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Unemployment as a social cost

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Abstract

Over the last decade, workfare programmes provided support to the unemployed only insofar as they were willing to accept a job. The theoretical underpinnings of these programmes are that institutional constraints prevent labour supply from adjusting to the technologically determined requirements of labour demand. We contend that when individuals look for a job, they generally want to take into account non-monetary features such as occupational status. Status cannot be traded, it usually is complementary to income, it determines lifestyles and life possibilities. As for labour demand, its requirements do not reflect efficient behaviour and technical constraints because business "efficiency" cannot be taken to be a measure of social efficiency and technology cannot be used as a benchmark to assess the efficiency of business conduct. We suggest that Sen's notion of capabilities may constitute an appropriate benchmark to assess the social efficiency of the economic system. This leads us to a few policy implications. The "capabilities benchmark" leads us to stress the importance of freedom to choose how to conduct one's life. Acting in favour of freedom involves the understanding of how business strategies affect learning patterns and available choice sets. It also involves the assessment of policy issues - such as cooperation between the scientific community and business, scientific freedom, educational goals and their institutional implementation, and unemployment relief systems - which may influence the relation between business strategies and social learning.

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1 Introduction

Over the last decade, unemployment has increasingly been dealt with by resorting to active labour market policies. Economists and policy makers have focused on measures (such as training, incentives, information) that are expected to raise the efficiency of the market. Even though unemployment relief systems devised under the (post)Keynesian framework are still at work alternatives have been introduced which consists in making welfare help people to gain self-sufficiency *through* work. Welfare-to-work or workfare – a milestone in President Clinton’s and in Prime Minister Blair’s reforms – provides support to the unemployed only insofar as they are willing to accept a job.

Despite their alleged superiority to Keynesian measures, these programmes do not prove to be particularly successful. We believe the reason lies in their theoretical underpinnings. They assume that institutional constraints prevent labour supply from adjusting to the (technologically determined) requirements of labour demand. We argue that institutions, far from being constraints, are major determinants of supply and demand. When a mismatch occurs, this is due to the different institutional requirements underlying supply and demand. Unemployment is not determined by institutions, it is determined by the mutual inconsistency of institutions. More precisely, it is caused by business requirements that are inconsistent with social efficiency.

We base our discussion of unemployment on Kapp’s notion of social costs. We contend that unemployment is one such cost. Kapp defines social costs as “all direct and indirect losses sustained by third persons or the general public as a result of unrestrained economic activities” (Kapp 1963b, p. 12). Although this definition recalls that of a conventional externality, it is in no way “a minor and exceptional disturbance” (*ibid.* p. 9) but “a characteristic phenomenon of the market economy” (*ibid.*). The difference lies in what Kapp views as key features of the economic system. First, contrary to conventional economics, agents are not atomistic, they interact and, above all, they can change the rules and the payoffs of the economic “games” they play: this is the upshot of Kapp’s notion of “cost shifting”¹. Second, interaction also occurs between the economy and the surrounding – natural and social – environment. It generates feedbacks and an overall process of cumulative causation whereby “the ‘economic’ and the so-called ‘noneconomic’

¹“(T)he fact that private entrepreneurs are able to shift part of their total costs of production to other persons or to the community as a whole, points to one of the most important limitations of the scope of neoclassical value theory.” (Kapp 1963b, p. 11). See also Swaney, Evers (1989).

are intrinsically interrelated” (*ibid.* p. 12)². Some of the implications of this notion of social cost will emerge as we carry out our analysis. They include distribution, democracy, measurement and methodology. Here, we only wish to point out that, owing to the systemic openness of the economy, a metric (relative prices) that is restricted to the market cannot function as a general unit of measurement when “noneconomic” (including ethical) issues are concerned³. The value judgement required to assess social efficiency may be frustrating for whoever seeks an “objective” unit of social accounting. It is, nonetheless, a necessity⁴.

The point of departure for our analysis is a brief discussion of active labour market policies. In the section that follows, we argue that this kind of policy implicitly assumes that “working” for a market wage is a socially relevant value, independently of the specific features a job has. Quite to the contrary, we contend that when individuals look for a job, they generally want to take into account its specific features. In section three we discuss this issue and argue that when the social evaluation of jobs (in short, occupational status) is taken into account, the usual economic metric, i.e. money, will not serve its purpose. Status cannot be traded, it usually is complementary to income, it determines lifestyles and life possibilities. Moreover, it cognitively influences the way preferences – about or related to jobs – are formed and it provides differential social resources that affect future choices and courses of action.

These arguments lead us to suggest that attempts to improve one’s status (e.g. through social mobility) may be positively valued, regardless of their partly ceremonial substance and of the social scarcity problems. This raises a problem, however: labour demand requirements do not necessarily fulfill the aspirations of workers; different interests and goals are at stake.

Labour demand requirements are generally seen as binding because they reflect efficient behaviour and technical constraints. These aspects are dealt with in section four. We dispute these claims on two grounds. First, busi-

²“The principle of cumulative or circular causation stresses the fact that social processes are marked by the interaction of several variables both ‘economic’ and ‘noneconomic’ which in their combined effects move the system away from a position of balance or equilibrium (Kapp 1963b, p. 25). A more in-depth discussion of the systemic openness of the economy is in Kapp (1976a).

³“As long as it continues to confine itself to market value, neoclassical economics will fail to assimilate to its reasoning and to its conceptual system many of the costs (and returns) which cannot be expressed in dollars and cents. (Kapp 1963b, p. 11).

⁴“(T)o ignore social costs because they require an evaluation by society [...] and to leave social losses out of account because they are ‘external’ and ‘noneconomic’ in character, would be equivalent to attributing no or ‘zero’ value to all social damages which is no less arbitrary and subjective a judgement than any positive or negative evaluation of social costs.” (Kapp 1963b, p. 23).

ness behaviour may be driven by concerns other than competitiveness; more specifically, distributive and strategic concerns may underlie the division of labour as well as the level of employment. Business “efficiency” cannot be taken to be a measure of social efficiency. Second, we show the institutional nature of technological and scientific research. In particular, technology is not exogenous with respect to business goals. Both science and technology are – either explicitly or tacitly – associated to business goals. Technology cannot therefore be used as a benchmark to assess the efficiency of business conduct.

We suggest that Sen’s notion of capabilities may constitute an appropriate benchmark to assess the social efficiency of the economic system. Based on this premise, we argue that unemployment should be viewed as a cost in itself, inasmuch as it reveals that important aspects of well-being have been endangered. Accordingly, we are less interested in the negative *consequences* of unemployment than in the problems that underlie the institutionalised working of capitalism.

This leads us to a few policy implications, which are discussed in section five. Owing to the inconsistency between the requirements of workers and of business, we argue that a value judgement is required. The “capabilities benchmark” leads us to stress the importance of *freedom to choose how to conduct one’s life*. Acting in favour of freedom involves the understanding of how business strategies affect learning patterns and available choice sets. It also involves the assessment of policy issues – such as cooperation between the scientific community and business, scientific freedom, educational goals and their institutional implementation, and unemployment relief systems – which may influence the relation between business strategies and social learning.

2 Tackling unemployment?

2.1 From economic growth to individual employability

During the eighties economic theory has changed the way it explains unemployment. Attention has shifted from external determinants to the internal functioning of labour markets (Blanchard 1999). In the post-war boom period up to the seventies external, mainly macroeconomic shocks were imputed. Unemployment was claimed to arise when aggregate demand does not allow labour supply to be fully employed in productive activities. This Keynesian view implied that unemployment ought to be tackled by increasing or stabilizing aggregate demand through fiscal and monetary measures, while social damages could be addressed by public intervention through protective

measures directed to individuals and families.

In recent years, this view has increasingly been challenged. Focus is on the *rigidities* that affect the competitive working of the labour market: unemployment occurs because the labour market cannot operate as it should. As a consequence, policy concerns also changed. Mainstream analysts point to two obstacles: incomplete information and distorted incentives.

Information problems may entail high search costs; this produces inefficiencies and perhaps involuntary (e.g. frictional) unemployment. Optimum decisions are taken if calculation of utility is based on objective probabilities of different final states; even imperfect information, if used at its best, leads to individually and socially rational behaviour, in the conventional view. Yet, inasmuch as subjective probabilities do not coincide with objective ones, individually rational behaviour may lead to socially unpleasant results. For instance, suppose that skilled individuals reckon that they can find another job, suited to their qualification, in a short-time; consequently, they may assign to temporary unemployment a greater value than low-skilled employment. If their conjectures are incorrect, involuntary unemployment occurs.

Distorted incentives occur because of Keynesian-style unemployment benefits.⁵ Subsidies increase the reservation wage of the unemployed who will be less willing to accept existing jobs at the current market wage rate. Long-lasting reliance on unemployment benefits reduces motivation to work and impairs self-confidence.⁶ As a consequence, duration of unemployment will certainly increase, and probability to exit unemployment will be reduced (Layard, Jackman and Nickell 1996; Blanchard 1999). Moreover, benefits are seized also by those who would have exited unemployment: some people may voluntarily postpone exit in order to hold benefits. This produces inefficiencies and raises, in times of resource shortage, moral issues.⁷

The solution to these problems lies, according to most observers, in making the labour market function properly. More specifically, the goal of welfare policies ought to shift from protection of living standards to increased responsibility of all parties. Unemployment has thereby increasingly been

⁵Employment protection schemes are less questioned, as their net effect on unemployment rates is not clear: they restructure labour market pools, by reducing both entry and exit flows, so that employment becomes more stable but, at the same time, unemployment shifts from short-term to long-term. See Blanchard (1999); Layard, Jackman and Nickell (1996).

⁶As a result, unemployment may turn from voluntary to involuntary in the long run.

⁷Solow (1998) stresses that altruism has become scarce with regard to these issues. It is increasingly considered unacceptable that people earn subsidies even though they are in principle able to work. The thrust of the argument is that, in a world where wealth is so widespread, the responsibility of deprivation should fall back on individuals, rather than on society.

tackled by resorting to supply-side schemes (Layard 1999). In particular, attention of economists and policy makers has focused on measures to: improve training and enhance human capital; improve information on market conditions to facilitate job search and job matching; incentivate self-employment; etc. All this constitutes the so called active labour market policy (ALMP). In fact, ALMP approaches invalidate the Keynesian basic idea that market mechanisms may be held responsible for unemployment. On the contrary, it is believed that unemployment occurs *because* the labour market cannot deploy all its potential.

An implicit assumption is that demand conditions constitute an objective constraint to which supply can only adhere.⁸ Accordingly, ALMP such as retraining programs try to enhance the opportunity set of individuals by making individual choice more suited to demand requirements; on the other hand, subsidy reduction schemes find their rationale in the (social) need to force hesitant individuals to face reality. Welfare must be reshaped to help people gain self-sufficiency through work. Income support cannot be a goal, it must become an instrument. It should be linked to the condition that recipients are ready to accept job opportunities when these become available: hence the term “workfare” (from “welfare-to-work”). Individuals should only be helped to enhance their own *employability*, defined as “the collection of workers characteristics, including attitudes towards work, expectations regarding employment and wages, and behaviours both in the labour market and on the job” (Peck and Theodore, 2000b, p.731). Such characteristics are seen as the factors that mostly affect the probability of finding a job, therefore it is a sound policy to try to improve them. Other forms of public aid, first of all the unemployment relief system, should be kept only for the hopeless losers.

Behind these ideas – and, more specifically, behind the notion of employability – lies the presumption that any job is better than no job. This is based on two aspects. On the one hand, there is the evidence that the involuntary unemployed are more likely to be affected by poverty, deprivation, abjection. On the other hand, there is a great social interest in the efficient performance of the system. Accordingly, it is important that individual preferences and choices should fit the structure of available jobs. The economic policy consequences are known. For those who end up in the unfortunate conditions associated to unemployment, the solution is to provide them with a wage, whatever the job they would like. Reduction of involuntary unemployment –

⁸By devising the organisation of production – thus, skills, tasks, recruitment practices etc. – employers define the characteristics required to participate in the production process. By the same token, they define the characteristics that training programmes must provide to employees in order to ensure job-readiness.

regardless of the quality of the jobs involved – appears a sensible policy goal. Moreover, ALMPs such as retraining aim at making labour supply characteristics fit the demand for labour. As a last resort, individuals may be driven to comply with the constraints posed by the existing occupational structure – for instance, by reducing incentives to stay unemployed (e.g. subsidies).

2.2 Unemployment as a qualitative issue

It is questionable whether ALMP and its welfare-to-work variant are appropriate as a general solution to the unemployment problem.⁹ An example may help us to set out the argument. Consider an economic downturn that causes job losses in many sectors, thereby affecting high-skilled as well as low-skilled and unskilled workers. Even if a worker can find a new job shortly after dismissal, this may or may not be comparable to the previous one. The situation may be trickier for skilled workers than for low-skilled or unskilled workers. The latter possess little or no human capital and they may move from one job to another with little consequences if any. Instead, skilled workers who accept low-skill jobs must be ready to lose their investment in education, training etc. Suppose then that a skilled worker wants to preserve her investment in human capital. On the one hand, she may feel obliged to accept lower wages and worse working conditions, and perhaps to have decreasing opportunities to return to her previous occupational standard as her human capital becomes obsolete and her social relations degrade. Indeed, the market mechanism requires her to accept whatever job becomes available. On the other hand, she may want to bet on her future by giving up the unsuited job and continuing her search. The rationale of her behaviour would be that expected differential returns from a high-skill job exceed the loss associated to the unemployment spell. The ensuing unemployment will be voluntary, inasmuch as it reflects optimal intertemporal choice; instead, it will be involuntary, as we noted above, if the decision is biased by imperfect information (the worker would have chosen the low-skill job, had she had the correct information).

Given this framework, conventional economics acknowledges a public concern to watch over involuntarily unemployed workers and help them to increase the probability to get a job. There is no public interest, instead, to take care of the voluntary unemployed, whose preferences and ensuing costs

⁹It is well out the scope of this paper to assess whether such an approach to policy performs better than the Keynesian one in inducing employment growth, or to assess whether it is successful or not in terms of its own goal. Critical essays of the new orthodoxy along these lines are Gardiner (2000); Peck and Theodore (2000b); Kitson, Martin and Wilkinson (2000); Darity (1999). Under critical scrutiny, here, is the goal itself.

are essentially private ones.

We believe that, in spite of its commonsensical validity, the distinction between voluntary and involuntary unemployment (and of its policy implications) is not as clear-cut as it appears. Suppose that our skilled worker simply does not accept to comply with the emerging economic constraints; she may have developed a strong taste for good employment, for instance, and wants to avoid jobs that have unpleasant features – no matter how well they are paid.¹⁰ In other words, we could even suggest that her reservation wage may be infinite, due to the high value attached to the desired characteristics.

Conventional economics is rather unsympathetic to this behaviour, which it labels as irrational: in so far as the worker’s decision to stick to a “good” job is inconsistent with social requirements, it is bound to fail. Thus, her decision must be based on biased speculation.. Furthermore, unemployment occurring for these reasons is considered voluntary. It entails only private costs and it therefore does not deserve the attention of public policy. We think that such a position is simplistic. Voluntary unemployment of this kind is an increasing phenomenon, especially in Europe, where it is characterized by very long spells (especially for formerly skilled workers who cannot find a suitable place in the market), by the young age of the unemployed and by their relatively high levels of skills and education. The conventional view – do not take care of the voluntarily unemployed – does not identify any specific measure to tackle these problems. We suggest that, to deal with them, we need to go beyond the explanation that standard economics provides. That the reservation wage is infinitely high suggests that there are aspects that cannot apparently be framed in usual monetary terms; or, more accurately, they can hardly be evaluated according to the standard metric. To this issue we now turn our attention.

3 The embedded labour market and the formation of labour supply

3.1 Evaluation, comparability and decision

In standard labour economics, only one metric (i.e. utility) exists that, common to all activities, allows to compare them. Although it is claimed that utility can only be subjectively evaluated, individual utilities are nonetheless

¹⁰The case can be easily extended. For example, a graduate student may have a strong preference for working in his field of study. If he does not get the job, he may decide to remain unemployed and keep on searching, rather than accept any unrelated job – even if wages elsewhere rise.

homogenized at the system level through the “willingness to pay” principle: how much something is worthy to someone will be reflected in the amount of money he is ready to pay for it. This allows price variation to become the regulating principle of the market process.

Working will in general not provide utility *per se*, but only through consumption of the goods and services that the ensuing income affords. The worker will cease offering his services when the utility he gets from the consumption of goods bought with his marginal earning will equal the disutility of an additional unit of working time (i.e. the marginal utility of leisure). The supply of labour services therefore involves a piecemeal decision: as far as the wage rate is higher than its opportunity cost, the individual offers a further hour of his services. The model may be refined by plotting work earnings against the value assigned to any activity alternative to working (e.g., child care).

This sketch of the simplest textbook model of labour supply may be enhanced by taking into account that working may grant different degrees of (either positive or negative) satisfaction. The quality of working conditions may be expressed in monetary terms: you can always trade off a positive/negative characteristic for some amount of money. Thus, in equilibrium unpleasant working conditions must be worth – other things equal – a monetary bonus, otherwise those vacancies will not be filled. Fatigue, longer working time, dirt or pollution can be borne only if the wage makes up for them: put another way, the wage that is needed to accept an unpleasant job is, *ceteris paribus*, higher. Correspondingly, jobs that are “nicer” – whether for the task involved, the environment where they are carried out, the people engaged in them, the freedom of will they entail or whatever other feature but income – will be paid less for any given skill. Equilibrium in the labour market is ensured by symmetry on the demand side. In particular, a firm can acquire any desired type and quantity of labour provided it is willing to pay the market wage rate. If its demand remains unfulfilled, the wage rate should adjust upwardly to increase the relative attractiveness of the job offered.

This sort of accounting is feasible when the evaluation scale is the same for any economic activity that yields positive or negative utilities to individuals. For comparability to obtain – and, by the same token, for the possibility of market transactions – it is crucial that all aspects can be traded. Suppose that a job provides both a high income and a number of attractive features, while it shows no negative attribute, and the skills required by the job are rather easy to obtain. We expect that supply for that job will be high, exceeding demand. The market mechanism should guarantee that the wage falls to the equilibrium level; at the same time, wages for jobs that encounter supply shortages will rise to attract workers.

Things do not always work as expected, however. First of all, the competitive mechanism may fail to operate. There may be economic reasons, such as when a skill is scarce, whereby the holder may obtain quasi-rents from her indispensability. Truly, the gain cannot be seized indefinitely: someone may find it profitable to obtain that skill and outcompete the insider. However, some institutional obstacle artificially hinders the competitive mechanism. Access to the worthy occupation may be controlled and restricted institutionally by insiders. If this happens – as in professions, for instance –, the wage-reduction effect of an increased labour supply is uncertain at best. Under these circumstances, the correct policy is, in conventional terms, to remove institutional obstacles.

A second issue that hampers the competitive mechanism is related to how valuation and comparability of different aspects is carried out. As we hinted in the previous section, a single aspect of a job may be valued so much as to outweigh any other characteristic. Jobs where the valued feature is present dominate the rest. In this case relative wage variations will not suffice to compensate for the loss of the dominant feature. A way to see the problem is to think of the rate of substitution (RS) between characteristics. The RS may be very high if, for instance, a worker wants to stick to certain kinds of jobs; it will nonetheless exist, insofar as the evaluation space is the same for all characteristics. Inasmuch as the criterion used to value the various aspect falls in the economic domain, we may expect that the price-regulating mechanism is hindered but not totally blocked. As an example, think of a skilled worker who wants to preserve job-specific human capital: we may suppose that there will be a threshold above which the money amount compensates for its loss.¹¹ Unemployment may occur, as we suggested, but only if the relative wage adjustment is not strong enough to induce people to switch from one job to another.

Things are different if the valuation criterion falls outside of the economic domain. In this case, a rate of substitution does not exist. This may happen if a person has a strong preference for some features that only some kinds of job have, or she may value some issues so much, that she may refuse jobs that do not comply with them. A couple of examples may be given:

- think of a mother who may want to take care of her children; for her, subsidized unemployment might be better than full-time work (see Roemer 1998 on this);
- suppose someone is only offered a job by a firm that produces mines, the

¹¹We allow that wages in the undesired job rise up to a level that would *in principle* compensate for the loss of the valued features; we do not discuss whether this level makes the activity with undesired jobs unprofitable.

end-product of her effort possibly being that many children will be wounded or killed around the world; if this undermines her moral value whereby other people's lives and dignity must never be threatened, she will prefer to stay unemployed (a specular example may be given by someone who only wants to work in the environmental protection field, even as a volunteer rather than being employed elsewhere).

Both of these cases introduce social aspects which may conflict with standard economic evaluation. This is the outcome of an economic process that is embedded in society. In the rest of this section we will stress that the price mechanism may fail to regulate an embedded labour market; thereby leading to a number of crucial unemployment related issues. The whole subject is related to how individuals make their occupational choice. Our suggestion is that the choice process is socially influenced in two ways.

First, the choice process is a cultural process based on social interaction among socialized individuals. Individual behaviour is embedded in the social context. This means above all that a) the environment we live in defines the criteria to assess the appropriateness of our economic and social action and b) we tend to conform to these social requirements (Blau 1964/1986).¹²

Second, a social criterion lies at the center of the process of preference formation. Status is such a principle. We define people's status as their position in a social structure regulated by power and prestige; in some way it is a measure of their social standing or social honour in a community.

The crucial point is that in contemporary capitalist economies the main source of status is occupations.¹³ People tend to define their own position in society, moving horizontally or vertically through the occupational structure. The legitimization of mobility at the societal level makes it an institutionalized practice (Blau 1964/1986): social entrepreneurship is a most valued route to self-assertion. This is just a side of a double movement, though: on the other hand we have a drift by the ruling class to react to the incentives to mobility that capitalism has introduced.

The social nature of the process of choice entails the complementarity of the two issues – restriction of competition and social valuation of occupations.

¹²As has been shown, conformity was a primary concern for Adam Smith, who believed that an efficient self-regulated economy needs a firm moral basis (Loasby, 1996, p.315; see also Hirsch, 1976, p.137). Honourability is a key standard, in this respect. It is achieved by seeking esteem in the eyes of others, by doing what the community thinks is worth doing. Gains based on self-interest coincide with collective improvement in so far as they do not affect standards of behaviour negatively.

¹³Achieved status through occupation represents a remarkable innovation compared to pre-industrial societies, where status was essentially ascribed (e.g. derived from non modifiable traits such as race, ethnicity, sex, physical features, or transmitted to a person through inheritance); see Tumin (1967).

On the one hand, if a certain job is much valued, there will be many aspirants to the corresponding positions; insiders, however, may find it profitable to shelter that segment from competition. As a result, unemployment may occur. The restrictions reinforce the appeal of that occupation, though, thereby increasing its social value. On the other hand, conformity may also act as a social regulator of labour market: a family background is often a source of opportunities and constraints, usually inducing choice paths that reinforce original status. Restrictions based on cultural barriers will act on this, ensuring that the number of people competing for high status job will never be extremely high. The final outcome will depend on the relative strength of positive and negative feedbacks, as we shall show.

3.2 The construction of preferences

The inquiry into how individuals choose what job to look for requires an analysis of the process of preference formation, and of the process whereby preferences are enacted (Levine 1998). As Amartya Sen has pointed out, any action is based on some prior evaluation process. This concerns both the designation of objects of value and their valuation. Utilitarianism makes it very simple: valuable objects are actions that deliver utility and they are valued according to the utility they yield to the acting individual. Standard economics accordingly relegates the issue of preference formation outside its field of study. This stance is instrumental to the “common metric” view discussed above, as is based on the postulate that individuals follow self-centered utilitarian patterns of action. This assumption is rather restrictive, and it may be misleading (Sen and Williams 1982).

Individuals may be driven by other motivations and feelings, as Sen (1991) points out. Self-respect, participation to community, emotional feelings, search for honour, altruism etc. are remarkable examples. More specific to labour supply, it should then be considered that a person’s work is an essential step for self-expression and the construction of personality. The job one chooses may also reflect passions and inspirations, specific abilities and propensities, or other driving forces. Moreover, a person’s job is the major source of his social identity. As noted above, people are socially valued for what they do, their living standards and their economic autonomy (i.e. dependence on needs), the nature and the structure of their rights and their duties (i.e. power and command). All this leads to suggest that individuals assign a high value to occupations that comply with the construction of their self-image *and* with the image others have of them. Put another way, occupational status provides the economic *and* social status people are valued

for.¹⁴ It is therefore important to stress that occupational choice does not only involve a search for specific job characteristics; it is above all search for status.

It can easily be seen that, if individual choice is free, higher status employment will be preferred. Status demand will direct labour supply towards a restricted number of occupations. Excess supply will be likely to occur in higher status jobs. Conventional economics assumes a disembedded economy where any particular characteristics may be traded off for money. In such an economy, income and power (or, say, fame, prestige, pleasant working conditions) should be negatively correlated in the long run. In the space of occupations, one chooses whether to have higher income and little power or just the reverse, other things being equal. It is instead worth noticing that status-related rewards (e.g. income, fame, deference, power etc.) are not mutually exclusive but are somewhat correlated in bundles (Tumin 1967; Reiss et al. 1961). This complementarity is essential to status: should income decrease, the A-job status would also change. As a consequence, status concerns may overwhelm any other benefit by inducing a hierarchy in preferences, that is by actually framing choice so as to inhibit directions of search. The labour supply tends to converge on a few employment positions, those where the higher-ranked jobs are concentrated. The problem is whether disequilibria will be regulated by price variations or not.

The self-regulating power of the labour market may be limited in a number of ways, according to the issues mentioned above. The first case is one where wages and salaries do not adjust downwards. This is possible if the number of available high status jobs is kept scarce. Suppose job A grants high status while job B does not.¹⁵ A-type jobs are chosen because high status entails high income. The former are going to be scarce compared to B-type ones. Everybody is going to line up for them, but obviously most people will not get the job. Formal and informal mechanisms work to shelter A-jobs from strong competition, protecting the existing quasi-rents. The case of professions is typical in many countries. The positive correlation between favourable characteristics is maintained and renewed through the

¹⁴According to Tumin (1967), occupational status is valued along three dimensions: honour, that is the respect and deference that usually derive from the social consequences of the role (possibly we may also add power, following Blau 1964/1986); popularity, which depends on the attractiveness of roles (possibly based on scarce personal characteristics); desirability – so similar a concept to the economic notion of preference – reflects tastes as well as dominant cultural values in the community. These dimensions accrue to occupations in different amounts and reflect different mechanisms of allocations of job characteristics and rewards (e.g. income, other non monetary factors).

¹⁵We may think of the primary and secondary labour markets in labour market segmentation theory (Doeringer and Piore 1971 cit.)

institutional rules that govern access to the profession.¹⁶

The second possible case is when revenues decrease, but this does not lower supply. If assessment of occupations is defined according to a specific feature, it is plausible that some choices dominate the rest in preference orderings. A typical description is that of lexicographic preferences, where one characteristic is absolutely preferred to any other (Georgescu-Roegen 1954).¹⁷ We may think of those occupations where economic concerns lie outside the realm of motivations (e.g. artists); but we may include *any* employment where passion may be a strong motivator for individual choice.

Finally a third case exists that probably connects the previous ones. Positive social values – such as respectability – are ordering criteria for action. They find their rationale in the conformity to social attitudes or principles that transcend monetary revenue. Examples are often provided by people who are politically involved, old fashioned soldiers, priests. If we consider status as one of such social principles, we can include in our list all those commercial activities that are highly valued by the community. Thus, social scarcity on the demand side and non-economic driving forces on the supply side may interact. The outcome may be an imbalance which, for any given occupational structure (which depends on demand side conditions), cannot be removed by the standard self-regulating mechanism.

The imbalance we are talking about is, of course, unemployment. Excess supply for some high status job will entail supply shortages in other lines of business. Economists usually refer to this type of unemployment as “voluntary”: if people choose not to work in the sector with vacancies, it only means that they are better off without a job. This is a private matter. The framework we are developing tells another story. “Free” choice is in fact bound to social tastes; a possible public concern is thereby surfacing.

Relative prices cannot regulate the market. Should A-job revenues decrease, their status would also change. This is not the normal case. Even though this sometimes occurs (think of the changing status of teachers over the past century), it takes decades of cultural change. When price variation does not accomplish its task, equilibrium is only reached if redundant applicants are pushed onto B-jobs. Eventually, equilibrium can only derive from

¹⁶High income may formally derive from, say, human capital investment, but this must hold at the margin. What characterises sheltered high status jobs is that revenues are set well above marginal costs.

¹⁷Alternatively, we may refer to the concept of metapreferences (Sen 1984) as guiding principles in the solution of preference conflict. The two representations do not coincide: the former brings in discontinuity in the preference set (Georgescu-Roegen 1954), while the latter may determine its incompleteness (Sen and Williams 1981). Nonetheless, they may easily lead to similar practical consequences, e.g. that some choices will dominate others.

a forced revision of initial choices, and it is also likely to produce frustration, cognitive dissonance, social exclusion. These are definitely public concerns.

No straightforward conclusions can be drawn from the above though. In principle, capitalism fosters social and economic mobility. This is both a condition for and a result of the correct working of the competitive mechanism. Yet the social structure, which the economy is embedded in, provides different criteria for action. The social structure changes slowly, because it requires cultural change and it encompasses reactions from vested interests. The next section deals with two issues: on the one hand, which social dynamics characterizes and leads to the demand for status; on the other hand, the intricacies of negative and positive factors which feed back and forward on the dynamics of labour supply.

4 Occupational choice

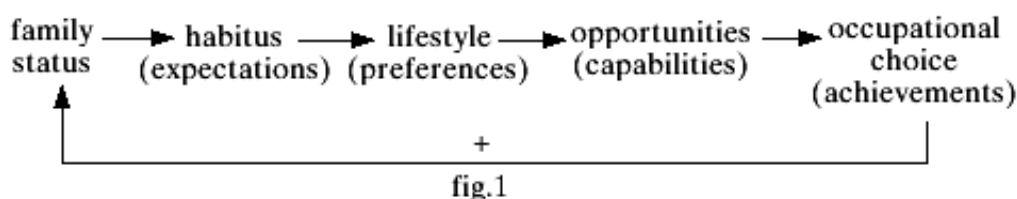
4.1 The basic model of a stratified society

The proclivity to follow social standards calls for a more precise characterization of how social relations may influence labour market outcomes. This is a multifaceted question. As an initial clue, consider that many empirical works do find a significant correlation between starting conditions (e.g. parents' education, father's occupational status) and outcome on the labour market (Picketty 2000). This contrasts with the expected efficient outcome of a free-market society, whereby allocation of people to jobs is based on pure individual preferences, abilities and merits. Two types of explanations may account for this result. The first case is the relatively standard suggestion that life paths reflect family economic constraints, thereby affecting the patterns of accumulation of human capital through education. In addition, there may be institutional features (e.g. imperfect capital markets) reinforcing existing constraints on resources. The second explanation, rooted in the bounded rationality tradition, stresses influences on preference formation. The hypothesis is that the family background poses cognitive and social constraints that make the preference set incomplete and biased.

Despite their apparent exclusivity, the two explanations may be the two sides of the same coin, since economic constraints and biased preference structures are likely to have a common origin in one's personal history (e.g. higher income families are more ready to invest in education because they have higher *expectations* on children; on the other hand, they maintain privileged expectations because they *can afford* to invest much in education). How cultural and material resources are strictly coupled was magisterially shown

by the French sociologist Pierre Bourdieu (1979). According to his theory of social action, individuals follow a set of internalized dispositions that derive from the sedimented experience of previous generations, which has been socialized. He calls them *habitus*. It defines a lifestyle, determining the choice of disparate practices, from the most trivial to the more complex and meaningful ones. *Habitus* implies that an individual internalizes objective chances associated to the conditions of her family and its closest environment. Subsequently, she transforms that set of opportunities into a path of subjective aspirations and expectations.

An illustration of Bourdieu’s basic idea, adapted to reflect its application to our argument, is provided by fig.1.



Families are the first social setting a person finds. Family status, synthesized by its *habitus*, provides the criteria for action. Comparing one’s own situation and ambitions with peers’ achievements and aspirations provides further stimuli. Social differentiation is reflected in the related steps of judgement, tastes and their practical consequences: choice of pattern of consumption, occupation and so on. Individual labour market outcomes are therefore predetermined by the *habitus*, which channels the job search path and provides the cultural coordinates for maintaining one’s position in the social ranking. Bourdieu’s point is these outcomes follows naturally from the structure of objective classes (although he admits individual deviations). In a stratified society, everyone “naturally” finds his own place in society. Preferences represent the “practical assertion of a necessary difference” (Bourdieu 1979, p.53 of the italian edition). Truly free choice, in the scheme, is excluded. Moreover, the process is cumulative in nature, as is indicated by the positive feedback from outcomes to status. Stratification is consolidated by practices that continuously mark the distance among classes.¹⁸

In the graph, we suggest a correspondence between Bourdieu’s concepts and those used in economics (some of which have been introduced by Nobel

¹⁸Bourdieu calls it “histeresys of habitus”. It is worth noting that the very nature of the habitus is its informality. It does not require that people make deliberate or even conscious actions to perpetuate differences. The “art of living” is connaturate to the habitus of the upper classes. A neat difference can be found here with respect to conspicuous consumption in Veblen (1899), who held that the leisure class made an effort to denote its distinctiveness.

laureate Amartya Sen). For instance, lifestyle (the unity of practices in the different fields of action) closely reminds us of a preference ordering – still a coherent one, though incomplete and biased, socially structured by conditions that are specific to each class. Sen’s capabilities, that is the possibilities among which a person can choose in order to conduct his life, are reflected in Bourdieu’s opportunities and expectations, while achievements (i.e. the implementation of capabilities, that is the “things” actually chosen) can be easily translated into outcomes (Bourdieu’s choice). Both capabilities and achievements are defined in the space of functionings, that is the whole range of possibilities concerning what a person can be and what he can do (Sen 1991). According to Sen, inequality should be measured by differences in what people can really do and get. The capability method, he believes, is superior to both measurement of goods possessed, and measurement of the distance from a desired goal: it is more objective than the latter and it allows for more qualitative considerations than the former. Bourdieu seems to follow a similar path, perhaps more radically: the capabilities of distinct social groups differ sharply, so that the notion of *habitus* suggests that the space of functionings is partitioned.

What we have described here is a rather rigid social system, self-regulated by a positive feedback (achievements-status) that maintains existing positions. Apparently, if the structure of values associated to jobs is consistent with the occupational structure of the economy (the structure of demand), everything is fine (Blau 1994). Valuation of occupations follows from the *habitus*; consequently, expectations of each group are rigid and stringent. There seems to be no sign of possible overcrowding in any of them, because everyone knows which is “his place”.

The process depicted is somewhat mechanical. We may want to allow changes to occur somewhere in the causal chain above. Social mobility, i.e. the upward or downward movements within a stratification system, is the most important disturbing factor. For Bourdieu, social mobility is a relatively secondary analytical problem; the reason is that he believes that formal and above all informal constraints on access to high-status occupations are at work (and that they work well). This cannot be taken for granted.

4.2 Upsetting existing strata: individual social mobility

Social mobility is a key feature of modern society. In old, ceremonial societies status is essentially ascribed (i.e. inherited) status. At the opposite end, pure market economies should eliminate ascribed status. Individual merit is the

criterion that provides the major source of capabilities. More specifically, different jobs yield differential income according to the skills and ability they require. Income allows consumption of goods and services; utility from leisure (and/or work) and consumption, as we said, is the only valuable criterion for action. Inasmuch as the system of markets moulds modern industrial societies, we expect that innovative and meritorious people continuously upset the social (economic) ranking. Social mobility is the norm.

Social mobility is introduced in the framework through expectations. As mentioned above, their role is central in driving action (Blau 1964/1986, pp.145ff). Mobility reflects a distinction between settled expectations (deriving from the habitus) and emerging aspirations (deriving from reference to the external environment and communication). Another way to see the distinction is to consider it as the difference between actual status (status inherited from the family social position) and desired status (the aspirations and expectations one develops over time). At the outset, people find themselves endowed with the cultural and economic resources provided by their families. Suppose that their basic expectation is to replicate family tradition: this is consistent with the conformity principle recalled above (implicit in Bourdieu). Yet social conformity may involve different aspects (Tumin 1967). At a basic level individuals try to adhere to a basic standard of legitimacy and morality. At a higher level, conformity means doing what the community does, particularly what those members in their associational networks do (Bandura 1986). Still upward, conformity may incorporate change, a move upward in the social ranking. Mobility requires that the existing culture value social innovative behaviour positively. If climbing the social ladder is a valued behaviour, as it is in capitalist economies, this means that, rather than following traditional trajectories as suggested by Bourdieu, people gain from being social entrepreneurs. The external environment provides stimuli to abandon established paths. At this stage, we suppose that the external model (i.e. the model coming from the environment) may be stronger than those arising within the family. This is shown in figure 2, where the lower influence of ascribed status is revealed by the lighter colour.

Differently from figure 1, here preferences do not follow automatically from status. They stem from the attempt to compare and make compatible the different aspects of conformity. Upward mobility implies a shift in the individual's goals. Her objective is to perform better than her peers. Social psychology sees the attempt to improve one's status as an innovating behaviour. People with outstanding *forethought capabilities* (and who are also more prone to taking risks) may develop progressive images of a desirable future for themselves (Bandura, 1986). They may adopt role models (e.g. people of higher status) to learn from, or refer to symbolic and abstract

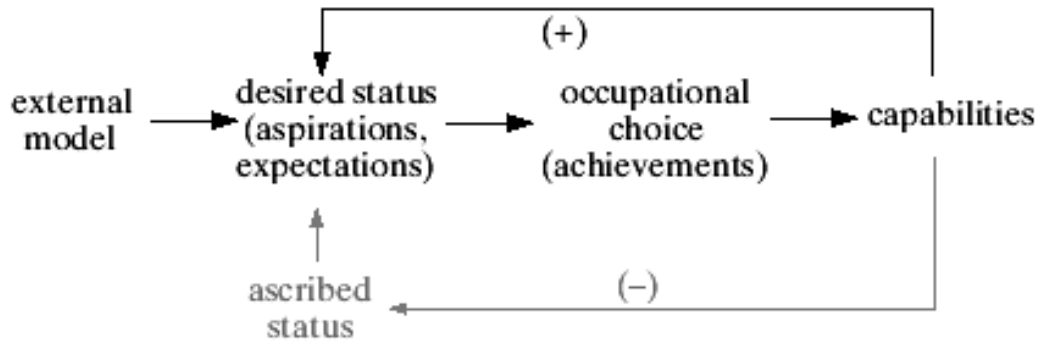


fig.2

models (e.g. from books or magazines). Since status incentives are extremely powerful (*ibid.* pp. 238-9), successful steps in the course of action will also reinforce active learning. In this case achievement in the labour market feeds back positively on aspirations; more importantly, it feeds back negatively on status (that is, mobility weakens the cognitive constraints posed by ascribed status).

By the same token, increased occupational status entails greater opportunities in the future. The search for higher status involves, in fact, a search for increased life opportunities (related to aspects such as health, fertility, mortality) and lifestyle (concerning, for instance, consumption patterns, political and religious attitudes, personality) (Tumin 1967, ch.7 and 8). Put in Sen's words, higher status entails improved capabilities. As these are put into practice, an even higher status is likely to be attained in the future. Status may be seen as "expendable capital" (Blau 1964/1986, pp.132ff.) both in interpersonal relations and for personal development. If one uses this capital "productively" (e.g. by cultivating social relationships or by enhancing his own education) we may anticipate a virtuous circle linking his acquired capabilities to status (see fig.2).¹⁹

This cumulative characteristic of status and of capabilities provides a strong motivation for moving away from the initial position one finds himself. Apart from social comparison issues, in fact, there are substantial reasons related to the level of well being a person will attain. What is more, however, is that increased capabilities means a greater set of open opportunities, that is a greater positive freedom to ensure functionings (Sen 1992). This would necessitate a discussion of what should be valued, from a private as well

¹⁹There probably is also a vicious circle of deprivation (Lipset-Bendix 1959), although this is more questionable (Heath 1981).

as a public standpoint. While this task is out of the scope of the paper, a few considerations will be advanced at the end of this section and in the conclusions. It will be shown that a) the attempt to increase capabilities may be a reasonable strategy for an individual and that b) social mobility is, under this respect, a socially good thing as it re-shuffles existing strata.

Unfortunately social mobility, while a feature of modern societies, is often constrained and confined to some specific social tiers. We should therefore reflect on how to combine the two extreme cases analyzed so far: the stratified and rigid society depicted by Bourdieu and the mobile, ever changing one.

4.3 A possible synthesis

If the framework suggested in figure 1 has some relevance, we should expect that some of the described mechanisms still hinder upward mobility. A first order of impediments comes from the interrelation among individual behaviours. If individual attempts to move up the social scale are positively rewarded (in terms of achieved status), innovative behaviour may be imitated, leading – mainly through observational learning of behavioural patterns and social emulation in associational networks (Bandura 1986, ch.2 and 4) – to a process of cultural diffusion of behaviours. But, owing to social scarcity, diffused innovation cannot be rewarded indefinitely (Hirsch 1976; Blau 1994; Schelling 1978).²⁰ The point is strictly related to the twofold nature of status. Status not only provides an absolute reward, in that it allows to enhance capabilities; it also provides a relative reward, in that it marks relative position in the social ranking. Diffusion of innovative behaviour is driven by the attempt to capture the advantages of differential status (compared to the position that is still occupied by peers); as the new position is achieved by followers, the amount of differential reward decreases. When the process involves the whole relevant population no differential prize is secured. Eventually, while such a process leaves the relative positions of individuals in the social ranking unchanged, it may still produce a positive effect on the absolute levels of status and capabilities.

It may then be asked how the whole status structure is affected by this collective movement – given that for the highest position no upward mobility is possible. Bourdieu’s defense of his framework is interesting, because it provides a sort of negative feedback to social mobility. A remarkable feature of cultural capital is that the habitus of the upper classes allows members to react promptly to – even anticipating – changes in social behaviour. Two

²⁰Social scarcity occurs when satisfaction from using something is reduced as the number of users increases. Hirsch explicitly refers to job opportunities as a salient domain of application of the idea of social scarcity.

routes may be taken. The first one is that the relevant practices of the upper class change as the lower classes try to emulate them. As a matter of fact, the process of cultural diffusion of behaviours cited above involves new evaluation standards and consequent new standards of behaviour (Bandura 1986, p.48), provided the process lasts long enough and is appropriately rewarded.²¹ A corresponding change in evaluation standards and practice at the upmost level is therefore likely to occur. The second route is that upward mobility does not involve some aspects on which class distinctiveness is based. In other words, access to some practices is restricted. This is clear for professions, for instance. In this case, *direct* or *pure* social scarcity – whereby satisfaction derives from scarcity itself – is (re)created, rather than being incidental as in the former case (Hirsch, 1976, p.22).

As we noted above, these adjustments occur mostly in informal ways. On the one hand, since tastes are the “practical assertion of a necessary difference”, distinction need not be sought. By “being themselves”, the elites mark the distinction (this is the very strength of the link between habitus and lifestyles in Bourdieu’s framework). On the other hand, there often are secondary properties that help to define a position (e.g. a profession) in selective terms: for instance, race, sex, age, place of origin, social background may be used to tacitly discriminate people, excluding them or allowing them to have access only to marginal positions (e.g., female doctors and black lawyers may essentially have female patients and black clients).

As a consequence, we obtain that the process described in figure 2 is combined with the forces depicted in figure 1. A possible synthesis is in figure 3.

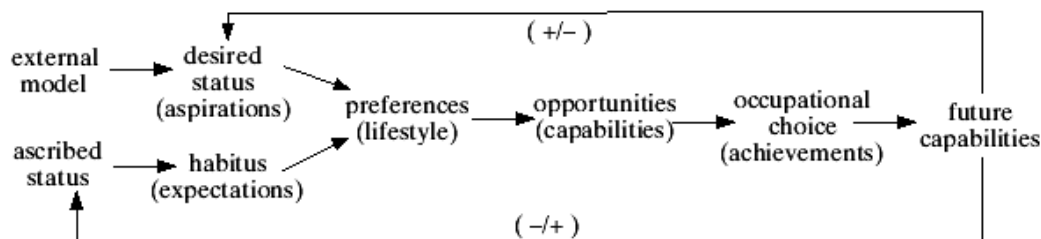


fig.3

As a general rule, aspirations and expectations must be verified in subse-

²¹It is worth stressing that what is *valuable*, no matter whether for a person or a collectivity, is not something immutable: it comprises relatively stable moral attitudes as well as material displays, whose definitions and relative weights in the evaluation standard change over time.

quent social and economic interaction. The path towards the desired status is mediated/constrained by actual status, through the cognitive, social and economic resources that the latter provides. Upward mobility is not blocked, but it may be hampered. Social scarcity may be artificially created, whether through formal norms or informal, tacit practices, but the force behind mobilization keep on working. The main reason, we suggest, is that status choice contains a substantial element of definition or satisfaction of personal identity – which goes well beyond the ceremonial aim and invidious attitude it may nonetheless include. Occupational choice entails above all the choice of a trajectory for constructing the self.

Propelled by a positive attitude towards upward mobility, the supply of labour may target jobs for which labour demand is (kept) scarce. Independently of high potential requests, low labour demand implies that actual success is limited²² – relative to candidates, at least. Pure social scarcity mechanisms exacerbate the inconsistency between different levels of rationality: individually, it may be rational to pursue a goal; collectively, it is obvious that a great deal of expectations are disappointed²³.

If a trial proves unsuccessful a revision process must take place. A disappointed applicant may react in two ways:

- by remaining unemployed, while still striving to fill one of the few vacancies (perhaps modifying something in the sequence of necessary steps). This requires that a good amount of economic resources is available, as a partial substitute for lacking cultural capital.²⁴
- By pushing aspiration levels downward, to match expectations deriving from actual status.

It is not possible to know a priori which revision path will be chosen. The rationality paradox inherent in the social scarcity argument implies that the goal is *difficult* but *not impossible* to achieve: after all, some succeed. The revision will be enacted by a divergence between the desired state and the achieved outcomes, for which external or contingent factors may be charged; the failure may well be deemed transitory. The way the individual frames the situation is likely to affect his subsequent decisions. He may infer that

²²Here we point to the *social* mechanism that hampers goal fulfillment. It is not the incapability to meet some requirement that produces disappointment, it is just the numeric insufficiency of jobs relative to demand.

²³In the case of incidental social scarcity, only the amount of reward is out of control of the individual. In pure social scarcity, instead, either the goal is achieved or it is not.

²⁴The rate of conversion of the two forms of capital is perhaps the most important battlefield in social dynamics, according to Bourdieu.

some steps were wrong and should be revised; or he may conclude that his hopes have been definitely frustrated. The degree to which a drastic revision will occur is likely to be context-dependent and institutionalised. Factors that influence the choice of conduct include personality and motivation, collective perception and evaluation of negative differential status tagged to the achieved job, awareness of other available opportunities. A crucial role will be played by the relational networks and the resources possessed.²⁵

Whether it is unemployment or downgraded employment that occurs, however, the outcome entails relevant costs which stem from a social process but accrue to the individuals involved. The problem is whether these costs should be deemed social costs or, at least, if there is a social interest in reducing them.

4.4 A partial conclusion

The above discussion has a range of implications in terms of the ensuing social outcome. Let us begin by discussing the details of the costs involved if the labour supply is forced into lower status occupations. Suppose a university graduate seeks a job suited to his qualification. When he fails, he unwillingly starts looking for another job (possibly any job, if he is a constrained breadwinner). Although standard theory would include this circumstance under the heading of a “wrong investment in human capital” (which entails that *bad investors* have to accept this response and, consequently, change their goal), there are doubts whether the costs involved ought to be ascribed to the individual only.

There are two distinct issues at stake here. The first concerns who actually bears the costs of unemployment that stems from the mismatch between supply aspirations and demand requirements. It may be that social costs are involved. The second regards who ought to be held responsible for those costs. In so far as there are significant external influences on individually borne costs, the question of who should bear those costs is also relevant.

Let us focus on the revision that follows an unfavourable labour market outcome. If the original search for higher status required investment in human capital, at least part of it will be jeopardized.²⁶ This cost is mainly private, as underlined by the “wrong investment” argument recalled above. Yet there is a social counterpart. When a worker is employed in a position

²⁵These factors interact to determine the process of revision, which will reasonably take longer the larger the divergence, the higher the motivation to stick to the original choice, the larger the amount of resources available to carry on the search process.

²⁶It is not the inability to meet some requirement that produces disappointment, it is just the socially determined numeric insufficiency of jobs relative to demand.

that, given his qualification, yields a lower productivity than potentially attainable, this means that social product is lower than optimum; this is also true if the person works less hours than standard working time. This output loss founded the concept of *disguised unemployment*, introduced by Joan Robinson (1937) and recently renewed by Eatwell (1996) and Covick (1998).

Individuals may also face significant psychological costs. Frustration is a possible outcome of the forced revision. On the other hand, an individual may respond to an unfavourable outcome by enacting a cognitive dissonance reduction process, which may entail different routes. A basic one consists in getting convinced that the initial condition was, after all, the only possible one (a typical example that Sen refers to is people who accept to feel happy with what they have). Alternatively, the process may lead the person to adopt the construed belief that what she has reached is *almost* as good as what he aspired to; either way, one may think that what she aspired to was not actually as good as imagined²⁷.

Such psychological costs also entail social costs. Apart from consequences accruing to the national health systems, we may suggest that – using a “human resources” line of reasoning – a frustrated labour supply may also work less enthusiastically, i.e. at lower productivity. This cost is additional to the one observed by Joan Robinson and her followers.

The next issue is whether the above costs are paid by the right subjects, i.e. those responsible for them. Two extreme views are possible. The first one holds that only individuals should be blamed. Costs accruing to individuals are due to their inability to take into the account the more or less obvious demand constraints. This case is less problematic than that of social costs measured by the lower productivity of the labour force. If the loss of potential output can be traced back to the same inability, then individuals are actually shifting costs to the collectivity. In conventional terms, had they appropriately assessed the nature of demand constraints, then their optimal choice would have been a shorter and perhaps sharper search.

A second, opposite view is indeed possible; we found it in the different perspective we have adopted on individual choice. We think that the psychological costs described above – while usually considered an individual concern – are in fact social insofar as they derive from a social process. As we suggested, the job valuation process is not a matter of mere individual will. Jobs are valued for the status they confer, which is socially defined: individual choice heavily reflects a system of collective values. Embeddedness implies that individual choice cannot be reduced to individual valuation.

²⁷Many people accumulate frustration by simply accepting the job they get even though it is far from their aspirations or even expectations.

Even if individuals do not assess the constraints correctly, we should keep in mind that scarcity is not objectively given, it is institutionally created. If scarcity is artificial, the central issue turns out to be the distribution of status, which on the other hand depends on the general, public attitude towards mobility as well as on institutional constraints. The problem typically arises when the heightened standard of living induces people to seek jobs that are increasingly higher ranked than those which were hitherto the accepted standard of worthiness. As we said above, the possibility for individual involvement relates to the individual's possibility to enhance his capabilities, which in turn depends on the extent to which he can improve his status. In this framework, the labour market is the arena where mobility finds richest humus.

The key issue, here, is that there is a collective interest in encouraging social mobility. As we anticipated, social mobility is probably the primary mechanism that produces shifting valuation scales, thereby enhancing living standards. Inasmuch as it is accompanied by a corresponding shift in labour demand, the search for a better status induces a collective move towards better jobs that, for the reasons outlined above, yields an improvement in capabilities. In the long run, jobs characterised by socially unpleasant tasks are displaced and substituted by better jobs. The structure of available opportunities is affected by this mobilization. An evolutionary process of this type has, for instance, marked the passage from agriculture to manufacturing and from manufacturing to the service economy.²⁸ What counts is that such evolution brings with it increases in overall productivity. Moreover, the process by which capabilities are collectively enhanced may be socially valued, as Sen forcefully and repeatedly argued, for its consequences on the process of economic democratization (see, for instance, Sen 1992; 1999).

If this argument is deemed relevant, then the fact that those objectives (in a nutshell, the evolution toward a more democratic economy) are missed because of counteracting social practices may be valued as a cost for the collectivity. Accordingly, the fact that individuals do not accept to pay this cost privately and try to stick to their aspiration without internalising the extant constraints also has a positive flavour. Voluntary unemployment, far from being an inefficient response to an efficient mechanism, is a voice mechanism against the social inefficiency of the socio-economic structure.

A possible criticism to this argument lies in the difficulty to disentangle

²⁸The pattern appears to be well-rooted:

“economic growth by itself, with no redistribution, could remove the servants from the homes of the middle class, because a less hard pressed population would no longer choose to send its daughter to clean other families' houses” (Wicksteed, 1910/1933 quoted in Hirsch, 1976, p. 23).

individual and social concerns. True, if there certainly is a social interest in relieving men of fatigue and alienation, in rendering human life less dependent on unsatisfactory occupations, in elevating human dignity and integrity etc.; it may be that the search for better jobs, as described above, implies a ceremonial attitude. Indeed, the status tagged to jobs partly reflects the mechanism of invidious comparison that institutional analysis has stigmatised since Veblen. If we limit ourselves to this level of analysis, we almost inevitably fall back to the *individual cost* type of argument: no social safeguard ought to be warranted to decisions that only serve individual interest, even if they are inspired by (are entangled in) the social processes of valuation.

The situation is far more complex, yet, thereby requiring further considerations. First, suppose a person undertakes an action that aims at goal A (competition for status), which is prejudicial to some social value, indirectly pursues goal B (mobilization of society), which is valued positively by the community. The claim that the action is certainly to blame is unfounded.²⁹ Correlated to that, we note that the ceremonial attitude may be paralleled by an instrumental side-effect: a person who wants to graduate also improves his education and knowledge, thereby sustaining a potential growth process, independently of his possibly ceremonial motives. Second, the pursuit of a better status remains a socially positive issue even if structural – rather than artificial – social scarcity makes the pursuit of better jobs difficult for some and impossible for the rest. Any contrary claim inevitably supports the *status quo*, with its structure of discrimination and inequality. This issue pertains to economic democracy, and real labour markets are apparently unable to deal with it.

Finally, some words are worth spending to introduce the discussion we present in the rest of the paper. Suppose that the tension between the unchanging job structure and the pursuit of a better job have a structural basis. Individuals set their own standards according to the evolution of the social valuation process while labour demand is bounded by technological change and profitability considerations. There is no need that the two should be mutually consistent. Productive knowledge may be such that it is impossible to improve working conditions and the job structure. The job structure that arises from economic and technological evolution may or may not reveal an increasing proportion of *good* (i.e. high status) jobs as opposed to *bad* (low status) ones. What is *good* or *bad* is a matter of social valuation, independent of technological requirements. Hence *good jobs* that are not provided in

²⁹Take the motivation of profit and the invisible hand as an example of how individual interest may trigger social benefits.

sufficient amount by the productive sector will follow the principle of social scarcity, which individual search runs into. This may produce unemployment, understood as the empty intersection between the *desired jobs* set and the *achievable jobs* set³⁰. Under these conditions, if individual status depends on job status, it may be improved either by changing one's job (given the structure of "status tags") or by changing the "status tag". The latter case entails a process of cultural innovation, which may, under some conditions, be socially valuable.³¹

We have to deal with two important issues – individual development and freedom, on the one hand, and economic order, on the other – which represent two sides of the same coin. Understanding their rationales may provide some insights on the policy implications of unemployment. If technology and production are objectively constrained, the crucial issue of the above exposition will presumably be ceremonialism. But if technology and labour demand reflect institutional practices rather than natural conditions, the ceremonial features of labour supply may turn out to be of secondary importance, and the status/capabilities argument fully applies.

The fact that the conditions of labour demand may hinder individual attempts to enhance capabilities calls for an analysis of the objective nature of the knowledge that underlies production related choice and action. This issue will be discussed in the section that follows.

5 Labour demand

5.1 Technology and efficiency

In conventional economics the demand for labour depends on the marginal product of labour, which, in turn, depends on exogenous technology. Firms aim to maximise real profits. To achieve this goal they hire all workers who are willing to accept the equilibrium wage. As a result, full employment is achieved. To be true, a broad set of conditions must also be satisfied. Even when firms are profit maximisers unemployment may occur because the allocating mechanism based on relative prices does not operate as an efficient coordinating instance. Circumstances that lead to this outcome are known as market failures³². Whatever the specific account provided for

³⁰Technological mismatch follows the same course of action, if emphasis is on skill requirements.

³¹For instance, manual work has become stigmatized, especially in agriculture. On the contrary, even manual works in services are deemed more honourable (think of McDonald's or of call-centers). It is likely that this process may be reversed with some social advantage.

³²See Acocella (1998) for a survey.

unemployment – an oligopolistic labour market where unions force firms to pay non-equilibrium wages; incomplete information that leads workers to seek jobs-wages that are not compatible with equilibrium; a monopolistic goods market, which entails an incomplete allocation of resources – it is taken for granted that, so long as firms maximise profit, they are behaving in an efficient way.

Although a range of assumptions underlying this approach have been subject to criticism from different strands of economic thought – they include the notions of maximisation and substantive rationality (Simon, 1976), equilibrium (Hamilton 1991), ergodicity (Davidson, 1994) – the discussion that follows focuses on just two issues: the (efficient) behaviour of firms and the (exogenous) nature of technology. The two issues are strictly interrelated and their implications for a proper understanding of unemployment are, in our view, rather important.

We contend that 1) technology generally cannot be conceived of as an exogenous circumstance; quite to the contrary, its insurgence is strongly related to business requirements; 2) a priori, business goals may or may not be consistent with social goals; the problem is to assess whether, and to what extent, the inconsistency exists; 3) endogeneity precludes the use of technology as a benchmark to assess the social efficiency of business; an alternative benchmark is therefore called for; 4) Sen’s notion of capability is a more appropriate indicator of social efficiency, even though it is subject to similar shortcomings as those of technology.

Our discussion begins with a short overview of four distinct theoretical approaches to the above issues. We begin by referring to Veblen’s view of technology and how he pointed out the social inefficiency of business. We then introduce Leijonhufvud’s approach to innovation in the factory system. We extend Leijonhufvud’s Smithian approach by introducing Dosi and Marengo’s evolutionary account of how business innovates in the goods market. Finally we examine Marglin’s radical economic claim that business is socially inefficient and that technology reflects this inefficiency.

A major criticism concerning the behaviour of firms comes from Veblen (1921). He distinguishes technical efficiency from business behaviour. Engineers are required to organise production in order to maximise³³ output under given technological and resource constraints. In so far as they succeed, they achieve technical (and social) efficiency³⁴. Businessmen, on the

³³In the discussion that follows, maximisation is used in a loose sense. It is not meant to imply substantively rational behaviour (Simon 1976).

³⁴“The common good, so far as it is a question of material welfare, is evidently best served by an unhampered working of the industrial system at its full capacity, without interruption or dislocation.” (Veblen, 1919, ch. 5).

other hand, aim to make money³⁵. In so far as they succeed, they are efficient on economic grounds. The two notions of efficiency do not coincide: output maximisation is not the same thing as profit maximisation³⁶. This divergence may be measured in terms of what we might call an *efficiency gap*: the difference between potential output (social efficiency) and actual output (economic efficiency).

The difference between the conventional and the Veblenian views of efficiency depends on the assumption concerning business behaviour. The conventional view is that profit maximisation and output maximisation converge whereas this need not be the case according to Veblen. However, the two approaches share the important assumption that technology is exogenous: it is independent of business behaviour. It can, therefore, be used as a benchmark to assess the efficiency of the latter³⁷. From this perspective, unemployment is the outcome of a technically inefficient use of resources, which may depend on market failures (conventional approach) or on the dominant role that the vested interests of business have in modern society (Veblenian approach).

The use of technology as a benchmark requires that another assumption must hold. The technological process must be as “that behavior which promotes the life process”. This was Veblen’s view (Waller 1982, p. 765) but it is not a convincing one (Swaney 1989) in that it implicitly assumes that the tools associated to a given technology have an instrumental, as opposed to ceremonial, nature. This need not be the case, as even authors close to Veblen’s approach have pointed out³⁸. In the rest of the paper we therefore assume that technology includes “tools”, (individual) skills, the division of labour and related (firm and industrial) competences, independently of how they arise and of the use they are put to³⁹. This allows us to freely discuss both the exogenous and the instrumental nature of technology, and the implications this has for employment.

Following a Smithian approach, Leijonhufvud (1985) provides an interesting account of technological change. He focuses on the relation between the division of labour within firms and the introduction of machinery. The

³⁵ “The business man’s place in the economy of nature is to ‘make money’, not to produce goods.” (1919, ch. 5).

³⁶ For instance, in so far as prices are set at too high a level to absorb potential output, a conflict ensues between what businesses pursue and what a community needs.

³⁷ The centrality to Veblen’s research programme of the themes developed in *The Engineers and the price system* is stressed by Knoedler, Mayhew (1999). See also Knoedler (1997).

³⁸ Bush and Tool (2001, p. 211), for instance, refer to the possibility of an “encapsulation of technology within the ceremonial value structure of the community”.

³⁹ Some of the authors we will be discussing disregard some of the above elements but the overall picture we provide should not be misleading.

latter occurs every time a single task in the production process is so simple that a machine can substitute the worker who is carrying it out. The reason why tasks turn out to be so simple is that it is convenient to split them up in order to cut production costs. As a result, the introduction of machinery is a consequence – rather than a determinant – of changes in the division of labour that occur on the shop floor. Technology is not entirely exogenous⁴⁰.

The division of labour is based on conventional economic efficiency considerations: the aim is to reduce production costs as much as possible. Leijonhufvud's point of departure is that a team may substitute individual craftsmen because in so doing it can achieve a greater output. Cost cutting is independent of distributional issues. These arise only subsequently, when that output has to be shared. This implies that the technology used is also independent of distributional issues. It depends on considerations of allocative efficiency alone.

Leijonhufvud is concerned with the factory system, thus with what goes on within a firm or an industry. Dosi and Marengo (1994) focus on the firm's final market, thus on the need to meet some customer-related requirement. They follow a competence based approach whereby the activity of a firm – what it does and how it does it - is to some extent, unique, owing to its idiosyncratic (tacit) knowledge⁴¹. The authors point to two possible strategies that firms can follow. The first one focuses on competitiveness. It consists in achieving “a quality as high as possible and costs as low as possible” (p.163). The alternative is *strategising*, i.e. changing a firm's market power independently of its competitiveness. The authors argue that strategising is convenient when “every competitor notionally knows how to make a new car [...] equally well” (*ibid.*) so that there is no scope for improving competitiveness. Dosi and Marengo acknowledge that profit maximisation through strategising is possible but they deny that it is a general case. The idiosyncratic nature of knowledge, they argue, implies that competitors hardly conceive of a good in exactly the same way. Thus, as a general rule, it is more convenient for firms to follow a “competitive” strategy.

Despite the differences between Leijonhufvud's and Dosi and Marengo's

⁴⁰Whether a machine actually exists that can substitute a worker, or how it comes into existence, lie beyond the field of inquiry set out by Leijonhufvud. In this sense, there presumably exists a dimension of technological change that he deems exogenous.

⁴¹Competences are also referred to as capabilities. Slight differences exist in the meanings assigned to the two terms - Dosi, Nelson, Winter (2000) provide an exhaustive survey of the issue - but they are not particularly important from our perspective. What we wish to avoid is confusion between the notion of “capability” in the theory of the firm and organisation theory and the notion of “capability” as it is used by Sen. We will therefore use “competence” when referring to the former.

approaches, they share the idea that technology is the partial outcome of a firm's activity. Under these circumstances, technology may be used as a benchmark to assess the behaviour of a single firm with respect to what other firms are doing. Leijonhufvud's approach suggests that there is a unique pattern of technological development, whereby some firms may be expected to be at a more advanced stage than others. Dosi and Marengo provide a more complex framework but it may still be possible to judge whether a firm is more innovative than others or – *ex post* – whether it chose the best technology.

It is less straightforward that technology can be used as a benchmark to assess whether firms (and business as a whole) are socially efficient. The issue is fairly easy to cope with when there is only one way for technology to evolve, as Leijonhufvud suggests. Under these circumstances one might conceive of social inefficiency in terms that resemble Veblen's approach: a *technology gap* would measure the output difference between the technology actually employed and the technological frontier. The problem is that if business is economically inefficient, it is most likely that it will not seek ways to cut costs – that is to say, it will not innovate – as it might. This implies that the technological frontier will not reach its potential. In other terms, the degree of economic efficiency affects the position of the technological frontier. Consequently, technology cannot be used to assess the efficiency gap: it is not an independent benchmark⁴².

Let us extend our discussion to the case where technology does not evolve in a unique way. This means that different patterns of technological evolution are possible, depending on the criteria that underlie innovation. In so far as business innovates, new technology must meet the requirements set out by business, which may contrast with those of other agents. Should this be the case, business requirements would produce a *technological bias* in favour of business, at the expense of other agents.

A technological bias has a twofold nature. First, the selected technology may not be the one that allows the highest output to be achieved, all other things given⁴³. Second, the adopted technology may lead to a distribution – or, more generally, to a quality of life for some sections of a community – that is inconsistent with prevailing social values. Under either of these circumstances, technology is not be an appropriate benchmark. It does not provide an external and objective criterion to ascertain whether economic

⁴²Thus, actual output may be compared to potential output measured in terms of the existing technology (efficiency gap) or of potential technology (technology gap).

⁴³This gap between potential and actual output resembles a technology gap. The latter, however, is associated to a single technology whereas we are referring, here, to a range of potential technologies.

efficiency is consistent with social efficiency.

When Dosi and Marengo refer to competitiveness, they (implicitly) assume that profit seeking behaviour is consistent with the requirements set forth by workers and consumers (and society as a whole). Distributional conflict is substantially irrelevant and so is any conflict between consumer requirements and profit seeking activity. Based on these premises, there is no scope for the insurgence of a technological bias at the expense of these agents. On strictly qualitative grounds technology reflects collective wants and may be used as an efficiency benchmark. In so far as technology is qualitatively neutral – in that it reflects collective requirements rather than some vested interest – technological unemployment cannot be the intentional outcome of innovation, and the conventional claim that business should not be held directly responsible for unemployment remains true. Unemployment is a side effect of economic activity, much like externalities.

The above assumptions underlying the qualitative nature of technological evolution are open to doubt⁴⁴. It is therefore important to examine what may occur if we relax them. Marglin’s (1976) original contribution still provides some interesting insights. He discusses the factory system in much the same way as Leijonhufvud: the division of labour underlies the introduction of specific techniques of production and the consequent development of new technology. What distinguishes his approach, however, is the determinants of the division of labour. Whereas Leijonhufvud focuses on a rather ahistorical notion of cost-minimising teamwork, Marglin stresses that it is important to know who directs the production process. He argues that the factory system is the outcome of a historical process where capitalists created the technical conditions that allow them to claim a right to a share of income. Thus, distribution is a key issue from the very outset or, to put it bluntly, it is not the division of labour (and technology) that eventually gives rise to capitalists; it is capitalists who determine the division of labour (and technology).

Much like in Veblen’s approach, Marglin argues that economic efficiency consists in profit – as opposed to output – maximisation and that the (efficiency) gap between these two outcomes corresponds to the social inefficiency of the capitalist mode of production. His perspective, however, suggests that a technology bias is also possible. In this perspective, so far as technological

⁴⁴In a subsequent work, one of the cited authors acknowledged that while this approach stresses “the *coordination* and *problem-solving* nature of organizational routines.” (Coriat, Dosi 1998; p. 104; emphasis in the original), it “neglects the second major role of organization and organizational routines, namely their being a *locus of conflict, governance, and a way of codifying microeconomic incentives and constraints*” (*ibid.*; emphasis in the original).

evolution depends on the intended actions of business, the insurgence of unemployment need not be a mere side-effect of economic activity. It may be a *social cost* of capitalist accumulation.

5.2 Technology, competitiveness and distribution

The above discussion suggests that two views confront each other: the *competitiveness view* and the *distributional view*. The competitiveness view claims that firms try to improve their production process and /or their products and that, in so far as this meets the requirements set by customers (and workers), technology cannot be questioned. Externalities may exist but this has to do with the market, not with the rationale underlying the innovative behaviour of firms.

We believe that this is a rather restrictive view. Leijonhufvud's two-step analysis – whereby teams try to raise the level of output, which is subsequently subject to a distributional conflict – may be heuristically useful but the second step of his analysis is not the end of the story. If we try to reframe it in an evolutionary perspective, a range of unanswered questions arises. When workers resort to unions and claim ever increasing shares of output, why should capitalists not shift their attention from output increasing technology to technology that reduces the bargaining power of the workers? In other terms, when teams turn into capitalist firms, why should their behaviour remain unchanged?

As for Dosi and Marengo, can we actually draw a clear-cut distinction between strategising and the pursuit of competitiveness? Consider, for instance, qualitative changes in a product that raise entry barriers. They may be conceived of as competitive improvements which lead to a temporary monopoly or, alternatively, as a pre-emptive investment that is being window dressed. What is more, firms may actually pursue both goals at the same time: the peculiarities of a product characterise it and position it in the market; at the same time, they may create a niche that isolates it from competition⁴⁵.

Let us suppose, however, that a distinction between the two strategies is possible. Why should a firm neglect strategising if, given the time range it deems important, such a strategy leads to higher net returns than a competitive strategy? Truly, one might question the appropriateness of short-term

⁴⁵There is no reason to believe that the market can prevent such a behaviour. Customers can assess the quality of goods only within the context of the existing technology. They can judge whether a pharmaceutical product will relieve them of their headache. However, they will hardly be able to find out whether a technically (and economically, from their point of view) viable alternative would be possible beyond that technology. This issue is discussed in greater detail by Ramazzotti, Rangone (2002).

strategies that neglect long-term survival but short-termism may well be a reasonable reaction to external circumstances, e.g. high interest rates (Perelman 1996).

The distributional view argues that the profit motive depends on distributional conflict. Whether the key issue is distribution between firms and customers or bosses and workers is a minor issue; what is important is that economic efficiency may well conflict with social efficiency. Independently of externalities, business need not be consistent with social goals, thereby determining social costs.

The problem with this approach is that there is no clear-cut way to assess if and when the potential divergence between the outcomes determined by business and socially desired ones actually arises. To clarify this point, let us consider Marglin's approach. Although it is insightful, it tends to disregard that, when firms try to outcompete each other, they may cut costs but they may also improve the quality of the products they sell. This entails that the division of labour, the organisation of production and, ultimately, technological change may be directed towards goals other than distribution between "bosses" and workers and internal bargaining power. The pursuit of qualitative competitiveness, in turn, may produce path dependent patterns of technological change, which differ from those that distributional goals within the firm would lead to.

The upshot of these remarks is that there is no *a priori* reason why firms should restrict their activity to either "competitiveness" or distribution: the two motives co-exist. Furthermore, it is reasonable that firms adapt technology to their needs but it is rather difficult to assess whether this determines social inefficiency⁴⁶. This implies that technology does not provide an appropriate account either of the efficiency gap, which depends on the extension of the technological frontier, or of the efficiency bias, which depends on the direction of technological evolution.

An important implication of the above discussion is that, since technology is a key feature in the labour demand function, labour demand cannot be conceived of as an unbiased function that workers merely have to acknowledge and adapt to. Since unemployment is associated to the technology underlying labour demand, long term employment policies should not disregard the direction, as well as the intensity, of technological evolution.

Research, however, occurs also in other institutions, such as universities. It is therefore important to assess whether scientific and technological re-

⁴⁶The difficulty becomes even greater when strategies are not the deterministic outcome of economic relations, i.e. "single-exit solutions" (Latsis 1976). See Groenewegen, Vroemen (1997) for a discussion of this issue with special regard to the theory of the firm.

search carried out by these institutions may provide the missing benchmark, i.e. whether it may allow the assessment of the efficiency gap and bias determined by business.

5.3 The creation of technology: science and vested interests

Technological research is a search process. It ranges from finding the solution to a very specific problem to investigating a field of knowledge that may, some time or other, turn out to be profitable. In business, it may consist in adaptations on the shop floor as well as in the activity of a think tank which is only indirectly related to production. In the latter case, technological research is basically the same thing as any other scientific research. In order to appreciate how it is carried out in practice, it is important to understand its *general goals* and its *procedures*.

Let us first consider general goals. Two extreme situations may occur, which may help to appreciate the above examples. The first one is *skill-centred problem solving*. It is a goal-related process where the agent involved knows what he/she is looking for and knows how to pursue his/her search. M. Polanyi (1962) provides an example by considering somebody who is looking for her pen. She knows what she is looking for, she will be sure that she ended her search once she finds it, and she (roughly) knows where and how to search.

The other case is *science-oriented problem solving*. This is a self-referential process where the agent does not fully know what she is looking for and may not even know what procedures are more appropriate. A case Polanyi considers is research in mathematics, an open-ended process of inquiry where no specific goal exists and where the rules of the inquiry are established during the process itself.

Let us now consider procedures. They must deal with at least three issues. First, the *boundaries* of the inquiry must be established (Georgescu-Roegen, 1976). In a world where everything is – in some way or other – related to everything else, the researcher must decide where to stop searching. The decision relates both to the field of inquiry (spatial, disciplinary, etc.) and to the time assigned to the search process. However he/she sets the boundaries, the agent involved takes a risk: beyond the boundaries he/she sets, something important may be missed and there is no way to know; within the boundaries chosen, a great deal of material may be of no use whatsoever and in some instances, it may even be a “noisy” impediment to the search process.

Second, an *aspiration level* is required to decide where to draw the bound-

ary (Simon, 1979). An aspiration level depends on the subjective characteristics of the agent involved. It also depends on the requirements he/she has to meet. These relate to method: how the community he/she refers to believes things should be done⁴⁷. They also relate to goals: it makes a difference whether the outcome of the search process is expected to be knowledge for its own sake or knowledge that must be put to use in a profitable way⁴⁸.

Third, setting a boundary involves some prior *knowledge* of the issue. This may consist in specific knowledge available at the outset. It may also include heuristics that suggest how to go about the search process. Generally these heuristics are the result of past search processes (Egidi 1992; Dosi, Egidi 1991). They are applied to the new one because most often they are the only learning rules available. This is important because it stresses that learning is a path dependent process, based on past goals and past procedures.

Researchers – or a research community – are never “unbound”. The procedures they resort to depend on the type of problem they have to solve. Thus, in science-oriented problem solving, the establishment of appropriate procedures is part of an ongoing search process. It is up to the research community to choose what they deem appropriate.

In skill-centred problem solving, as well as in other goal-related search processes, procedures are functional to the specific goal pursued. When the latter is determined by business requirements, the boundaries of the problem and the aspiration level are functional to those requirements. The ensuing technology and knowledge reflect the business perspective that originated them and are consistent with it. They also feed back on subsequent inquiries in a threefold manner. First, old knowledge provides whatever background information is used for subsequent inquiries. Second, the nature and extension of that background information depends on the procedures adopted, thus on the priorities deemed appropriate for the past inquiry. Third, since old knowledge is used to act upon reality, it generally determines an irreversible change in the existing opportunity sets. Based on these circumstances, learning builds upon previous knowledge according to what we may refer to as a learning path dependence.

Let us now consider independent research, i.e. research where specific goals are not associated to business requirements. Usually skill-centred problem solving takes existing technology for granted. It is, therefore, influenced in a strong way by learning path dependence and by the business priorities

⁴⁷A Popperian scientist, for instance, would have to formulate falsifiable hypotheses.

⁴⁸Loasby’s (1991) extremely insightful discourse is based on the assumption that businessmen and economists learn in the same way. A cautionary note, however, would be required with regard not only to different degrees of rigour but to the profitability constraint that businessmen must absolutely meet.

implicitly accepted in most inquiries. Science-oriented problem solving is a more intriguing case. In fact, as we move from skill-centred problem solving to science-oriented problem solving, the boundaries of the system under inquiry, as well as the required procedures, are ever more difficult to define in a unique way. Heuristics become a crucial tool. But heuristics basically are past learning experience: there is no way to claim a priori that what was appropriate for one aspect of reality (before) is going to be appropriate for another aspect of reality (now). Furthermore, heuristics are not fully under control because they involve tacit, as well as non-tacit, knowledge. The tacit dimension comprises views that are absorbed indirectly, basically through the normative and cognitive features of institutions (Scott 1995). So the issue is where that tacit dimension comes from, better still, how it is originated. Given the central role that economic activity has in capitalist societies (K. Polanyi, 1957), it should be of no surprise that it is originated – or at least affected – by business requirements.

There are two ways that a business perspective may affect the tacit dimension of technology and (scientific) knowledge. The first way regards goals. It consists in the conflation of business goals and social goals. Independently of any purposive action that business might take to influence the learning process, research focuses on issues that arise in our society. It therefore tends to take it for granted that economic requirements must be met. Machine manufacturers, for instance, appreciate the goals of their customers – other businesses – thereby introducing equipment that meets the latter’s needs⁴⁹. Similarly, a common policy prescription is to foster strong cooperative links between business and universities, or other research centres. The expected beneficial outcomes are grounded on the assumption that what business does is socially efficient. This introjection of business goals assigns them an absolute value, so that they appear to be natural, much like the natural rate of unemployment. The second way regards procedures. It occurs when the procedures that are required to solve business related problems are conflated with procedures that are required to solve social problems. A typical instance where this situation comes to the fore is when issues concerning the provision of public goods (health, education, etc) are dealt with in a business-like way.

We discussed the creation of technology as a cumulative learning process based on general and specific goals, as well as on procedures. We also stressed

⁴⁹This implies that, although Leijonhufvud and Marglin provide a causal account whereby the introduction of machinery follows changes in the division of labour, the temporal sequence may be different: the introduction of new machinery may be the means to carry out a division of labour. A *post hoc ergo propter hoc* account of reality would, however, claim that “exogenous” technological innovation is the cause of an objective division of labour.

that business related goals and procedures may be tacitly accepted within independent learning processes. Finally, we argued that this influence may persist over time owing to learning path dependence. The non neutrality of technology implies that labour demand cannot be conceived of as a merely technical phenomenon. In so far as unemployment depends on technological factors, it may be conceived of as a social cost of business activity.

This discussion suggests that when business related knowledge is not consistent with other perspectives – thereby leading to social costs such as unemployment – it may be fairly difficult for the latter to prevail unless completely independent learning processes are enacted, i.e. processes where priorities are properly assessed rather than taken for granted. Independent research may provide an alternative to the prevailing business induced criteria in science and technology provided that it has a benchmark to identify its goals and procedures. The next section turns to this issue.

6 A social efficiency benchmark

Following Sen (1984; 1992; 1999), our point of departure is that economic activity must ensure that people are free to choose how to conduct their lives. This involves that they must have access to a wide range of possibilities concerning what they can be and what they can do (functionings) and that they must be able to choose how to combine them in order to achieve their ends (capabilities). Unemployment stands out as an impediment to this notion of substantive freedom and it is fairly reasonable that action should be taken to prevent it. How it should be prevented, however, is a fairly complex matter.

Choice of how to conduct one’s life is possible when the alternatives are appreciated: it makes a difference whether someone chooses a job out of a wide range of opportunities or takes it because he deems it the only one available. There is an information problem, here: for any given amount of vacancies, the agent must know what the *choice set* is, i.e. what job opportunities he has. A choice set includes the characteristics of the agent – his skills, his wealth, his preferences - and what is made available to him: jobs – with their skills requirements and their wage – and other circumstances that affect the quality of life: income, a range of “external” facilities concerning housing, health assistance, baby sitting, etc., social relations, and social status.

Information, however, is not the key problem. What is more important is that the choice set may be narrow – i.e. there may be little to choose from - so that the agent is only formally free to choose. The extension of

a choice set therefore is a crucial issue. It is particularly so because there is no reason to believe that it is given once and for all: it is itself a matter of choice. The circumstances that define the extension of the choice set are embedded in a *choice context* which frames the set. For instance, both a worker's skills and a job's requirements depend on available technology and on schooling and training facilities; "external" facilities depend on some agency that provides them; social relations and social status depend on a, broadly defined, cultural context. Finally, as we shall discuss in greater detail, preferences are associated to the cultural and knowledge context.

When unemployment arises – when the choice sets available to all agents are too narrow to allow labour supply and demand to match – this is not the natural outcome of exogenous circumstances; it is the consequence of past decisions which determined the choice context. Those decisions were the first step in a path dependent process which eventually led to unemployment. When unemployment arises, measures to contrast it depend on the peculiarities of that process: decisions taken in the past widened or restricted the range of the present choice context, thus the range of identifiable solutions to present problems.

Random factors may, obviously, affect these processes and the ensuing choice contexts. It is, however, important to assess how sectional interests may have a role. From the perspective of the distributional view discussed above, "bosses" may find it convenient to restrict the choice contexts of workers. This would prevent the latter from interfering with business decisions, including those that have to do with distribution.

Consider how choice contexts may be affected by the division of labour⁵⁰. Given a set of tools and skills, different divisions of labour are possible. Whichever criterion is used to choose, the selected division of labour determines the routines of the firm and the tasks each worker has to carry out. This affects what workers must focus on and what they *need to learn* in order to carry out their tasks. It also affects what they *can learn*, because it determines the information they have access to⁵¹.

The division of labour determines how creative or passive a task is, thus the extent to which it involves decision taking. It ultimately determines the degree of centralisation of decisions within the firm. Since learning both precedes and follows a decision⁵², the less one has to decide, the less one

⁵⁰The division of labour is only one instance of how choice contexts may be affected. For instance, economic, learning and value hierarchies are also influenced by how advertisements match consumption patterns to the composition of output (Galbraith 1958).

⁵¹Since the competences of the firms depend on the skills of the workers, as well as on the routines, they too are affected.

⁵²A decision involves a preliminary assessment of the issue but also a subsequent appre-

learns. Those who suffer this deprivation of knowledge cannot appreciate what is going on. They need to rely on whoever has that knowledge for any interpretation of current events.

What this leads to is that the division of labour influences *economic hierarchies*: who has the power to decide how to carry out economic activities (Marglin 1976; Braverman 1974). It influences *learning hierarchies*: what goals are deemed important in the skill-centred problem solving activities that people carry out when they work, thus what competences and knowledge they have to acquire. Finally, since those goals reflect a value judgement, the division of labour influences *value hierarchies*: what is important and what is relevant when judging what is going on. What all this leads to is that the organisation of economic activity according to business priorities affects competences, knowledge and individual (and collective) preferences in a way that is most likely to restrict the extension of choice sets and choice contexts, thereby reinforcing the process depicted in figure 3⁵³. From the viewpoint of our discussion of unemployment, this not only determines a social cost – here and now – to the unemployed, in that it reduces the capabilities of the agents involved. It may cause a further social cost by restricting future choice contexts, that is to say, the command people will eventually have over their lives.

Not all circumstances favour business, however. As far as the division of labour is concerned, rivalry between firms may change priorities so that its main goal may shift from ensuring social control within the firm to increasing the firm's standing on the goods market. Furthermore, as a result of the process that the division of labour initiates, the skills of the workers and the competences of the firms change. It is also most likely that the tools become obsolete and have to be substituted by new ones. At the very least a new division of labour has to adjust to these changes⁵⁴.

As for scientific research, although it is influenced by business, it is also subject to patterns of evolution which depend on circumstances fairly external to the business environment: public finance, career dynamics within

ciation of the assessment in the light of the outcome.

⁵³An example of the restriction of choice contexts is provided by emulation, as opposed to revolt. It is in the interest of business to foster emulation in the workplace, through career management, as well as in consumption, through advertisements. “Emulation replaces the urge to revolt against the top people with the desire to climb into their ranks. It is the strongest of all social control mechanisms. When people are harmed by vested interest, emulation leads them to want their own vested interest. It is not the vested interest to which they object, but their own lack thereof.” (Dugger and Sherman 2000, p. 71).

⁵⁴Should this not occur “learning path dependence” might constrain or even preclude subsequent choices of technology, thereby determining a “competence trap” (Levitt and March 1988).

academia, and the open-ended nature of the search process in fields of inquiry where immediate technological applications may not be intuitive. This makes scientific evolution partly exogenous: changes in technology and in overall knowledge may therefore result from unexpected breakthroughs in research.

Finally, business related values may clash with extra-economic – e.g. religious - values. Thus, divergence over what should account for a given wage – e.g. productivity (in a broad sense) or a standard of living – may foster distributional conflict within firms. Ethical values – e.g. concerning what should be the appropriate behaviour towards child labour or political dictatorships – may lead to conflicts between firms and their customers⁵⁵. These reactions may force business to change its strategies, thereby affecting the latter’s priorities and the patterns of evolution it would desire.

Far from being a mechanistic outcome of business behaviour, the evolution of choice contexts is a typical case of what Kapp (1976b) termed “sequential interaction within a cumulative process”. The openness of the process need not preclude predictability but it does make it most unlikely. What is crucial from our point of view, however, is that while a range of circumstances reinforces the dominant role of business requirements, there is also scope for “protective countermoves” and for a “double movement”⁵⁶, so that an alternative to the social costs of business – including unemployment - is possible.

7 Policy implications

7.1 Innovation and value judgements

In the labour market described by conventional theory a new technology may affect the marginal productivity of labour, thereby changing the shape of the labour demand curve. It may also affect the marginal disutility of labour, thereby changing the shape of the supply curve. The new equilibrium may involve a higher or lower level of full employment. The adjustment process is going to be possible only if relative prices reflect these changes. When this

⁵⁵The consensus pursued by business by diverting dissatisfaction towards emulation can hardly be achieved when aggregate demand falls, thereby reducing both consumption levels and opportunities to improve one’s job. The ensuing frustration may well expand the scope for social conflict. Thus, even though emulation is functional to business, it may nonetheless clash with business requirements.

⁵⁶These are key concepts in K. Polanyi (1944); the relation between these concepts and Kapp’s notion of social cost is discussed in Swaney, Evers (1989).

does not occur, or if it occurs “slowly”, institutional changes may be required to prevent unemployment.

When learning is taken into account, an effect of technological change is that agents must learn how to do new things or how to do old things in a new way. Adjustment implies that firms have to change their competences. Although each firm has its own core competences (Teece 1988), which require internal learning and adaptation, the horizontal – or social – division of labour in modern economies enhances the complementarity of economic activities (Richardson 1972), so that what a single firm knows is strictly dependent on what others know. Thus, at the level of a single firm, it is reasonable to consider technology as a basically exogenous phenomenon that the firm simply has to adapt to⁵⁷. At the level of business as a whole, however, technology appears to be much less exogenous, as we argued above.

The effects of technology depend on the requirements assigned to it. We argued that they tend to be business requirements but that alternative – or, possibly, complementary – requirements can also be taken into account. In this perspective, technology can be a function of the socially desired level of employment. Research goals and procedures would then have to reflect this social goal. This is basically what Kapp argued in 1976b:

“In the future the social and natural sciences and applied technology will have to be open to a much greater degree than in the past to environmental and ecological constraints and objectives, that is, to explicit societal needs and human requirements” (Kapp 1977, pp. 539-40).

We merely extend his conclusion – and we believe he would agree – by arguing that employment is a “societal need and a human requirement” just as the environment.

Which requirements – business or social – should be given priority to is a matter of value judgement⁵⁸. From this point of view it is worth noting that employment issues raise more problems than environmental ones. Environmental concern has increased over the years. The widespread claim is that the future of humanity is at stake: the rate of depletion of natural resources, on the one hand, and the degree of waste associated to production and consumption, on the other, are changing the environment to the point that not only our standards of living are unsustainable but even the survival

⁵⁷Owing to the above mentioned technological interdependence among firms, however, adaptation is not a firm-specific process. Each firm can adapt only in relation to how other firms adapt.

⁵⁸Since the nature of technology depends on which priorities prevail, when we refer to a technological bias we do not imply that an “unbiased” technology is possible. Rather, we believe that, depending on which priorities are chosen, some bias may be better than others.

of the human race may be undermined. Faced with the “doomsday argument” (Mayhew 1981), finding a solution to this problem would be in the common interest, even though such a solution would be harmful for some vested interest.

The common interest of finding a solution to unemployment is less intuitive. Unemployment is of little concern for many who have a job. Up to a point, it does not disrupt accumulation. Furthermore, even those who acknowledge that it is the cause of economic waste – in that unemployed resources imply a lower output – and of social grievance, may fear that action in favour of the unemployed will prevent the efficient functioning of the market⁵⁹. Indeed, as we argued above, when labour supply and labour demand do not match, a most likely reason is that different terms of reference clash⁶⁰. The meta-preferences of the workers and the technical requirements of business reflect different goals, and these goals are not comparable in monetary terms. Thus, unemployment hardly implies doomsday; quite to the contrary, it may be deemed good.

Apart from value judgements, two objections are likely to be raised against the claim that technological change could be constrained by the socially desired level of employment. The first one has to do with the intrinsic nature of innovation. It argues that innovators’ concern about unemployment is pointless because they cannot predict what consequences their activity is going to have, thus what effect it is going to have for people’s jobs. Furthermore, even though technology is endogenously created, the psychological intricacies underlying innovation - the creation of novelty - preclude whatever action aims to direct or even influence the mindsets of innovators. These objections are noteworthy but they require some qualification. It is true that the effect that technology has on employment often is unintentional. But this unintentional effect is more likely to occur when research is based on goals and procedures that simply disregard unemployment. Furthermore, innovative activity occurs within paradigms and trajectories that reflect, among other elements, learning path dependence, thus previously established goals and procedures.

⁵⁹An interesting case, in this respect, is that unemployment is likely to favour discipline. This issue is stressed by scholars who follow quite distinct approaches. See, for instance efficiency wage theory (Shapiro, Stiglitz 1984) on the one hand and Kalecki’s (1943) political limits to full employment. The point, here, is to ascertain whether the negative consequences of unemployment are offset by the outcome of economic activity. In most instances, it is those who are not unemployed that enjoy the beneficial outcome of unemployment. A distributional issue therefore emerges which is in stark contrast with the common interest envisaged when discussing environmental issues.

⁶⁰“It is needless to say that the fact that problems of social costs raise issues of income redistribution makes them matters of political controversy and political power. (Kapp 1963b, p. 15)

Even though single innovators cannot be forced to achieve a specific goal, the guidelines of their innovative activity may be based on different social priorities.

The second objection is that any constraint on technological change would feed back on profitability, thereby leading to a drop in output and/or employment. We argued above, however, that reliance on a direct relation between profitability on the one hand and output and employment on the other may be misleading. We stressed that unemployment is not (only) the result of some market failure, i.e. the undesired outcome of individual behaviour. It is (mainly) a social cost, determined by the way business operates, that is to say, by its goals and its strategies.

Truly, technological change that does not reflect business priorities may negatively affect key economic variables such as profitability, accumulation, competitiveness, etc., and this might be the cause of a different range of social costs. The identification of an appropriate policy requires a valuation of all the social costs involved. It does not warrant disregard for the non-exogenous nature of technological change.

7.2 Employment policy and technology

Let us now focus on the implications this has from a policy perspective. Much like other agents, policy makers take their decisions in the light of their “ends in view” – for any given choice set - and of their “ends”, the social goals pursued which define the choice context⁶¹. Leaving aside the former, recall that the “end” we are concerned with is the command individuals have over their lives. As far as employment is concerned, this implies an appropriate technological policy. In order to favour social – as opposed to business – priorities in the creation of scientific and technological knowledge, action must focus on learning strategies. It is beyond the scope of this paper to provide an exhaustive list of possible measures. We only wish to outline some key issues.

The first field of action concerns scientific cooperation between business and public (or publicly funded) research organisations such as universities. There may be instances where such a cooperation is useful but, since business priorities generally do not coincide with social priorities, it may be appropriate that public organisations be equipped to identify how this diversity affects science and technology⁶². This public interference in the directions of

⁶¹The notions of “ends in view” and “ends” are discussed in Tool (2001).

⁶²For instance, rather than focusing on how the division of labour may best comply with the profitability goal, research could try to draw inspiration from the social goals underlying the labor supply function in order to devise alternative ways to organise economic

scientific and technological inquiry could lead to what Bush and Tool (2001) call a Lisenko effect⁶³. However, the claim that scientific inquiry should be subject to collective priorities does not imply either that it should comply with the ends in view, as opposed to the ends, of a government or, for that matter, of a community. It does suggest that scientists should not feel absolutely free to do as they like. There is no doubt that, given the open-ended nature of a great deal of scientific research, it is fairly difficult for anyone but the scientific community to claim that a field of inquiry is more promising than another. Nonetheless, it is important to keep in mind that what “promising” means ultimately depends on the goals pursued, thus on how the scientific community interacts and dialogues with different sectors of society.

The second field is education. A rather frequently held claim is that education should allow students to find a job. This cannot be denied but it should not prevent the achievement of a different goal: providing students with an understanding of the world we live in, so that they may become responsible citizens⁶⁴. Training and general education need not coincide. This may be one of the reasons why a problem arises with labour supply: potential workers may wish to act as responsible citizens, thereby seeking jobs where they can use their knowledge to the advantage of the community, but this may turn out to be at the expense of the firm that hires them.

These considerations on education suggest that a different view may be required of educational entry barriers. Free access to schools and universities raises costs and sometimes precludes teaching efficiency. Furthermore, since students are not selected in advance, some give up studying when they realise it is too demanding a task for them. Drop-outs appear to be a net loss in that they do not achieve their degree despite all the money the community spent for them. These issues should not hide the fact that, for the reasons outlined above, education is a social – as well as an individual - goal in itself, quite independently of whether a degree is achieved or not.

A final field of action concerns firms and their research activity. As we recalled in section 2 unemployment relief systems and organisational rigidity within firms are claimed to prevent workers from adapting to the requirements of labour demand. Relief systems and rigidity may be viewed as socially appropriate, however, precisely because they shift the adaptation re-

activities.

⁶³A Lisenko effect “increases the degree of ceremonial dominance through the displacement of instrumental values by ceremonial values. It is this process that is defined *regressive institutional change*” (Bush, Tool, 2001, p. 215).

⁶⁴It is no coincidence that this was a favourite expression of Federico Caffè, one of Italy’s major estimators of Kapp (see Caffè 1978), who used it to point out his main objective when lecturing and supervising.

quirement to firms: the latter would have to adapt their division of labour, their skill requirements and, eventually, their machinery to what workers look for.

8 Conclusions

The paper focused on a specific but crucial feature of unemployment: the mismatch between labour supply and labour demand. It stressed that the motives underlying labour supply may lead workers to pursue unavailable jobs rather than fill existing vacancies and that workfare programmes attempt to make it less convenient for jobless workers not to accept the jobs they are offered.

The rationale of workfare is that mismatches occur because of market failures and that incentives must be conceived of so that, when mismatches do appear, supply may adjust to demand as soon as possible. We investigated the motives underlying labour supply and stressed that there is more to mismatches than mere market failures. While the above motives of jobless workers may be “bad” - in that they prevent adaptation to demand - they may be “good” in terms of existing social values. In other terms, it is reasonable that individuals attempt to upgrade their social status despite labour demand requirements: it is reasonable – as well as socially appropriate – that they pretend to find jobs that put to use the qualifications they have acquired; it is reasonable – as well as socially appropriate – that they pretend to design life trajectories that enhance their present and future capabilities.

We also investigated labour demand as a function of existing technology. Leaving aside possible market failures, conventional economics has it that when labour supply adapts to labour demand, it is merely adapting to existing technological constraints. This view, however, neglects that a great deal of research has pointed to the – at least partial – endogeneity of technology. It also neglects that business goals – which need not coincide with social values – strongly influence how technology evolves.

Our discussion therefore pointed to the absence of an objective (i.e. generally acceptable) benchmark to assess whether it is labour supply that should adapt to the requirements of labour demand or the latter that should adapt to the former. We contended that the identification of a benchmark implies a value judgement. We consequently chose to base our discussion on Sen’s notion of capabilities.

According to the capabilities view, we argued, there is no reason why the first envisaged alternative – supply adapts to demand – should be preferred. In so far as technology is endogenous, economic action occurs both at the

level of prices and quantities and at the level of learning, knowledge, and technology. The latter is not a mere constraint.

Technology may affect capabilities in terms of the freedom of choice available to individuals at any given moment. This is precisely what occurs on the labour market: when a mismatch occurs, individuals cannot satisfy their aspirations, and their freedom of choice is constrained.

Unemployment certainly causes social costs, at the psychological, social and strictly economic level, but what we wish to stress is that it is in itself a social cost: in so far as it is associated to a mismatch between business goals and social goals – where the latter aim to improve the quality of life - unemployment reflects the gap between potential and actual capabilities.

Economic policy is part of general public action. It co-determines what Kapp referred to as sequential interaction within a cumulative process. Single ends-in-view, such as providing everybody with a job, should be pursued with clear ends, such as increasing the capabilities of the individuals involved. This involves acting on how science and technology are created, bearing in mind that any public or private action that copes with today's unemployment problems also affects future technological development, with its opportunities and constraints. It is the contrary of workfare, which restricts the available choice set, reduces present and future choice contexts, and exerts no pressure on technology to meet the requirements set forth by unemployed workers.

The above discussion was restricted to unemployment as a mismatch. It did not deal with aggregate demand as a determinant of the level of employment. Our discussion suggests that the two issues are in no way inconsistent. Quite to the contrary, we believe they are complementary and that policies pursuing full employment should take into account the issues related to both.

References

- [1] Acocella N. (1998) *Foundations of Economic Policy: Values and Techniques*, Cambridge, Cambridge University Press.
- [2] Aschaffenburg K. and Ineke M. (1987), "Cultural and Educational Careers", *American Sociological Review*, 62, 4, 1987, pp.573-587.
- [3] Bandura A. (1986), *Social Foundations of Thought and Action. A Social Cognitive Theory*, Englewood Cliffs, Prentice Hall.
- [4] Blanchard O. (1999), *European Unemployment: The Role of Shocks and Institutions*, Roma, Edizioni dell'Elefante.

- [5] Blau P.M. (1964/1986), *Exchange and Power in Social Life*, New Brunswick, Transaction.
- [6] Blau P.M. (1994), *Structural Contexts of Opportunities*, Chicago, Chicago University Press.
- [7] Bourdieu P. (1979), *La distinction*, Paris, Les éditions des minuits.
- [8] Braverman H. (1974), *Labor and Monopoly Capital*, New York, Monthly Review Press.
- [9] Bush P.D. and M.R. Tool (2001), “The Evolutionary Principles of American Neoinstitutional Economics”, in K. Dopfer, *Evolutionary Economics. Program and Scope*, Boston, Kluwer.
- [10] Caffè F. (1978) *Lezioni di Politica Economica*, Torino, Boringhieri
- [11] Coriat B. and G. Dosi (1998), “Learning how to Govern and Learning how to Solve Problems: On the Co-Evolution of Competences, Conflicts and Organizational Routines” in A. Chandler, P. Hagstrom, O. Solvell (eds.) *The Dynamic Firm: The Role of Technology, Strategy, Organization, and Regions*, Oxford, Oxford University Press.
- [12] Covick O. (1998), “Self-employment as disguised unemployment”, in Lange T. (ed.) (1998), *Unemployment in theory and practice*, Cheltenham, Elgar, pp.100-121.
- [13] Darity W. Jr. (1999), “Who loses from unemployment”, *Journal of Economic Issues*, XXXIII, pp.491-496.
- [14] Davidson P. (1994), *Post Keynesian Macroeconomic Theory*, Aldershot, Edward Elgar.
- [15] Dosi G. and Egidi M. (1991), “Substantial and Procedural Uncertainty”, *Journal of Evolutionary Economics*, 1.
- [16] Dosi G. and Marengo L. (1994), “Some Elements of an Evolutionary Theory of Organizational Competences”, in R.W. England (ed.), *Evolutionary Concepts in Contemporary Economics*, Ann Arbor, University of Michigan Press.
- [17] Dosi G., R.R. Nelson and S.G. Winter (2000), “Introduction: The Nature and Dynamics of organizational Capabilities”, in G. Dosi, R.R. Nelson, S.G. Winter (eds.) *The Nature and Dynamics of organizational Capabilities*, Oxford, Oxford University Press.

- [18] Dugger W.H. and Sherman H.J. (2000), *Reclaiming Evolution. A dialogue between Marxism and Institutionalism on Social Change*, London, Routledge.
- [19] Eatwell J. (1997), “Effective Demand and Disguised Unemployment”, in Michie J. and Grieve Smith J. (1997), pp.76-94.
- [20] Egidi M. (1992), “Organizational Learning, Problem Solving and the Division of Labour” in Egidi M., Marris R. (eds.) *Economics, Bounded Rationality and the Cognitive Revolution*, Aldershot, Elgar.
- [21] Feldstein M. (1978), “The Private and Social Costs of Unemployment”, *American Economic Review, P&P*, 68, may, pp.155-158.
- [22] Galbraith J.K. (1958), *The Affluent Society*, London, Hamish Hamilton.
- [23] Gardiner J. (2000), “Rethinking Self-sufficiency: Employment, Families and Welfare”, *Cambridge Journal of Economics*, 24, pp.671-689.
- [24] Georgescu-Roegen, N. (1954), “Choice, Expectations and Measurability”, *Quarterly Journal of Economics*, november, reprinted in *Analytical Economics*, Cambridge (Mass.), Harvard University Press, 1966, pp.184-215.
- [25] Georgescu-Roegen N. (1976), “Process in Farming Versus Process in Manufacturing: A Problem of Balanced Development”, in *Energy and Economic Myths. Institutional and Analytical Economic Essays*, New York, Pergamon Press.
- [26] Groenewegen J. and Vromen J. (1997) “The Theory of the Firm Revisited”, in Magnusson L. and Ottson J. (eds.), *Path Dependency and Evolution*, Aldershot, Elgar 33-56.
- [27] Hamilton D. (1991) *Evolutionary Economics. A Study of Change in Economic Thought*, New Brunswick (NJ), Transaction Publishers.
- [28] Heath A. (1981), *Social Mobility*, London, Fontana.
- [29] Heidenreich R. (1998), “Economics and institutions: the socioeconomic approach of K. William Kapp”, *Journal of Economic Issues*, XXXII, pp.965-984.
- [30] Henry S.G.B. and Snower D.J. (eds.) (1996), *Economic Policies and Unemployment Dynamics in Europe*, International Monetary Fund.

- [31] Hirsch F. (1976), *Social Limits to Growth*,
- [32] Hirschman A.O. (1984), “Against Parsimony: Three Easy Ways of Complicating Some Categories of Economic Discourse”, *Bulletin of the American Academy of Arts and Sciences*.
- [33] Kalecki M. (1943), “Political Aspects of Full Employment”, *Political Quarterly*, vol. XIV.
- [34] Kapp K.W. (1950), *The Social Costs of Private Enterprise*, Cambridge, Mass., Harvard University Press .
- [35] Kapp K.W. (1963a) “Social Costs and Social Benefits. A Contribution to Normative Economics”, in E.V. Beckerath and Giersch H. (eds.), *Probleme der Normativen Ökonomik und der Wirtschaftspolitischen Beratung. Verein für Sozialpolitik*, Berlin, Duncker & Humblot.
- [36] Kapp K.W. (1963b), *Social Costs of Business Enterprise*, Bombay, Asia Publishing House.
- [37] Kapp K.W. (1971), “Introduction to the 1971 edition”, in *The Social Costs of Private Enterprise*, New York, Schocken Books.
- [38] Kapp K.W. (1976a) “The Open-System Character of the Economy and its Implications”, in K. Dopfer (ed.) *Economics in the Future: Towards a New Paradigm* London, Macmillan.
- [39] Kapp K.W. (1976b), “The Nature and Significance of Institutional Economics”, in *Kyklos*, 2.
- [40] Kapp K.W. (1977) “Environment and Technology: New Frontiers for the Social and Natural Sciences”, in *Journal of Economic Issues*, 3, 527-540.
- [41] Kitson M., Martin R. and Wilkinson F. (2000), “Labour markets, social justice and economic efficiency”, *Cambridge Journal of Economics*, 24, pp.631-641.
- [42] Knoedler J.T. (1997), “Veblen and technical efficiency”, *Journal of Economic Issues*, 4, 1011-1026.
- [43] Knoedler J.T. and Mayhew A. (1999), “Thorstein Veblen and the Engineers: A reinterpretation”, *History of Political Economy*, 2, 255-272.
- [44] Latsis S.J. (1976), “A Research Program in Economics”, in S.J. Latsis (ed.), *Method and Appraisal in Economics*, Cambridge, Cambridge University Press 1-41.

- [45] Layard, R. (1999), *Tackling Unemployment*, London, Macmillan.
- [46] Layard, R., Jackman and Nickell, S. (1996), “Combating Unemployment; Is Flexibility Enough?” in *OECD Proceedings: Macroeconomics Policies and Structural Reform*, OECD. Reprinted in Layard (1999), ch.10.
- [47] Leijonhufvud A. (1986) “Capitalism and the Factory System”, in Langlois R.N. (ed.) *Economics as a Process*, Cambridge, Cambridge University Press.
- [48] Levine D.P.(1997), “Knowing and acting”, *Review of Political Economy*, 9, 1, pp.5-17.
- [49] Levine D.P. (1998), *Subjectivity in Political Economy*, London, Routledge.
- [50] Lindbeck A. and D.J. Snower (1986) “Involuntary Unemployment as an Insider-Outsider Dilemma”, in W. Beckerman (ed.) *Wage Rigidity and Unemployment*, London, Duckworth.
- [51] Lipset S.M. and Bendix R. (1959), *Social Mobility in Industrial Societies*, California, University of California Press.
- [52] Loasby B.J. (1991), *Equilibrium and Evolution. An Exploration of Connecting Principles in Economics*, Manchester, Manchester University Press.
- [53] Loasby B.J. (1996), “The division of labour”, *History of Economic Ideas*, IV, 1-2, pp.299-323.
- [54] Levitt B. and March J.G. (1988), “Organizational Learning”, *Annual Review of Sociology*, 14.
- [55] Lewis A. (1998), “Comment”, in Solow (1998).
- [56] Marglin S.A. (1976), “What Do Bosses Do? The Origins and Functions of Hierarchy in Capitalist Production”, in A. Gorz (ed.) *The Division of Labour: The Labour Process and Class Struggle in Modern Capitalism*, Brighton, Harvester Press.
- [57] Mayhew A. (1981), “Ayresian Technology, Technological Reasoning, and Doomsday”, in *Journal of Economic Issues*, 2, pp. 513-520.
- [58] Michie J. and Grieve Smith J. (1997), *Employment and Economic Performance. Jobs, Inflation and Growth*, Oxford, Oxford University Press.

- [59] Peck J. and Theodore N. (2000a), “‘Work first’: workfare and the regulation of contingent labour markets, *Cambridge Journal of Economics*, 24, pp.119-138.
- [60] Peck J. and Theodore N. (2000b), “Beyond ‘employability’”, *Cambridge Journal of Economics*, 24, pp.729-749.
- [61] Perelman M. (1996), *The Pathology of the US Economy. The Costs of a Low-Wage System*, London, Macmillan.
- [62] Phelps E.S. (1970) “Money wage dynamics and labor market equilibrium”, in id. (ed.) *Microeconomic Foundations of Employment and Inflation Theory*, New York, Norton.
- [63] Picketty T. (2000), “Theories of persistent inequality and intergenerational mobility”, in Atkinson A.B. and Bourguignon F. (eds.) *Handbook of income distribution*, Amsterdam, Elsevier.
- [64] Polanyi K. (1944) *The Great Transformation*, New York, Holt, Rinehart & Winston.
- [65] Polanyi K. (1957), “The economy as instituted process”, in Polanyi K. et al. (eds.), *Trade and market in early empires: economies in history and theory*, New York, The Free Press.
- [66] Polanyi M. (1962), *Personal Knowledge. Towards a Post-Critical Philosophy*, London, Routledge.
- [67] Prasch R.E. (2002), “What is wrong with wage subsidies?”, *Journal of Economic Issues*, XXXVI, pp.357-364.
- [68] Ramazzotti P. and Rangone M. (2002), “Firms and Selection: Possible Features of Innovation Processes”, *Rivista Internazionale di Scienze Economiche e Commerciali*, 1, pp. 55-79.
- [69] Reiss A.J. et al. (1961), *Occupations and Social Status*, New York, The Free Press.
- [70] Richardson G.B. (1972), “The Organization of Industry”, *The Economic Journal*, September; in id. *Information and Investment*, Oxford, Clarendon Press, 1990².
- [71] Robinson J. (1937), “Disguised Unemployment” in *Essays in the Theory of Employment*, London, Macmillan.

- [72] Roemer J. (1998), “Comment”, in Solow (1998).
- [73] Scott R.W. (1995), *Institutions and Organizations*, Thousand Oaks, Sage Publications.
- [74] Sen A. (1981), *Poverty and Famines. An Essay on Entitlement and Deprivation*, Oxford, Clarendon Press.
- [75] Sen A. (1982), “Rational Fools: A Critique of the Behavioural Foundations of Economic Theory”, in *Choice, Welfare and Measurement*, Oxford, Basil Blackwell.
- [76] Sen A. (1984), *Resources, Values and Development*, Oxford, Basil Blackwell.
- [77] Sen A. (1991), *Capability and Well-being*, United Nations University Press.
- [78] Sen A. (1992), “The standard of living”, in *Tanner Lectures on Human Values*, vol. I, Salt Lake City, University of Utah Press.
- [79] Sen A. (1999), *Development as Freedom*, New York, Alfred Knopf.
- [80] Sen A. and Williams B. (1982), *Utilitarianism and Beyond*, Cambridge, Cambridge University Press.
- [81] Shapiro C. and J. Stiglitz (1984), “Equilibrium Unemployment as a Worker Discipline Device”, *American Economic Review*, June.
- [82] Simon H.A. (1976) “From Substantive to Procedural Rationality”, in *Method and Appraisal in Economics*, S.J. Latsis (ed.) Cambridge, Cambridge University Press.
- [83] Simon H.A. (1979), “Rational Decision Making in Business Organizations”, in *American Economic Review*.
- [84] Solow R.M. (1998), *Work and welfare*, Princeton (NJ), Princeton University Press.
- [85] Stabile D.R. (1996), “Pigou, Clark and modern economics: the quality of the workforce”, *Cambridge Journal of Economics*, 20, pp.277-288.
- [86] Stein J. (1997), “How Institutions Learn: A Socio-Cognitive Perspective”, *Journal of Economic Issues*, 3.

- [87] Swaney J.A. (1989), “Our Obsolete Technology Mentality”, *Journal of Economic Issues*, 2, pp.569-577.
- [88] Swaney J.A. and Evers M.A. (1989), “The social cost concept of K. William Kapp and Karl Polanyi”, *Journal of Economic Issues*, XXIII, pp.7-33.
- [89] Tarling R. and Wilkinson F. (1997), “Economic functioning, self-sufficiency, and full employment”, in Michie J. and Grieve Smith J. (1997), pp.97-122.
- [90] Teece D.J. (1988) “Technological Change and the Nature of the Firm” in Dosi G. et al. (eds.), *Technical Change and Economic Theory*, London, Pinter.
- [91] Tool M.R. (2001), *The Discretionary Economy. A Normative Theory of Political Economy*, New Brunswick, SA Transaction.
- [92] Tumin M.M. (1967), *Social stratification. The forms and functions of inequality*, Englewood Cliffs, Prentice-Hall.
- [93] Veblen T. (1919/1964), *The Vested Interest and the Common Man (The Modern Point of View and the New Order)*, New York, Kelley.
- [94] Veblen T. (1921/2001), *The Engineers and the Price System*, Kitchener (Canada), Batoche Books.
- [95] Vivarelli M. (1995), *The Economics of Technology and Employment. Theory and Empirical Evidence*, Aldershot, Elgar.
- [96] Waller W.T. Jr. (1982), “The Evolution of the Veblenian Dichotomy: Veblen, Hamilton, Ayres, and Foster”, *Journal of Economic Issues*, 3, pp. 757-771.
- [97] Witt U. (1993), “Turning Austrian Economics into an Evolutionary Theory” in Caldwell B.J. and Boehm S. (eds.), *Austrian Economics: Tensions and New Directions*, Boston, Kluwer.