

Speech

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The financial sector and the new economy

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Firstly, I would like to thank you for the opportunity to discuss the new economy here at Finansadministrativt Forum. As you can see from the titles of today's talks, the rate of change within the financial sector is still very rapid. It's all about new products, new markets, new distribution technology and new administrative systems. Sometimes even a completely new business logic. Does this mean that the new economy has reached the financial sector? I believe that it reached the financial sector quite some time ago, long before it became fashionable to make speeches on it. Within the financial sector the new economy is already middle-aged. That is what I intend to talk about today.

The driving forces behind the new economy

It is not always completely clear what is meant by "the new economy" in the general debate. Let me, to begin with, extend the discussion from the financial sector to the entire economy. On such an overall level it usually refers to an increase in the economy's growth potential as the result of a more rapid growth in productivity. Productivity is thus a central concept in a discussion of the new economy. It is the growth in productivity that has boosted the US economy and enabled it to grow by an average of 3.2 per cent per year during a ten-year period, without hitting the capacity ceiling and pushing up inflation. And it is productivity that is the key factor when discussing whether the new economy has arrived in Sweden.

There is also good reason to expect an increase in productivity, as a lot has happened during the past ten years. There are three main factors that usually come

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under focus in this context, namely macroeconomic stability, microeconomic reforms and technological advances.

Macroeconomic stability is a necessary condition for long-term investment decisions and stable growth. When we in Sweden, in the beginning of the 1990s, adopted a low inflation policy, we left behind us a long period of price and wage spirals followed by devaluations where growth had fallen below that in our competitor countries. Today, a credible inflation target is seen as a necessary condition for macroeconomic stability.

After the crisis, there ensued a purposeful consolidation of the central government budget. Whatever your view of the individual elements involved in this process, there is no doubt that it restored Sweden's financial credibility. The successful management of the crisis in the Swedish banking system also contributed to this.

Microeconomic reforms such as the deregulation of the financial, telecommunications and electricity markets, and the continuous liberalisation of trade have increased competition in the economy and forced companies to becoming increasingly efficient. Not at least in the beginning of the 1990s, the tax and welfare transfer systems were changed in important, growth promoting ways.

Technological advances, particularly the rapid developments in the IT field, have aroused considerable attention in the media. The establishment of the Internet, advances in telecommunications and continuous improvements in both computers and software have enabled more efficient management of communications and information, which in turn has resulted in a more efficient utilisation of resources.

Has productivity increased?

It would therefore seem reasonable for the statistics to show an increase in productivity in the Swedish economy, as they have done in the USA. However, as we all know, it is none too easy to measure productivity in a correct manner. In principle, productivity measures the production value in SEK per person employed, e.g. how many cars or what volume of services is produced per hour worked. However, as the cars become better and the services take on a greater content and perhaps also become cheaper, it is difficult to capture this development in the statistics. The rapid developments in IT in recent years have only accentuated the problem.

If one studies the growth in productivity closely, it is nevertheless possible to discern a clear increase from an average level of 1 per cent during the period 1980-1989 to an average level of 1.8 per cent during the period 1992-1999 (diagram 1). The diagram is based on the most recent revisions from Statistics Sweden, which have raised the estimated increase in productivity by approximately 0.5 percentage points for the years 1997-1999. According to the national accounts, however, growth in productivity in the USA has been a good 3.9 per cent per year during the period 1995-1999, which is significantly higher than in Sweden.

It is common to divide up productivity into the part which is due to a growth in capital that has enabled an increase in production per employed person (capital

intensity) and the part that is due to the possibility of being able to use capital and labour more efficiently through technological and organisational advances, what is known as total factor productivity (TFP). In Sweden, capital intensity has been largely constant during the entire 1990s, which means that the capital stock has grown at the same rate as employment, but no more than this (diagram 2). The entire increase in productivity could thus be attributed to improved technology. This is not the case in the USA. There, investments in new production capacity have contributed almost 50 per cent of the growth in productivity. This applies in particular to IT-related investments, which have increased by almost 40 per cent per year during the second half of the 1990s. Investments in other activities have increased only moderately.

Now there are some signs that the Swedish figures may be concealing part of the truth and providing a slightly too gloomy picture of developments, at least compared with the USA. Without going too deeply into statistics techniques, it is possible to conclude that the Swedish method of adjusting, for instance, the figures for investments in software for quality improvements and reductions in price is much more conservative than the method used in the USA. Statistics Sweden has calculated that this has created a difference in GDP growth of approximately 0.1 percentage points per year during the period 1993-2000. No corresponding calculations have been made for investments in hardware, which amount to approximately the same as the investments in software in current prices.

Possibly even more interesting is the development of total factor productivity, which according to some estimates lies behind the entire growth in productivity in Sweden. It is reasonable to assume that a company which has invested more in computers, networks and electronics has also profited from efficiency gains, whether it operates in the IT sector or some other industry. The financial sector offers many examples of this, to which I will return later. However, it is still not possible to depict this development in statistical series for different sectors in Sweden. In this respect we are not alone, as the rest of Europe has, if possible, even greater problems with statistical data.

All in all, it appears as though the difference we have observed in productivity growth in the USA and Sweden could actually be partly due to differences in the statistical data available. In this perspective, we are perhaps closer to the new economy than we believed six months ago.

Productivity in the financial sector

What is the picture in the financial sector? Has productivity increased during the past decade and if so, how has this increase been expressed?

First, a few words on the competition. The financial sector has possibly undergone greater changes than any other sector in the economy since the mid-1980s. The foundation for these changes was laid by the major deregulations in the credit and foreign exchange areas. The strong financial expansion in the end of the 1980s delayed for a few years the adjustment to a more competitive environment. After the economic crisis in the beginning of the 1990s, the structural transformation gained impetus and the Swedish banking sector, as well as

the entire financial sector, makes a much more dynamic impression today than in the mid-1980s. The deregulation and internationalisation of securities trading has also played an important role in this context.

Then we have developments in technology. Let me begin here with a slightly longer and perhaps more personal perspective. My first job was as an apprentice at a timber-yard. I will never forget the scent of newly sawn timber; it has followed me through life and always brought a feeling of pleasure. Nor will I ever forget the feeling on Friday afternoon when the accountant came down from the office and solemnly handed out the brown envelopes containing the week's wages. There was a tingling feeling of expectation and pleasure. The notes in our hands at the end of the week were concrete evidence that we had done something useful.

Nowadays wages are paid directly into a bank account and information on this is supplied via a bank statement every second month. This doesn't create the same feeling of expectation as the brown envelopes. However, it is undeniably rather practical. In addition, we can pay our bills from home through transfers from our account and can avoid spending an hour on Saturday morning chatting in the queue at the post office. I don't miss the post office queue as much as the brown envelope.

It has been estimated that the productivity gain inherent in the improvement in efficiency of the payment system corresponds to at least five per cent of the gross domestic product. This is an outstanding increase in productivity over a forty-year period and one that benefits most of us. One could say that we receive at least five per cent more in our pay packets as a result of the developments in the payment system. The wage envelope has survived, at least as a metaphor.

It is possible that even more important things have happened during the past ten years and in a number of cases, the new technology has had a decisive influence as to how and in which direction the finance sector has developed. For instance, the introduction of electronic stock exchange trading has reduced the transaction costs to a fraction of what they were. "Straight through processing", which you will be discussing here shortly, can be seen as the next step in the development of productivity.

Another example is the management of financial risks. The instruments used to trade in financial risks, e.g. options, forward transactions and swaps, are all dependent on technology, not merely the actual trading, but also for valuation and pricing. It is quite simply impossible to continuously value complicated derivative instruments without the aid of high-speed computers. In a wider context, this applies to all innovations in financial technology which are used for separating financial risks and then repackaging them again for trading on the market. The entire modern portfolio management process, which has in itself created a basis for the expansion of trade in financial instruments, would be impossible without advanced computer assistance. All of this comes from IT and it revolutionised the financial markets long before the Internet had spread out from the universities and into society.

The Internet was originally expected to lead to increased competition in the financial area, in that new players would more easily gain access to the market. These forecasts have proved correct to some extent, but at the same time the

business opportunities for traditional players have grown dramatically. The Internet supplies new channels for distribution and marketing, while the growing e-commerce creates a demand for the banks' payment services. In addition, the Internet has come to comprise an important potential source of savings, as the customers manage payments and other business themselves over the Internet. In a way, this development is not so surprising, as financial operations are information-intensive and largely comprise gathering, processing and valuating information. Nevertheless, developments have been much more rapid than most analysts anticipated five years ago.

Is it possible to measure increases in productivity?

Despite all this, it is difficult to find any statistical support to say that productivity growth in the finance sector has been any faster in recent years than before. Developments have even been worse here than in the economy as a whole. During the first years of the 1990s, productivity fell as a result of the banking crisis (diagram 3). The major boost to productivity then came in the period 1994-1997, when the banking crisis was over and done with, competition increased and the banks were able to rationalise their branch networks. During the 1990s, one third of the banks' branches disappeared (diagram 4). This was probably, to a not inconsiderable extent, a delayed effect of the deregulations in the 1980s.

However, productivity increases in the service sector are difficult to measure. In the statistics, a payment service is always a payment service – the value of being able to make the payment from home by computer, without any paperwork, instead of taking the cash in your hand and getting into line at the post office is not so easy to depict in the statistics. A study of US banking operations, taking into account improvements in quality as a result of developments in technology, concluded that the annual increase in productivity during the period 1977-1994 was around 7 per cent, which can be compared with the 1.4 per cent recorded in the official statistics.¹ There is thus good reason to suspect that the figures underestimate the productivity growth in the financial sector in the same way as in the economy as a whole.

The number of employees in the banking sector has declined only marginally during the 1990s. If productivity is to increase, each employee must therefore produce more or better services. They probably do. For instance, the number of payments (in the RIX system) has grown by 30 per cent per year during the 1990s and the number of transactions on the stock exchange has grown by 40 per cent. It is not unreasonable to assume that a significant increase in employees at the bank would have been required to manage these volumes if considerable investments in systems had not raised the level of productivity – both through increasing capital intensity and raising the total factor productivity. But, as I said, it is difficult to illustrate this in the statistics.

What is the significance of the Internet here? As yet, only one third of Swedish bank customers have an Internet bank and probably even fewer make use of it as much as they could (diagram 5). This is still much further than most other

¹ The Economist, 23 September 2000.

countries have come, but it will probably take a few more years before the customers completely accept the new technology (diagram 6). This means that the banks currently need to cover the costs of two parallel infrastructures, which makes it difficult for them to realise the full potential of their investments. However, there is still the possibility that the marked improvement in bank profits over the past year is partly due to investments in the Internet beginning to have an effect already.

Risks in the new economy

The Riksbank has a responsibility for the secure and efficient function of the Swedish payment system. As a properly functioning payment system requires a properly functioning and healthy finance sector, it is in the Riksbank's interests to closely follow developments in the financial system. The results of this analysis are presented twice a year in the Financial Stability Report. The next report will be presented this Thursday, 30 November.

The rapid rate of change, with deregulation, internationalisation, technological innovations and increasingly sophisticated financial instruments, naturally has an effect on the stability of the financial system. In the opinion of the Riksbank, this effect is largely positive. The deregulations have contributed to greater efficiency in the finance sector, which is important for efficiency and growth in the economy as a whole. The advances in IT improve the information system and risk models, and reduce the risk of incorrect assessments and unpleasant surprises. The creation of new instruments increases the market's capacity to manage financial risks.

However, there are also risks to stability connected with this development. Deregulations and internationalisation bring gains in efficiency precisely because the players in the financial sector are being given the opportunity to compete freely and take risks. One condition for this to work is that the players have the necessary knowledge to analyse correctly the risks on a partially new and changed market. This is not always the case, which we had reason to reflect on during the Swedish banking crisis. Forty years of regulation had depleted the credit analysis skills in Sweden, both in the banks and among the supervisory authorities. This was an important factor behind the banking crisis, although not the only one. Other countries have had similar experiences.

Crises often follow on the heels of deregulation. This does not mean that the reforms were misguided, but it illustrates the fact that the risk of miscalculation increases during the transition period when both private players and authorities are required to adapt to new conditions.

Actually, the possibly increased risks in connection with deregulation are just one example of a much more general phenomenon – that it is more difficult to make correct decisions during periods of rapid change, as forecasts for the future become more uncertain and historical experiences and connections become less appropriate to serve as guiding principles. History is full of examples of how altered market conditions and technological advances lead to exorbitant expectations and incorrect investment decisions. In the USA of the 1920s, the share market was driven by expectations of radio and car manufacturers, while in 1980s, Sweden it was mostly property companies. The rises and falls in the telecommunications and

IT sectors over the past year have been a useful reminder of how difficult it is to value new companies and sectors.

Periods of rapid change also make higher demands of the financial institutions' internal risk control systems. It is all too easy for the enthusiasm of being able to rapidly supply customers with new financial products can lead to the necessary updating and adapting of control systems failing to be given due priority. Risks that arise as a result of inadequate internal routines, known as operational risks, have quite rightly been given greater attention in recent years. One reason for this is probably the more or less spectacular cases of operational misadventures that have occurred, the best example of which is the fall of Baring's Bank.

With regard to the rapid developments in technology, there is a danger in that the increasingly refined tools for analysis and risk models now being used can lull the financial institutions into a false sense of security. There is no doubt that these models provide very important support for analysis and decision making, but it is important to remember that models are merely very rough simplifications of reality and must therefore be used with caution. The failure of the LTCM hedge fund in autumn 1998 is a serious and frightening example of this. LTCM had access to some of the world's leading experts in financial risk management and had shown astounding profitability for several years. Nevertheless, things went wrong, partly due to the size of the positions, of course, but probably also because of an excessive trust in the risk models used.

The events of autumn 1998 also give cause for other reflections. Today's strongly integrated international finance markets help to spread disturbances rapidly from one market to another. Additionally, many instruments can be technologically complicated and have a risk content that is difficult to foresee. In times of uncertainty, investors tend to want to move out of this type of instrument and into safer securities with a clear risk content and safe liquidity. This gives us what is usually called a flight to quality and liquidity. The international markets have been able to manage this well so far. However, we still know very little about how this process would develop in the event of a major financial crisis in some part of the world.

Final words

The financial sector in Sweden was strongly regulated until the mid-1980s. Then came a period of extensive deregulation, increased competition and rapid technological development. On top of this, a widespread bank crisis. Although it may be difficult to prove statistically, it appears a reasonable hypothesis that productivity has risen to some extent during this process. Much of the technological development concerns IT, which is natural in a sector where electronic commerce, transparency, price information, etc. are central concepts. The Internet opens up new opportunities, but IT and "the new economy" probably reached the finance sector several years ago.