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Economic Policy Strategies to Fight Mass Unemployment in Europe: an Appraisal

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Résumé

Le taux de chômage record atteint en 1994 dans l'Union européenne reflète la mauvaise conjoncture des années 1991-93, mais il s'inscrit aussi dans une dérive structurelle inquiétante. Face au choc de la réunification allemande puis à la récession, l'Union a échoué à définir une politique économique coordonnée de quelque envergure. En témoignent la timidité de l'Initiative européenne de croissance et les atermoiements pour la mise en oeuvre du dernier Livre blanc de la Commission. En témoignent aussi les taux d'intérêt à court terme très élevés maintenus pendant la récession dans plusieurs pays européens à inflation faible et à chômage massif. En témoignent enfin les déficits publics que la plupart des pays d'Europe, faute d'avoir su assouplir la politique monétaire, ont dû *volens nolens* laisser dériver pour soutenir la demande. Déficits publics que le Traité de Maastricht invite à réduire rapidement, alors même que la reprise ne fait que s'amorcer.

Cette relative paralysie de la politique économique communautaire s'explique par les divergences au sein de l'Union, par les contraintes réelles ou supposées que font peser les interdépendances européennes sur les politiques nationales, enfin par les difficultés de la décision et de la coordination au niveau communautaire. Elle s'explique aussi par l'absence d'un diagnostic partagé sur les causes du chômage européen : schématiquement, quatre diagnostics sont en présence, dont découlent diverses stratégies discutées dans cette étude, et, lorsque cela est possible, simulées avec le modèle macro-économique multinational MIMOSA du CEPII et de l'OFCE.

Parmi les tenants des politiques structurelles, les libéraux veulent abaisser le niveau des salaires, tailler dans les prestations et les cotisations sociales, supprimer le salaire minimum, accroître l'éventail des salaires. Les modérés préconisent des réformes fiscales qui rapprochent le coût social du travail de son coût privé et qui réduisent le coût salarial, notamment des moins qualifiés, sans toucher directement au niveau des salaires nets. Ces différentes politiques jouent cependant par des mécanismes mal assurés, comme le montre le peu de succès du processus de désinflation salariale au cours des années quatre-vingt. La baisse des salaires et des prestations sociales peut augmenter l'investissement via la hausse des profits, mais elle réduit une demande des ménages déjà peu dynamique ; elle pousse les pays européens dans une course inefficace à la désinflation salariale compétitive, car l'Europe est globalement une zone relativement fermée, et les gains de compétitivité sur les pays extra-européens peuvent être remis en cause par les variations des taux de change ; elle peut freiner la substitution du capital au travail mais celle-ci semble faiblement sensible au coût relatif des facteurs. L'effet net d'une réduction du niveau des salaires est alors très faiblement positif sur l'emploi, comme le montre la simulation réalisée avec le modèle MIMOSA. Enfin, l'ouverture de l'éventail des salaires peut réduire le chômage en permettant aux ménages aisés d'acheter à meilleur prix les services des travailleurs peu qualifiés, mais elle accroît les inégalités avec un coût social que l'exemple américain invite à ne pas sous-estimer. Mieux vaut sans doute réduire le coût du travail peu qualifié sans amputation directe du salaire net, en allégeant les cotisations sociales payées par les entreprises sur les bas salaires. C'est l'objet des réformes fiscales qui visent à substituer

d'autres prélèvements fiscaux à une partie de ces cotisations sociales. Il peut s'agir soit de la TVA, réforme qui, à moins que la TVA ne soit étendue au capital, revient peu ou prou à une dévaluation ; soit de l'impôt sur les sociétés ; soit de l'impôt sur le revenu, par une taxation plus forte des revenus non salariaux ; soit d'une taxe indirecte, telle que la taxe sur les émissions de CO_2 préconisée par la Commission européenne ; soit enfin d'un reprofilage des cotisations sociales, l'alourdissement des charges sur les salaires élevés compensant l'allégement de celles sur les bas salaires. *A priori* favorables à l'emploi, toutes ces mesures ont les mêmes limites : elles opèrent dans la plupart des cas un transfert de revenu des ménages vers les entreprises dont l'impact macro-économique sur l'emploi est douteux ; elles abaissent le coût relatif du travail par rapport au capital ou à l'énergie, ou celui du travail non qualifié par rapport au travail qualifié, mais leur efficacité est limitée par la faiblesse de la substituabilité entre les divers facteurs de production. Enfin, ces réformes fiscales sont souvent politiquement difficiles à mettre en oeuvre et, la libéralisation aidant, elles peuvent faire fuir les capitaux mobiles.

Le discours protectionniste met en cause la concurrence des NPI et de certains pays d'Asie en développement. La très vive concurrence subie par certains secteurs industriels européens est incontestable. Les pays d'Asie ont fait le choix d'une stratégie de développement par l'exportation, fondée sur des salaires faibles et un taux de change sous-évalué. Le coût direct en emplois des échanges avec ces zones est plus élevé que ne le laisse croire le déficit commercial modéré de l'Europe vis-à-vis de ces zones (moins de 0,5% du PIB). Le contenu en emplois des importations est en effet bien plus élevé que celui des exportations, et la faible valeur monétaire de ces importations à bas prix dissimule des quantités échangées importantes. Par ailleurs, ces pays exercent aussi une forte concurrence sur les marchés tiers. En contrepartie, les importations en provenance des pays à bas salaires induisent des baisses de prix et des gains de pouvoir d'achat en Europe. Quel est donc l'effet net sur l'emploi en Europe ? Une simulation, conduite avec le modèle Mosaïque de l'OFCE, évalue à 1% environ la perte d'emplois en France due au développement de l'Asie, ce qui est notable, mais moins considérable que les partisans du protectionnisme ne tendent à le faire croire. En réalité, le problème essentiel des échanges avec ces zones est qu'ils augmentent les inégalités en Europe en menaçant au premier chef l'emploi et la rémunération des travailleurs moins qualifiés. La difficulté pour l'Europe est alors de parvenir à redistribuer une partie des gains que procure le commerce avec les pays à bas salaires, notamment par des aides à la reconversion et des subventions au travail peu qualifié.

Pour les keynésiens, le chômage est dû surtout à des politiques macro-économiques inappropriées. Ils critiquent le défaut de coordination entre pays de l'Union, le biais restrictif des politiques économiques en faveur du modèle allemand de faible inflation, biais qu'attestent des taux d'intérêt réels excessifs et des taux de change surévalués en Europe. Ils font valoir que, pour éviter le chômage structurel, il faut commencer par bloquer l'apparition du chômage conjoncturel. Ils soulignent qu'en Europe, les conditions d'une relance macro-économique sont actuellement réunies : le taux d'inflation est bas, les profits sont satisfaisants, les capacités de production sous-utilisées ; enfin, l'Europe est globalement une zone relativement fermée. La stratégie

préconisée consiste à abaisser les taux d'intérêt courts de façon coordonnée en Europe, puis, si cela ne suffit pas, à augmenter temporairement les déficits publics. Cependant, en dépit des multiplicateurs plutôt élevés du modèle MIMOSA et sous des hypothèses favorables quant aux réactions des marchés financiers, les simulations effectuées évaluent seulement à 2,5 points à moyen terme la réduction du taux de chômage que l'on peut attendre d'une telle stratégie. Des politiques plus structurelles sont donc également nécessaires.

Enfin, les partisans du partage du travail estiment vain de continuer à viser une croissance économique de plein-emploi. La machine remplace les emplois peu qualifiés à un rythme plus rapide que ne se créent les emplois qualifiés, et la création d'emplois de serviteurs mal rémunérés n'est pas souhaitable. Le progrès technique doit permettre comme par le passé de réduire pour tous le temps de travail humain. Il faut pour cela accepter de partager travail et revenus. Pour être efficace, cette stratégie suppose une réduction de la durée du travail, assez forte mais étalée dans le temps, assortie d'une baisse du salaire par tête qui laisse les coûts de production inchangés et d'une réorganisation de la production qui maintienne voire augmente les capacités de production. Comme le montre la simulation effectuée, la baisse du chômage permet de réduire les cotisations sociales, donc de limiter *ex post* la perte de pouvoir d'achat des salariés en place, notamment pour les moins bien payés. Une telle stratégie soulève cependant des difficultés micro-économiques et politiques : quels sont les coûts de réorganisation entraînés par une baisse significative de la durée du travail ? Comment inciter les salariés qui ne se sentent pas directement menacés par le chômage à partager leur travail et leurs revenus ? Comment convaincre les entreprises de mettre en oeuvre cette mesure, alors que, d'un strict point de vue micro-économique, elles ont avantage à conserver une main-d'oeuvre moins nombreuse mais bien formée plutôt qu'à recruter des chômeurs qu'elle peuvent juger moins compétents ou moins formés ? Des incitations publiques sont donc nécessaires, ainsi qu'un cadre légal contraignant, qui fixe l'ampleur et le délai de la baisse du temps de travail, tout en laissant aux entreprises et aux salariés le soin de sa mise en oeuvre. Mais quels groupes sociaux soutiendront ces mesures, sinon les chômeurs et les salariés menacés de licenciement dont le poids économique et politique est faible ?

Toutes les mesures étudiées présentent des limites, des risques et des coûts. En particulier, les stratégies volontaristes -relance macro-économique, réduction de la durée du travail- supposent, dans l'hypothèse de la relance, un degré élevé de coordination en Europe et, en tout cas, une forte détermination politique, et l'acceptation de risques que les gouvernements européens -et les peuples ?- ne semblent pas prêts à prendre. La reprise permettra de réduire un peu le chômage avant de le stabiliser à un haut niveau. Il est alors à craindre que les gouvernements ne se limitent à des mesures structurelles insuffisantes, qui ne feront qu'accompagner, au mieux qu'amortir, la dérive libérale vers une flexibilité du travail de plus en plus forte, qu'entraînent les forces du marché dans un contexte de vive concurrence internationale et de libéralisation économique croissante.

Abstract

The record level of the European employment in 1994 follows on from the economic slump in 1991-93, but it is part of a more worrying trend. Faced with the shock of the German unification and then the recession, the European Union failed to adopt a coordinated economic policy on a significant scale. This is testified by the timidity of the European Growth Initiative, and by procrastinations over implementing the last White Paper by the European Commission. It is also shown by the very high, short term interest rates maintained all along the recession, even in several EU countries enjoying low inflation and suffering mass unemployment. Lastly the lack of coordinated action is also borne out by the large public deficit that many countries have had to tolerate, since they have not eased sufficiently monetary policy. The Maastricht Treaty requires public deficits to be reduced quickly, but the recovery has just begun.

This relative powerlessness of EU economic policy is explained by the divergences within the Union, by real or supposed constraints imposed on national policies by European interdependence, and lastly by the difficult process of decision and coordination inside the Community. It is also due to the lack of broad agreement on the causes of European unemployment: briefly, four diagnosis are proposed, which result in several strategies discussed in this study. Where possible, these are simulated with the common macroeconomic, multi-country model MIMOSA run by the CEPII and the OFCE.

Among supporters of structural policies, the most radical free-marketeers want to curb wage levels, to cut both social benefits and contributions, to suppress minimum wages, and to enlarge the wage spread. Nevertheless these different strategies work through uncertain channels, as shown by the limited success of wage disinflation during the eighties. Cutting wages and social benefits may support investment *via* larger profits, but it reduces already sluggish household demand; it pushes European countries into inefficient wage competition, since Europe as a whole is a relatively closed economic zone, and competitiveness gains against non-EU partners may be cancelled by exchange rates fluctuations. It can also slacken capital/labour substitution, but the latter seems to react weakly to relative factor cost. Therefore the net effect of a wage cut on employment is only marginally positive, as shown by the simulation run with the MIMOSA model. Lastly enlarging the wage spread may reduce unemployment, since well-off households could buy more services supplied by less-skilled workers at a lower cost, but inequality will increase, involving social costs that should not be underestimated, as shown by the US. A better way is to reduce less-skilled labour costs without cutting net wages directly, by lowering social contributions paid by firms on low wages. This could be achieved by fiscal reforms which partly substitute other fiscal taxes for social contributions. Raising VAT is often proposed, reform which is more or less equivalent to a devaluation, unless VAT is also extended to capital. Other possibilities include raising corporate tax; personal income tax, through a higher taxation of non-wage incomes; indirect taxes, such as the tax on

carbon dioxide emissions recommended by the European Commission; or, lastly, changing the profile of social contributions, by increasing the rate of contributions on higher wages to finance rate cuts on lower wages. All these measures favour *a priori* employment, but they face the same limits. In most cases they transfer income from households to firms, with a dubious macroeconomic effect on employment. They reduce the relative cost of labour to capital or energy, or the relative less-qualified/qualified labour cost, but their effectiveness is limited by the weak substitutability among production factors. Lastly, fiscal reforms often are politically difficult to implement and, with growing liberalization, they can bring about capital flight.

The protectionist argument points to the competitive pressure from the NIEs and certain other developing Asian countries. Indeed some European industries are under a sharp pressure. Asian countries have chosen to base their development strategy on exports, favoured by low wages and under-valued exchange rates. The direct loss in jobs due to trade with these zones is higher in Europe than would appear when considering the moderate trade deficit of Europe with these countries (less than 0.5% of GDP). As a matter of fact, the jobs content of imports is much larger than that of exports, and the low value of these low-price imports conceals important trade quantities. Moreover, these countries exert a strong pressure in third markets. On the other hand, imports from low-wage countries lower prices and raise purchasing power in Europe. What is the net effect on European employment? A simulation with the macroeconomic Mosaïque model of the OFCE evaluates at about 1% the loss in jobs for France due to Asian development. This is noteworthy, but less important than often suggested by supporters of protectionism. Actually the main problem caused by trade with these countries is that it raises inequality in Europe by threatening above all jobs and earnings of less-skilled workers. What is difficult for Europe is thus to consent to redistributing the benefits derived from trade, through subsidies to help the redeployment of labour or to maintain less-skilled work.

To Keynesian economists, a large part of Europe's unemployment is due to inappropriate economic policies. They criticize the lack of coordination between EU members, and the restrictive bias of economic policy towards the German, low-inflation model. They argue that preventing structural unemployment first requires avoidance of cyclical unemployment. They emphasize the fact that nothing presently stands in the way of a macroeconomic stimulus in Europe: the rate of inflation is low, profit levels are satisfactory, capacity utilisation is slack, and, taken as a whole, Europe is a relatively closed zone. The proposed strategy is to reduce interest rates in a coordinated way. Then, if this is not enough, public deficits should be raised temporarily. Nevertheless, despite the rather high multipliers of the MIMOSA model and favourable assumptions concerning the backlash of financial markets to such stimuli, simulations of this strategy evaluate the medium-term decrease in the unemployment rate at only 2.5 percentage points. Thus more structural policies are also necessary.

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Lastly, supporters of sharing-jobs policies consider it vain to pursue full-employment through economic growth. Machines are substituted for less-skilled workers more quickly than skilled jobs are created, and underpaid service jobs are not desireable. Technical progress permits the reduction of working hours for all, today like in the past. Sharing both jobs and incomes must be accepted. An effective strategy requires a significant, but progressive cut in working hours, accompanied by a reduction in monthly wages, so as to ensure unchanged production costs. It must also be accompanied by a reorganisation of production, so as to maintain, or even to increase, output capacity. As shown by the macroeconomic simulation, the fall in unemployment would allow unemployment contributions to be reduced, and thus limit *ex post* the loss of purchasing power for employees in place, particularly for those with low wages. Nevertheless, such a strategy raises difficult microeconomic and political issues. What are the costs of reorganizing production ? How are employees who do not feel threatened by unemployment to be encouraged to share work and incomes? How are enterprises to be persuaded to implement this policy, while, from a strict microeconomic point of view, it is more profitable for them to have a less numerous, but qualified workforce rather than employ new workers, who are likely less competent and who have to be trained? Public incentives are thus necessary, as is a constraining legal framework, which sets out the scale and the time span over which the policy is to be applied, leaving its implementation to employers and employees. But which social groups would support such a strategy, apart from the unemployed and those workers threatened by unemployment, who have little economic and political clout?

All the policies studied entail risks, limits and costs. In particular, voluntarist strategies -macroeconomic stimuli, job-sharing- assume a close coordination in Europe (in the case of a stimulus), and, in any case, a strong political willingness, as well as an acceptance of risks which European governments -and voters?- seem unready to take. The recovery should reduce unemployment a little, then stabilize it at a high level. Therefore it is to be feared that governments adopt only limited structural measures. These will only accompany, or at best absorb, the free-market drift towards more and more labour flexibility, which is enhanced by market forces in a global context of sharp competition and growing economic liberalization.

Economic Policy Strategies to Fight Mass Unemployment in Europe: an Appraisal[1]

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In 1994, the number of unemployed in the European Union should rise above 18 million, equivalent to a rate of unemployment of 12%. To be sure, European unemployment is partly cyclical: in 1994 Community GDP was 6.5% less than it would have been had growth of 2.5% been recorded since 1990. But, the new rise of unemployment is part of a more worrying trend. From a level of 3% before 1974, Europe's unemployment rate stabilised on a plateau of 5.5% in 1978-1979, and then rose to 11% in 1984-1986. The acceleration in growth in 1987-1989 brought the rate down to 8.7%, but the current recession risks chalking up a new record.

What can economic policy do? To answer to this question, this article evaluates a number of different strategies, using, where possible, the MIMOSA model (Box 1). The latter has a number of strengths (as a multinational model it avoids setting out non-cooperative policies in which each country aims to export its unemployment to its partners) and weaknesses (certain structural measures cannot be evaluated using a macroeconomic model; the MIMOSA model provides excessively favorable results for Keynesian fiscal expansion simulations due to rather weak negative feedback effects of the stimulus through increasing prices, wages and interest rates). We will restrict ourselves here to uniform European policies. Such strategies would appear to be the easiest to implement in a coordinated way. But they also run up against the diversity of national situations and institutions, such as the economic policies that are already in place. Nor is defining a macroeconomic strategy for Europe the exclusive task of the Commission and the Member States; the Central Banks have their role to play, while certain measures require the active support of trade unions and employer organisations. Lastly, economic policy may be directed at two conflicting goals: 1) convergence towards Maastricht Treaty criteria and 2) the fight against mass unemployment. There is thus a risk that Europe will be unable to define and implement a significant macroeconomic policy, while waiting in vain for a coordinated policy may simply serve as a pretext for inaction by national governments. To be sure, a coordinated policy is preferable. But if this turns out to be impossible, then active national policies would be better than passivity. Four strategies

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have been studied, they are: 1) a market oriented strategy, 2) a protectionist approach, 3) a Keynesian stimulus and 4) a cut in working hours. They are separately evaluated because they are based on differing diagnoses concerning the causes of unemployment. But the complex causality of the phenomenon and the uncertainty of economists about the proportion of structural and cyclical unemployment mean that these strategies may be considered as non-exclusive, or complementary.

1. The causes of unemployment and its remedies viewed from a market oriented perspective

According to the market oriented argument, European unemployment is essentially caused by rigidities in the labour market. Both salaries and social contributions are too high. Non-skilled labour is paid too much. Unemployment benefit is too generous. As a result, the labour market should be deregulated, the minimum wage suppressed and social benefit cut back etc. However, relatively high wages and satisfactory working conditions are the normal consequences of high labour productivity, so that they cannot be questioned in an *a priori* manner. Labour market rigidities do not just have unfavourable consequences: they can help sustain consumption in time of recession. They also encourage employee loyalty to companies, favour employee commitment to company objectives. As production processes become increasingly complex and diversified, the mobilisation of labour using authoritarian, Fordist methods become less and less effective. They prevent firms from pushing all the costs of labour adaptation onto society, both in terms of quantity and quality. Lastly, they limit the risk of a dangerous competition among European countries to curb wage levels more and more.

The market oriented analysis can lead to a number of strategies. The most simple is a reduction in wages, or at least to curb their progression. Yet this slowdown has already occurred in Europe, mainly because of unemployment itself. The rate of growth of the purchasing power of wages (per capita) fell from 5.1% between 1961 and 1970, to 3.2% between 1971 and 1980, and to 1.3% between 1981 and 1990. The share of wages in Europe's value added stands at 71% today, compared to 74% in 1971-1972, and 77% in 1975. But, this decline hardly seems to have limited the rise in unemployment.

1.1. A wage reduction scenario

To evaluate the impact of a fall in wages, we have used the MIMOSA model to simulate a 2% reduction in wages throughout the European Union. The effect on employment appears to be weak (see Table 1). In effect, the competitiveness gains would only favour extra-Union trade, while Europe is a relatively closed zone when looked at overall[4]. Company investment is stimulated by rising profits, and the substitution of labour for capital favours employment. But these effects only have a small role in the model, though household consumption is reduced by the cut in

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[4]   Extra-union imports are only equivalent to 9.6% of the EU's GDP.

wages. Thus the reduction in the unemployment rate merely amounts to 0.25% point from the second to the sixth year of the cut. Altogether, a cut in wages only has a limited impact in reducing European unemployment, if it is not accompanied by other measures. Its main advantages are a moderation of inflation and an improvement of the current account balance. But in 1993, Europe already had a fairly healthy current account balance and inflation was low.

1.2. What if social contributions and social benefits are cut simultaneously?

From a macroeconomic point of view, cutting labour costs by reducing direct wages is equivalent to simultaneously reducing social benefits and contributions paid for by employers. But the effects on income distribution are rather different. Therefore a sharp reduction in social benefits is hard to imagine. Why should greater sacrifices be asked of retired workers than are asked of the population as a whole? Can the state of the unemployed be further worsened? And who really believes that he/she stands a better chance of being hired by asking for lower wages, given that wages are negotiated between employers and employees in work. Lastly, privatising sickness benefit will in no way reduce its costs, but could lead to a system in which contributions are uniform. This would favour higher income groups more than lower income groups, when compared to the present system. It also seems to us more sensible to finance any reduction in employers' social security contributions through higher taxation of the non-wage income of households (financial or real estate earnings). The latter could be used to finance family benefits and health care made in kind.

1.3. A tax system that is more favourable for employment?

Wages are taxed heavily in almost all European countries. This tax structure is likely damaging to employment, as it may run down competitiveness and encourage companies to chose capital intensive production techniques. In France, for example, if an employer hires a worker who receives a gross wage of 100 (ie. a net wage of 83), the latter must produce at least 141 to cover total labour costs and social security contributions. If the employee is dismissed, he/she will receive an indemnity of 36. As long as mass unemployment exists, the cost companies attribute to labour as a factor of production (141) is three times greater than the real cost to the nation (47), which is the difference between the income of the net wage-earner and the unemployed person. This excessive distortion leads enterprises to make socially inefficient choices. Thus tax reform that significantly reduces employers' social security contributions, and hence the cost of labour, becomes necessary. But, given the sluggishness of activity, it is also desirable to leave the purchasing power of households unchanged. How could such reductions be financed?

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Replacing employers' contributions through higher VAT as means of financing social security by consumers or by foreign producers is largely an illusion[5]. Both taxes touch more or less the same income sources as VAT, which can be deducted from investment, does not affect capital. Such a substitution would not therefore favour production techniques employing more labour. It would have an inflationary impact as the price of imported goods would rise, while the price of domestically produced goods would remain unchanged *ex ante*, within the national market. This would amount to a hidden devaluation. Subsequently, employees might manage to obtain wage rises, and so the competitive gains would be immediately eroded. Alternatively, nominal wages would remain fixed, being blocked at the moment VAT is raised, and the improvement in competitiveness will be achieved at the expense of a fall in household purchasing power. To conclude, it would not be possible to improve European competitiveness without a fall in purchasing power.

Another proposal would be to extend VAT to capital incomes: VAT on investment would only be refunded to companies when the investment is amortised. Thus VAT would touch the share of value added allocated to the remuneration of capital services. In France for instance, VAT on investment would earn about 0.6% of GDP, which would allow for a 1.7% point cut in employers' social security charges. With production costs unchanged (when summing labour and capital costs) this would encourage companies to use less machines and more labour[6]. Lastly, corporation tax could be altered: raising this tax rate to 50% (33% is the rate prevailing in most European countries) would allow for a cut of 1.5% points in employers' contributions in France. This measure would raise the cost of capital relative to labour, and the State would share more of the risks of hiring with companies.

Lastly, the European Commission has proposed to implement a specific tax on carbon dioxide emissions. The tax would increase progressively the cost of energy by 20% and would raise the equivalent of about 1% of GDP in Europe, which in turn would allow employers' social security contributions to be cut by 3.2% points, in France for instance. However, according to simulations conducted with the HERMES model, the total impact on employment would be marginal (0.7% for France, in the medium term)[7].

1.4. Reducing the cost of less-skilled labour?

In all European countries, the rate of unemployment is higher for the groups whose skills and qualifications are lower. This has led some to believe that there is a specific problem with less-skilled labour. It is argued that such labour suffers

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[5] See H. Sterdyniak et al: *Vers une fiscalité européenne ?*, Economica, 1991, Chapter 2; and H. Sterdyniak and P. Villa, 1984: "Faut-il substituer de la TVA aux cotisations sociales employeurs ?", *Observations et diagnostics économiques,* OFCE, January.

[6] See P. Artus, H. Sterdyniak and P. Villa (1980): "Investissement, emploi et fiscalité", *Economie et statistique*, November.

[7] See O. Baumais and T. Bréchet: *La stratégie communautaire de régulation de l'effet de serre : quels enjeux pour la France ?*, mimeo Erasme, 1993.

particularly from competition by low-wage countries, and is the victim of technical progress and the substitution of capital for labour in industry and in certain services. Furthermore, certain institutional regulations (such as a minimum wage) prevent wages for such labour from falling sufficiently. Similarly, any upturn will run up against a scarcity of qualified labour well before the overall level of employment returns to a satisfactory level. Yet, the relationship between unemployment rates and education levels is as apparent in the United States and the United Kingdom (countries in which no significant minimum wage exists) as it is in France. The presumption that an important part of European unemployment is caused by an excess of less-skilled labour and by insufficiently flexible wages for less-skilled workers is not clearly proved. This latter observation suggests another interpretation of the phenomenon: within a general state of under-employment, qualified workers bid for jobs for which they are over-qualified. Employers give priority to such workers, the formal qualifications being used as an indication of their willingness to work.

This observation has led to a number of propositions. Raising the general level of training is only possible over the long term, and runs up against difficulties linked to the heterogeneity of individuals. If the market is allowed to cut low salaries, the abolition (or substantial reduction) of the minimum wage, as well as a decrease in welfare payments and unemployment benefits, will lead to social dualism that is potentially explosive, and hardly conform with the European model. In contrast, it is possible to cut social contributions on low wages. This could be pursued in two ways: the simplest and the strongest consists of totally exonerating employers from contributions on the share of earnings that falls below the minimum wage, which in France would constitute an employment subsidy of FF2200 per month (15% of average compensation per employee, including social security contributions). This would bring down the cost of labour by 27.5%, at the level of the minimum wage (SMIC). But the *ex ante* cost of the measure would be enormous: about FF385 billion, or the equivalent of 5.5% of GDP in France. Also, it would be possible to exonerate companies only for those workers whose wages are close to the SMIC, with the measures tailing off as wages approach average earnings. In this case, the cost would amount to about 2.5% of GDP in France. This reform, though less costly, would have the disadvantage of greatly increasing the costs of wage rises at lower wage levels, as well as being a lot more complicated to implement within companies. The reduction of social contributions on low wages could be financed by higher contributions on higher wages, or again through a rise in VAT as has been suggested by Drèze and Malinvaud[8]. In France, for example, the exoneration of employers' social security contributions on that part of the wage that is lower than the minimum wage (SMIC) could be financed by a rise in VAT of 16 points. In the long term, this would be equivalent to bringing the employers' contribution rate down to 16% on that part of wages that is less than the SMIC, and up to 62% for the part above the SMIC. Assuming some substitution between the different categories of employees, especially as these are closely grouped, such measures could lead to a substitution of skilled labour by less-skilled labour, with total employment rising by 2% and with no loss to

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[8]   J. Drèze, E. Malinvaud *et al, Growth and Employment: the Scope of a European Initiative*, July 1993.

public finances. Furthermore, if indeed there is a relative lack of skilled labour, then such reform could diminish the unemployment threshold below which inflation pressures arise.

2. The protectionist temptation

The protectionist argument points to the competitive pressure Europe is under from Japan, the NIEs and certain other developing Asian countries (China and India). It claims that Japan has a predatory trade strategy based on protecting its domestic market (which provides companies with healthy profits) and selling at low prices overseas (made possible by profits realised in the domestic market). This strategy allows Japan to achieve dominant positions in leading sectors. At the same time, Asia's developing economies profit from their low wage rates to snatch up labour intensive activities. As a result, European industries are caught in a vice, having to relocate, mechanise or perish; three solutions that are damaging to employment. However, the share of EU trade with these countries is relatively small: imports coming from Japan represent only 1% of EU GDP, those coming from "developing Asia" 1.4%; with the deficits to these regions standing respectively at 0.65% and 0.35 % of EU GDP.   But, the low price of imports coming from developing Asia means that the cost in terms of European employment is much higher than these figures would indicate. This is confirmed by the example of certain industries that are disappearing in Europe (textiles, toys, shoes etc.). On the other hand, such low costs raise the purchasing power of European households. A simulation with the *Mosaïque*[9] model provides an evaluation of the impact on employment in France due to developing Asia. The cost is equivalent to about 1.3% of GDP, or the loss of 190000 jobs, and a rise in the rate of unemployment of 0.5 % point. The emergence of developing Asia is likely responsible for a small share of the rise in unemployment in France (Table 2).

Some commentators have stressed the importance of the under-valuation of the Asian developing countries' currencies[10], which are far lower than PPP exchange rates, and which consequently multiply wage disparities. It is thus necessary either to ask the IMF to carry out surveillance of the under-valuation of certain currencies, or for the GATT to open up a new area of multilateral negotiations which would link the opening of markets to the pursuit of proper exchange rate levels. But, such low exchange rates result both from the level of development of the countries in question (the less a country is developed, the lower its real exchange rate tends to be) and from the implementation of a deliberate exchange rate strategy. An LDC looking to develop must discourage non-essential imports and raise the profitability of its export sector. It has to set its exchange rate very low, and use all its foreign exchange earnings to import capital equipment. It is hard to reproach LDCs from choosing exchange rates compatible with their growth strategies given an International Monetary System

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[9]   *Mosaïque* is a macroeconometric model of the French economy developed by the OFCE, Paris.
[10]   See G. Lafay (1984): "Pour des taux de change de référence", *Economie Prospective Internationale*, n° 17, 1st quarter.

characterised by anarchy. It would be an exaggeration to pretend that the developing countries of Asia impose a strong constraint on the developed countries, which ties up the growth of the latter. Indeed, the opposite could be argued, namely that faster growth in the OECD countries would raise export receipts for Asia's developing countries (as it would for all the LDCs taken together), which would in turn be spent on capital equipment imports, rather than being accumulated. Furthermore, such an acceleration of their development could encourage them to relax their efforts and accept a rise in their real exchange rates.

Some commentators[11] accuse the NIEs and the LDCs of wage and social dumping, and go on to propose that imports coming from these countries ought to be taxed specifically. The principle of international trade is that countries profit from their relative advantages (especially low wage rates if they have nothing else). A policy to limit specifically the exports of LDCs would amount to outright egoism, and would be totally unjustified. It would also be incoherent given that the Bretton-Woods institutions have asked these countries to adopt export strategies, and in the long term it would have adverse consequences for the countries of the North (notably because of the ensuing immigration problems). The example of South Korea is more positive for the world economy than are those of Algeria or Nigeria. It is impossible to refuse further lending to the LDCs, and to demand that they pay back their debts, while blocking out their exports, yet at the same time advocating their development.

However, according to the theory of international trade, free-trade improves the well-being of nations overall only holds in a world in which wages are perfectly flexible, without unemployment, and in which employees who have lost their jobs in one sector can find work in another without suffering exorbitant costs. Without some form of compensation, trade with low-wage countries may lead to a deterioration of the situation of the countries of the North. The importation of products from the South benefits the skilled workers and privileged classes of the developed countries, but leads to a fall in the remuneration or a rise in unemployment for less-skilled workers. Skilled workers may also find themselves in a less favourable position as they have to contribute to rising unemployment benefit for those without jobs. It would neither be efficient, nor just for nations to loose interest in those sectors most exposed to international trade. How can young people be encouraged to enter industrial jobs and manufacturing companies if the risk is so great that in five or ten years the industrial sector will disappear without its employees having the possibility to re-train for work elsewhere? Thus there is a justification for providing transitory subsidies to sectors in difficulty and permanent subsidies to sectors that a country would not want to see disappear for extra-economic reasons (for example agriculture). More generally, less-skilled work should be permanently subsidised, if is in permanent over-supply. It is not sure that European societies are ready to consent to redistributing the benefits they derive from international trade with those employees most affected by competition from low-wage countries. But do they have the right to make the South pay for this inability?

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[11] M. Lauré (1993), "Les délocalisations : enjeux et stratégies des pays développés", *Futuribles*, May.

3. The arguments for a Keynesian stimulus

To Keynesian economists, a large part of Europe's unemployment is due to inappropriate economic policies. The absence of policy coordination has led UE countries to pursue excessively restrictive policies, which are all the more costly given that they are pursued simultaneously. To this must be added the cost of past convergence on the German, low-inflation model. Following reunification, German monetary policy has lead to a durable overvaluation of European exchange rates and interest rates that are significantly higher than growth. Financial deregulation has pushed nominal interest rates very high, while the fall of inflation has led to a rise in real rates. Overall, the overvaluation of exchange rates has worsened the trade balance; wage austerity and unemployment limit consumption; high interest rates aggravate public sector deficits; investment is discouraged by high interest rates and the lack of demand. According to Keynesian economists, there is nothing that presently stands in the way of a monetary stimulus to growth in Europe: the rate of inflation is low, profit levels are satisfactory, capacity utilisation is slack, and, taken as a whole, Europe is a relatively closed zone. The optimum strategy would be to reduce interest rates as much as possible. If this is not enough, public deficits could be raised, using measures that could be suspended as soon as the economy returns to a satisfactory level of utilisation of labour and machinery.

This strategy runs into a number of objections. The first is that public deficits are already very substantial and that interest rates are higher than growth, which means that public debts run the risk of "snow-balling". But this objection merely confirms the idea that any stimulus should begin -should have already begun in 1991- by cutting interest rates. Obviously financial markets have been waiting for this cut for a long time. Moreover, it is irrelevant to project present deficits into the future indefinitely. The principle of stabilisation is based precisely on reducing deficits when (and only when) they are no longer necessary for the desired level of demand to be attained. Some commentators believe that any expansionary fiscal policy will run up against the rise of long term interest rates, which would severely curtail the impact of such a policy. This fear is based on the argument that the rather high level of real long term interest rates is due to a savings deficit, which in turn results precisely from public deficits. This position is difficult to understand given the present state of under-employment of labour and machinery. A lack of savings vis-à-vis dynamic investment would signify an excess of demand in goods markets, and so tensions in production capacity and inflationary pressure. This is not the case today, nor even the case that it is rational to expect within the foreseeable future.

Thus, other commentators put forward the opposite strategy: public deficits should be cut substantially first, so that long term interest rates can come down and allow investment to pick up. In our view such a strategy is illusory in a period of economic sluggishness. A restrictive fiscal policy will lead to a fall in demand, which will cause company profits to fall and worsen the under-utilisation of production capacity. Such a policy could even lead to a rise in prices if it is brought about by an

increase in indirect taxation, and it is difficult to see why companies would invest, even if interest rates are low. The present recession bears this out, as the rise in household savings has triggered a fall in production, and not an expansion of investment and activity.

Lastly, another objection is that a fiscal or monetary expansion would lead to tensions in certain sectors of the labour market, which in turn would lead to excessive pay rises that would cause profits to fall below the level necessary to finance higher investment. Growth would quickly run into inflationary over-heating. To be sure, a change in the rhythm of growth would lead to temporary disequilibria. The rise in demand would run into the limits of supply, which will have a delayed impact on the development of production capacity. It would be necessary to accept a certain rise in inflation, if the economy is not to be condemned to a low growth path. The fall of the share of wages in value-added during the 1980s indicates that Europe is currently above its natural rate of unemployment, so that there is room for an expansionary policy.

Measures to stimulate investment through financial incentives were already decided upon as part of the European Growth Initiative, but they are limited in size. Altogether, supplementary investments could reach Ecu 7 billion in 1994, equivalent to 0.15% of EU GDP, which should have a total impact of 0.2% on activity in 1994[12]. Such an evaluation must be considered as optimistic, as the initiative will benefit certain investors who would in any case have undertaken the spending in question (for example, the high speed train in eastern France - TGV-Est). Despite its innovatory aspects, the Initiative is disappointing as an expansionary policy. It is taking place too late, as its impact will be felt in early 1994 at best, even though the recession started in 1991. The sums involved are negligible when compared to the automatic stabilisers. Furthermore, long term public investments could not be considered as a good instrument with which to fight economic fluctuations as they are very rigid. Wouldn't it have been more effective simply to lower interest rates? A fall of 2% points in European interest rates would have provided European companies with Ecu 24 billion per year, five times the EGI.

3.1. A coordinated expansion

Let us assume that Europe's economic authorities want to launch a coordinated expansion. This should include a fall in interest rates and a devaluation with respect to non-European currencies so as to encourage the impact of growth on trade and help reduce deficits. In order to avoid any inflationary impact, employers' social security contributions are to be reduced. Lastly, taxes on households are to be cut, in order to stimulate activity rapidly. In our simulation, the Bundesbank reduces German real short term interest rates to zero. This would require an additional cut of 3% points in the first year, above and beyond the falls already included in our

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[12] See MIMOSA Modelling Group, "Quelle politique de croissance en Europe ?" *Economie Internationale*, n° 55, 3rd quarter 1993.

scenario, an additional cut that returns to zero in year 6. The initial depreciation of European currencies is close to 16%, and then diminishes progressively to about 5% after five years. Long term interest rates depend on expected monetary policy, thus the assumption is that a fall in long term rates is equal to the average fall of future short term rates. Long term rates will therefore fall by 1.3% in the first year. In each country, both household taxes and employers' social security contributions are cut by 1% point of GDP.

Such a strategy would provide a significant stimulus to activity in the European Union (Table 3). European production would grow by 2.2% during the first year, and 5.7% in the second. The stimulus to activity would improve the employment situation, with the unemployment rate falling by 2.6% points over three years. The cut in employers' social security and the effects of the productivity cycle should lead to a short term fall in inflation, despite the currency depreciation. Consumer prices will be 0.5% lower in the first year, 0.8% in the third year, and will rise thereafter to 2.3% by the year 2000. The Bundesbank would thus have no reason to question *ex post* the fall in interest rates on which such a strategy is founded. The expansion of output and the fall in interest rates would lead to a slight improvement in public finances in Europe, after three years, in spite of an initial degradation by a little more than 1% point of GDP. The cost in terms of the external balance is zero, given the gains in competitiveness.

Assuming that financial markets are rational and therefore that no surge in long term interest rates will occur, an acceleration of growth should thus be possible without any great impact on inflation, nor a worsening of public finances or Europe's current account. Such a strategy would allow Europe's growth rate to rise by a further percentage point over 5 years. But the effect on unemployment is only equivalent to 2.5% points. As a matter of fact, for European unemployment to fall to 5% by the year 2000, the annual rate of growth between 1993 and 2000 would have to be close to 5%, assuming that accelerated growth were the only instrument used. This follows from the fact that faster growth would be accompanied by productivity gains, and that any reductions in unemployment would lead to a new influx into Europe's workforce. Thus such a strategy would not remove the need for more structural policies.

3.2. Differentiated strategies throughout Europe?

So far we have assumed that the Bundesbank will accept to participate in such an expansionary strategy. If, however, the Bundesbank refuses, an expansionary policy could be put into place without Germany, using the wider fluctuation margins of the ERM. Those European countries wishing to stimulate their economies could cut interest rates, accept a devaluation of their currencies with respect to the Deutsche mark, while pursuing an expansionary fiscal policy. Germany would thus experience a loss of competitiveness and a reduction of inflation, which could lead it to reduce its interest rates. For the other European countries, the impact would be similar, with competitive gains with respect to Germany compensating for a lack of stimulus (Table 4). To be sure, a concerted strategy by all European countries would be preferable, but it cannot be indefinitely accepted that the Bundesbank should block all policies of supporting Europe's economic activity.

4. Sharing jobs

We will now study how a strategy of cutting working hours could contribute to a reduction of unemployment in Europe. The principle is to share work, while accepting a certain loss of purchasing power (so as to insure that production costs do not rise) accompanied by a reorganisation of production (to prevent losses of output capacity). Macroeconomic models are generally not well adapted to simulate reductions in working hours in a realistic manner. The essentially microeconomic issues raised by such a strategy (the costs of reorganising production, the lack of any real motivation for companies and employees to adopt such strategies) cannot be dealt with in a model, and it must be assumed that they are handled prior to the simulation. Our simulation, which conforms to this pattern, includes microeconomic assumptions that are clearly favourable to the success of such measures with respect to the creation of employment: the reduction of working hours is assumed not to lead to increases in hourly labour productivity rates in the medium term; and the number of hours (per week) in which capital equipment is in use rises substantially. The aim of this simulation is, above all, to set out in detail the macroeconomic measures (limited wage compensation, a cut in social security contributions) that should accompany a successfull reduction in working hours.

In our simulation we assume that the working week is reduced by 10% (falling from 39 to 35 hours) and that companies increase their payrolls accordingly. At company level, the cut in working hours has to be sufficiently large to be accompanied by a reorganisation of production and real recruitment. However, it is possible for the reduction to take place progressively. We assume that 20% of all firms adopt shorter working hours, each successive year. For all branches, and based on an individual working week of 35 hours, it is possible to imagine that a four-day week would be adopted for employees, with machinery running for six days a week, so that three teams of employees work on two sets of equipment. Under these conditions, machinery would work 52½ hours per week, which would its their capacity by 1/3 with respect to the initial situation of a 39 hour week. Given the present trend for

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employees to work in teams, and the difficulties that implementing such an organisation entails, we put forward a median scenario in which industrial production capacity rises by 10%.

The fall in unemployment would allow unemployment contributions to be reduced. We assume that employers' contributions fall by 4% points for companies that move to reduce working hours. Such a reduction would allow for a 2.5% rise in the hourly wage, without raising labour costs. As a result, employees would thus have to bear an immediate, average 7.5% reduction in their monthly wages. Even if, *ex ante*, the scenario is practically neutral from a macroeconomic perspective (as the overall wage bill and unit wage costs remain unchanged), the strategy would lead to a sharp fall in unemployment over the medium term, which, given the Phillips curve effect, would raise the level of wages, and hence lead to higher inflation. In fact, it is necessary to ensure that the reduction in working hours does not bring the level of unemployment down below its "natural rate", that is to say the level of unemployment at which real wages merely rise in line with labour productivity. According to MIMOSA, the latter should amount to 4.5% in West Germany, 6.3% in France and 10% in Italy[13]. In the central forecast of the MIMOSA model, the rate of unemployment in 1997 will be 8.1% in West Germany, 13.9% in France, and 13.4% in Italy. Thus a 10% reduction in working hours in Germany and in Italy would provoke intolerable inflationary pressures. Under this scenario, working hours therefore fall by 10% in France and Great Britain, and 5% in Italy and West Germany.

With these assumptions having been introduced into MIMOSA, the cut in working hours over five years will lead to a fall in the rate of unemployment in the United Kingdom and France of 6% points, and about 3 points in Italy and West Germany (Table 5). This improvement in the labour market will be accompanied by a rise in GDP in most European countries, given the rise in household income and the significant fall in precautionary savings held by households. The rise in consumption is partly offset by a fall in investment: due to the reorganisation of production, the investment required is less than 10% the given evolution of production. GDP rises fastest in the United Kingdom by 3.9%, in France by 1.8% and in Germany by 0.4%, and falls by 0.6% in Italy (due to substantial losses in competitiveness). The fall in the rate of unemployment leads to an upward movement in wages increases, which makes up for their fall *ex ante*. Real monthly wages fall by 2.8% in France, by 0.9% in the United Kingdom, and by 0.4% in Germany, but they rise by 3.2% in Italy. The fall in employers' social security contributions, as well as the rise in output capacity linked to the reorganisation of production, restrain price increases. Consumer prices rise by an additional 0.1% in the EU, but the rise in inflation is stronger in Germany, and above all Italy, both countries being closer to their natural rates of unemployment. Public finances improve because of higher growth, while external balances are little affected. Only Italy will suffer a worsening of its current account (0.5% point of GDP) due to overheating. In total, the fall in working hours that we have described will lead to a

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[13] See CEPII: *Economie Mondiale 1990-2000, l'impératif de croissance*, Economica, 1992, page 92.

substantial reduction in the rate of unemployment, at a cost of a rise in the rate of inflation of 1 to 1.5%, over an eight year horizon.

Unemployment affects less-skilled workers in particular, so that some fear that a reduction in working hours will lead to a shortage of skilled workers. But, this problem is likely to arise whatever the strategy selected to achieve full employment. It is a problem that should not be overestimated. During phases of strong growth, firms increase promotion and in-company training. It is difficult to see why the skills needs of the economy should have evolved so much since 1980 that a rate of 6% of unemployment cannot be achieved.

The objection to this policy is that the improvement of labour market conditions by a reduction of working hours only redistributes this constraint, allowing some of the unemployed to start work again, but obliging others to work less than they would like. Furthermore, workers whose jobs are not directly threatened may be hostile to such changes. Company directors prefer to have a less numerous but qualified workforce, that has been in place for a long time rather than employ new workers on a large scale, workers likely to be less competent and who have to be trained. In addition, in those sectors (heavy industry, department stores) in which the equation "reduction in working hours + team work" has been particularly profitable, it has already been put into place. On top of this, the overall reduction in working hours will not simply result spontaneously from negotiations between the two sides of industry. It can only be imposed by a constraining legal framework, which sets out the time span over which the policy is to be applied, leaving its detailed implementation to employers and employees. In any case, such a strategy requires a strong mobilisation of both employees and employers if payrolls are to rise by 10%, without production costs increasing. This could be the occasion to improve the quality of industrial relations within firms. But which social groups would support such a strategy, apart from the unemployed and those workers threatened by unemployment who together have little weight in negotiations on industrial relations and politics in general?

Conclusion

European unemployment has certain structural causes, but these should not be overestimated. Faster growth would bring about a net reduction in the rate of unemployment and would automatically solve a number of so-called structural problems: firms would invest in more capacity and less in productivity, employees in sectors experiencing difficulties would find jobs elsewhere more easily, while the rise in tax revenues would help reduce tax rates. In a dynamic environment, companies, workers and the educational system could also respond better to the need for new skills. It remains to be asked what the characteristics of such growth would be. Will it be necessary to carry on encouraging artificial growth in the needs of the rich countries or will it be necessary to reorient part of such growth to the development of

our eastern and southern borders[14]? Should part of the productivity gains be used to reduce working hours?

The present organisation of economic policy in Europe is unsatisfactory. Taken together the European Union has roughly the economic size of the United States and should have the capacity to pursue a more active stabilisation policy. Unfortunately, there appear to be no real economic authorities in Europe as a whole that are capable of launching a policy geared to higher employment rate, given that even the contents of such a policy are disputed. From this point of view, the White Paper elaborated by the Commission in December 1993 is disappointing. To be sure, it proposed a programme of major public works. But this proposition ran up against the fears of various countries of the Union that it would worsen their indebtedness. Indeed, the proposition is accompanied by recommendations that actually contradict it. The White Paper judges it necessary for public finances to be controlled more thoroughly so that interest rates may come down. It is difficult to understand the logic whereby Member States are asked to reduce public spending or raise taxes when the Commission is pushing them into new expenditure. The convergence programmes proposed by the States remain dominated by the desire to cut public deficits and not by the desire to stimulate growth and employment. As public deficits are currently running at 6% points of Union GDP, the cost of convergence to a norm of 3 points of GDP would be 3 points of GDP (or 10 times the proposed programme).

A more voluntarist policy will be necessary, and should combine a strong and rapid fall in interest rates along with a temporary fiscal stimulus that includes a reduction in employers' social security contributions (for the lowest wages) and a cut in taxes. According to our figures, such a strategy could be effective, at a reasonable fiscal cost and without undermining the objective of price stability... Such a policy entails risks, limits and costs. But can Europe sit by passively as unemployment continues to rise?

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[14] See chapter 6 in the study released by CEPII and the MIMOSA group at OFCE *Economie Mondiale 1990-2000, l'impératif de croissance*, Economica, 1992.

Tables: Some simulations with the MIMOSA model

1. A 2% Cut in European Wages Given Fixed Real Interest Rates

Deviation from baseline

Variable	Countries	1st year	3rd year	5th year	8th year
Real GDP *Deviation in percent*	Germany	– 0.1	0.5	– 0.1	– 0.3
	France	– 0.3	0.0	– 0.4	– 0.4
	Italy	– 0.2	0.4	– 0.0	– 0.7
	United Kingdom	– 0.1	0.8	0.8	0.6
	Other EU	– 0.7	0.7	0.5	0.1
	European Union	**– 0.3**	**0.5**	**0.1**	**– 0.2**
	United States	*– 0.2*	*– 0.1*	*– 0.6*	*– 0.8*
	Japan	*– 0.1*	*– 0.1*	*– 0.4*	*– 0.5*
Household consumption *Deviation in percent*	Germany	0.2	0.2	– 0.2	– 0.6
	France	– 0.2	– 0.4	– 0.7	– 0.9
	Italy	– 0.2	– 0.4	– 0.8	– 1.2
	United Kingdom	– 0.2	0.3	0.5	0.4
Productive investment *Deviation in percent*	Germany	0.2	1.9	– 0.0	– 1.0
	France	0.0	1.8	1.1	1.0
	Italy	– 0.2	1.2	– 0.4	– 1.5
	United Kingdom	0.2	0.9	0.3	– 0.7
Consumer prices *Deviation in percent*	Germany	– 0.8	– 1.8	– 2.4	– 3.2
	France	– 0.6	– 1.7	– 2.3	– 2.8
	Italy	– 0.9	– 2.1	– 2.3	– 1.9
	United Kingdom	– 1.5	– 3.4	– 4.2	– 4.5
	Other EU	– 1.3	– 2.6	– 2.9	– 3.1
	European Union	**– 1.0**	**– 2.3**	**– 2.8**	**– 3.1**
	United States	*– 0.0*	*– 0.2*	*– 0.4*	*– 1.3*
	Japan	*– 0.0*	*– 0.1*	*– 0.3*	*– 0.8*
Current account balance *Deviation in percent of GDP*	Germany	– 0.2	– 0.1	0.1	0.1
	France	– 0.0	0.1	0.2	0.1
	Italy	0.1	0.2	0.3	0.3
	United Kingdom	– 0.0	– 0.1	0.1	0.2
	Other EU	0.5	– 0.1	0.1	0.4
	European Union	**0.1**	**0.0**	**0.1**	**0.2**
	United States	*0.0*	*0.1*	*0.0*	*– 0.0*
	Japan	*– 0.0*	*– 0.0*	*– 0.1*	*– 0.1*
Public sector balance *Deviation in percent of GDP*	Germany	– 0.3	0.1	– 0.1	– 0.3
	France	– 0.1	0.0	– 0.1	– 0.2
	Italy	0.0	0.3	0.4	0.4
	United Kingdom	– 0.2	0.1	0.3	0.3
	Other EU	– 0.4	0.2	0.1	– 0.0
	European Union	**– 0.2**	**0.2**	**0.1**	**0.0**
	United States	*– 0.1*	*– 0.0*	*– 0.2*	*– 0.2*
	Japan	*– 0.0*	*– 0.0*	*– 0.1*	*– 0.1*
. Unemployment rate *Deviation in percentage points*	Germany	0.0	– 0.3	– 0.2	0.0
	France	0.1	0.0	0.2	0.3
	Italy	– 0.0	– 0.2	– 0.2	0.1
	United Kingdom	– 0.0	– 0.3	– 0.6	– 0.7
	Other EU	– 0.1	– 0.5	– 0.4	– 0.1
	European Union	**– 0.0**	**– 0.3**	**– 0.2**	**– 0.0**

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Variable	Countries	1st year	3rd year	5th year	8th year
Employment *Deviation in percent*	Germany	– 0.0	0.3	0.2	– 0.0
	France	– 0.1	– 0.0	– 0.3	– 0.4
	Italy	0.0	0.3	0.2	– 0.2
	United Kingdom	0.0	0.5	0.9	1.1
	Other EU	0.1	0.7	0.5	0.1
	European Union	**0.0**	**0.4**	**0.3**	**0.1**
Interest rates *Deviation in percentage points*	**European Union**	**– 0.8**	**– 0.4**	**– 0.3**	**– 0.3**
Exchange rate against the dollar *Deviation in percent*	**European Union**	**0.0**	**0.0**	**0.0**	**0.0**

Source : MIMOSA CEPII-OFCE.

2. The Effects on the French Economy of the Emergence of Developing Asia

Deviation from baseline

Industrial output *(percent)*	− 3.0
Industrial exports *(percent)*	− 1.9
Industrial imports *(percent)*	+ 0.1
Industrial employment *(percent, employees)*	− 2.5 (− 90 000)
Real GDP *(percent)*	− 1.3
Household consumption *(percent)*	− 0.1
Productive investment *(percent)*	− 1.0
Consumer prices *(percent)*	− 3.1
Hourly wages *(percent)*	− 5.1
Household real disposable income *(percent)*	− 1.1*
Company real savings *(percent)*	− 0.3
Current account balance (*percent of GDP*)	− 0.6
Public sector balance (*percent of GDP*)	− 0.8
Business-sector employment *(percent, employees)*	− 1.1 (− 190 000)
Unemployment rate (*percentage points*)	0.5

* As defined and measured in National Accounts. Given the lower cost of products imported from the Asian NIES, the purchasing power loss will be 0.1% in fact.
Source : Mosaïque Model (OFCE).

3. Cooperative Stimulus in Europe

Deviation from baseline

Variable	Countries	1st year	3rd year	5th year	8th year
Real GDP	Germany	3.4	6.7	4.3	2.4
Deviation in percent	France	2.1	5.1	4.4	3.8
	Italy	1.9	4.5	3.6	1.8
	United Kingdom	1.7	6.0	5.2	3.0
	Other EU	1.6	5.7	5.3	3.9
	European Union	**2.2**	**5.7**	**4.6**	**3.0**
	United States	*– 0.2*	*– 1.0*	*– 1.2*	*– 0.1*
	Japan	*– 0.1*	*– 0.6*	*– 0.3*	*0.9*
Consumer prices	Germany	– 0.6	– 0.1	1.6	3.6
Deviation in percent	France	– 0.4	– 1.5	– 1.3	0.3
	Italy	– 0.5	– 1.1	0.5	4.1
	United Kingdom	– 0.9	– 3.3	– 2.7	0.1
	Other EU	– 0.2	1.2	2.7	2.9
	European Union	**– 0.5**	**– 0.8**	**0.4**	**2.3**
	United States	*– 0.3*	*– 1.0*	*– 1.9*	*– 3.2*
	Japan	*– 0.3*	*– 0.7*	*– 1.3*	*– 2.2*
Current account balance	Germany	– 0.3	– 0.5	0.1	– 0.1
Deviation in percent of GDP	France	– 0.6	0.3	0.5	0.2
	Italy	– 0.0	0.4	0.5	– 0.4
	United Kingdom	– 1.2	– 0.8	0.1	– 0.1
	Other EU	0.3	0.6	– 0.1	0.0
	European Union	**– 0.3**	**0.0**	**0.2**	**– 0.1**
	United States	*0.3*	*0.0*	*– 0.1*	*– 0.1*
	Japan	*– 0.1*	*– 0.1*	*– 0.1*	*– 0.0*
Public sector balance	Germany	– 0.9	1.1	0.7	– 0.1
Deviation in percent of GDP	France	– 1.1	0.2	0.4	0.3
	Italy	– 0.9	0.3	0.2	– 0.8
	United Kingdom	– 1.8	– 0.5	0.3	0.1
	Other EU	– 1.1	0.7	0.4	– 0.1
	European Union	**– 1.1**	**0.5**	**0.4**	**– 0.1**
	United States	*0.0*	*– 0.3*	*– 0.5*	*0.1*
	Japan	*0.0*	*– 0.2*	*– 0.1*	*0.2*
Unemployment rate	Germany	– 0.9	– 3.2	– 3.1	– 1.4
Deviation in percentage points	France	– 0.5	– 1.8	– 2.2	– 2.3
	Italy	– 0.4	– 1.5	– 1.7	– 0.9
	United Kingdom	– 0.3	– 2.0	– 2.8	– 2.5
	Other EU	– 0.4	– 2.2	– 3.0	– 2.5
	European Union	**– 0.5**	**– 2.2**	**– 2.6**	**– 1.9**
	United States	*0.1*	*0.1*	*0.6*	*– 0.3*
	Japan	*– 0.0*	*0.0*	*0.0*	*– 0.1*
Short term interest rate	**European Union**	– 3.0	– 2.0	– 1.0	0.0
Deviation in percentage points					
Long term interest rate	**European Union**	– 1.3	– 0.6	– 0.2	0.0
Deviation in percentage points					
Exchange rate against the dollar (1)	**European Union**	15.8	10.3	6.8	5.3
Deviation in percent					

(1) Positive numbers mean a depreciation of the European currencies against the dollar
Source : MIMOSA CEPII-OFCE.

4. Stimulus in Europe without Participation by Germany

Deviation from baseline

Variable	Countries	1st year	3rd year	5th year	8th year
Real GDP *Deviation in percent*	Germany	– 0.2	0.5	0.2	0.2
	France	1.9	3.7	3.5	3.0
	Italy	2.3	3.5	2.9	1.5
	United Kingdom	1.5	5.6	5.0	2.7
	Other EU	1.4	4.1	3.9	2.7
	European Union	**1.3**	**3.3**	**2.9**	**1.9**
	United States	*– 0.2*	*– 0.9*	*– 0.8*	*– 0.1*
	Japan	*– 0.1*	*– 0.7*	*– 0.3*	*0.6*
Consumer prices *Deviation in percent*	Germany	– 0.4	– 0.9	– 0.9	– 0.8
	France	0.2	– 0.2	– 0.2	0.9
	Italy	– 0.1	– 0.1	1.3	4.2
	United Kingdom	– 0.3	– 2.2	– 1.7	0.9
	Other EU	0.5	1.6	2.6	2.5
	European Union	**– 0.0**	**– 0.3**	**0.3**	**1.4**
	United States	*– 0.2*	*– 0.7*	*– 1.5*	*– 2.3*
	Japan	*– 0.3*	*– 0.5*	*– 1.0*	*– 1.8*
Current account balance *Deviation in percent of GDP*	Germany	0.7	0.4	0.3	0.3
	France	– 0.8	0.0	0.1	– 0.1
	Italy	– 0.3	0.2	0.3	– 0.6
	United Kingdom	– 1.6	– 0.9	0.1	– 0.0
	Other EU	– 0.2	0.1	– 0.2	– 0.0
	European Union	**– 0.3**	**0.0**	**0.1**	**– 0.1**
	United States	*0.2*	*– 0.0*	*– 0.1*	*– 0.0*
	Japan	*0.2*	*– 0.0*	*– 0.1*	*– 0.0*
Public sector balance *Deviation in percent of GDP*	Germany	0.0	0.3	0.1	0.1
	France	– 1.2	– 0.3	– 0.1	– 0.1
	Italy	– 0.9	– 0.1	– 0.2	– 1.0
	United Kingdom	– 1.9	– 0.6	0.1	– 0.1
	Other EU	– 1.0	0.4	0.3	– 0.2
	European Union	**– 0.9**	**– 0.0**	**0.1**	**– 0.2**
	United States	*– 0.0*	*– 0.3*	*– 0.3*	*0.1*
	Japan	*– 0.0*	*– 0.1*	*– 0.1*	*0.1*
Unemployment rate *Deviation in percentage points*	Germany	0.0	– 0.2	– 0.2	– 0.1
	France	– 0.5	– 1.3	– 1.7	– 1.8
	Italy	– 0.6	– 1.3	– 1.4	– 0.8
	United Kingdom	– 0.3	– 1.1	– 2.4	– 2.4
	Other EU	– 0.3	– 1.3	– 2.1	– 1.7
	European Union	**– 0.3**	**– 1.0**	**– 1.5**	**– 1.3**
	United States	*0.1*	*0.4*	*0.4*	*– 0.3*
	Japan	*0.0*	*0.1*	*0.0*	*– 0.0*
Short term interest rate *Deviation in percentage points*	Germany	– 1.1	– 0.3	0.0	0.2
	Other UE	– 3.0	– 2.0	– 1.0	0.0
Long term interest rate *Deviation in percentage points*	Germany	– 0.2	0.0	0.1	0.0
	Other UE	– 1.3	– 0.6	– 0.2	0.0
Exchange rate against the dollar (1) *Deviation in percent*	Germany	2.7	0.9	0.4	0.7
	Other UE	15.8	10.3	6.8	5.3

(1) Positive numbers mean a depreciation of the European currencies against the dollar
Source : MIMOSA CEPII-OFCE.

5. Reduction of Working Hours in Europe

Deviation from baseline

Variable	Countries	1st year	3rd year	5th year	8th year
Real GDP	Germany	0.1	0.2	0.4	0.1
Deviation in percent	France	0.5	1.1	1.8	1.4
	Italy	0.3	0.3	– 0.6	– 4.7
	United Kingdom	0.7	2.4	3.9	1.9
	European Union	**0.3**	**0.9**	**1.2**	**– 0.3**
	United States	*– 0.2*	*– 0.5*	*– 0.7*	*0.1*
	Japan	*– 0.1*	*– 0.4*	*– 0.5*	*0.2*
Consumer prices	Germany	– 0.2	– 0.3	0.8	4.8
Deviation in percent	France	– 0.4	– 1.4	– 1.6	1.4
	Italy	– 0.3	– 0.1	2.3	9.3
	United Kingdom	– 0.6	– 1.9	– 1.0	5.7
	European Union	**– 0.3**	**– 0.9**	**0.1**	**5.2**
	United States	*0.0*	*– 0.1*	*– 0.4*	*– 0.8*
	Japan	*0.0*	*0.0*	*– 0.1*	*– 0.4*
Current account balance	Germany	0.0	0.1	0.1	– 0.1
Deviation in percent of GDP	France	0.0	0.3	0.7	1.0
	Italy	– 0.1	– 0.2	– 0.5	– 1.3
	United Kingdom	0.0	0.1	0.4	0.9
	European Union	**0.0**	**0.1**	**0.1**	**0.1**
	United States	*0.0*	*0.0*	*– 0.1*	*– 0.2*
	Japan	*0.0*	*0.0*	*0.0*	*0.0*
Public sector balance	Germany	– 0.1	– 0.1	0.3	0.7
Deviation in percent of GDP	France	0.0	0.4	1.0	1.0
	Italy	0.1	0.3	0.2	– 1.8
	United Kingdom	– 0.2	0.1	0.9	1.2
	European Union	**0.0**	**0.2**	**0.6**	**0.3**
	United States	*0.2*	*0.2*	*0.1*	*0.2*
	Japan	*0.1*	*0.1*	*0.2*	*0.3*
Unemployment rate	Germany	– 0.5	– 1.8	– 3.4	– 3.1
Deviation in percentage points	France	– 1.0	– 3.1	– 6.0	– 6.2
	Italy	– 0.5	– 1.8	– 3.0	– 1.0
	United Kingdom	– 1.1	– 3.6	– 6.7	– 5.9
	European Union	**– 0.8**	**– 2.5**	**– 4.6**	**– 4.0**
	United States	*0.1*	*0.2*	*0.2*	*– 0.1*
	Japan	*0.0*	*0.0*	*0.0*	*0.0*
Real monthly wage	Germany	– 0.5	– 0.9	– 0.4	2.4
Deviation in percent	France	– 1.0	– 2.5	– 2.8	1.7
	Italy	– 0.2	0.6	3.2	5.7
	United Kingdom	– 0.8	– 1.4	– 0.9	0.6
	European Union	**– 0.6**	**– 1.0**	**– 0.3**	**2.6**
	United States	*0.0*	*– 0.2*	*– 0.6*	*– 0.6*
	Japan	*0.0*	*– 0.1*	*– 0.3*	*– 0.5*

Source : MIMOSA CEPII-OFCE.

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Box: The multicountry macro-econometric model MIMOSA

Mimosa was constructed by the OFCE (Paris) and the CEPII (Paris) in order to answer a broad variety of questions about the world economy from a medium to long-run perspective. This explains its annual frequency and its relatively large size (4500 equations). The world is divided into six major countries (the USA, Japan, Germany, France, Italy and the UK) and nine regions: four industrialized ones ('Other EU', 'Rest of west Europe', Other OECD', and 'NICs'–newly industrializing Asian countries), four developing regions (notably Middle East/North Africa, which comprises the main OPEC exporters), and the East European countries. International trade is broken down into four product categories: manufactures, agricultural and food products, raw materials, and energy. Two service groupings are also included: factor services and non-factor services.

The six major economies are described using neo-Keynesian models, the aim being to build a model with well-known simulation properties rather than to pursue methodological innovation. Each economy is divided into five groups of agents: households, non-financial enterprises, financial sectors, general government, rest of the world. There are also five sectors: agriculture and food industry, energy, manufacturing, other business, non-business. A two-factor putty–clay production function ensures consistency between labor demand and capital demand in manufacturing. Agent accounts (taxation, social security and interest flows) are modelled in some detail.

The models of the four industrialised regions are less detailed and are not disaggregated by sector. For the five remaining regions the internal feedback is simplified. The main purpose of these models is to describe how the regions' foreign trade reacts to shocks in the world economy.

In the two stimulus scenarios presented in Tables 3 and 4, long term interest rates and exchange rates are made endogenous, according to the following rules (which draw from the rational expectations hypothesis and uncovered interest rates parity):

- current long term interest rates vary according to the anticipated average of future short term interest rates. They do not depend on the public sector deficit;

- the current exchange rate between two currencies varies according to the cumulative difference in future interest rates on short term portfolio holdings in foreign currencies (uncovered interest rates parity);

Short term interest rates follow different rules in the two stimulus scenarios:

- in the cooperative scenario, short term interest rates in the EU are reduced in an exogenous and identical manner;

- in the stimulus scenario without German participation, this is only true for short term rates of EU countries apart from Germany. Short term German rates are assumed to be set in the following manner: they will rise by one percentage point if GDP grows by 2% or if inflation accelerates by 2/3 points. This simple rule expresses the predominant role that fighting inflation plays in the objectives of the Bundesbank

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