

Investment Stimulation, with Some Reference to Housing*

Jacques H. Drèze

CORE, Université catholique de Louvain

Alain Durré

Département des sciences économiques, Université catholique de Louvain

Henri R. Sneessens

*Département des sciences économiques,
Université catholique de Louvain;
Université catholique de Lille*

Introduction

This paper is a follow-up on Section 5 of Drèze, Malinvaud *et al.* (1994) "Growth and Employment : The Scope for a European Initiative" (hereafter DMA). That position paper, written by 13 economists convened in 1993 by Jacques Drèze in Louvain-la-Neuve and Edmond Malinvaud in Paris, argued in favour of policies aiming to sustain demand through (private or public) economically justified investments and without aggravating public deficits.

"For almost 20 years now, West European unemployment has been a major social problem and the sign of a significant underutilisation of resources at a time of substantial unfilled needs." . . .

"The crux of the matter is a situation of inadequate aggregate demand, at a time when there does not seem to exist any leeway for fiscal expansion. The way out of this dilemma has been correctly identified by the European Commission, namely to find ways of stimulating investment without falling back too much on national budgets for funding. The emphasis on social and public investment is natural at a time when unused capacities limit the immediate prospects for business investment (which, moreover, would be labour saving)."

In short, the proposal was to put involuntarily unemployed Europeans to work on worthwhile investment projects, like housing or urban renewal. Temporary subsidies geared to the share of labour costs accruing anyhow to the Treasury should be (i) self financing; (ii) instrumental in inducing

* This paper is a revised version of a paper prepared for the Conference "Employment in Europe" organised by the European Investment Bank, Luxembourg, January 15, 1998.

private investors to step up investment. From a macroeconomic viewpoint, investment is the key element of sustained growth. But in order for the macroeconomic impact to be felt, the program should be carried out on a large scale (like hundreds of billions of ECU's over a few years). It should therefore be coordinated and implemented simultaneously in all member countries in the EU 15.

We believe that such a proposal remains definitely useful; it might well prove necessary; and it is by all means timely to start preparations. *It is definitely useful* because the forecasts for the years to come are only moderately optimistic. *It might well prove necessary* because policies remain contractionary, a policy stand which might even be reinforced to achieve the “budget balance or surplus” medium-term objective set by the *Growth and Stability Pact* signed in Amsterdam. Expansionary monetary policies are unlikely, as the new European Central Bank is still feeling its way trying to understand the working of exchange rate adjustments for the Euro, and not prepared to jeopardize its credibility. *It is by all means timely*, accordingly, to adopt general policies favouring investment, in particular policies of low real interest rates, but also to consider policies targeted at specific investments, which entail preparation lags. We regard the launching of such preparations as a matter of urgency.

Building upon several recent papers¹, we investigate further the argument in DMA as follows: (i) in Section 1 we review concisely the theoretical case for investment stimulation; (ii) in Section 2, we elaborate on the principle of employment subsidies, with reference to housing; (iii) in Section 3, we review the main problems of implementation and report on a preliminary attempt at checking applicability to housing in Wallony; (v) in Section 4, we conclude with reference to the role of the EIB.

1 Why stimulate investment? A theoretical digression

1.1 To set the stage, we review briefly a (non-standard) theoretical case for demand management, based upon contemporaneous thinking about incompleteness of markets. The argument proceeds in three steps:

- (i) incomplete markets justify price and wage rigidities as a second-best compromise between productive efficiency and risk-sharing efficiency;
- (ii) incomplete markets are conducive to coordination failures which, in the presence of price and wage rigidities, result in multiple equilibria, possibly accompanied with substantial underutilisation of resources;

¹ Drèze and Sneessens (1994), Sneessens and Shadman-Mehta (1995), Drèze and Gollier (1993), Drèze (1997), Shadman-Mehta and Sneessens (1998).

- (iii) multiplicity of equilibria in turn strengthens the incentives for downward price and wage rigidities, endowing the underemployment equilibria with persistence.

In this argument, incompleteness of markets refers to the pervasive absence of markets for futures and contingent contracts, in particular for labour services, but also for aggregate demand, hence for coordination of expectations. That absence is accepted here as a stylised fact; we do not go back to the reasons for this absence, typically imputed to information and transaction problems.

1.2 We begin with wage rigidities, following Drèze and Gollier (1993); see also Bean (1984). In an economy evolving over time, under uncertainty about the future state of the environment, an efficient allocation of resources is not sustained by sequential clearing of spot markets (by a sequence of temporary equilibria). Insurance markets, or substitutes thereof, are required for an efficient allocation of risk bearing. Financial markets and insurance contracts serve that function, within limits. For labour services, multi-period contracts as studied in the theory of implicit contracts² offer scope for risk sharing between workers unable to diversify their human capital and shareholders holding diversified portfolios. In contrast, future job applicants (the young, the unemployed, the future re-entrants after dismissal or temporary withdrawal) have no access to insurance. They are left to bear the risk of labour market-conditions at the time of (re-)entry. If spot markets for labour contracts (both temporary or long-term contracts) cleared competitively at all times, the wages stipulated in these contracts would be subject to extreme fluctuations; in particular, they would fall to the reservation level of marginal workers under cyclically depressed markets. The resulting uncertainty for prospective job applicants would be severe. And yet, other agents (workers under contract and owners of non-human wealth) could theoretically provide insurance on mutually agreeable terms. But markets to that effect (markets for contingent labour contracts) do not exist. The resulting inefficiency (in risk sharing) can be alleviated, at some cost, through downwards wage rigidities (in bad states) and progressive labour taxes (in good states). A second-best allocation is achieved when the benefits from risk sharing just offset, at the margin, the costs of productive inefficiency (involuntary unemployment associated with the downward wage rigidities)³. The reasoning justifies minimum wages or some forms of union wages coupled with unemployment benefits. A superior, but more sophisticated and less prevalent alternative would combine the minimum wages with employment subsidies, see e.g. Drèze and Sneessens (1994, Section 3.2) or Phelps (1997).

The corresponding argument for prices aims at explaining downward price rigidities in the face of underutilisation of capacities. The following statement is borrowed from Drèze (1997):

² Cf. Azariadis (1975), Baily (1979) and Gordon (1974), or the survey by Rosen (1985).

³ The second-best analysis assumes financial equilibrium, i.e. equality of the present values of unemployment benefits and of labour taxes, adjusted by a risk premium corresponding to the requirements of financial markets.

“Investment in productive capacity generates fixed costs. Under incomplete financial markets, these must be covered by surviving firms at all date-event pairs; this will typically require competitive firms to practice average cost pricing in states of depressed demand, thus explaining the downward rigidity of prices in the presence of excess capacity.”

1.3 Turning to coordination failures, consider an economy with price vector $p = (p_1, p_2)$, where 1 denote a set of commodities (goods or services) with flexible prices and 2 a set of commodities with rigid prices. Let $p_2 = p'_2$ be given. A supply-constrained equilibrium is a price vector $p = (p_1, p'_2)$ and a physical allocation such that markets for 1-goods clear competitively whereas the markets for 2-goods clear through quantity constraints rationing excess supply (unemployment and excess capacities). It is shown in Drèze (1997) that, under standard assumptions and for arbitrary given p'_2 , there exist supply-constrained equilibria with arbitrarily severe quantity rationing of the supply of 2-goods⁴.

There are two new elements in this result, relative to the literature of the seventies on equilibria with quantity rationing. First, the result holds for arbitrary prices p_2 , hence also for prices p'_2 which, together with some p'_1 , form a competitive price vector p^* ; there is thus scope for excess supply at competitive prices, a phenomenon which is most naturally interpreted as a coordination failure. Firms do not hire due to lack of demand; unemployed workers do not buy due to lack of income; excess capacities build up and discourage investment. And yet, full employment of resources is attainable *at the same wages and prices*. Second, the extent of rationing is arbitrary, on theoretical grounds⁵; the prevailing extent is apt to be path-dependent, and largely driven by expectations. Under pessimistic expectations about future relative prices and/or quantity constraints, firms do not hire or invest, resulting in low levels of activity and employment today. Yet, the expectations may be rational, i.e. realised tomorrow. There is no market mechanism to coordinate expectations and trigger adjustments of expected future prices and quantities towards full utilisation of resources today.

1.4 The prospect of underemployment equilibria reflecting pure coordination failures helps understand the resistance of wages in the face of unemployment. Indeed, the same degree of unemployment is logically compatible with lower wages. There is no guarantee that lower wages will result in more employment, and no immediate evidence that prevailing wages are incompatible with higher employment. Policies aimed at overcoming the coordination failure through demand stimulation and support of more optimistic expectations define a superior alternative, especially from the viewpoint of workers. The wage resistance is thus understandable, even though the persistence of coordination failure equilibria is related to price and wage rigidities.

⁴ Technically, for any vector s'_2 of quantity constraints on the supply of 2 goods, there exists a supply-constrained equilibrium with constraints $s_2 < s'_2$.

⁵ Reminder : the rationing affects only 2-goods, i.e., goods with downward rigid prices.

1.5 The theoretical analysis summarised above may be related to empirical work validating the presence of multiple equilibria, for instance Lubrano *et al.* (1996) or Shadman-Mehta and Sneessens (1998), following earlier alternative formulations by Blanchard and Summers (1987) or Manning (1992).

Lubrano *et al.* (1996) use Johanssen's FIML method to analyse the econometric relationships between all the variables entering a theoretical model of wage and unemployment determination under imperfect competition and real rigidities. The model was estimated on Belgian data, over the period 1955-88. The advantage of the Johanssen procedure (compared to equation-by-equation methods) is that it considers the system of dynamic equations as a whole, and allows to test the status of each variable (exogenous or endogenous) as well as the number of independent cointegrated (structural) relationships. As expected from the theoretical model, the wage share, the unemployment rate and the capital gap⁶ emerge as endogenous variables; all the explanatory variables of the theoretical model are weakly exogenous. The model satisfies all stability tests. However, one obtains only two cointegrating relationships. The dynamic system has thus no unique long term equilibrium unemployment rate (NAIRU); the equilibrium unemployment rate is well defined only at given capital stock (or capital gap). The value of this short-term equilibrium unemployment rate depends on past investment rates and /or on expectations about future sales (not explicitly modelled, but incorporated in the system's dynamics). Short-run equilibria are extremely (locally) stable, i.e., large shocks are needed to have a permanent effect on the path followed by the economy. Simulation exercises show that both demand and supply shocks have real effects on equilibrium unemployment.

Shadman-Mehta and Sneessens (1998) develop this analysis further by examining under what conditions such a continuum of under-employment equilibria can be obtained in a model with quantity constraints of the *EUP* type (see Drèze, Bean *et al.* (1990)). The crucial point is the effect of capital gaps on the representation of the price and wage formation process. When the unemployment rate is high and there is a significant capital gap, the capacity utilization rate will provide a better indicator of tensions than the aggregate unemployment rate, and it makes a difference whether capital intensity is measured relative to actual employment or to total labour force. Once capacity utilization and capital intensity choices are explicitly modelled, one may obtain a continuum of equilibria indexed by the capital stock; the latter determines the "size" of the economy. The model is thus a particular case of Drèze (1997). Estimation of the model over the period 1955-1994 yields the same results as in Lubrano *et al.* (1996).

⁶ The capital gap is a combination of the unemployment rate and the degree of capacity utilisation. The three endogenous variables can thus alternatively be written as the wage share, the unemployment rate and the degree of capacity utilisation.

1.6 We conclude from our theoretical digression that policies aimed at stimulating aggregate activity and supporting more optimistic expectations may be needed to achieve faster growth, in particular of employment, when a relatively closed economy (like EU 15) is suffering from persistent underutilisation of resources. It should however be realised that the argument in favour of demand stimulating policies is not based on a simple and mechanistic Keynesian multiplier effect. The policies that we advocate should not be considered as pump-primers setting into motion a path of adjustment towards a self-perpetuating full employment equilibrium. Rather, they should be considered as a partial remedy to a coordination failure, which, even if could be remedied now, remains apt to reoccur at later dates. This is not a happy situation. It implies that attempting to stimulate the economy through budgetary deficits (fiscal expansion) could be most unwise, especially under high levels of public indebtedness (the situation of EU 15 today), as there is no guarantee that the additional debt can be retired once the expansion has taken momentum. The prospect of further episodes of coordination failure cannot be ignored. A safer course of action consists in identifying social needs that could be met through investment, and to speed up the realisation of these investments through fiscally neutral subsidies. That is the approach suggested in DMA, quoted above, and investigated further here. We document in section 3.2 the claim that our proposal satisfies fiscal neutrality.

2 How to stimulate investment ? The principles of employment subsidies

2.1 At times of severe unemployment, a correct evaluation of investment projects must take into account the effect of the wedge that unemployment introduces between the private and the social cost of labour. This labour cost distortion generates a discounting distortion, i.e. a gap between the private and the social cost of advancing in time the use of idle resources, the importance of which is directly related to the interest cost on the investment project's labour content. We briefly discuss both types of distortions and derive implications for investment stimulation policies.

2.2 The labour cost distortion is well known, and well documented : see, e.g. DMA Section 4.2, from which we borrow Table 1 and the following commentary :

“The nature and extent of the distortion must be properly understood. At times of full employment, the opportunity cost of labour to one firm is the productivity of labour in other firms, and there is no distortionary wedge⁷. At times of underemployment, the opportunity cost of an unskilled

⁷ In other words, the distortion we are talking about is not the distortion introduced by labour taxes (which persists at full-employment), but rather the one introduced by unemployment.

Table 1: *Social Insurance Contributions and Income Tax at average earnings (blue collar workers), 1991*

	SIC Rates		Average Income Tax Rate	Wedge as % of private cost	80% of wedge plus 20%
	Employer	Employee			
Belgium	41.9	12.1	11.6	46.2	57.0
Denmark	0.0	2.5	36.0	38.5	50.8
France	43.8	17.1	1.0	43.1	54.5
Germany	18.2	18.2	8.7	38.1	50.5
Ireland	12.2	7.8	16.4	32.4	45.9
Italy	50.1	9.0	14.2	48.9	58.1
Netherl.	10.8	10.7	32.5	48.8	59.0
Portugal	24.5	11.0	0.9	29.2	43.4
UK	10.4	7.6	15.5	30.3	44.2
Unweigh.	23.5	10.7	15.2	39.5	51.6mean
US	7.7	7.7	11.3	24.8	39.8
Japan	7.6	7.0	2.4	15.8	32.6

Source: OECD, *Economic Perspectives*, January 1993.

worker is simply that of putting an unemployed person to work (a cost that ultimately could even be negative, if some unemployed workers would rather be employed, at unchanged net income). For other categories of workers, the situation is more complicated. Some categories are fully employed at their own skill level, so that the full employment rule applies. Other categories include workers employed below their own skill level, so that the opportunity cost should be evaluated (recursively) at the lowest skill level of actual employment for that category.”...

“A rough measure of the wedge is given by the share in the private labour costs of social insurance contributions (SIC) and income taxes, possibly augmented by unemployment benefits (or a fraction thereof, to reflect the fact that only a fraction of new jobs go to the unemployed – a fraction

typically of the order of one half). Table 1 gives an indication of the share of SIC and income taxes in labour costs at mean earnings – a share that ranges between 30 and 50% in Europe. (As is well known, it is distinctly lower in the US and Japan.) In order to add half the level of unemployment benefits, one must know the “replacement ratio” for each country, which is not easy to evaluate precisely. In Table 1 a column based on a net replacement ratio of 40% has been added⁸. The wedge then ranges between 43 and 59%, but these calculations neglect the important differences in replacement ratios between countries.”⁹

We attempted a rough application to residential housing in Belgium (see box 1). The share of direct labour costs in value added of residential construction is of the order of 50%, that of indirect labour costs¹⁰ of the order of 20%; see Durré (1998, a). Using a range of 40% to 60% for the wedge between private and social labour costs, we conclude that total private costs (value added, to a first approximation) exceed total social costs, on this score, by a factor of at least 20% (i.e. 40% of direct labour costs) and at most 42% (60% of direct + indirect labour costs).

2.3 The discounting distortion is less familiar, but easy to explain. If an unemployed worker were put to work for one year, what difference does it make that (s)he works this year rather than next year? To simplify, assume an unchanged real wage. For the employer, paying that wage one year sooner raises the cost by one year of discounting. For the worker, it may depend upon personal circumstances. It seems safe to assume that a worker could easily be found who would rather work this year than next. For the treasury, collecting labour taxes this year is preferred, again by one year of discounting. If the total labour cost is w , the one year discount rate r , and the wedge 50%, then the private cost of advancing the job by one year is rw (to be matched by advancing the revenue from sales), but the social cost is $-.5rw$. The discrepancy is thus $1.5rw$. The social rate of discount applicable to the cost of putting an unemployed person to work is thus $-.5r$, where r is a market rate.

Consider now a decision to build a house. At a time of unemployment, advancing the construction by one year entails a social cost roughly measured by r times the non-labour component of value added minus $.5r$ times the labour component. If one takes indirect labour costs into account, the

⁸ If the share of SIC and income taxes in the labour cost to employers is s and the replacement ratio is r , the estimate of the wedge allowing for unemployment benefits is s plus one half benefits $r(1 - s)$, that is

$$(1 - r/2)s + r/2 = s + (1 - s)r/2$$

⁹ These calculations should be further refined to take into account the fact that a worker's social insurance entitlements do increase when he changes status and becomes employed (part of the social charges are used to finance work accidents, paid holidays, additional pension rights,...). In the specific case of Belgium's residential sector, rough calculations suggest that such a correction would reduce the estimated value of the wedge from $.57$ to $.37$. Limiting labour tax exemptions to employers social security contributions can be seen as a simple way to take such a correction into account.

¹⁰ Labour costs embodied in intermediate inputs.

socially relevant discount rate is close to zero¹¹, $(.3r - (.7r)/2) = -.05r$. But the cost to the prospective owner is r . Some owners will postpone building on this score, whereas they would build at once if using a zero discount rate. This is the second distortion.

2.4 The reasoning just advanced does not, however, imply that housing should be financed at zero mortgage interest, when there is unemployment. The correct approach is to subsidize employment. A simple way to understand this point is by considering the ancillary decision about the mortgage duration. A zero rate would induce house owners to extend duration as much as possible: they get a free loan, whereas they could invest their savings productively¹². So to correct the distortion, one should distinguish between the real issue of advancing investment in time, and the financial issue of how the investment is funded.

If one wished to correct the discount rate distortion through an interest subsidy, it is hard to see how the subsidy should be defined. Thus if the concern was to advance next year's investment and have it realised today, a subsidy equal to one year of interest would do. But if one were concerned to advance investment from year 5 to year 0, the required subsidy would be 5 years of interest. How is one to distinguish practically between the two cases?

The only practical solution is to eliminate the wedge and leave funding alone. If the prospective owner does not pay for the share of labour costs corresponding to the wedge, (s)he does not pay interest on that share; if the treasury does not collect the wedge, the timing of that zero collection is immaterial; the distortion associated with discounting has thus vanished.

We conclude accordingly that subsidising the labour content of additional investment makes sense as a way of correcting a distortion in the pricing of labour, in addition to helping overcome the macroeconomic coordination failure reflected in slow growth and high unemployment.

3 Guidelines for implementation of a European investment program

3.1 The foregoing has presented the case for subsidising the employment content of additional investment. Assume that one could:

- (i) identify investment projects that are not regarded as profitable at market prices, but would be undertaken if the subsidy scheme is implemented;

¹¹ This is the "socially relevant" discount rate for the specific investment under review; it is not a social discount rate applicable to all forms of investment or discounting. In a disequilibrium context, it is natural that "socially relevant" discount rates vary with the extent to which specific investment decisions are biased by specific price distortions.

¹² Also, at a zero rate, they would overinvest in the non-labour part of the house (insulating materials, air-conditioning, . . .).

- (ii) identify the labour-costs component of such investments;
- (iii) measure the returns to the treasury associated with that labour component. Then one could, in principle, define a subsidy program that stimulates investment at no budgetary cost. The macroeconomic benefits would come free. Each of the three conditions may be difficult to meet exactly, but could well be met approximately. No more can be expected from macroeconomic policies generally.

Given the importance of trade among EU countries, stimulating demand through investment stimulation makes sense only at the EU level. Our proposal is a European program under which employment subsidies would be set and funded by national authorities, with an overall fiscally neutral financial inducement coming from Europe. We postpone to section 3.2.3 the description of the inducement scheme which we advocate. That inducement is justified by the desire to internalise the externality associated with macroeconomic stimulation. The investment projects would be undertaken then operated, and the risks born, privately. The program would specify eligibility criteria, to be monitored by national authorities. The combination of private risk bearing and public monitoring should ensure that the projects address worthwhile needs. The program would thus combine the desirable features of meeting unfilled needs, subsidising marginal investments, and stimulating investments with a relatively high labour content.

3.2 We now take up a number of specific issues. We first discuss the selection of marginal investment projects and the administration of employment subsidies by member states, next the European framework (scale of the programme, European-wide incentives and a role for the EIB) and the problem of adjusting the program to circumstances.

3.2.1 Subsidising Marginal Investments

The program would be limited to areas where prospective investments can be foreseen, so that marginal additions can be identified. DMA refer to low-cost housing, urban renewal, urban transportation, and trans-European networks¹³. The ease of identification is not uniform across these areas, and we are not qualified to assess it properly overall. In line with the specific case of residential housing in Belgium considered in box 1, we shall refer in the sequel to low-cost housing – either new buildings or renewal – and refer to the other areas when concluding. Why privilege housing? We do not want to discuss here whether increasing the supply of subsidised housing is desirable in itself. The answer to that question is far from straightforward, and has been the subject of a debate in the literature. It is largely orthogonal to our primary purpose of macroeconomic stimulation. The initial motivation is to promote growth through investment, and to stimulate investment through labour subsidies that correct a price distortion. Our reasons for privileging housing come from the combination of meeting unfilled needs,

¹³ Environmental protection is also considered in the White Paper of the European Commission (1993).

identifying marginal investments and stimulating relatively labour-intensive investments. In addition, the supply-response of the building sector is relatively elastic.

It is expected that national authorities could evaluate prospectively investment plans in public housing for, say, the next 5, 7 or 10 years (we shall henceforth refer to 7 years for definiteness); then define goals for *additional* investments meeting recognised needs. To the extent that such investments already benefit from various forms of public support, the implementation would be conditional on keeping unchanged the public support expected to prevail over the next seven years. It would of course simplify matters considerably if existing forms of support were replaced at once with employment subsidies as defined below. Beyond the simplification, this might also improve the economic soundness of many existing programs.

To the extent that the investment subsidy is granted only to marginal (additional) investment projects and calculated to be equal to the difference between the private and the social labour cost, the program should be *fiscally neutral*. The impact of the program on public finances is however subject to one element of uncertainty, namely the extent to which the program would crowd out private investment in housing; quantitative assessment of such crowding out would require data collection that we could not undertake; there is however a margin of revenue coming from the VAT; we tentatively suggest accumulating the associated VAT receipts in a special fund to be appropriated (either to the treasury or to the program) later on, as more information on the net impact (net of crowding out) of the program becomes available.

A remaining difficulty is that national authorities could, to the extent that participation in the program is advantageous to them (thanks to the financial incentives), be tempted to underreport prospective investments. The simplest safeguard in this respect is perhaps to announce *national quotas* for access to the program (see below discussion about European framework and incentives), possibly accompanied with an obligation to justify a minimal ratio of realised investments outside versus inside the program. Domestically, it would be up to national authorities to verify the marginal nature of the investments, if they so wish. Under harmonisation of existing forms of support with the new regime, that verification is not essential, and implementation would be simplified.

In line with the objective of meeting unfilled needs, one may also wish to *target beneficiaries*¹⁴. The intention is to spread benefits widely through faster growth., but there are also direct beneficiaries, namely the occupants of the subsidised dwellings. It would seem natural to impose conditions aimed at targeting the benefits on the neediest. This can be achieved through a number of conditions pertaining to: (i) the rents or selling prices; (ii) the

¹⁴ Reminder : the motivation of our proposal is not to increase the supply of subsidised housing, but to organise a fiscally neutral boost to investment. Public housing comes in as a privileged means of achieving that objective.

type of dwellings (size and unit cost); (iii) the characteristics of the occupants.

The first of these conditions is the most transparent. If the program is open to private builders, one wishes to insure that the benefits do not accrue to the builders themselves, but are passed on to worthy occupants. In principle, one could reach that objective by imposing a ceiling on the ratio of rentals (or selling prices) to net investment, where net means “net of the subsidies”. A ratio of rentals to investment, for rentals indexed to the cost of living, is straightforward to apply, if one knew what ratio corresponds to private profitability free of non-competitive profits. Clearly, that ratio depends upon real interest rates. Also, its market value at a point in time and space is not easy to pin down. Tongue in check, we advance the figure of 6% (annual rent as percentage of investment), corresponding to amortisation over 30 years at a real rate of 4%. (Such a calculation assumes that running expenses are covered by residual value after 30 years.)

The selling price might be related initially to investment (say plus 5% to 8%). Over time, it could be related to the debt outstanding under a 30 years – 4% mortgage, that debt being indexed. It is of course essential that building costs be duly contained, through competitive tenders. Monitoring this aspect would be up to national authorities.

The second and third criteria are logically related, as revealed by a simple illustration. If one wished to use a minimal condition selecting needy occupants, one could privilege single mothers with young children. In many countries, this group forms that hard core of poverty. The types of dwellings would then be geared to the needs of that group, as for size; and to the financial means of the group, as for cost – which would suggest keeping the costs (of building, maintaining and operating) as low as possible. Public housing programs in different countries use different criteria to define priorities for occupancy¹⁵. Income (or sometimes wealth) is a common criterion. It would seem preferable not to depart too much from national practices, with only broad guidelines agreed upon at the European level.

Box 1. The example of low-cost housing in Wallony

A precise and detailed description of the situation prevailing in the European housing sector is obviously beyond the scope of this paper. We focus here on the situation prevailing in one region of Belgium (Wallony) and use the available information to provide (rough) measures of unsatisfied needs and of the supply responses that might be expected from the kind of subsidy programme discussed in this paper.

¹⁵ See Coloos (1997) for an overview.

Unsatisfied needs

Output and employment in the housing sector decreased sharply with the 1981 recession. Value-added fell from 8 to less than 6 percent of GDP (figure 1); the number of workers was almost cut in half (figure 2). The recovery of the late eighties produced only a slight improvement. The 1981 recession thus created a substantial excess supply. It is clear against this background that solvent demand has been and will continue to be met.

Estimates reported in a study by Boon, Chaussepied *et al.* (1997)¹⁶ suggest a demand for about 6500 new dwellings per year over next 18 years, compared to an average of 9000 new dwellings officially registered every year in the recent past.

There are however clear indications of unsatisfied needs for low income families. The proportion of ill-equipped houses is two-to-three times higher for families with low net incomes (below median). While other families progressively improve the quality of their house, low-income families typically remain in ill-equipped houses during their entire lifetime. The cost of housing represents up to 40% of their income compared to about 15% for families with net income above the median (see Boon, Chaussepied *et al.* (1997)).

Marginal projects

Programmes funded by the region to provide low-income households with access to low-cost housing are far too limited to meet all the demands. The investment programme decided by the Regional Government of Wallony for the coming years are too small to eliminate this stock of unsatisfied needs. An amount of 1,815 million BEF was planned for 1999; this amount will be increased by 75 million BEF each year over the next 5 years. Given an average cost of 3.5 millions BEF per house, it means that less than 519 additional low-cost houses will be provided each year over the next five years, while the number of pending demands officially registered is 43,000¹⁷. This stock of unsatisfied needs represents an amount of about 150 billions of BEF (or Euro 3.73 billions), for a region representing about 1% of the EU population.

Labour contents and employment effects

The impact of housing investment on employment may be substantial. A 1 billion BEF (Euro 25 million) investment (about 300 dwellings) is estimated to generate about 500 jobs (349 in construction, 151 in intermediate input sectors; see Durré, 1998a). The ratio between the total and the direct employment effects so obtained (1.43) is slightly larger than the one found in the 1985 input-output table (1.33), which may reflect the under-representation of small enterprises in the latter. The total labour content in the residential sector amounts to about 70% (50% direct+20% indirect).

¹⁶ See also STRATEC (1995).

¹⁷ This figure (reported in a report prepared by the University of Mons for the Regional Government) may entail double counting. A precise estimate should also take into account the number of households who do not introduce a demand by lack of information or discouragement. The existence of substantial unsatisfied needs is confirmed by heads of local associations in charge of running low-cost housing programmes.

Supply response

Stimulating investment in the low-cost housing sector may thus have substantial employment effects if there are no supply bottlenecks. Looking at the effects of the recovery of the late eighties and comparing to the situation currently prevailing in the construction sector suggests that bottlenecks are unlikely. The recovery of the late eighties took place without generating specific inflationary pressures in the construction sector despite substantial production increases (value-added was in 1991 30% higher – at constant prices – than in 1986; its share of GDP increased from 5.4 to 6%). The situation prevailing today, by comparison with the late eighties, is one of much less optimistic expectations, reflecting under-utilized productive capacities.

Subsidy rates

The gap between the market cost of a dwelling and the cost that can be borne by prospective low-income households can be evaluated by looking at subsidy rates currently offered for low-cost housing. These rates can be approximated either by looking at the discrepancy between market and subsidised rental costs, or by looking at the subsidy received by the local associations in charge of running low-cost housing programmes funded by the region. The actual subsidy rate will of course vary from one household to the next, depending on the household's income level (see Durré (1998b)).

Let us consider a specific case, corresponding to an average situation. The total construction cost is the following :

Construction cost for a 3-rooms dwelling :	3,500,000 BEF
Additional charges (27% : VAT, architect, ...) :	945,000 BEF
Land purchase price (not updated)	200,000 BEF
Total investment cost	4,645,000 BEF

The local association running the investment programme can borrow 90% of the construction cost net of charges (i.e. 3,150,000 BEF) from the region and must repay 125% of this amount (3,937,500 BEF) over 30 years; the rest must be borrowed at market rates. If the latter is 6% for a 30 years loan (implying a total repayment of 218%), the total amount to be repaid by the local association is equal to 156% of the total cost¹⁸. The implicit subsidy rate is thus equal to 28% (218-156/218).

Estimating the subsidy rate from rental costs leads to a similar order of magnitude. The maximum rental cost that can be charged by the local association for the type of house considered in our example is 15,500 BEF. If we assume that the market rental cost is equal to about 6% of the amount invested, we obtain $4,100,000 * 0,06 = 246,000$ BEF per year, or 20,500 per month. The difference between the subsidised and the market rental costs is some 25% (5,000/20,500).

¹⁸ $156 = (0,67 * 1,25) + (0,33 * 2,18)$

3.2.2 Subsidising jobs for the unemployed

It is well documented by now that the core of unemployment affects low-skilled, low-paid workers. At the same time, it is obvious that a hierarchy of qualifications are involved in building or renewal projects. If a set of new projects is initiated, it is unavoidable that some qualified workers will be displaced from other activities. Hopefully, they will be replaced there through upgrading of others next in line, until eventually vacant jobs are filled by unemployed workers. The extent of the displacements will of course depend upon the extent of activity in the construction industry.

In order to provide maximal incentives for low-skilled employment, we suggest issuing *flat subsidies per man/year*, irrespective of wage levels. The overall amount of the subsidies for a project would be based upon the wedge calculated from overall wage costs. But the disbursement would take the form of a flat amount per man/year, so as to privilege numbers over pay. The administration of this scheme may or may not be straightforward, depending upon the extent to which actual employment on a given project can be monitored, and upon the number (hence average size) of projects at stake. The goal is to define a simple, easily monitored scheme. (Note that the monitoring difficulty is the same whether the subsidies are proportional to wage costs or to man/years.)

As a practical guideline, we suggest to calculate the subsidy on historical data. For a firm being awarded a building contract under the program, the average labour cost can be measured from the record of social insurance contributions, say over the last two fiscal years. Call that average cost w' . Let the subsidy per man/year amount to x . If the total labour costs corresponding to the building contract are L , the subsidy will be set equal to xL/w' . This method automatically favours firms which rely more on unskilled labour, i.e. for which w' is relatively low.

An additional incentive for deepening the recourse to unskilled labour could be introduced by inviting firms to justify that average labour cost within the proposed building contract is below w' . But the burden of the proof would then lie with the firm.

Such a scheme would go a fair way towards implementing the goal of favouring *labour-intensive* investments. It should prove manageable to monitor, since the only variable to be checked is aggregate labour costs, and other items could be subject to detailing in the tenders.

Also, training on the job should be encouraged. There exist in most countries schemes for training young workers or retraining the long-term unemployed. Benefits from such schemes could in principle be combined, at least in part, with the program considered here. Where there exist non-profit firms devoted to on-the-job training, their participation could be encouraged.

3.2.3 Overall scale and Incentives

The overall scale of a sensible program can be approached from two angles : needs and means.

The current population of EU 15 is 375 million people. The corresponding number of dwellings exceeds 100 million¹⁹. Using that round figure as a reference, and using an average figure of 60.000 Ecu's per dwelling, it would require an investment of 60 becu to renew (improve) the dwellings of 1% of the EU 15 population. Although we have not seen hard data, we feel safe in assuming that several percents of the EU 15 population occupy substandard dwellings²⁰. A program tailored to an additional investment of 150 to 250 becu would thus remain well within the bounds of meeting real needs.

How does one create fiscally neutral incentives for member nations to participate ?²¹ Financial incentives are easiest to define. We suggest that a special fund be created at the EU level, funded by national contributions. These levies would be unconditional. When investments in a given country are carried out, the country receives a subsidy, charged to the special fund. The levies and subsidies should be calculated in such a way that a country implementing its quota (as defined in section 3.2.1, par.4) breaks even²².

In earlier presentations of our proposal, we suggested subsidies in the form of low-interest loans. That presentation led to some confusion, which we hope avoid by the sharper formulation above, which brings out the logic more forcefully. Issuing the financial inducements in the form of interest subsidies has both merits and drawbacks. A merit is to spread over time the collection of the levies, since they are used to cover interest differentials that accrue over time²³. As a counterpart comes the drawback of lengthening the administrative life, from the investment period (hopefully short) to the reimbursement period (say 30 years). Political feasibility is apt to be the determining factor in choosing a specific inducement scheme²⁴.

3.2.4 Adjusting scale to circumstances

Given the underlying macroeconomic motivation, it would seem appropriate to relate the scale of the program to the rate of unemployment.

¹⁹ Belgium, with a population of 10.2 million, has 3.750 million dwellings. By Belgian occupancy standards, there would exist 138 million dwellings in EU 15.

²⁰ See confirmation for Wallony in box.

²¹ Reminder : incentives are needed to internalise the macroeconomic externality.

²² To take into account uncertainties and delays of implementation, the excess of levies over subsidies for each country could bear some interest paid out to that country, at a rate preserving incentives to implement the program.

²³ A rough calculation suggests that a subsidy of 100 basis points would reduce the annuity by 10%, in the realistic vicinity of a 6% nominal interest rate for thirty years loans. The annual cost for 100 becu of investment would be some 750 mecu, i.e., 3% of the annual budget for the EU Structural Funds, or 0.9% of the EU budget, or 4% of the EIB capital and reserves. Some such source could possibly contribute a small net benefit to participating countries.

²⁴ Another, even simpler scheme would impose a financial penalty for implementation below quota.

Given the specialisation of the program in the construction field, it would seem furthermore appropriate to relate scale to the level of activity in construction. If a specific unemployment rate for construction workers could be defined meaningfully, that rate could be used as a single reference. Unfortunately, defining that rate meaningfully is not an easy task. It might prove more expedient to use two separate references.

Assume that the program starts when the rate of unemployment U is 11% and the share C of construction in GDP is 5%. Let X denote the scale of the program, defined either through the subsidy per man/year, or more naturally through the sum total of national quotas mentioned under (a) above. One could then adjust X downward by a certain amount for each percentage point of decrease in U or of increase in C . (More sophisticated schemes are possible, but premature.)

Such an adjustment formula falls squarely into what is often referred to as "fine tuning", and will thus meet with standard objections on that score. Yet, the immediate intention is quite remote from fine tuning. The immediate intention is to stimulate investment at a time when unemployment in Europe is shockingly high, and a long period (like 7 years or more) of sustained growth is indispensable to bring unemployment down to more tolerable levels (like 5%, and definitely below 7%). We see no contradiction in using a formula to implement that program. The formula has the advantage of announcing clearly that the program is temporary, thereby reinforcing the inducement to shift investment forward, and is non-inflationary (through the link with both U and C).

To mitigate the "fine tuning" reservations, one could announce that the program is meant to be temporary, and will be revised when either U is down to 8% or C has risen to 8%.

3.3 Summarising this section, we may now define somewhat more precisely the contours of a program aimed at stimulating investment in housing.

- (i) The program should be a cooperative European effort (for macroeconomic impact); inducements to participate could take the form of implementation subsidies going to participating countries; that inducement aims at internalising the benefits from synchronised expansion; a special budget should be appropriated and funded by the member countries on a break-even basis; the size of that budget would *de facto* define the scale of the program; that scale could be big, if the budget permits and if investors respond; it could be adjusted over time as a function of the rate of unemployment and of the level of construction activity.
- (ii) The program should be implemented in member countries through approval of investment projects and issue of employment subsidies; these subsidies would take the form of a flat amount per man-year of employment on the approved projects; the flat amount should be such that overall subsidies correspond to the share of private labour costs accruing to the treasury in the form of withholdings or undisbursed benefits.

- (iii) The program would stipulate upper limits to the access of individual member countries to the implementation subsidies; it would stipulate an upper limit to selling prices or rentals relative to investment costs net of subsidies; it would delegate to national authorities the definition of conditions of eligibility or priority schemes to occupy the dwellings.

4 Conclusions

4.1 This paper investigated further the possibility to promote growth and employment through investment stimulation, as suggested in the DMA proposal. Limited as it is, our investigation into the provision of public housing in Wallony supports the claim that a fiscally neutral program aimed at stimulating investment via employment subsidies in that sector is possible: the program would meet worthwhile needs; prospects for future investments in public housing are well defined and marginal investments are correspondingly easy to identify; labour subsidies in the range of 25% to 35% of building costs are comparable to those currently applicable to public housing projects and would offer adequate incentives for marginal investments with sizeable labour content.

We have uncovered few grounds for concern about the ability of the construction industry and labour supply to implement such a program. Institutional implementation through existing channels is possible, but there is scope for improving effectiveness in a number of directions.

4.2 We conclude accordingly that the basic soundness and realism of the proposal is confirmed. We urge the EIB to extend our investigation into the feasibility of stimulating investment in housing across EU 15. Although our paper has concentrated on housing in the form of either construction or renewal, the DMA proposals were more ambitious, as they covered other aspects of urban renewal, but also urban transportation and investments in trans-European networks and environment protection. Again, a small task force could be set up at the EIB to investigate these other areas; the objective would be to delineate areas where the conditions of worthwhile needs, identification of marginal projects, relatively high labour content and elastic supply response are met; this could lead in due time to further reporting to the European Council. These suggestions invite the EIB to exercise initiative in setting up these task forces and reporting to the European Council. Presumably, this was the purpose of the Amsterdam resolution addressed to the EIB.

4.3 Still, the political feasibility of a European program as outlined here remains doubtful on several scores.

- (i) The starting point of the proposal is the conviction that slow growth and stagnation of employment in EU 15 reflect in part a macroeconomic coordination failure; investment stimulation seems to be the more natu-

- ral approach to overcoming that coordination failure; but our conviction does not seem to be shared by European political leaders and their advisors; this is evidenced for instance by the lack of attention to purposeful coordination of macroeconomic stimulation at the Luxembourg employment summit; a major revision of policy attitudes would thus seem to be called for, and there are no signs that such a revision is forthcoming.
- (ii) To the extent that European are not convinced of the necessity, effectiveness and feasibility of macroeconomic stimulation, they are apt not to recognise the need to create inducements internalising the macroeconomic externality; hence, they may be reluctant to create the special fund advocated in section 3.2.3, without which the implementation of the program remains hazardous, even if decided in principle.
 - (iii) The program we are advocating should be decided by the European Council, presumably subject to unanimity approval; there is no indication that unanimous support could emerge for a new program of this kind.
 - (iv) Participation of the member countries in the implementation of the program is essential; willingness of the member states to organise and implement the suggested employment subsidies, and response of the investors (public housing entities or private builders) to these incentives, are untested.

The present paper is an attempt at bringing forth these problems and an invitation to study them. In a sense, we are simply charting out some of the ground to be covered if the Amsterdam recommendation to the EIB is to materialise. The more ambitious goal of DMA was to assemble a portfolio of investment projects, the realisation of which could be adjusted to macroeconomic circumstances. Given the lags involved in the construction of such a portfolio, we still feel that it should be undertaken at once.

References

- Azariadis C., (1975), "Implicit Contracts and Underemployment Equilibria" *Journal of Political Economy*, **83**, 6, pp. 1183-1202.
- Baily M., (1974), "Wages and Employment under Uncertain Demand", *Review of Economic Studies*, **41**, 1, pp.37-50.
- Bean C.R., (1984), "Optimal Wage Bargains", *Economica*, **51**, pp. 141-149.
- Boon F., P. Chaussepied, A. Durré and F. Mingelgrün, (1997), "Fonction sociale et dimension économique du logement en Belgique", étude réalisée pour la Direction Générale de l'Aménagement du Territoire, du Logement et du Patrimoine, Région Wallonne.
- Blanchard O.J. and L. Summers, (1987), "Hysteresis in Unemployment", *European Economic Review*, **31**, 1-2, pp. 288-95.
- Coloos B., (1997), "Aides personnelles au logement : une comparaison européenne", *Problèmes Économiques*, 2.532, 26-31.
- Drèze J.H., (1997), "Walras-Keynes Equilibria, Coordination and Macroeconomics", *European Economic Review*, **41**, 9, pp. 1737-62.
- Drèze J.H., C. Bean, J.P. Lambert, F. Mehta and H. Sneessens (eds), (1990), *Europe's Unemployment Problem*, Cambridge (Mass.), MIT Press.
- Drèze J.H. and C. Gollier, (1993), "Risk Sharing on the Labour Market and Second-Best Wage Rigidities", *European Economic Review*, **37**, 8, pp. 1457-1482.
- Drèze J.H. and E. Malinvaud with P. de Grauwe, L. Gevers, A. Italianer, O. Lefebvre, M. Marchand, H. Sneessens, A. Steinherr and P. Champsaur, J.-M. Grandmont, J.-P. Fitoussi, G. Laroque, (1994), "Growth and Employment: The Scope for a European Initiative" *European Economy (Reports and Studies)*, 1, pp. 75-106.
- Drèze J.H. and H. Sneessens, (1994), "Technical Development, Competition from Low-Wage Economies and Low-Skilled Unemployment", *Swedish Economic Policy Review*, **1**, 1-2, pp.185-214.
- Durré A. (1998a), "L'investissement en logement en Belgique et en Wallonie au cours des vingt dernières années: moteur de la croissance intérieure?", Bulletin de l'IRES n° 210, Département des Sciences Économiques, Université Catholique de Louvain, Louvain-la-Neuve.
- Durré, A. (1998b), "Évaluation des besoins et du coût des investissements dans le secteur du logement social en Wallonie", mimeo, IRES, Département des Sciences Économiques, Université Catholique de Louvain, Louvain-la-Neuve.
- Gordon D.F., (1974), "A Neo-Classical Theory of Keynesian Unemployment", *Economic Inquiry*, **12**, pp. 431-459.
- Lubrano M., F. Shadman-Mehta and H.R. Sneessens, (1996), "Real Wages, Quantity Constraints and Equilibrium Unemployment: Belgium, 1955-1998", *Empirical Economics*, **21**, pp. 427-457.

- Manning A., (1992), "Multiple Equilibria in the British Labour Market", *European Economic Review*, **36**, 7, pp. 1333-65.
- Phleps E.S., (1997), *Rewarding Work: How to Restore Participation and Self-Support to Free Enterprise*, Cambridge (Mass), Harvard University Press.
- Shadman-Mehta F. and H.R. Sneessens, (1998), "Demand-Supply Interactions and Unemployment Dynamics: Is There Path Dependency?, The Case of Belgium, 1955-1994", IRES DP 9817, Département des Sciences Economiques, Université Catholique de Louvain, Louvain-la-Neuve.
- Sneessens H.R. and F. Shadman-Mehta, (1995), "Real Wages, Skill Mismatch and Unemployment Persistence: France, 1962-1989", *Annales d'Economie et de Statistique*, **37/38**, pp. 255-292
- STRATEC (1995), "Le scénario tendanciel à l'horizon 2010. Compléments aux études réalisées en vue du futur Plan Régional d'Aménagement du Territoire Wallon (PRATW)", étude réalisée pour la Région Wallonne.

