately before the start of a job are generally short and can plausibly be interpreted as waiting periods, that is, the respondents are likely future starts;

d) the incidence of multiple spells reported is small and significant only for long non-working periods.

These results correspond closely to what one observes in the Labour Market Activity Survey (LMAS), with its very different questioning style and procedures.

Even if the standard operationalization of labour force concepts, designed for cross-sectional use, appears to be an imperfect tool for retrospective applications, the empirical results presented here show that respondents nonetheless provide responses that are conceptually and behaviourally meaningful.

The underreporting of job search observed in the AWPS (and to a lesser extent in the LMAS) is closely connected to the failure of respondents, in a significant number of cases, to report any job search prior to the start of a job, a problem for which there is a simple questionnaire solution.

It therefore would appear that the experience of past retrospective surveys, with some modifications to take into account the results of this analysis of AWPS data, can serve as a useful model for the Survey of Labour And Income Dynamics.

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1. Introduction

Labour force surveys traditionally have been conducted with the aim of measuring the labour force status of respondents at a particular point in time. Since it was recognised that such surveys gave a somewhat incomplete picture of the labour market experience of workers over a year, work history surveys were developed which attempted to record respondents' labour force experience over a year retrospectively. Such surveys have met with varying success and in particular, have experienced difficulty in accurately recording job search, especially towards the beginning of the reference year.

The mitigated success of such surveys has been attributed to the difficulty which respondents experience in recalling activities such as job search that were deemed to be intermittent in nature. The research in recent years into the cognitive aspects of responding has focused, among other things, on elaborating strategies to improve recall, but without notable success. The relative failure of such research has led to the conclusion, at once pessimistic and trivial, that the one certain way to improve recall is to reduce the recall period.

A second approach to explaining the difficulties experienced by respondents in retrospectively reporting their labour market history has been to question whether the standard labour force concepts, developed for measurement in a cross-sectional setting, are appropriate in a retrospective context. It is not clear what the alternative would be, but the point has been raised before [McIntire (1985)] in connection with the estimation of gross change from monthly panel surveys. It was suggested then that "usual" labour force status would be a more appropriate concept for ensuring longitudinal coherence in responses than applying strict criteria every month with no regard for month-to-month response consistency. A comparable logic applied to retrospective surveys would argue for a loosening of

cross-sectional labour force criteria as a strategy to help offset the effect of response or recall errors.

The aim of this paper is to examine more closely these issues with a view to determining an appropriate line of questioning for a retrospective survey of labour market history. Specific recommendations regarding questionnaire design are outlined in Appendix A.

2. The Aims of a Retrospective Survey

Before delving into the question of recall or the appropriateness of standard labour force concepts in a retrospective setting, it may be useful to outline what information one expects to obtain from a retrospective survey. Stated most succinctly, the aim of a retrospective survey is generally to obtain a history of the respondent's behaviour with respect to some set of phenomena, in this case labour market behaviour. The information of interest for our purposes is: what jobs[1] were held, when they were held, what work interruptions occurred during the year and for what reason, when and for how long persons looked for work and whether or not they were available for work during those times.

Whether all of this information is really required to understand a respondent's labour market behaviour is not clear. One could argue, for example, that if a person had a relatively short, say less than four months, non-working period between jobs, then clearly some job search had to have taken place before the start of the new job and to all intents and purposes that person may as well be considered to have been in the labour force during the entire non-working period. Whether the person looked for work for one month, two months or three would

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[1] In this paper, a job is employer-specific, that is, a change of duties or wages with the same employer does not constitute a change of jobs.

not appear to be especially illuminating information. Certainly, if one were measuring using a cross-sectional vehicle such as the Labour Force Survey, one might well classify such a person as out of the labour force in any given month, if the usual job search and availability criteria were not satisfied. Whether or not a one- or two-month withdrawal from the labour force in such circumstances makes sense, however, is questionable.

In other cases, on the other hand, for example that of a woman returning to the labour force after a prolonged absence looking after children, where the transition into the labour force is certainly meaningful, one would want to be able to identify precisely when this occurred, and how long it took to find a job.

Although the question of how detailed information needs to be in order to understand a respondent's labour market behaviour is one that could be raised, it is beyond the scope of this report. It will be assumed here that the measurement of labour force status is of interest in all cases and that the standard concepts remain an appropriate framework for understanding labour force behaviour over a year. Attention here will be focused on how best to operationalize those concepts in a retrospective setting in order to reduce recall error and to obtain the best possible data.

3. The Concepts Underlying the Measurement of Labour Force Status

The concepts and definitions currently applied to measure labour force status in household surveys are based on international guidelines developed by the International Conference of Labour Statisticians and conventionally known as the "ILO (International Labour Office) guidelines" The main features of these guidelines are the emphasis on current activity during a specified recent period and the priority given first, to employment, regardless of the number of hours worked,

and second, to unemployment. In addition to persons who actually worked during the reference week, the employed according to these definitions include persons who had a job but were absent from work. The unemployed are defined to be persons who were without work during the reference week, were available for work, and had taken specific steps during a recent period (usually four weeks) to seek paid employment or self-employment. Persons not-in-the-labour-force are those who are neither employed not unemployed. Special provisions exist for temporary layoffs and persons with a job to start at some future date, for whom the requirement for job search is waived and who are considered unemployed if currently available for work.

These definitions are applied each month to the questionnaire responses provided by sampled persons. The first thing to note is that the emphasis in entirely on the current state, and that there is no mention made of the status either before or after the current measurement period. The focus here is on classification based on activity during a recent brief period and the accurate measurement of the defining criteria during this period. In practice the operationalization of the ILO guidelines has involved the imposition of certain cut-off rules that facilitate the measurement process but that may result in the inclusion/exclusion of certain groups from the ranks of the employed or unemployed, about which some argument could be made when their situation is viewed over a longer period.

For example, the reference period for job search is specified to be four weeks for the Labour Force Survey. This is a practical cut-off that has become generally accepted internationally as the standard reference period for job search. It is true that one specific job search action during a four-week period hardly seems an excessive requirement as external evidence of interest in finding work. However, without knowing the nature of the local labour market, that of the job being sought, the time employers take to respond as well as the scheduling of job

interviews, the conclusion that a person is no longer in the labour force if no specific action has been taken during a particular four-week period may represent a somewhat simplistic view of reality.

A similar argument can be made concerning so-called "future starts", that is, persons with a job to start shortly. Such persons are considered unemployed if currently available and if the future job starts within four weeks. The ILO guidelines in fact do not specifically mention a time-frame for this group, but refer only to "arrangements to take up paid employment...at a date subsequent to the reference period". The four-week rule here was applied to avoid persons being classified as unemployed who might have a long advance notice of future employment (e.g., seasonal workers with an assurance of return to the former job at the end of the off-season) and to ensure that the future job was not so far off as to raise doubts about whether or not it would actually materialize. In addition, it was deemed that the time period before the start of the job had to be short enough that one would not realistically expect the person to be searching for interim employment. On the other hand, one may be permitted to wonder if classifying someone as not-in-the-labour-force whose job happens to start in six or seven weeks rather than four, for example, represents a meaningful labour market distinction.

The point to these examples is that the four-week reference period (for both job search and future job starts) is a necessary compromise, which establishes an objective criterion which can be realistically and consistently applied in the field. There is a certain arbitrariness in a classification of persons into discrete and disjoint categories. Such a classification is made easier by the application of fixed criteria that may not take into account special circumstances. When applied in a cross-sectional setting with no need for consistency with what came before or what will occur after, the rigid criteria may result in some misclassification.

However, in a cross-sectional context, the occasional "mistake" does not have serious consequences and is in fact undetectable. The four-week rules yield estimates whose origin can be clearly described and allow comparisons of groups, regions, etc. on a common and historically consistent basis. On the other hand, it is not clear that one wants and indeed can even apply the same kind of precise criteria in a retrospective setting, where responses may be affected by recall and where the possibility of confrontation with the situation before and after exists and may argue for more flexibility.

4. The Linked-Record Model of Labour Market Behaviour Over Time

One of the main difficulties in arriving at an appropriate line of questioning that will accurately measure labour market behaviour retrospectively is the absence of any benchmark data. There do exist validation studies that have examined the accuracy of reporting of both the incidence and the duration of unemployment [Duncan and Mathiowetz (1985)], but they have been limited in scope (covering a single manufacturing company with several thousand employees), difficult to generalize from (based on temporary layoffs only, not on job search), and provide little indication of what sort of patterns one should be observing.

Current ideas concerning the nature of workers' labour market behaviour over time have been strongly influenced by what is observed in linked-record labour force data. However, there are several reasons why linked-record data are not necessarily a good guide in this respect.

Linked records, strictly speaking, show gross change based on two snapshots taken at time points four weeks apart. However, there is a four-week window

between the two snapshots, where nothing is observed.[2] This can lead to deceptive patterns being observed. For example, persons who were not-in-the-labour-force and not future starts in the first month but employed the second month clearly had to have done some job search in the intervening period in order to find work. Thus the true transition for such persons would be N=>U=>E (not-in-the-labour-force to unemployed to employed), yet linked-record analyses show only the N=>E transition. And N=>E flows account for a substantial number of flows into employment in linked-record data.

In addition, the existence of response errors in LFS data may result in many spurious flows being observed, where none have in fact occurred. An error in either of two consecutive months, for a respondent whose true situation has not changed, effectively "creates" a change. Even a small error rate, when applied to a large cell such as the number of persons employed or not-in-the-labour-force, can result in a large number of spurious changes being observed relative to the actual number that have occurred. These types of errors tend to be associated with the intensity of activity (number of hours worked, number of job search methods used), but they even occur, inexplicably, for respondents holding forty-hour-a-week jobs or who have used active job search methods [Lemaître (1988)].

The prevalence of such errors, together with the strict application of the four-week cut-offs, may explain the considerable number of month-to-month flip-flops one observes is six-month linked records, that is, situations in which a respondent changes classification from one month to the next and then reverts back to the original classification the following month. The association with intensity of activity may suggest a weak labour force attachment, but the relevant question for

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2 This is not entirely true for persons unemployed in the second month, whose job search could have taken place at any time in the previous four weeks and been reported.

retrospective applications is whether respondents perceive and are able to report their attachment as intermittent.

The use of linked-record data as a model of what one should be observing retrospectively would appear at best questionable and at worst, imposing an a priori flawed longitudinal picture on events for which respondents' own retrospective reporting may be a far better guide. Since there is no reliable independent source of data that can tell us what retrospective surveys should be recording, an appropriate strategy would appear to be to examine closely what retrospective surveys are in fact showing to see if it makes sense, and to determine the circumstances under which under-reporting or non-reporting (of job search) is actually occurring.

5. Recall and Reality

In certain respects, the question of what is measurable in a retrospective setting can be considered somewhat of an academic question, because the measurement process is inevitably a hostage to respondents' recall of specific events, to their retrospective perception of their labour market behaviour and to the effect of subsequent events on respondents' memory of what preceded them. It is true that certain lines of questioning may be more conducive to recall than others and that certain methods, such as feeding back to respondents information provided on a previous occasion, can have an especially favourable impact on recall, but there will always remain some residual problems that will complicate the measurement process. For example, a favourable outcome to a long period of job search that included a real period of inactivity or discouragement (whether it is actually measurable is another question) may tend to attenuate the respondent's memory of the latter, so that job search may be perceived as having been relatively continuous.

Moreover, it is unlikely that respondents view their own past labour market behaviour as being as subject to the numerous changes of mind as the prevalence of flip-flopping in linked records would seem to suggest. Even if their labour force attachment is weak and characterized by intermittent job search, any interruptions in job search are likely to blend into the periods of search in respondents' minds, so that they will tend to recall and report job search as continuous. Although identifying the exact job search methods used in a fixed and short reference period may be an operationally feasible methodology in a cross-sectional setting, in a retrospective setting it becomes an inordinately difficult task for the respondent to supply such detailed information. In asking respondents whether they looked for work over a period of a year, one may thus be faced with recording more the respondents' global perception of their activity than the precise recall of the actual search that occurred. On the other hand, to the extent that this perception reflects plausible labour market behaviour, it is perhaps a better guide to describing search patterns and their eventual culmination (or not) in a job than a set of rigidly applied cut-offs that result in the recording of implausible behavioural patterns.

One need not remain entirely in the realm of speculation on these points, because there exists empirical evidence allowing an evaluation of some of them. Statistics Canada's Annual Work Patterns Survey (AWPS), with its month-by-month style of questioning, assumes that all transitions are possible and allows respondents the possibility of reporting multiple search spells. Now it is unclear that respondents would report the kinds of discontinuities noted above in their own labour market behaviour, if asked to recount it in their own terms; one suspects that they would not. Thus it will be instructive to see how prevalent they are in the context of a questionnaire that assumes that they are meaningful and allows respondents the opportunity to report any such pattern.

6. Some Empirical Results on Respondent Recall of Job Search

The results which follow were obtained from the 1984 Annual Work Patterns Survey. The approach adopted in the Annual Work Patterns Survey was to attempt a classification of respondents according to labour force status over an exhaustive set of periods covering the entire year. Among other things, the respondent was asked whether he/she had worked or looked for work during each month of the year. For the purposes of this analysis, all distinct non-working periods reported in the 1984 AWPS were identified and classified into four categories: a) periods between spells of employment; b) periods in progress at the beginning of the year and ending with a job; c) periods following a separation and still in progress at the end of the year; d) full-year periods. The pattern of search for each category of non-working periods was then examined. Any non-working period in which the respondent indicated that he/she was on temporary layoff was excluded from the analysis. The reason is that persons on temporary layoff might not be expected to be looking for work if expecting to return shortly; they have thus been excluded because their presence may tend to distort reported search patterns.

6.1 The Continuity of Job Search

The first result to note from this survey (See Table 1) is that 96% of non-working periods in which some job search was done were reported with a single continuous spell of job search. For non-working periods between jobs, the figure was over 99%. Even for non-working periods lasting the full year, discontinuous job search was reported only 9% of the time. Thus respondents in the AWPS, when they reported job search, tended to report it as continuous.

6.2 The Reporting of Multiple Search Spells

One could perhaps argue that a more focused line of questioning would have uncovered significantly more interruptions in job search. However, it is not clear how one would go about doing this. Certainly, when given the opportunity to report interruptions in job search (as they are in the AWPS) without an explicit probing question, respondents do so very infrequently, which suggests that they do not perceive themselves as having stopped looking, even if they may well have done so at some time according to a strict interpretation of the LFS 4-week rule. Even respondents who may actually have become discouraged and not done anything specific to find work for several months may well view their search history as continuous, especially in the light of their eventual success in finding a job. The only evidence that suggests that search interruptions are common is based on linked-record data, but this, as we have seen, can scarcely be considered a reliable source.

Generally, the tenor of the results observed in the AWPS does not augur well for the possibility of detecting interruptions in job search and U=>N=>U type transitions before the start of a job, if indeed these occur with any significant frequency. AWPS data suggest that respondents who start a job during the year do not seem to view their labour market history and participation in this fashion. Could one attempt a probing question? Suppose, for example, that one were to identify when job search began. Can then one ask respondents if they stopped looking for any period of time, then resumed before eventually finding a job, and expect a reasonable reaction and response? For the large majority of respondents who have no interruptions, such a question would make little sense and might create more response problems than it solves. For the targeted population, one has to assume that the probing question would uncover job search interruptions that

respondents do not spontaneously volunteer, or only rarely so, with an AWPS style of questioning.

It is far from clear why this would be the case. The one conclusion one can draw based on the limited data available on multiple spells before the start of a job is that there is an association between the length of non-working periods leading to a job and the incidence of multiple search spells (correlation approximately 0.82). However, except for the longest non-working periods (almost full-year), the incidence of multiple spells reported never exceeds four percent. Only for non-working periods of maximum length (ten months for periods between jobs, eleven months for periods in progress at the start of the year) does the incidence approach ten percent or slightly more.

These results are also in line with the incidence of multiple spells reported for non-working periods lasting a full year, where a nine percent incidence was observed. The association between the length of the non-working period and the incidence of multiple search spells has an obvious intuitive appeal, since one might expect changes in plans or discouragement to set in after a long fruitless period of search. In general, however, the length of spells before the abandonment of search in multiple search spells in the AWPS would not lead one to conclude that these represent situations of discouragement; indeed, over 85% of the initial job search periods lasted three months or less (admittedly a certain proportion of these are left-censored). Thus multiple spells reported in the AWPS would appear to be associated more with marginal or intermittent labour force attachment than with the phenomenon of discouragement.

6.3 Multiple Search Spells Across the Seam

The AWPS also recorded over six hundred thousand persons, without work for the entire year and for whom a spell of job search was observed during the year, who ended the year out of the labour force (Table 1). These accounted for almost half of all full-year non-working periods with at least one reported month of job search. Were many of these persons to find work in the following year after resumption of job search, then clearly one would observe a significant number of multiple search spells across the seam between two calendar years. However, a certain number who were no longer looking for work at year-end may have stopped doing so because they had found jobs to start later. But this is probably a minority and the possibility that most of the rest would be out-of-the-labour-force permanently thereafter can be discounted. Thus we are faced with the possibility of an asymmetry in the estimates in longitudinal applications, in the sense that what will be observed across the seam between two calendar years may be different from what is observed over the year.

Although it may seem altogether too convenient to claim that multiple search spells may often straddle the calendar year, there is one labour market-related reason why this may in fact be the case, namely, the fact that the winter season constitutes a lull in hiring activity which may have repercussions on job search. The fact that many persons with prior search end the year out-of-the-labour force or that left- or right-censored non-working periods generally show only one search spell may reflect this. In addition, AWPS data indicate that almost two thirds of persons with a single spell of job search who end the year not-in-the-labour-force had last looked for work more than three months ago. By contrast, in cases where multiple spells were actually reported during the year, less than one third of search interruptions lasted more than three months. Thus in general, cases where respondents with prior search end the year out of the labour force would not

appear to be brief interruptions which the survey can capture when they are in progress, but which would not be reported retrospectively.

Although the problem of asymmetry may not be as serious as appears as first glance, it is unlikely to be completely absent. In other words, if one were to interview the same respondents in the following year, a certain number would eventually report resuming looking for work and one would therefore detect an interruption in job search across the seam that might not have been observed had one recorded respondents' activity directly for a twelve-month period straddling the two calendar years. Generally, one would expect this to occur only for relatively short interruptions, so that the picture conveyed of the respondent's labour force experience will scarcely be affected by its omission.

6.4 Transitions into Employment

As noted earlier, linked-record gross change data show substantial numbers of N=>E flows. Indeed almost half of flows into employment recorded in linked-record data are of this type. According to labour force concepts, however, N-to-E transitions should be exceedingly uncommon. The reason is that even if persons are not looking for work immediately before starting work, they are nonetheless future starts and as such, should be classified as unemployed. The only exceptions would be cases where persons with a job to start shortly are excluded from the ranks of the unemployed because they are unavailable for work during the reference week (for example, full-time students during the reference week with a full-time job that starts the week after leaving school). These will occur only at certain times of the year and even then, may not be especially common. Other cases occur with even less frequency (persons not otherwise looking for work, who are called by an employer and begin working the same week).

In the AWPS, almost half of job starts occurred without any job search being reported in the preceding non-working period (53% of non-working periods between jobs and 44% of non-working periods in progress at the beginning of the year). We will look at this situation more closely below, after examining the more conventional cases in which some job search was reported prior to a job start.

For these cases, AWPS results correspond closely to what labour force concepts imply (and what common-sense notions also would suggest), namely, that persons who start working at a job were previously unemployed. In 84% of non-working periods between jobs in which one job search spell was reported, job search was reported every month. In an additional 10%, job search, although not occurring every month, ended with the start of the new job. For over 90% of the remaining cases, the period between the end of job search and the start of the new job lasted less than three months. If indeed the job search for this latter group was reported accurately, it could plausibly be interpreted as consisting of persons who had found a job which did not start immediately. As "future starts", such persons would be classified as unemployed in the months before the start of the job.

Non-working periods in progress at the beginning of the year (and therefore left-censored) and ending with a job tell a somewhat similar story, with about 92% of job search periods ending with a job. For this category, in only about one half of non-working periods did job search occur every month. The reason may well be that in many of these cases, the jobs are seasonal or student summer jobs (almost 50% started in May, June or July), for which job search began at most a few months before the job. As was the case for non-working periods between jobs, for about 90% of situations in which job search ended before the start of the job, the

period between the end of search and the start of the job was less than three months.[3]

6.5 Non-Reporting of Job Search before the Start of a Job

The failure of many respondents to report any job search prior to the start of a job is at once puzzling and counter-intuitive. This is not an anomaly peculiar to the AWPS; a similar result was observed for the Labour Market Activity Survey, where about one third of hirings occurred without any search having occurred in the previous non-working period. That this pattern occurs to such an extent and in two surveys as different as the AWPS and the LMAS suggests fundamental problems in past approaches to identifying job search.

To obtain a general idea of the impact of these cases, suppose one were to assign to each a minimal period of unemployment, say one month. This would be justified even if the search had taken place while the person was previously employed, because persons with a job to start in the future are normally considered unemployed. In the AWPS, the assignment of just a single month of unemployment to these cases would increase the average monthly level of unemployment by about 150,000.

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[3] Note that the patterns described here and freely reported by respondents correspond closely to the procedures adopted by Statistics Canada's Labour Market Activity Survey. This survey specifically asked respondents whether the start of a job had been preceded by a non-working period and whether or not job search had taken place during this period. The respondent was then asked how many weeks he/she had been continuously looking for work immediately prior to starting work and this job search period was "attached" to the job during processing and assumed to have ended as of the start of the job. These procedures have been criticized [Jones and Riddell 1991] for disallowing U-to-N-to-U transitions before the start of a job; however they correspond closely to what respondents would have reported in any case under an unconstrained AWPS questioning style.

The question that immediately comes to mind is whether these cases can account for the underreporting of unemployment observed in the AWPS in the early part of the year. Chart 1 shows a distribution of the month of the job start for persons in this group and the job search imputed for them, on the assumption that the distribution of durations is the same as for persons who actually reported search before the start of a job.[4] Chart 2 shows the underestimation bias of Annual Work Patterns estimates of persons unemployed all month, relative to Labour Force Survey estimates of unemployment. Although the estimates of imputed search look somewhat high, it would appear that the failure to identify cases of search before the start of a job can explain a substantial portion of the underreporting of search observed in the AWPS.

What could be the cause of the non-reporting? Recall problems may account for some of it, but this hardly seems a satisfying explanation overall. There are indeed several other possibilities. In the case of non-working periods between jobs, the job search may have occurred while the person was working at the prior job, especially since about 85% of the non-working periods for this situation lasted less than three months. Respondents may then literally and truthfully report that they did not look for work during the non-working period. However, this explanation is less adequate for non-working periods in progress at the start of the year and which end in a job; of these, scarcely 25% had lasted less than three months.

It may also be that the omissions involve situations where the respondent contacted or was contacted by an employer for whom he/she had worked before. The Labour Market Activity Survey has revealed that the number of incidents in

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[4] The actual durations may well be on average shorter, if under-reporting is associated with shorter spells. Nonetheless, the imputed search estimates do illustrate clearly that the accumulated effect of the non-reported search tends to result in larger biases in the early part of the year.

which workers return to work for former employers from year to year is considerable. In situations where the return to work is something of a formality and only the date needs to be fixed, respondents may very well not consider themselves to have done any job search.

Regardless of the reason for the non-reported search, the fact that it is so closely associated to job starts provides a particularly simple way of identifying it, namely phrasing a question that makes the link between the two explicit (e.g. "How did you find this job?") More details on this are provided in Appendix A.

6.6 A Summary of Results

Were one not so conditioned by a long history of LFS linked-record data which suggest that discontinuous search is common, one would conclude that the AWPS data make more than a small amount of sense, both conceptually and behaviourally. They tell us that:

a) job search is generally reported as continuous;
b) most job search is reported as ending with the start of a job;
c) non-search periods immediately before the start of a job are generally short and can plausibly be interpreted as waiting periods, that is, the respondents are likely future starts;
d) the incidence of multiple spells reported is small and significant only for long non-working periods.

However, the AWPS also includes a few at least partly incongruous results, namely:
e) almost one half of job starts occur without any previous search being reported;

f) the initial search spell in cases where there are interruptions in search of a multiple set is generally short, indeed too short to be associated with discouragement.

7. Recall and Reality Revisited

The obvious question to raise in connection with the empirical results presented here is whether what respondents report in an unconstrained setting such as that of the AWPS is an accurate reflection of what actually happened. In certain cases, in particular in cases where no search is reported prior to the start of a job, it is clearly not so. In others, for example, the reporting of continuous job search, the answer is less clear.

On the other hand, there is no independent convincing evidence that can demonstrate that interruptions in search are in fact common. The belief that they are common appears to stem from analyses of gross change data based on linked-records, where the presence of response errors "creates" substantial numbers of spurious transitions and indeed, transitions that are even at odds with standard labour force concepts. This can hardly serve as a benchmark of what actual labour market behaviour is like.

Certainly, if it were possible to apply the standard 4-week reference period for job search retrospectively, more search interruptions might well be detected. But even if such interruptions were detectable, there still remains the question of whether respondents reporting them would have actually left the labour force in any normative sense. Notions of behavioural consistency would argue that respondents do not change their minds about their labour force participation as often as is suggested by gross change data. It is undoubtedly preferable to base economic analyses on respondents' behaviour rather than their perception of their

behaviour but aside from the fact that in a retrospective survey, one may have little choice, the actual behavioural criteria that are applied cross-sectionally may not be appropriate in a retrospective setting.

The four-week cutoff for job search was designed as an operational means of measuring the size of the labour force during a short well-defined period.[5] Indeed this is the only official defining criterion for membership in the labour force. Membership over longer periods, say a six-month period, is then defined to be membership in each of the six months. If it were possible to apply the four-week rule for each week of the period, it is possible that one would uncover one four-week period in which there was no active search for work. But surely it is implausible, indeed meaningless, in a retrospective setting to conclude that the person has actually left the labour force during this period and re-entered it one month later. It is doubtful that this kind of fine distinction contributes anything to an understanding of a worker's labour market behaviour.

However, one need not have to choose between the standard operational rules for measuring labour force status and an alternative version that would make more sense when workers' labour market behaviour is viewed over a longer period. The reason is that, as the AWPS results presented earlier have demonstrated, respondents with some exceptions reply in a way that makes behavioural and labour market sense, even when the questions they are asked mimic a cross-sectional questioning style. Whether they respond this way because of imperfect recall of the precise incidents of job search or because this is actually what happened may be of some methodological interest, but it makes little difference as far as our understanding of their labour market behaviour is concerned.

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[5] In certain countries, (e.g. Norway), the reference period for job search until recently was two months. In others, in particular Japan, it is one week.

8. Conclusion

Annual retrospective surveys in the past have had great difficulty in identifying job search in the early part of the year. As a result, estimates by labour force status have had less than perfect agreement with monthly estimates produced from labour force surveys. The response problems associated with such surveys have made it difficult to use the resulting data for labour market analysis. Dealing with these response problems becomes even more of a critical issue for a longitudinal survey, where the investment in data is considerable.

Although the standard labour force concepts, designed for cross-sectional use, would appear to be an imperfect tool for retrospective applications, empirical results show that respondents nonetheless provide responses that are conceptually and behaviourally meaningful. The underreporting normally observed in retrospective surveys would appear to be closely connected to the failure, in a significant number of cases, to report any job search prior to the start of a job, a problem for which there is a simple questionnaire solution (see Appendix A). It therefore would appear that the experience of past retrospective surveys, with some modifications to take into account the results of this analysis, can serve as a useful model for subsequent surveys. An outline of these modifications is provided in Appendix A.

APPENDIX A

Questionnaire Design in a Retrospective Setting
Proposals for the Survey of Labour and Income Dynamics

1. Introduction

The following set of recommendations will be governed by certain principles, some of quite general a nature and some having rather specific consequences, which will be considered in specifying appropriate lines of questioning.

The first of the general principles relates to the longitudinal nature of SLID. The principle is that the nature of the data collected has to look the same whether viewed over a reference year or over a yearly period that straddles two consecutive reference years ("the invisible seam"). This will be ensured in part by feeding back to respondents information on their status at the beginning of a reference year, as collected on the previous survey. It also means that phenomena observable across the seam (e.g. multiple spells, discouragement) must also be observable over a reference year.

Secondly, any proposed line of questioning has to be grounded in reliable empirical results or plausible behavioural patterns. In this respect, LFS linked-record data are a poor guide because although the data themselves may be longitudinal, the survey design is not. As a result, response errors have an undue effect on what is being observed. In particular, linked-record data show the prevalence of certain phenomena (e.g. N=>E transitions and multiple search spells) that are at variance with LFS concepts, show erratic and frequent changes in behaviour, or do not correspond to the way respondents view their own labour market experience.

Thirdly, question strategies need to be viewed in the context of computer-aided interviewing, which provides for complex branching options and makes the targeting of special questions to subgroups of respondents about which more information is needed relatively easy.

We will address the questions of employment, unemployment, and discouragement/multiple search spells in turn.

2. Employment

With respect to employment, there seems little to modify in the current LMAS methodology. The identification of job starts and stops/interruptions by means of dates is the most convenient and economical way of collecting data on employment spells. In addition, as the LMAS data on separations has shown, monthly seasonal patterns appear to be captured quite well by the date-based approach (see Chart 3). Although respondents are likely to be able to provide the month of a job start or a separation, they may not remember the precise day. Thus it is probably sufficient to collect information on whether the job start or separation occurred at the "beginning", "middle", or "end" of the month.

The main deficiency with the technique applied in the LMAS is that there is no overt mechanism to ensure that for job changes, the start date of a new job is consistent with the end date of the previous job. This is needed to guarantee that short non-working periods between jobs are properly identified or that non-working periods are not recorded if none occurred. One solution might be for the interviewer to confirm the approximate derived length of the non-working period with the respondent after the start date of the new job is provided ["So you were without work for x months (weeks) before you starting working at this job?"]. A second possibility would be for the interviewer to ask something like the following,

after identifying that there was a follow-up job: "Were you without work for any time between your last job and this one?" If not, the start date of the new job could be imputed from the end date of the previous one. Otherwise, the interviewer could ask for the new date, which could be verified after entering to ensure that it implies a non-working period.

A second problem noted in LMAS with respect to employment has to do with identifying temporary separations when they are not followed by a return to the same employer in the same year. Many of these were recorded as permanent separations in LMAS, but when the following year's data was available, it was found that significantly many respondents had in fact returned to a previous employer. The solution in this case would appear to be to ask the respondent directly, following the recording of the final separation for the year, whether the respondent expects to return to work for this employer (Cases where this has already happened at the time of the interview should be easy to deal with.). One might want to restrict this question to separations that occur in the latter half of the reference year. Returns to former employers seem to be such a common phenomenon in Canada that this kind of approach would appear advisable. Otherwise the number of permanent separations for the reference year is going to be substantially overestimated.

Whether or not the job actually materialises the following year is irrelevant as far as the respondent's perception of the situation at the time of the interview is concerned. Should it not, some adjustment to the coding of the separation (temporary versus permanent) might be necessary in the longitudinal file. Note that a recent Labour Force Survey test using just this approach uncovered significantly more temporary layoffs than does the current LFS questionnaire.

3. Unemployment

Since one of the main problems with respect to unemployment has to do with identifying job search before the start of a job, it is proposed that a direct approach be adopted. That is, the respondent should be asked: "How did you find this job?" Here there are likely to be two types of responses, namely a call from the employer, or the job search method that led to the job (i.e. "an ad in the paper", "through a friend", "called the employer"). In the latter case, the respondent should be asked, "When did you start looking for work?", with "right after losing/leaving the last job" as a response option. Note that in some cases, the search may have taken place while the respondent was previously employed; however, the information that is needed here is how long the search took and not just how long the person was unemployed.

In both of the above situations, the respondent should be asked, "How long did you wait between the time you were notified of your hiring/recall until you started work at this job?" Although the time the respondent had to wait before starting work is not information that is currently or has been previously collected, it is information that the respondent is likely to be able to provide and may well shed light on some of the anomalous patterns observed in previous surveys in connection with the absence of search prior to employment. The aim here is not to collect the information needed to apply LFS concepts regarding future starts; as noted earlier, the four-week cutoff applied cross-sectionally makes little sense in this context anyway. Rather, it is to collect information that allows one to properly measure the duration of search and to understand certain patterns of inactivity, particularly in the case of returns to former employers.

In summary then, for each hiring, three items should be collected: i) when the job started; ii) when the respondent started looking for work; iii) the interval between the notification of the hiring/recall and the start of the job.

4. Multiple Search Spells and Discouragement

The AWPS results cited in this paper would argue for considering the period between the start of search and the notification of hiring as a period of continuous search. Certainly, when this period is less than a certain specified length, this seems the most sensible approach; the low incidence of search interruptions (about 1.5% for periods under 9 months) and their short duration (about 75% last at most two months) render data on interruptions of limited use for analytical purposes. Assuming continuity of search in these cases will scarcely introduce any distortion in the data. The question of whether respondents would always report search in this way, regardless of labour market conditions, is not entirely clear. It might be useful to look at AWPS data for other years to see if this is a consistent pattern (It likely will be.).

What one would like to be able to do, in cases when the period between the start of search and the notification of hiring is relatively long, is to identify measurable and meaningful periods not-in-the-labour-force sandwiched between periods of search, either because of discouragement or for some other reason.

With respect to discouragement, one study [OECD (1987)] has shown that the subsequent behaviour of persons identified as "discouraged" does not correspond to what one expects, that is,

- they are no more likely to re-enter the labour force than other persons not-in-the-labour-force who say they want a job but cannot take one for reasons such as family-related responsibilities, and

- the incidence of their re-entry is insensitive to cyclical conditions.

In view of this, the retrospective identification of discouragement and of U-to-discouragement-to-U transitions becomes distinctly problematical. Nonetheless, since discouragement is a phenomenon of universal interest, it would appear advisable for SLID to make some attempt to identify it. The negative results of the study mentioned above may have something to do with the rather loose way discouragement is generally defined in the labour force surveys; aside from reporting that they are not currently looking because there are no jobs available, respondents are merely required to have looked for work in the last six months. In a retrospective survey, one can apply stricter criteria.

Although the multiple spells observed in the AWPS generally do not appear to be associated with discouragement, a more focused approach may be more successful. In certain cases, namely situations in which respondents report having looked for work during the year but are not currently doing so as of the interview, this will not be difficult. The problem case, as above, is clearly going to be in non-working periods before the start of a job. The fact that respondents do not spontaneously report search interruptions with any frequency suggests that the ground needs to be prepared in order to ensure that questions are being asked that make sense to the respondent. For now, we will only consider periods before the start of a job; other cases will be looked at later.

4.1 Before the Start of a Job

How long should the period since the start of search be before one begins to inquire about interruptions? Here there are two cases to consider: discouragement and situations of marginal or intermittent attachment. For discouragement, there are conceptual reasons that favour a relatively long period. The cross-sectional

identification of discouraged workers requires only that some job search have occurred in the past six months; there is no requirement involving a minimum period since the beginning of job search. Although in principle respondents could report discouragement after only a short period of search, it would seem reasonable to suppose that in general, discouragement sets in only after job-seekers have seriously tested the waters. If we allot, say, three months for this, which is still relatively short, then a minimum period for discouragement (under the assumption that it is not a momentary state that is identifiable only cross-sectionally), and a further minimum period following the resumption of search and the finding of a job, then one is already covering a good part of one full year. And indeed, empirical results from the AWPS indicate that respondents only begin reporting interruptions in significant proportions for non-working periods over nine months.

Given the very low frequency with which interruptions are reported spontaneously by respondents, one would not want to ask directly about them unless respondents first provide some information that suggests discouragement. Here, one question asked in LMAS of all job-seekers might be of use, namely, "Did any of the following cause you difficulty when you were looking for work?", with response categories such as "not having the skills or experience for available jobs", "not having enough education for available jobs", or "a shortage of jobs in the area", that are normally associated with discouragement. Persons indicating such reasons could then be asked something like the following, "Did you give up looking for a while because of this?", followed by "How long did you stop looking?". Here the exact placement of the period of discouragement and perhaps even its length are probably less important than the fact that it occurred.

Although one may want to maintain the question about difficulty for all job-seekers, it is suggested that the question concerning interruptions be restricted to

respondents for whom the period between the start of search and the notification of hiring was at least nine months. Given the average duration of unemployment (3-4 months) in Canada, nine months of unsuccessful search is a relatively long time. Thus, although one cannot give an iron-clad guarantee that this line of questioning would work, there is at least a good chance that one would be asking the class of respondents to whom it is addressed a question which they themselves might perceive as making a reasonable amount of sense.

The second case to consider in the matter of search interruptions involves situations of marginal or intermittent attachment, a much more difficult case to deal with. Most of the incidents of multiple spells in the AWPS seem to be of this kind, since over 75% of the initial search spells lasted one or two months. Indeed over 50% only lasted one month. In contrast to the case of discouraged workers, there is no obvious question one can ask to screen for marginal attachment, especially since one is dealing with persons who eventually accepted a job during the year. The absence of an obvious screening question makes the identification of search interruptions for this group rather difficult.

The problem is that it is difficult to imagine any reasonable way of eliciting interruptions that is not somehow based on a month-by-month AWPS style of questioning. As we have seen, however, the incidence of multiple spells for non-working periods ending in a job, using such an approach, was a mere 1% (for 1984, this amounts to about 23,000 non-working periods). For non-working periods of nine months or more, the incidence is higher (about 9%), but the sample sizes are too small (under 20 respondents in the AWPS) to be of any use. It is therefore recommended that, except for possible cases of discouragement where there is the possibility of probing questions addressed to an appropriately screened subgroup, attempts to identify search interruptions over the year before the start of a job be abandoned.

4.2 Following the End of a Job or for Full-Year Non-Working Periods

For the types of non-working periods considered here, AWPS results show that a significant number of search spells ended prior to the end of the year (over 10% for periods after a job and over 50% for full-year non-working periods). In both cases, the numbers involved are also significant (about 90,000 and 620,000, respectively). If search is resumed the following year, this will result in a significant number of multiple search spells being recorded, probably far more than were actually observed over the year (about 110,000). As noted in the text, however, there are labour-market reasons to believe that interruptions may be more common across the seam between two calendar years.

Because the interruptions in these cases are generally longer than those one observes over the year and because there is a valid labour market reason for this (the winter lull in hiring), it would seem advisable in these cases to preserve an AWPS design, that is, to ask respondents about their job search on a month-by-month basis. Note that this is precisely the approach adopted by the Labour Market Activity Survey. Indeed, the results of the analysis of AWPS data confirm in general that the style of questioning adopted by the LMAS appears to have been an appropriate one.

In the case of interruptions reported retrospectively, the identification of discouragement or marginal attachment is somewhat easier. It would seem appropriate here not to consider any interruption as a potential case of discouragement, but only situations for which a significant number of months of continuous search has been reported, and to treat the rest residually as cases of marginal attachment. This may seem like an arbitrary decision, but surely no more arbitrary than the four-week rule for job search. In addition, it may avoid the type of incongruous result reported in the OECD study reported earlier, where

situations of marginal attachment to the labour force may be masquerading as discouragement. Since the average duration of unemployment in Canada is about three to four months, a minimum of three months of prior search as a screen for discouragement would not appear unreasonable; that is, respondents would be asked why they had stopped looking for work only in situations where they had looked at least three months.

5. The Impact of Questionnaire Changes on Estimates of Unemployment

As seen earlier, the failure to identify job search before the start of a job in a significant number of cases has been a notable feature of past retrospective surveys at Statistics Canada. The approximate calculations of the impact of these omissions presented in the text suggests that once these have been properly identified, monthly estimates of unemployment from SLID may in fact exceed those from the Labour Force Survey. Although this may create some confusion, it would not invalidate SLID estimates of unemployment, for several reasons:

- the Labour Force Survey, because of the four-week window between reference weeks, in which nothing is observed, may be missing a significant number of short spells;
- respondents appear to view their labour force participation as being continuous in a retrospective setting, even if a strict application of cross-sectional criteria might result in their being classified as out of the labour force in any given month.

This outcome, should it be realised, would illustrate more than anything the extent to which the Labour Force Survey does not measure unemployment in any absolute sense, but rather provides an indicator of the unutilized labour supply at a given time. Although the measurement criteria it applies are objective and the activity it measures potentially verifiable, the current operationalization of labour

force concepts was not designed to ensure longitudinal consistency. However, as the AWPS results have shown, respondents retrospectively do generally report consistent behaviour. Whether or not respondents, once they start looking for work, do in fact continue to look every month until they find a job, this is the way they report it. In a retrospective setting, one has little choice but to accept this view of reality. Certainly, it has far more intuitive appeal than the numerous changes recorded by linked-record data.

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