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### Essays on Economic Growth and Imperfect Markets

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## 1 INTRODUCTION

The beginning of the nineties saw a renewed interest in the determinants of long-term economic growth. This interest took the form of hundreds and hundreds of articles. It was not the first time that in economics this subject took the centre stage. From the work of Solow (1956) followed a boom of articles. Both times, then and now, the hype did not last and the interest in the subject took more normal proportions.

The interest in growth theory was a reaction to the slowdown in productivity growth (in the United States), that had set in after the oil crisis in 1974. It was also a reaction to studies of the business cycle. These had evolved into exercises that were technically complicated and that no longer seemed that relevant. Why take an interest in fluctuations around a growth path if changes in the growth path may swamp these fluctuations? Once you have started to think about growth, it's hard to think about anything else, to paraphrase Lucas. Important was as well that the trend-setting work of Romer, Lucas and others seemed to open the prospect of an important and perhaps even active role for the government. This was in stark contrast with the Solow model. The orthodox model maintained that public policies could not alter the trend and suggested that they would only register as a temporary shock. A country would virtually automatically catch up if had accidentally fallen behind. This left no room for development policies through which poor countries might close the gap with the rich countries. The endogenous growth theories, on the other hand, emphasized that public policies might matter a great deal, for better or for worse. This, of course, made the new theories much more exciting than the old.

It is then not surprising that the survey in Chapter 2 discusses rather elaborately public policies and their implications for growth. First, it explains that conventional macroeconomic, budgetary policies may have permanent repercussions for private investment and growth. Once allowance is made for departures from Ricardian debt neutrality, the theories of endogenous economic growth can explain that high national income shares of government consumption and high ratios of government debt to national income harm growth prospects. Second, it considers structural policy measures and, in particular, public support for research and development. A salient feature of the recent boom in growth literature is the strong support for the idea that investment has positive external effects on production possibilities. Firms cannot fully reap the return on investment, and the intertemporal choices of households are biased in favour of consumption and at the expense of savings. The assumption of an external effect implies an active role for the government. It may consider measures to improve upon the intertemporal allocation of resources.

Not only the government can try to improve upon the outcome of a decentralised market economy. Also trade unions. This is perhaps unexpected. Usually, in the view of many economists, the trade unions are the bad guys. They try to raise the wage in order to promote the interests of their member. In this view this has the effect of creating or increasing unemployment. Typically, the unemployed and the non-members pay the price for the union's efforts to promote the interests of their members. However, this view is somewhat crude. Chapter 3 identifies at least one important reason why 'large' trade unions may not use their power to raise wages to its full potential. These unions are large in the sense that take into account the effect of current wages through capital accumulation on future wages. They do not want to discourage the accumulation of capital too much, especially if in the presence of investment externalities the rate of accumulation is already too low (from a social point of view). A 'large' trade union may even try to compensate for the investment externalities and set wages such that private investment is stimulated. The result may then be superior in terms of welfare to a decentralised market equilibrium.

This last result can only occur in a second-best world. Introducing a distortion (union power, for example) in a first-best world in which there are no missing or failing markets, will diminish welfare. However, in a second-best world with (more than) one missing or failing market, this may decrease as well as increase welfare. Chapter 4 gives another example. This chapter considers the effect of competition on growth. When barriers to trade in goods and capital are removed, this is typically followed by a rationalisation of firms. Many firms disappear and the few firms survive, grow through mergers and take-overs. Adding firms together is sometimes essential for exploiting economies of scale and scope. Another benefit is that the competition becomes less fierce and that downward pressure on prices and profits is also less. Higher prices and profits are beneficial for the firms and stockholder but are potentially harmful from a social point of view. Indeed, in chapter 4 higher prices (further) distort the static allocation of resources. This is however not the only effect. The main idea in chapter 4 is that higher prices may improve the dynamic allocation of resources. Competition puts a downward pressure on prices of some goods and discourages in this way investment in those goods that could have been close substitutes. In other words, if firm achieve price coordination through mergers and take-overs, this is not necessarily harmful. The policy implication is that sudden and complete trade liberalisation is not always expedient. Ideally, liberalisation would differentiate between goods with 'excessive' and 'normal' competition.<sup>1</sup> Tariffs remain in tact for goods with excessive competition and disappear for goods with normal competition. If this distinction is not feasible, the optimal tariff is an average of these two tariffs (one is positive and one is zero). Over time the number of goods with excessive competition decreases

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<sup>1</sup> The definitions of 'normal' and 'excessive' are not given here; the distinction gets meaning in chapter 4.

relatively and the optimal, 'average' tariff decreases as well. Optimal trade liberalisation is then thus gradual rather than sudden.

Government policies are often compromises. In chapter 5 discusses the combination of progressive income taxes and education subsidies. In an imperfect labour market a more progressive tax system discourages wage demands and, at a given replacement rate, reduces unemployment. Unfortunately, the system does not differentiate between wage increases that result from market imperfections or wage increases that result from higher productivity. It discourages not only wage demands but also efforts to acquire productive skills.

Chapter 5 sees wage-setting by trade unions as the relevant imperfection on labour markets. The role of trade unions varies widely from country to country. It is argued that this should be -- and perhaps already is -- a reason for lasting differences in national tax systems. Furthermore, the chapter shows that education subsidies (should) compensate the negative effect that progressive taxes may have on education. Typically, the subsidies allow the tax system to be more progressive.

The last two chapters go into the problem of growth and income distribution. The study of personal income distribution has also seen a revival. One of the reasons is that in some countries, most notably the United States and the United Kingdom, inequality has risen considerably during the eighties and the nineties. Not surprisingly, globalisation and, in particular, the increased trade between developing and developed countries are often seen as the forces behind rising inequality. Quantitative research indicates that trade between North and South is unlikely to be solely responsible for rising inequality. An alternative explanation is technical change, that is biased at the expense of low-skilled workers and in favour of high-skilled workers. However, this explanation is not entirely convincing since it describes more than it explains: the driving forces behind biased technical change remain a mystery. Chapters 6 and 7 therefore offer different alternatives, that may supplement the conventional explanations, North-South trade and biased technical change.

Chapter 6 starts from the observation that inequality has increased between groups of different workers but also within groups of more or less similar workers. The model in this chapter is concerned with ex-ante identical workers and thus explains within-group inequality. Workers pursue a career with one firm. Innovations bring new products but also destroy existing products, firms and thus careers. Technical changes in the form of innovations hamper a firm because a successful career becomes a less efficient instrument for this firm to motivate workers. A firm can respond to a higher innovation rate by increasing or by decreasing wage differences between careerwise successful and unsuccessful workers. This choice crucially depends among other factors on labour market institutions. Progressive income taxes, firing costs and perhaps also trade unions make it more likely that a firm responds to more

uncertainty by reducing wage differences. Potentially, these institutions can explain the differences between continental Europe on the one hand and the United States and the United Kingdom at the other hand.

Chapter 7 also tries to avoid the dichotomy of international trade versus technical change. It concentrates on the drastic decline in the cost of international business travel and telecommunication. This has made it much easier for highly-skilled workers in developed countries to co-operate in production with less-skilled workers in developing countries, who earn less than the less-skilled workers in developed countries. The reduction of 'co-operation costs' implies an increase in 'virtual migration' of highly-skilled workers, who live in North and partly work in the South. This reduction has a double effect on wage inequalities. It narrows the gap between developed and developing countries in the wages of less-skilled workers, and usually widens the wage gap within developed countries between highly-skilled and less-skilled workers.