Does Unemployment Lead to
Self-Employment?*

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ABSTRACT. The currently burgeoning literature on the
nature of and the causes for the recent reverse in the
downward trend in self-employment in many developed
economies, contains a somewhat inconclusive debate on the
relationship between unemployment and self-employment,
and whether self-employment fluctuates pro- or counter-
cyclically. This paper reviews this literature, presents some
recent evidence for EC countries, and argues that the
approach in the previous research of searching for relation-
ships between unemployment and self-employment *stocks* is
fundamentally inappropriate. A new approach, based on an
analysis of inflows to and outflows from self-employment, is
called for.

1. Introduction

In the last two decades, the long-term historical
decline in self-employment as a proportion of total
employment in most economically developed
economies has slowed, or in some cases reversed.
In some countries (such as the UK — see Meager
(1991a) — and the USA), the reversal has been
particularly marked. As a result, there has been a
renewal of interest in self-employment among
economists and other social scientists.

Even a casual observer of the applied social
science literature will have noted the increasing
number of studies attempting to model and
explain the factors affecting self-employment.
These studies can be found both at a micro level,
using cross-sectional or longitudinal data to iden-
tify the factors influencing individual propensities
to enter self-employment; and at a macro level,
using time-series data to model the aggregate de-
velopment of self-employment over time. The
micro studies include, for example, Fuchs (1982),
Rees and Shah (1986), Borjas (1986), Carroll and
Mosakowski (1987), Pickles and O'Farrell (1987),
Evans and Leighton (1989a), Evans and Jovanovic
(1989), De Wit and Van Winden (1989), O'Farrell
and Pickles (1989), Burrows (1990), and Meager
(1991a); some of these studies are embedded
within a (neoclassical) economic framework,
others take a more sociological perspective. For
examples of *macro* studies by economists, see
OECD (1986), Blau (1987), Johnson *et al.*
(1988), Evans and Leighton (1989b),[1] and
Blanchflower and Oswald (1990); whilst Steinmetz
and Wright (1989), and Bögenhold and Staber
(1990) provide recent examples of aggregate time-
series analyses within the sociological tradition.

The explanations put forward for the recent de-
velopments in self-employment are manifold, and
the empirical evidence available on the relative im-
portance of the various factors in explaining the
self-employment experience of different countries
is extremely mixed. It is not our intention to review
these competing explanations here, but briefly,
they include:[2]

— changing opportunities for dependent employ-
  ment over the economic cycle:
— sectoral change (in particular, the decline in
  agriculture and manufacturing, and the expan-
  sion of the service sector);
— changing aspirations of certain sections of the
  workforce (with an increasing preference for
  "enterprise" and autonomous forms of work);

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— changing strategies of employing organisations (with an increased tendency towards sub-contracting, and the use of labour only sub-contractors, and other forms of "self-employed" labour);

— government policies (in particular the widespread introduction of labour market and industrial policy instruments designed to encourage and support self-employment and the small business sector);

— demographic change (thus for example, in so far as the propensity to be self-employed tends to increase with age, the current "ageing" of the workforce in many developed economies might of itself be expected to result in an increase in the proportion of the workforce self-employed).

In the present paper we concentrate on the first of these explanatory factors, namely the cyclical sensitivity of self-employment. We should note in passing, that it is likely that some of the other factors are also themselves cyclically dependent, and thus not strictly exogenous influences on self-employment. Thus, for example, the use of subcontractors by employing organisations might well expected to vary with the cycle (not necessarily in a straightforward manner; some models of employer behaviour generate pro-cyclical movements in sub-contracting, others imply that the variation is counter-cyclical). Similarly, in so far as government policies are labour market-driven, we might expect some counter-cyclical variation in the intensity of policies targeted at increasing self-employment.

Our emphasis here, however, on cyclical variations in self-employment, is not because we regard this as the most important factor in explaining self-employment trends, but rather because:

a) in order to establish whether there has indeed been any fundamental shift in the underlying historical trend in self-employment, and certainly before attempting to explain such a shift, we need to be able to separate out the influence of the economic cycle; and

b) the debate in the literature about the relative importance of cyclical factors has been particularly confused and inconclusive in its findings. This situation has arisen largely because,

as argued in this paper, the basic relationship being examined has been fundamentally misspecified in most of the previous research.

The debate about the influence of labour market conditions on self-employment is paralleled in the literature on the factors influencing the birth of new firms, a small strand of which explicitly considers the role of unemployment (this latter literature is comprehensively reviewed, mainly in the UK context, by Storey (1991)). The relationship between new firms and self-employment is a complex one but it is clear that, as Storey (1991) emphasises, the two groups can at most be regarded as overlapping sets. In the present paper then, we are primarily concerned not with firm births *per se*, but with self-employment as a distinct labour market state, and with the role played by the macro-economic environment, and in particular the role played by unemployment, in influencing developments in self-employment.

2. Unemployment and self-employment: push or pull?

Underlying most of the discussion about cyclical variations in self-employment is a very simple theme. The key question addressed by the previous research is: how does the level (or rate) of self-employment vary with the level of economic activity in the economy, or with the unemployment rate? Some of the models in the literature have been cast directly in terms of economic activity (e.g., with the ratio of actual to trend GDP as the explanatory variable), others have used unemployment as the key independent variable. Given, however, the strong relationship between economic activity and unemployment (albeit a relationship which varies over time and over the trade cycle, with variable lags etc.), the substance of the arguments involved is similar between the two approaches, and in many of these models unemployment fluctuations are treated as a proxy for fluctuations in the level of economic activity (whether this treatment is the most appropriate one will be considered in more detail below).

What then are the substantive hypotheses involved here? The first, and simplest, is that high and increasing levels of unemployment constitute, in so far as they reflect a lack of employment

opportunities in dependent employment, a "push" factor for people (whether they be unemployed or labour market entrants) to enter self-employment. On this model we would expect self-employment to move counter-cyclically. In the words of OECD (1986):

> ... in a slack labour market with few opportunities for paid employment, unemployed workers may seek self-employment as an alternative to joblessness, and multiple job-holders with secondary jobs in self-employment may lose their primary paid jobs, thereby becoming wholly self-employed (OECD, 1986, p. 53).

This kind of argument is at the heart of the study by Bögenhold and Staber (1990), who argue that this interpretation of self-employment growth as a response to unemployment and lack of dependent employment opportunities, is a key explanatory factor for the post-war self-employment experience of ten OECD countries.

The second key hypothesis is that the level of economic activity acts as a "pull" factor on self-employment. That is, more people will enter self-employment, and their businesses are less likely to fail, when economic activity levels are high/growing than when they are low/falling. On this model we would expect self-employment to move pro-cyclically. Again, in the words of OECD (1986):

> ... output fluctuations affect the self-employed as well as wage earners and salaried employees; for example, their businesses may fail a profit margins shrink or disappear during recessions (OECD, 1986, p. 53).

Thus we have two intuitively plausible hypotheses, working in opposite directions, and much of the interpretation of the empirical findings on the relationship between self-employment and the economic cycle (including the internationally comparative OECD study), has been cast in terms of establishing which one of these two opposing forces "dominates" the other. A series of US studies published in the Monthly Labour Review (Bregger, 1963; Ray, 1975; Becker, 1984) came to the conclusion that the unemployment "push" effect was dominant, and that self-employment fluctuated counter-cyclically. Creigh *et al.* (1986), used similar interpretations to explain their cross-sectional findings for the UK of no strong relation-

ship between regional unemployment and self-employment rates,[3] arguing:

> The net impact of unemployment on the self-employment rate is thus unclear. It depends upon the balance between the incentives which high unemployment creates for individuals to enter self-employment as an alternative to being unemployed or remaining outside the labour force altogether, and the relatively depressed business environment found in areas of high unemployment (Creigh et al., 1986, p. 188).

Of course, it might be argued (and we take up this argument in more detail below), that there are two fundamentally different types of relationship involved here, which should be modelled separately. One (which we have labelled the "pull" relationship) is a *direct* relationship between the level of economic activity and self-employment, whilst the second (the "push" relationship), is an *indirect* relationship between the level of economic activity and self-employment which operates through the mechanism of the labour market.

This distinction is recognised in some of the empirical work. Thus Johnson *et al.* (1988) in their analysis for the UK, distinguish between "cyclical" and "labour market" factors, and their estimated models include both a cyclical (GDP-based) indicator, and an unemployment variable. Interestingly, both variables record significant positive coefficients in their models, apparently confirming the existence of both the "push" and the "pull" effects. Bögenhold and Staber also include both variables in their internationally comparative study, with rather different results[4] (although, as will be argued in Section 3 below, their choice of dependent variable — the self-employment *rate* — casts some doubt on these findings).

3. Previous empirical findings

Before turning to the findings from the empirical studies which have looked at the aggregate relationship(s) between self-employment and the economic cycle and/or unemployment, which is our main concern in this paper, it is worth briefly considering whether the rather more extensive empirical research based on *micro (i.e., individual level) data* can provide any guidance to the likely existence or nature of such relationships.

Micro level studies

Most of the research on self-employment with
micro-data has been cross-sectional in nature,
looking at the influence of various personal, social
and economic characteristics on an individual's
likelihood of entering self-employment, or on his/
her probability of being self-employed at a given
point in time.[5] The methodological problems
inherent in inferring aggregate time-series rela-
tionships from micro level cross-sectional data,
are such that even if such work were to show, for
example, that unemployment experience was a
significant influence on individual entry into self-
employment, we would not be able to conclude
that aggregate unemployment fluctuations are a
significant determinant of aggregate self-employ-
ment trends. Nevertheless the existence of such a
relationship would provide a useful micro level
corroboration of any observed aggreagate rela-
tionship, and the same ("unemployment push")
theoretical explanation could clearly apply to
both.

Unfortunately most of the cross-sectional micro
level studies[6] do not include variables based on
individual unemployment or labour market ex-
perience (this is true, for example, of the studies by
Fuchs (1982), Rees and Shah (1986), Borjas
(1986), Carroll and Mosakowski (1987), Evans
and Jovanovic (1989), De Wit and Van Winden
(1989), Burrows (1990), and Meager (1991a)). Of
those that do include such variables, the findings
are mixed. Thus Evans and Leighton (1989a) find,
for the USA, that the effect of an individual history
of unemployment on the probability of entering
self-employment is inconsistent between the years
for which they have data. They do, however, find a
positive relationship between *current* unemploy-
ment and entry into self-employment, whilst the
probability of *being* self-employed at a given
time is also higher for individuals with relatively
more experience of unemployment. Pickles and
O'Farrell (1987), by contrast, using a data set from
Ireland which includes retrospective information
on individual career histories, find the opposite,
and conclude that

> The baseline model offers no evidence to suggest that
> becoming self-employed is associated with or is a response
> to unemployment . . . (Pickles and O'Farrell, 1987, p.
> 437).

Hakim (1989) reports the results of a nationally
representative survey of inflows to and outflows
from self-employment in Great Britain in 1987,
and although no statistical analysis is presented,
the data suggest that redundancy or unemploy-
ment constituted the main motive for entering self-
employment for a minority (just over a quarter) of
people who had entered self-employment during
the previous four years.

At a micro level, then, the evidence is limited
and mixed, but for Great Britain and the USA at
least, there is some evidence of association be-
tween unemployment and entry to self-employ-
ment.

Aggregate studies

Turning to the previous research at a more aggre-
gate level, the various studies have used different
data series from different countries (in a few cases,
notably OECD (1986) and Bögenhold and Staber
(1990), comparative data from several countries
have been used), and over different time periods.
The key question to be asked, then, is whether the
existing evidence enables us to conclude that there
does exist a clear cyclical relationship of the type
hypothesised, which persists over time and in
different places, and if so, what is that relation-
ship?

Unfortunately, despite the considerable re-
search effort devoted to this question, the evi-
dence to date is extremely mixed, and in places
contradictory. Thus, some of the research, includ-
ing many of the US studies (e.g., the Monthly
Labour Review papers referred to above, as well
as Steinmetz and Wright (1989)), and the interna-
tionally comparative study of Bögenhold and
Staber (1990), finds evidence of a dominant
"unemployment push" effect, whilst Evans and
Leighton (1989b) conclude that the US self-
employment rate moves (weakly) in a pro-cyclical
fashion. Other studies find no clear cyclical
relationship (e.g., OECD, 1986), or evidence of
both effects (Johnson *et al.*, 1988). Finally, there is
also some evidence, as for example in the UK
study of Blanchflower and Oswald (1990), of a
dominant "prosperity pull" effect, and the latter
authors argue for the UK that:

> The rise in self-employment at the end of the 1980s

seems to be attributable to the fall in unemployment (Blanchflower and Oswald, 1990).

It is appropriate, therefore, to ask whether these differences in the empirical findings:

a) are due to inadequacies in the empirical methodology adopted by the various authors;

b) reflect genuine differences in the cyclical behaviour of self-employment at different times and places; or

c) imply that the underlying approach of searching for a relationship between unemployment (and/or the economic cycle), and the level (or rate) of self-employment is fundamentally flawed.

Choice of dependent variable

It is clear that much of the existing work is dogged by methodological difficulties. Perhaps the most serious, and best-documented difficulty centres on the question of whether the appropriate dependent variable should be the level or the rate of self-employment (the latter is typically calculated as a proportion of total employment). The self-employment *rate* was used by many of the earlier researchers, but their common finding of counter-cyclical fluctuations in the self-employment rate should not in this case have been used as evidence for the "unemployment push" hypothesis (although it often was), since much of the variation in the rate can be explained by changes in the denominator (total employment) rather than in the numerator (self-employment). Thus it is possible that *both* self-employment and dependent employment fall in a recession, but that the latter is more cyclically sensitive than the former (i.e. in crude terms employers respond to recession by reducing employment levels, whilst the self-employed respond by reducing hours or effort, rather than by ceasing to trade), so the self-employment rate, incorporating both variables, moves counter-cyclically. This issue is discussed in Bayliss (1990), and the problem is recognised in many of the more recent studies (e.g., OECD, 1986; Johnson *et al*. 1988), where the relevant equations are estimated both with levels, and with rates of self-employment as dependent variables.

It is now fairly widely recognised in the literature that whilst the self-employment *rate* may

be the appropriate variable for certain purposes (e.g., cross sectional micro-studies of the propensity of different groups to be self-employed), if we are concerned with aggregate time-series cyclical relationships, the key relationship of interest is obscured thereby, and the use of a *level* variable is appropriate. It is particularly unfortunate that the only recent internationally comparative study of this relationship (Bögenhold and Staber, 1990) is characterised by its use only of the self-employment rate as a dependent variable, thereby throwing considerable doubt on its findings of a dominant and similar "unemployment push" effect in all ten countries over the post-war period.[7]

Level of aggregation

A further question which has often arisen in the literature, when defining the appropriate self-employment rate for inclusion in the model(s), has centred on whether or not agriculture should be included in the analysis. Most of the recent work on the topic concentrates on non-agricultural self-employment. The argument for excluding agriculture rests on the fact that the self-employment rate in agriculture is extremely high (in nearly all countries agriculture is the sector with the highest self-employment rate). Given the near universal secular trend in advanced economies for agricultural employment to decline as a proportion of total employment, it is argued that the pattern of historical development of self-employment in other sectors will be obscured if agricultural self-employment is included in the analysis. It is sometimes claimed further, that because of its "traditional" nature, and its heavy use of unpaid family labour, agricultural self-employment is in some sense, fundamentally "different" in kind from self-employment in other sectors, and should therefore be excluded.

Against this position, it can be argued, however, that in so far as agricultural self-employment accounts for a significant (if declining) proportion of total self-employment, as it still does even in some western European economies,[8] then we will miss an important component of self-employment if we exclude it from the analysis. On this view, it would be better to include agricultural self-employment, and if indeed it is subject to different

influences than other types of self-employment, to try and model those influences in the analysis.

More generally, however, the discussion of agricultural and non-agricultural self-employment draws attention to an important feature of self-employment as a whole, namely its heterogeneity (see also Meager, 1991a). Much of the literature reviewed here treats self-employment as if it were (with this sole exception of the agricultural self-employed) a homogeneous group of workers subject to similar (macro-economic) influences. It is clear, however, from the micro-level sociological studies that self-employment is an extremely mixed bag. Self-employment may include, for example, everyone from highly skilled professional "own account" workers such as doctors, lawyers and accountants, to entrepreneurial small business owners (who may in turn employ others), to taxi-drivers and retailers, and many low-skilled workers in a variety of trades and occupations. Many of the self-employed (such as "labour only" sub-contract construction workers in the UK, for example), may be self-employed in name only, and their characteristics and behaviour may in most respects be similar to those of dependent employees. The key point is that all of these different groups may have little in common other than the fact of their self-employment, and *a priori* there is no reason to assume that the response of these different "segments" of self-employment to cyclical, structural or labour market policy factors will be similar. This raises the distinct possibility that the failure of the earlier studies to arrive at common coherent findings on the cyclical sensitivity of self-employment may result from the tendency in this research to treat (non-agricultural) self-employment as a single analytical category.[9]

Of course, it may be argued that the fact that the self-employed are extremely heterogeneous in this sense does not of itself imply a similar heterogeneity in the effects of unemployment on these different segments of the self-employed. Such evidence as does exist for self-employment disaggregated by industrial sector or by occupational group, however, (see Meager (1991a) for the UK, and Büchtemann and Gout (1988) for Germany) suggests that recent trends in self-employment *have* differed considerably between these groups, and there is at least a *prima facie* case for disaggre-

gation in examining the determinants of these trends. It is, moreover, relatively straightforward to construct arguments suggesting that the responsiveness to unemployment and labour market circumstances will vary between the different segments of self-employment. To take but one example, the degree of institutional and legal regulation of the various occupations in which the self-employed are found varies considerably both within and between countries. Other things being equal, *entry into self-employment* in a highly regulated occupation as a short-term response to slackness in the labour market, is likely to be dependent on a prior and longer-term choice of *entry to the occupation itself*. Thus, in most of the liberal professions (the law, medicine, architecture, etc.) entry into self-employment is legally restricted in the short-run to those who are already qualified for these occupations; in most manual occupations, by contrast, it is not (the legal and institutional regulation of manual occupations varies considerably between countries, however, and in Germany, for example, entry to self-employment in a wide range of (skilled) manual occupations is also highly regulated through the "Handwerk" system).[10] Hence we might expect to find that entry into self-employment in regulated occupations is less responsive to the economic cycle than is entry to unregulated occupations, and that there is a tendency for short-term cyclical self-employment responses to be crowded into relatively unregulated activities with low barriers to entry (the finding from some of the micro-level surveys that a high proportion of entrants to self-employment change their occupation on entry is consistent with this hypothesis — see, for example, Hakim, 1988, p. 431). As far as exit from self-employment is concerned, there seems less reason *a priori* to expect a strong variation between types of self-employment, except in so far as some economic sectors (construction, for example) tend to be more cyclically sensitive than others, but this further reinforces the key point made later in this paper, that inflows and outflows should be disaggregated in work on this question.

Choice of independent variable(s) and data period

Other technical problems can also be identified for many for the previous studies, which may in turn cast doubt on their findings. Thus, for exam-

ple, we may question the use by some researchers (e.g., Johnson *et al.*, 1988; Bögenhold and Staber, 1990) of both GDP and unemployment variables in the same equation, given the strong dependence of unemployment on the level of economic activity. If the underlying structural relationship between unemployment and economic activity can be specified, then estimating the appropriate reduced form with an economic activity variable alone as a regressor may be a preferable approach.

Other findings may result from peculiarities of the particular data set or time period chosen for analysis. This seems particularly likely with regard to the distinctive findings of Blanchflower and Oswald (1990) for the UK, namely a strong negative relationship between unemployment and self-employment over 1983—89, using a pooled cross-section/time-series data set. As the authors themselves recognise, estimation on a data period covering only the upswing period of one cycle cannot be an adequate test of an underlying cyclical relationship. It seems unlikely that they would have obtained the same results had their data period also included the period 1979—83, when both unemployment and self-employment grew strongly in the UK.

We would argue, however, that further concentration on such methodological details would be fruitless, since the basic approach, common to all of the previous studies, of searching for a simple relationship between one or more "economic activity" variables (whether they be output variables, or unemployment variables) and a *stock* measure of self-employment (whether defined as a level or a rate, and whether including or excluding agriculture), is fundamentally inappropriate. Before attempting to develop an alternative approach, however (in Section 5 below), we provide a further illustration of the lack of any common or clear relationship (over time and across countries) between aggregate unemployment and self-employment stocks.

4. The unemployment/self-employment relationship in the European Community

This illustration uses data from OECD "Labour Force Statistics" and "Economic Outlooks",[11] for ten EC countries,[12] for the period 1970—88. The graphs in the Appendix below plot the movements

of the level of (non-agricultural) self-employment and the unemployment rate in each of these countries (given our view of the inappropriateness of these types of model specification, we do not attempt to estimate these relationships econometrically). The clear feature emerging from the graphs (which is not surprising in the light of the earlier discussion), is the lack of any consistent pattern between the two variables, either within countries over time, or between countries.

Clearly our use of the unemployment *rate*, rather than the unemployment level in these graphs can be questioned on the same grounds that we have used to question other researchers' use of the self-employment *rate*. That is, the denominator of the unemployment rate is the total labour force, which itself includes self-employment. If all variables other than the level of self-employment remained constant, therefore, we would observe a spurious (negative) correlation between the self-employment level, and the unemployment rate. The key point in practice, however, is that the other variables are not constant, and movements of the unemployment rate are strongly dominated by movements in the unemployment level. Furthermore, although self-employment is a component of the labour force, the relationship between self-employment changes and labour force changes is rather weak, since most movements into (and out of) self-employment are movements from (to) employment/unemployment rather than movements from (to) economic inactivity (see also Section 6 below). Replacing the unemployment rate with the unemployment level, therefore, makes virtually no difference to the inter-country patterns observed in the graphs, and the only reason for using the rate rather than the level of unemployment is to deflate the data in such a way as to provide some international comparability.

It is particularly instructive to contrast these patterns with the findings of Bögenhold and Staber (1990), who also use OECD data (for a longer time period), for ten countries (five of which are also in the EC). It would seem that the positive relationship between unemployment and self-employment observed by Bögenhold and Staber, for all the countries in their study (a statistically significant relationship in all but two of the countries), probably results from their use of

the self-employment *rate*, i.e., their regression is picking up the cyclical relationship between unemployment and *total employment*, rather than its effect on self-employment *per se*.

The graphs in the Appendix show that when the absolute level of self-employment is used, the only countries exhibiting a clear positive relationship between self-employment and the unemployment rate over all or most of the post-1970 period are Ireland, Italy, and arguably Spain (1975—85). In some cases the relationship is clearly in the opposite direction (i.e., increasing unemployment has occurred together with falling non-agricultural self-employment). This pattern is particularly clear in France, and to a lesser extent, in Denmark.

Most of the remaining countries show a mixed pattern. The UK graph shows clearly that the relationship observed by Blanchflower and Oswald (1990) for the post-1983 period does not hold for the period as a whole.[13] Indeed if, as the latter authors imply, the underlying relationship in the UK is a "prosperity pull" one (i.e., self-employment tends to increase as the economy grows and unemployment falls), then it would appear that this relationship has shifted over time. The pattern in the UK graph is superficially consistent with the argument that this relationship held in the UK both prior to the 1979—83 recession and subsequently, but that this recession coincided with a structural shift, such that post-1983 a given unemployment rate was associated with a much higher level of self-employment than in the pre-1979 period. More sophisticated (econometric) analysis would be required to identify whether such a structural shift had indeed occurred (and the analysis of Johnson *et al.* (1988) does suggest some form of structural break), but in the UK case at least it is relatively easy to construct hypotheses to explain such a shift. Such hypotheses might, for example, be related to the particular severity of the 1979—83 recession and labour shake-out in the UK, and the associated structural changes in employment and resulting greater friction in the labour market (a "hysteresis" argument). Alternatively, hypotheses might be constructed on the basis of attitudinal change, associated with the post-1979 Thatcher governments' attempts to promote an "enterprise culture" in Britain. Blanchflower and Oswald (1990) argue strongly against the latter type of hypothesis, on the basis of their

post-1983 analysis; but see also Meager (1991a), for further discussion of this question.

Superficially at least, the graphs for Germany and Belgium (and arguably Spain) exhibit a similar pattern to that of the UK. The pattern in the Netherlands differs from that in all the other countries, and exhibits a positive relationship pre-1981, and a negative relationship post-1981 (with some shift over 1984—86).

These patterns further support the argument against the search for simple universal relationships between aggregate self-employment and the economic cycle. Matters are clearly much more complex than this, and in so far as self-employment moves with unemployment, it does so in a different way in different times and places, and it is likely that different sub-categories of self-employment are responsive in different ways and to different extents to the economic cycle.

5. The analysis of self-employment flows

Should we, then, in the light of the preceding discussion, abandon any attempt to model the relationship between self-employment and the economic cycle? It would be unfortunate if the failures of the earlier work were to lead us to this conclusion, since it is clear that the two hypotheses underlying most of the previous research, ("unemployment push" and "prosperity pull") are not only intuitively plausible, but consistent with some of the available micro-evidence. It seems unlikely on the one hand that the tightness of the labour market and the availability of dependent employment would have no consistent influence on individuals' propensities to become self-employed, and it seems equally unlikely on the other hand that the level of economic activity would have no consistent influence on the survival chances of the self-employed and small businesses.

A more careful examination of the basic behavioural hypotheses presumed to underlie such relationships suggests, however, that the search for cyclical patterns in self-employment *stocks* is inappropriate. The level of self-employment, and changes in that level over a period, result from changes in the number of people entering self-employment during that period, and the number of people leaving self-employment over that period. The importance of such *gross* flows in

explaining the behaviour of *unemployment* over time, is by now a commonplace in the theoretical and empirical economics literature (for a theoretical treatment, see Pissarides, 1990), and it is therefore surprising that this kind of approach is not generally found also in the literature on self-employment. A possible explanation for this might be that in the case of unemployment, empirically speaking, the gross flows are typically much larger relative to the stock than is the case for any other aggregate labour market variable, so the importance of flows is perhaps harder to ignore in the case of unemployment than it is for other variables. Furthermore, in purely practical terms, the widespread availability of regular (usually monthly) unemployment inflow and outflow data in most countries may well have encouraged the use of such data, and the associated attempts to develop flow-based models. Neither of these factors, however, can explain the equal dearth of *theoretical* models based on self-employment flows.

Even where the previous literature discusses the behavioural processes involved (implicitly) in terms of flows (e.g., in terms of the factors influencing "entry" to self-employment), the empirical models employed are, as we have seen, typically couched in terms of stocks or changes in stocks. Thus Storey (1991) in discussing the UK research on the factors influencing new business formation, notes that

> ... there are three main indices of new firm formation used in time series studies, viz:
> a) new company incorporations;
> b) changes in the proportion of workers classified as self-employed;
> c) businesses newly registered for VAT (Storey, 1991).

Storey does not note, however, that whilst indices a) and c) are inflow indices, and therefore, in principle appropriate for use as dependent variables in models examining the determination of new firm formation, b) is not such an index. Rather it represents the change in a stock variable, which is itself the net outcome of gross inflows to and outflows from self-employment. Quite apart from any differences in the *coverage* of the three variables (which is what Storey's critique focuses on), it is clear that b) is a different analytical construct from the other two variables, and wholly inappropriate[14] as a measure of entry to self-employment or new firm formation, including as it does the effects of *exit* from self-employment (or firm deaths).

If we think in terms of flows, it immediately becomes clear that the familiar "unemployment push" hypothesis is essentially based on a model positing a relationship between unemployment and *inflows* into self-employment. A strong case can also be made for the "prosperity pull" hypothesis resting on a relationship between economic activity and *outflows* from self-employment, although in this case the argument is less clear-cut, i.e., one might argue that the hypothesis is not only about *outflows* (people being more likely to leave self-employment through business failure in a recession), but also about *inflows* (people — other than those experiencing unemployment push — being less likely to enter self-employment at times of depressed economic activity). As we show below, interpreting the hypothesis this way makes the underlying model more complex, but it does not affect the core argument presented here, namely that any such model should be cast in terms of flows rather than stocks.[15]

In crude terms, then, and taking first the simplest version of the two hypotheses, there is no contradiction between them, but rather if they are both valid, then during a recession as unemployment increases, we can expect to see both an increase in the inflows to self-employment ("unemployment push"), and an increase in the outflows ("prosperity — *or in this case lack of it* — pull"). It is self-evident that the overall effect on the stock of self-employment is not predictable *a priori*, but is a *net* effect, depending on the parameters of the underlying inflow and outflow relationships.

In practice the matter may be slightly more complicated than this, since outflows from self-employment may themselves be a lagged function of earlier inflows, irrespective of the economic cycle. There is a considerable literature in the research on small firms (see the discussion on Storey and Johnson (1987), for example), which suggests that a certain amount of "churning" in the small firms sector takes place more or less independently of the overall economic climate. That is, of any cohort of new entrants to the sector, a certain proportion can be expected to fail and

leave the sector within a fairly short period, largely irrespective of market conditions. This might be because the initial idea for the business was poorly thought out, or because the self-employed person possessed inadequate business management skills, or because he/she discovered that the self-employed lifestyle did not match initial expectations etc. Hence, even with no cyclical fluctuations, any surge in the inflow to self-employment can be expected to be followed by a surge in the outflow, after a lag.

Formalising the above in very simple terms, then, and assuming linear relationships (the precise functional forms involved are irrelevant to our key arguments), let:

I_t = the inflow into self-employment in period (year) t;

O_t = the outflow from self-employment in period t;

S_t = the level of self-employment at the end of period t;

U_t = unemployment at the start of period t (in line with our earlier discussion this should probably be the *level* of unemployment rather than the more usual unemployment rate, although a case could be made for the latter on the grounds that it might be a better proxy for the *perceived probability* of becoming unemployed, or of getting a job once unemployed).

The inflow equation then, is:

$$I_t = a + bU_t + ct, \tag{1}$$

where t is a time trend variable to pick up secular trends in entry to self-employment, the effects of structural shifts in the economy etc. (in a more sophisticated approach we might attempt to model some of these effects separately). The "unemployment push" hypothesis is then simply that $b > 0$.

Similarly the outflow equation might look as follows:

$$O_t = d + eU_t + fI_{t-2} + gt. \tag{2}$$

For simplicity in what follows, we have used unemployment in Equation 2 as a proxy for the level of economic activity. It makes no difference to the subsequent argument whether outflows are expressed as an increasing function of unemployment or as a decreasing function of economic

activity — the key point is that we hypothesise outflows to move counter-cyclically.

The "prosperity pull" hypothesis is simply that $e > 0$ in Equation 2. The lagged term in I_{t-2} is to capture the automatic "churning" effect referred to above. We have assumed a two-year lag simply because an initial examination of flows data for the UK (see also Meager (1991a), and the discussion below) suggests that a surge in the inflow into self-employment in a particular category (e.g., by gender or sector), tends to be followed some one to two years later by a surge in the outflow in that category (the "second year crisis" in the development of small businesses is well documented in the case-study literature). Of course, it might be more reasonable to model this feature with some sort of distributed lag function, as it is clear that to the extent that this churning occurs it is likely to spread over a longer period than a single year. The single lag term is included here for simplicity, just to remind us of the likely existence of this phenomenon. Clearly we assume that $f > 0$.

The stock-flow accounting identity is:

$$S_t = S_{t-1} + I_t - O_t \tag{3}$$

and substituting for I_{t-2} in Equation 2, and for I_t and O_t in Equation 3, yields:

$$S_t - S_{t-1} = f(U_t, U_{t-2}, t) \tag{4}$$
$$\quad\;\; ? \quad\; - \quad ?$$

Thus, in this very simple linear formulation, the net change in the stock of self-employment over the period is a function:

a) of the current unemployment rate (of *indeterminate sign*: whether it is an increasing or decreasing function depends on the relative magnitudes of the coefficients b and e in Equations 1 and 2);

b) of lagged unemployment — in our specific formulation it is the unemployment rate two years earlier (a *negative function*); and

c) of a time trend (again this function is of *indeterminate sign* depending on the relative magnitudes of the coefficients c, g and f, and on the signs of c and g in Equations 1 and 2).

So far we have used the simplest interpretation of the "pull" hypothesis, namely that it affects outflows. As suggested above, however, a plausible hypothesis might also be that there is a pull effect

on the inflows to self-employment (e.g., as unemployment increases, some groups of people experience not a "push" into self-employment, but rather are discouraged from entering self-employment because of the depressed economic climate). We argue below (in Section 6 of the paper) that this possibility is probably best handled by disaggregating the flows data to distinguish between the inflows from different sources (e.g., according to whether they come from unemployment, employment or economic inactivity). If however, data limitations preclude such disaggregation, there may still be some scope for modelling the influences on inflows in such a way as to take account of both push and pull possibilities. Thus, for example, following Hamilton (1989), who uses a similar formulation to model new business formation in Scotland, we might include a quadratic term in unemployment in the inflows Equation 1 above, which would then become:

$$I_t = a + bU_t + b'U_t^2 + ct. \qquad (1a)$$

and the hypothesis would be that $b > 0$ and $b' < 0$. That is, as unemployment rises, we observe a push effect, until a point is reached beyond which the discouragement effect predominates, and

> . . . the necessary 'push' towards self-employment on those made unemployed will no longer be accompanied by sufficient 'pull' of new business opportunities (Hamilton, 1989, p. 250).

Substituting Equation 1a in the above model yields a revised version of Equation 4 as follows:

$$S_t - S_{t-1} = f(U_t, U_t^2, U_{t-2}, U_{t-2}^2, t) \qquad (4a)$$
$$\quad ? \quad - \quad - \quad + \quad ?$$

Once again it is clear that if the inflow and outflow relationships are as hypothesised here, then any estimated time-series relationship in which a *stock* measure of self-employment is treated as a function of current unemployment, is not only underspecified, but the sign on that relationship is indeterminate.

Given that most of the earlier empirical work has effectively involved an estimation of some version of the reduced form equation (4 or 4a etc.), but without any modelling of the underlying structural relationships determining the flows, and given the indeterminate sign on the relationship between self-employment and unemployment in

that equation, it is not surprising that the relationship uncovered so far has tended to be a rather unstable one. This does not imply, however, that the underlying structural relationships (such as in Equations 1 or 2 above) are themselves in any sense unstable, neither does it imply that the "unemployment push", or "prosperity pull" hypotheses are invalidated (or supported) by the evidence. It is true that many of the previous authors are apparently concerned in their analysis only with *inflows*; thus in Bögenhold and Staber (1990), it would appear that both the unemployment and the GDP growth variables are seen as "push" factors, affecting entry to self-employment. The key point, however, is that these macro variables are, as we have argued, likely to influence both inflows and outflows independently, and the use of a stock dependent variable therefore compounds both sets of influences and cannot be used to examine either the inflow or the outflow relationship. Indeed, as we have seen, there are good theoretical reasons to believe that there will be no consistent time-series relationship between the stock of self-employment and the economic cycle.

6. Conclusions

In conclusion, it would seem that future research on the behaviour of self-employment over the cycle, should not concentrate on further attempts to model the relationship between unemployment and self-employment stocks. Whilst many previous authors (including Steinmetz and Wright (1989) and Bögenhold and Staber (1990)) are clearly aware of the dynamic nature of self-employment, and their discussion of hypotheses such as "unemployment push" reflects this awareness, their tests of such hypotheses nevertheless typically rest on an examination of cyclical variation in self-employment stocks. This paper has shown that this approach is both theoretically and empirically an inappropriate means for examining the key hypotheses of interest. Rather, such work should focus on the flows into and out of self-employment, developing theoretical models to explain the cyclical behaviour of these flows, and searching for and utilising flows data to test these models.

Adequate flows data on self-employment are, unfortunately scarce (which may partly explain

previous authors' reliance on stock data), but the various Labour Force Surveys now conducted on a comparable basis in EC countries, for example, enable the construction of crude flows variables, based on respondents' employment status one year prior to the survey. Given that these data do not extend back on a comparable basis before 1983, the scope for rigorous time-series modelling is extremely limited. Nevertheless, these data provide some basis for investigating in a more or less descriptive fashion, the dynamic evolution of self-employment over the recent time period in EC countries. Some countries have also, in recent years, attempted to develop consistent aggregate stock-flow accounting systems to record transitions between labour market states (a good example here is the *Arbeitskräfte-Gesamtrechnung* in Germany, the coverage of which extends back to 1970 — see Reyher and Bach (1988)), which provide, within those countries at least, the possibility for time-series analysis of self-employment flows.

As an example of the former, the aggregate self-employment flows data for Great Britain (from the UK Labour Force Survey; estimates given in Daly (1991)), are shown in Figure 1. Whilst the data period is too short for any cyclical effect to be shown up, the "churning" referred to above can be seen clearly. Thus the surges in self-employment inflows over 1983– 4 and 1986—87 are followed by (smaller) surges in the outflows some two years later (at the time of writing, this pattern appears to

be further confirmed by the self-employment figures in the preliminary results from the 1990 Labour Force Survey).

Further work, therefore, should focus on examining the flows patterns for other European countries, as revealed by the European Labour Force Surveys, and on beginning to relate changes in these flows to cyclical and other factors. Furthermore, in the light of the heterogeneity in self-employment referred to above, such flows analysis should (where sample sizes allow), be undertaken at a more disaggregated level. Much more work is required to determine the most appropriate segmentation of self-employment into different categories, but key variables might include sector (and/or occupation) as well as some indicator of whether the different types of self-employed constitute a "small business", an "own account worker" or a "disguised employee",[16] if such distinctions can be operationalised from the data.

There may also be some advantage in breaking the various self-employment flows down by their sources and/or destinations, and attempting to analyse or model the behaviour of each sub-flow separately. Thus so far, we have discussed the "unemployment push" hypothesis in terms of the overall inflow into self-employment. Clearly, however, we can make an analytical and empirical distinction between the inflows from unemployment, dependent employment, and economic activity respectively, and we might expect each of these flows to respond rather differently to the economic cycle. Thus, if the "unemployment push" hypothesis holds, we would expect to observe a positive relationship between the unemployment rate and the sub-flow from unemployment to self-employment. In the case of the sub-flow from dependent employment (empirically the largest of the three sub-flows in most countries), the picture is less clear. On the one hand increased unemployment (and the associated decline in employment opportunities) might be expected to result in an increased flow into self-employment among some involuntary job-losers (choosing self-employment as a preferable alternative to unemployment). On the other hand, a certain proportion of the sub-flow from wage employment to self-employment consists of voluntary quitters, opting for self-employment rather than employment, for economic or lifestyle reasons. A deteriorating eco-
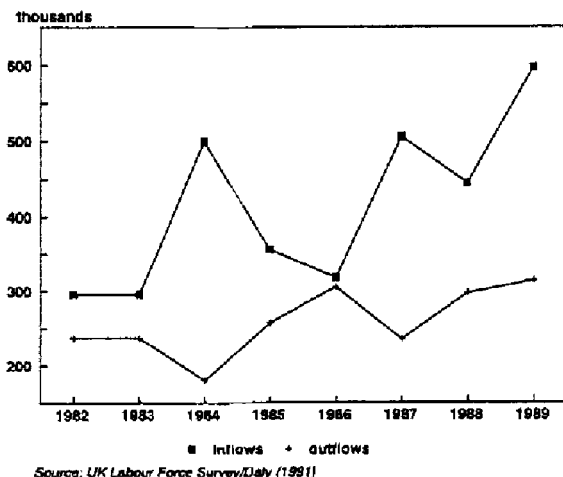

Fig. 1.   Great Britian: Self-Employment Flows, 1982—89

nomic climate might, *ceteris paribus*, be expected to reduce the size of this group. Similarly, with regard to labour market (re-)entrants, an economic downswing might be expected to "push" more of these towards self-employment; but equally amongst those for whom it is an option, the downswing might also result in their postponing or abandoning the decision to enter the labour market (i.e., the traditional "discouragement" effect of increasing unemployment on labour force participation).

There is a strong case, therefore, not only for further work in this area to concentrate on self-employment flows, but for this work to attempt (in so far as the available data permit), to develop models explaining the dynamics of the different sub-components of the various gross flows. This case is reinforced by an initial examination of sub-flows data from the UK Labour Force Survey, shown in Table I (the data are taken from Meager (1991a)). These data show "inflows" to self-employment[17] over two one-year periods (1983—84) and (1986—87), broken down according to whether the entrants to self-employment were employed, unemployed or economically inactive prior to entry.

Two features stand out from Table I. Firstly, the size of the inflow to self-employment was very similar in the two periods (it increased by about 3,000, or just over half of one percent of the total inflow). Secondly, despite this similarity in the inflow between the two years, there are considerable differences in the pattern of sub-flows. Thus the inflows from employment and unemployment both increased over the period, by 13 percent and 18 percent respectively, whilst the flow from economic inactivity decreased considerably (by 28

TABLE I
Self-employment inflows: UK, 1983—84 and 1986—87

Inflow into self-employment during year	1983—84 (thousands)	1986—87 (thousands)
Total inflow	432.6	435.6
Flow from employment	204.3	231.2
Flow from unemployment	87.7	103.4
Flow from inactivity	140.7	101.0

Source: UK Labour Force Survey/Meager, 1991a.

percent). In view of the preceding discussion, it is of interest to attempt to relate these changes to changes in unemployment between 1983 and 1986. Unfortunately there is some inconsistency between the various data sources[18] as to whether the unemployment level (and rate) in the UK peaked in 1983 (as suggested by the most recent OECD internationally "standardised" data — see the UK graph in the Appendix), or in 1986 as suggested by official UK sources. There is clearly a strong general case for using internationally comparable data based on the ILO definition of unemployment, rather than internal UK data based on administrative definitions (even where these data have been adjusted to allow for discontinuities due to changes in benefit regulations etc.). It might be argued, however, that when examining hypotheses such as "unemployment push" into self-employment, it is the *perception* of the tightness of the labour market held by the relevant actors at the time which is equally or more important. It was certainly the case, for example, that the public perception of falling unemployment did not begin in the UK until 1986 at the earliest. Between 1983 and 1986, the "headline" level of unemployment continued to increase strongly (and the published unemployment rate also increased, albeit at a somewhat slower pace, due to expansion in the labour force). It is common, therefore, even in internationally comparative studies, to use the adjusted Employment Department unemployment series for the UK, rather than the more strictly comparable OECD series.[19]

If, for the sake of argument, we interpret 1983—86 as a period during which unemployment was still increasing in the UK, the sub-flows data in Table I are consistent with the "unemployment push" hypothesis with regard to the flows from dependent employment and unemployment (i.e., they suggest an increased flow into self-employment among people losing their jobs, or who have already lost them). The large fall in the flow from economic inactivity, however, is consistent with the notion of a dominant "discouragement" effect. Clearly, an adequate exploration of these issues would require flows data for more than two years, and from more than one country,[20] and it is unfortunate that the only flows data available to the author at the time of writing are subject to these difficulties in interpreting the

direction of change of unemployment. Nevertheless, the data are presented here to illustrate and support the argument that the richness of our understanding of the dynamics underlying changes in self-employment can be improved only through a detailed analysis of self-employment inflows and outflows.

Finally, it is worth noting that a more detailed examination of self-employment flows, and the factors influencing them, is likely also to be beneficial in the evaluation of labour market policies aimed at self-employment. To date, the majority of such programmes in EC countries have been targeted on increasing the inflow into self-employment (particularly the inflow from unemployment). If the churning relationship observed for the UK data in Figure 1 is typical, however, then clearly a strong case can be made for some shift of policy emphasis to reducing the *outflow* from self-employment, otherwise the long-term impact on the stock of a policy which successfully increases the inflow to self-employment, is likely to be small. Of course there may be more indirect benefits from a policy which encourages inflows (irrespective of whether they result in lasting self-employment), in that inflows may be a mechanism for introducing both product and process innovations into the economy, as well as enhancing the individual human capital of the new entrants themselves (such arguments have, for example been used by evaluators of the Enterprise Allowance Scheme in the United Kingdom — see Owens, 1989). Equally, it can be argued that a high level of outflows may also be beneficial in ridding the economy of outdated structures, [21] although to the extent that a high proportion of outflows are typically relatively recent entrants, this argument may have less force.

Nevertheless, in so far as the objective of such programmes is to increase the level of self-employment[22] in a sustainable fashion, and this is often one of the stated objectives (see Owens, 1989), then greater attention to the relationship between inflows and subsequent outflows, and the factors influencing both sets of flows can only be beneficial in improving the design and evaluation of such programmes.

Notes

* I would like to thank Steve Johnson, Günther Schmid,

[1] Although this study by Evans and Leighton is included in the "macro level" category, it differs from most of the others in this category, in that it attempts to explain changes over time in the US aggregate self-employment rate with grouped micro-data ("quasi-panel" data), and includes individual characteristic variables of the type typically found in cross-sectional micro level studies, as well as the more usual aggregate variables.

[2] See Meager (1991a), and (1991b), for a more extensive account of the competing explanations.

[3] This result is questionable, however, and others have argued that the cross-sectional relationship between self-employment and unemployment rates in the UK is a negative one; see, for example, Meager (1991a). For an attempt to reconcile the apparently conflicting cross-section and time-series findings, in the context of the relationship between unemployment and new business formation, see Hamilton (1989).

[4] I.e., they find a generally positive and significant coefficient on the unemployment rate, and a negative and significant coefficient on their GDP growth variable. Hence they argue that the influence of a high level of unemployment and a depressed level of economic activity both act in the direction of increased self-employment.

[5] A key problem with research based on the relationship between various independent variables and individual *propensities* to be self-employed at a given time (e.g., as in Burrows, 1990; De Wit and Van Winden, 1989; Meager, 1991a; Rees and Shah, 1986), is that this approach confounds both *entry* and *survival* effects in self-employment. See Chesher and Lancaster (1983), for a general but rigorous account of the statistical problems involved with such an approach.

[6] We exclude here the various case-study or small sample studies (e.g., in the UK, Fevre, 1987; Johnson and Rodger, 1983; Lee, 1985), which are typically based on studies of recently redundant workers, or of particular categories of the unemployed. Whilst such studies provide useful indications of the processes and pressures which may lead such people to enter self-employment, they cannot provide any evidence on the overall existence and nature of "unemployment push".

[7] Bögenhold and Staber acknowledge, in a footnote, the possible "tautological element" introduced into their analysis by the use of the self-employment rate, but do not elaborate on its potentially serious implications for the conclusions of their research.

[8] Thus the European Labour Force Surveys for 1986, for example, showed that the proportion of self-employment accounted for by agriculture was over 50 percent in Ireland and Portugal, over 40 percent in Greece, and over 30 percent in Denmark, Spain, France, and the Netherlands.

[9] Several of the earlier authors recognise this problem, but in most cases have been precluded from separately modelling the cyclical sensitivity of different types of self-employment by lack of adequate data at a disaggregated level.

[10] For a comprehensive account of the workings of the Handwerk system, and a comparison with the UK, see Doran (1984).

[11] These are the best sources of data on these variables which have been adjusted in an attempt to ensure international comparability. The main alternative source (the EC Labour Force Survey), has fewer problems of comparability, but is not yet available in a sufficiently long time-series to allow analysis of cyclical change.

[12] Luxembourg and Portugal are excluded: the former on grounds of size, the latter on grounds of data availability.

[13] Unfortunately, the various measures of UK unemployment differ in the picture they paint for the post-1983 period. The OECD "standardised" measure used here, dates the downturn in unemployment in 1983. Data from the British Department of Employment (see Employment Department, 1990), date it as starting in 1984 (Labour Force Survey data using the ILO/OECD unemployment definition), or in 1986 (official claimant count data). These differences persist whether the data are expressed as levels or rates. Clearly, given the strong growth in self-employment throughout the 1980s, any analysis of its relationship with unemployment over this period is affected by which definition is taken. See also the discussion in Section 6.

[14] This leaves aside the problem, already discussed, that the variable is a *ratio* whose movements may be dominated by changes in the denominator (total employment), rather than by changes in the numerator (self-employment).

[15] A further complication in the case of outflows is that one element of the outflow may consist of self-employed people achieving "employed" status through the legal incorporation of their businesses. This type of outflow, then, reflects "success" rather than "failure", and is arguably likely to increase at a time of overall economic growth (I am grateful to Steve Johnson for this point).

[16] Parisotto (1991), in his examination of self-employment in Italy utilises a similar categorisation of the self-employed into "traditional", "new" and "satellite" segments.

[17] I.e., people who were self-employed at the time of the survey, and who had some other employment status one year prior to the survey. It is clear that these data are only a very imperfect approximation to true inflows, in that they fail to pick up multiple changes of status during the year (see the discussion of the various problems associated with these flows data in Daly, 1991). Nevertheless, any significant changes in the patterns of self-employment inflows and outflows over time can be expected to show up in these data.

[18] See also the discussion in Note 13 above.

[19] See, for example, Jackman *et al.* (1990), who use OECD data for all countries except the UK (for which they use the Employment Department series adjusted for definitional changes), in their comparative study of the relationship between unemployment and vacancy rates in OECD countries.

[20] The author is in the process of extending this analysis to the 1983—89 period for a range of EC countries, using secondary analysis of data from the EC Labour Force Surveys provided by EUROSTAT.

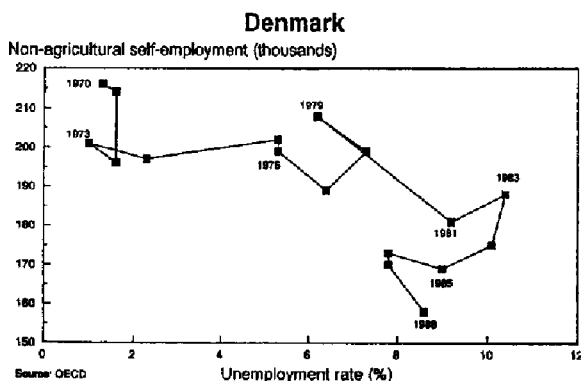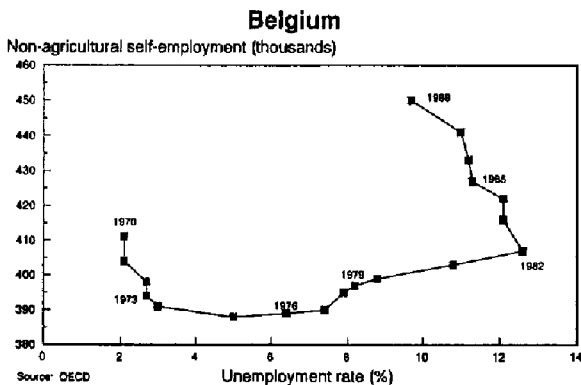[21] I am grateful to an anonymous referee for this point.

[22] Of course, a parallel objective of such programmes is also to reduce the level of unemployment, which at least partly explains their exclusive emphasis on self-employment inflows — Meager (1991c).
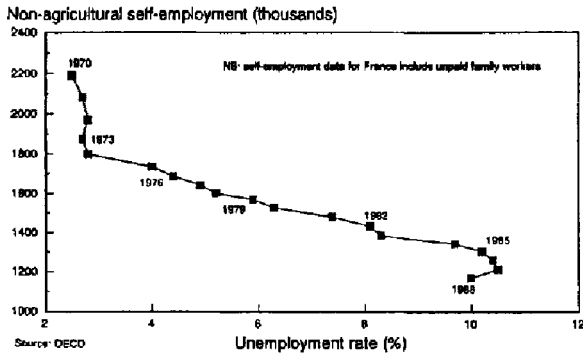
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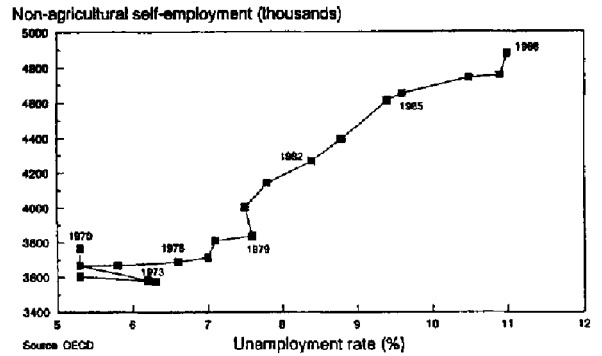Storey, D. J. and S. Johnson, 1987, *Job Generation and Labour Market Change*, London: Macmillan.

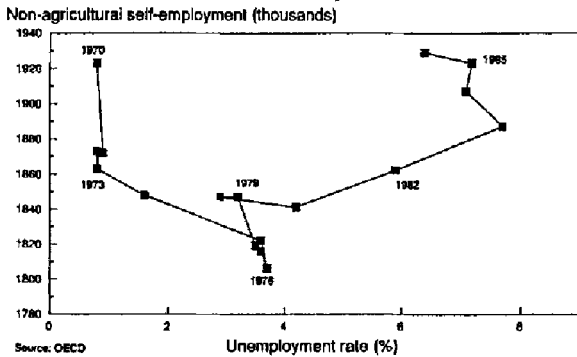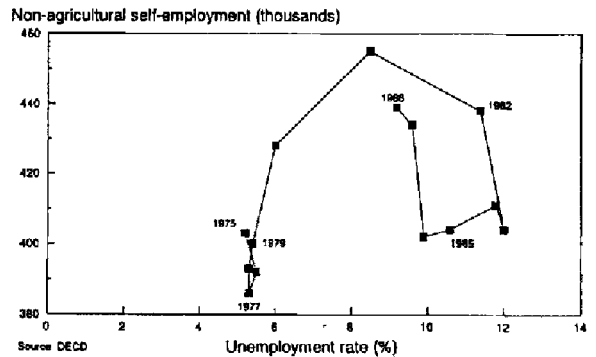## Appendix. Unemployment rates and non-agricultural self-employment in EC countries (1970—1988)

Belgium

Non-agricultural self-employment (thousands)

Unemployment rate (%)

Source: OECD

Denmark

Non-agricultural self-employment (thousands)

Unemployment rate (%)

Source: OECD

France

Non-agricultural self-employment (thousands)

NB: self-employment data for France include unpaid family workers

Source: OECD

Unemployment rate (%)

Italy

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

Germany

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

Netherlands

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

Ireland

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

Spain

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

Greece

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)

United Kingdom

Non-agricultural self-employment (thousands)

Source: OECD

Unemployment rate (%)