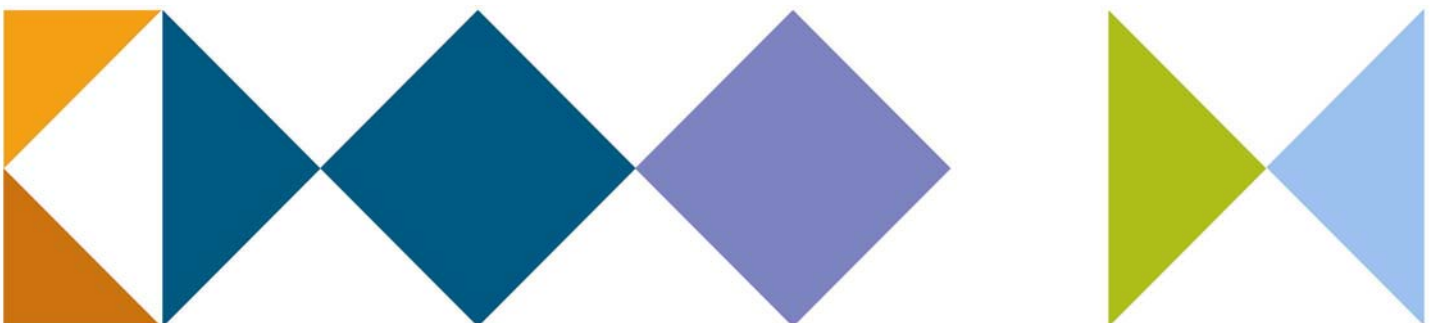




Six deregulations

Liberalisation of the markets for electricity, postal services, telecommunications, domestic air traffic, rail and taxi services in Sweden



Foreword

This is a summary of the 2004 report by the Swedish Agency for Public Management, in Swedish, on the ends, means and outcomes of six market deregulations (*Avregleringen av sex marknader – mål, medel och resultat, Statskontoret 2004:28 and 2004:28A*). In terms of administrative policy, the report analyses the liberalisation of six Swedish transport and communications markets from the 1990s to the present. Besides the main report (2004:28), it contains an annex (2004:28A) outlining the political decision-making process as manifested in Government Bills, Riksdag (parliamentary) publications and other public documents.

This translation was done in the hope of making the report accessible to interested readers outside Sweden as well. Please address any queries about the report and its background, or about the work of the Swedish Agency for Public Management relating to competition and deregulation in the public sector, to me.

Pia Bergdahl
Project manager

+46 8 454 47 29
pia.bergdahl@statskontoret.se

	Foreword	3
	Summary	7
1	Introduction	9
2	The liberalisation process in each market	11
2.1	Electricity	12
2.2	Postal services	25
2.3	Telecoms	35
2.4	Domestic aviation	43
2.5	Railways	48
2.6	Taxis	62
3	Continuation of the process essential	71
3.1	Difficulty of meeting unclear objectives	71
3.2	Care in pursuing redistributive policy goals and ambitions	71
3.3	Deregulated but not competitive	72
3.4	Further measures required	74
3.5	Special market monitoring and supervision required for deregulated but not yet functioning markets	74
3.6	State's dual role as owner and force in society problematical	75

Summary

The Swedish Agency for Public Management has surveyed the liberalisation process on six formerly monopolistic markets: electricity, postal services, telecoms, aviation, and rail and taxi services. We have analysed the political governance and the outcome of this process in relation to the objectives defined by the politicians. Our survey shows that the decision-makers have sometimes had fairly unclear aims and motives for liberalising the markets.

On the other hand, the six markets' liberalisation has not reduced the scope for fulfilling ambitions of redistributive policy. Various models and methods exist to realise these ambitions and — except that actually interpreting phrases like 'for all' and 'efficient services' may sometimes be difficult — there is every indication that they are attainable on the liberalised markets as well.

Analysis shows that the markets have opened to competition to a varying extent. However, owing to residual entry barriers and other competition-related problems, none of the markets may be said to be fully exposed to competition at present. In all six, further measures are needed for functional competition to become a reality. Special supervision and active market monitoring are, for example, vital on deregulated but not yet fully functional markets. It is also important to analyse how to avoid conflicts between objectives for state-owned enterprises (SOEs) — often the largest operators on their respective markets — and the overarching aims of liberalising markets and opening them to competition on equal terms.

1 Introduction

In recent years, extensive liberalisation of many previously regulated activities has been implemented in Sweden. This liberalisation, initiated in the 1970s, gathered momentum in the 1990s when sectors like electricity, aviation, postal services and telecoms were opened to competition. Through regulatory reform, i.e. deregulation, new regulations and/or adjustment or amendment of existing regulations governing public services, the Government has sought to make a range of markets competitive so as to enhance their efficiency, diversity and product quality. Combined with ongoing internationalisation, liberalisation in Sweden has meant that a range of previously monopolistic markets have gradually opened to more operators. However, the regulatory reform has seldom brought a reduction in the number of regulations: instead, new regulations have often been introduced to promote competition.

On behalf of the state Regulatory Reform Commission¹, the Swedish Agency for Public Management has surveyed and analysed political control in the form of regulations and interventions aimed at liberalisation to open six former monopoly markets to competition. The markets concerned are electricity, postal services, telecoms, domestic aviation, rail transport and taxi services. The purpose of this report is, with administrative policy as the starting point, to attempt replies to the questions of what the politicians said, what they did and how things turned out. This may be summarised in three questions:

- What were the objectives?
- How was the control exerted?
- Were the objectives attained?

The report includes a review of the government bills and communications, committee reports and official records of Riksdag proceedings and debates that formed the basis for liberalising the six markets. We analyse the political instruments used to attain the defined objectives. We also assess the degree to which these

¹ 'Liberalisation, Regulations and Markets', a report from the Regulatory Reform Commission (*Liberalisering, regler och marknader*, SOU 2005:4).

instruments may be deemed to have assisted actual governance of the markets in line with the expectations expressed by the politicians in their statements of objectives. To answer the third question above, we use conclusions and assessments reached in previous follow-up studies and evaluations. Thus, in this part of the report, we do not perform our own evaluation of the effects of the liberalisation measures implemented.

2 The liberalisation process in each market

In our work, we have surveyed various objectives and motives cited for liberalising the markets:

- Objectives for the sector
- Motives for liberalisation
- Motives for ownership
- Other aims

The objectives for each *sector* are overall aims in terms of policy or business operations. Worded in relatively general terms, they may be said to describe situations that, overall, are desired in the individual sectors. The objectives, which often include ambitions of redistributive policy, are defined for each sector and normally adopted each year in the Budget Bill. Objectives for *liberalisation* (deregulation) have not been defined in the same way but, rather, may be sought in the motives expressed by the Government in the Bills preceding various resolutions. These motives are often combined with statements concerning expected effects. The motives for *ownership* of SOEs on the markets in question, as well as the objectives for these enterprises, also have a bearing on the functioning of the markets concerned. *Other* objectives that affect the liberalised markets may be found in, for example, environmental policy, regional policy and IT policy.

Below, we analyse the whole liberalisation process in each market studied. This includes an analysis of how political decisions to apply various public measures have steered the markets towards defined objectives. We also assess whether the objectives may be deemed to have been attained. This assessment is based on conclusions in other follow-up studies and evaluations carried out previously.

Below, for each market in turn, we summarise, comment on and analyse the liberalisation process — i.e. key decisions and events during this period — along with the objectives of the liberalisation and their fulfilment. We also describe and comment on the aims in

terms of redistributive policy. Each section starts with a brief account of the present-day market concerned.

2.1 Electricity

The electricity market comprises three activities: production (generation), transmission (distribution, supply) and retailing. One difference from most other markets is that electric power cannot be stored. It must be produced and used simultaneously. The supply of and demand for electric power must therefore be constantly in equilibrium. Regardless of how the market is organised, a function for achieving a balance between supply and demand must therefore exist. Svenska Kraftnät, a state utility, currently performs this function in Sweden.

Generation and retailing take place in competition, but *transmission of electric power* is done by regulated monopolies. Competitive and monopolistic activities are required to be separated, so that a legal entity engaged in grid transmission is not permitted to engage in generation or retailing of electricity. However, these activities may be conducted by one and the same corporate group. Grid transmission must be reported separately from other activities. The purpose of these regulations is to avoid cross-subsidisation. When the public utility known as the Swedish State Power Board was divided into two, Svenska Kraftnät was made responsible for the national grid and operating the system, while the remainder was incorporated as a SOE: Vattenfall AB.

When it comes to *electricity production*, the three corporate groups Vattenfall, Sydkraft and Fortum account for just under 90% of capacity in Sweden. The remaining 60 or so companies on the market thus account for just over 10% of production. In a Nordic perspective, the three groups' dominance is less marked.

Where *retailing of electricity* is concerned, concentration is less extreme. In 2003 there were 125 companies supplying electric power, against 227 when liberalisation began. Although the number of companies is large, many of them are linked to the three large

groups in various ways. According to the Commission on Competition in Electricity Supply, an estimated 70% of electricity was supplied in the 'spheres' created by the three groups.

The number of companies owning local networks fell from nearly 250 in 1996 to around 120 in 2003. As for regional networks, the three above-mentioned companies own some 97% of total power lines, in terms of length.

The liberalisation process

Key decisions	Motives	Instruments	Comments
1991 Decision to incorporate Vattenfall and form the public utility Svenska Kraftnät.	To pave the way for a smoothly functioning electricity market.	Networks, and connections with other countries, were transferred from Vattenfall to Svenska Kraftnät. A commission on the opening of the electricity grid was appointed.	
1993 Decision to form <i>Nätmyndigheten</i> ('the Grid Authority').	Need for supervision of the electricity market.	Formation of the Grid Authority.	The Grid Authority was set up as part of the Swedish Business Development Agency (NUTEK).
1995 Decision to open the electricity market to competition.	Preparations for enhanced competition among producers. Strengthening of consumers' position on the market.	Demands for separation of networks from supply and production. All networks opened up. Consumers enabled to change electricity supplier. Time limits on grid concessions imposed. Retailing at Nord Pool.	Cost of changing electricity supplier deters consumers with low consumption from changing.
1996 Decision on the EC Directive on the single market for electricity.	To create an electricity market in the EU.	Member states had to introduce regulations that partially opened up the electricity market.	
1997 Decision on a new Electricity Act. Maximum price for electricity meters introduced.	Updating of the Electricity Act. More people enabled to choose their electricity supply company.		
1997 Decision to form the Swedish Energy Agency.	To strengthen the public-authority function in the energy sector.		The Grid Authority was incorporated into the Swedish Energy Agency.
1999 Decision to abolish the requirement of hourly metering.	To make liberalisation apply to all consumers.	Standard calculation of electricity consumption introduced. Reduced cancellation period.	
2003 Decision on the new EC Directive concerning common rules for the internal market for electricity.	To complete the introduction of an electricity market in the EU.	Time limit for the member states to complete the opening of their markets to competition.	

Towards a European electricity market

Since 1996, the electricity market has thus been liberalised so that competition now prevails in production and retailing, while the transmission of electricity, i.e. network operation, is a legal monopoly. The market has been expanded geographically, with the result that individual countries' surplus capacity has been reduced, competition from other countries' operators has increased and electricity supply has become more flexible. Under the EC Directive, the Union's member states will now move towards a single market for electricity.

Restricted competition

Ownership concentration in the electricity sector was already pronounced when liberalisation took place, and has continued to increase. Of the new operators (especially in the retailing subsector) that entered the market after 1996, some have now discontinued their operations, been bought up or otherwise become linked to the major companies. Especially in production, concentration in Sweden is strong, with three companies representing some 90% of production. New operators find it difficult to start up in production, since new plants have higher production costs than the power production that currently dominates the sector — large-scale hydropower and nuclear power.

In its final report in 2002, the Commission on Competition in Electricity Supply² stated that it had not found any fundamental functional defects in the deregulated electricity market. Price formation on the crude-energy and electricity markets is thought to be mainly governed by fundamental factors. Nevertheless, in the Commission's view there are worrying signs. One is that the number of operators in both production and retailing of electricity is falling: the risk of power concentration and the exercise of market power is thereby increasing. The Commission therefore proposed a more active role for the state in monitoring trends on the portion of the electricity market facing competition.

² Commission on Competition in Electricity Supply, *Competition on the Swedish Electricity Market*, SOU 2002:7.

The major energy companies frequently operate in more than one country, and small producers have little scope to expand and thus challenge the established ones. Trends on the (Northern) European market are towards ever increasing concentration. Expanding the market temporarily increases competition, but the risk is that it will once more gradually decrease owing to continued ownership concentration. The big challenge is therefore to sustain competition and preferably extend the parts of the market that are exposed to competition.

Competition has been favoured by the expansion of the electricity market to include — at least periodically — the Nordic region, and by scope to trade with Germany, Poland and Russia as well. Thus both supply and demand in the single market are on the increase. This trading requires the transmission lines to be extended. The EC Directive on the electricity market is also a key basis for an increase in competition.

Although competition may increase as a result of market extension to ever more countries, there is an obvious risk that, from the individual consumer's point of view, competition may not — at least in the long term — improve in any crucial respect. Ownership concentration may be expected to continue throughout the European electricity market and many companies, not only in the Nordic region, operate in more than one country. It is worth noting that several of the largest electricity companies are wholly or partly state-owned.

Price of electricity

When it comes to the question of prices to customers, the three large companies in Sweden may not be said to engage in price competition. For a new company with little or no in-house electricity production, it is difficult to deviate to any large extent from the prices set by the dominant producers. Nor has the SOE Vattenfall engaged in price competition: other priorities appear to have taken precedence (see below). Here, a comparison may be made with the telecoms market, which also has three dominant operators. In the latter, there is marked price competition, with Tele2 marketing itself on some submarkets by asserting that its prices are always lower than

those of Telia. There is no corresponding competition on the electricity market.

Consumer prices have three components: electric energy, network service, and taxes and charges. The proportions of the total price taken up by the three components depend on changing electricity prices on the one hand and taxes and charges on the other. Electric power, which faces competition, accounts for only a minor share — 20–40% — of the total price.

The price of electric power depends mainly on the price at Nord Pool, the joint Nordic power exchange, which in turn is heavily affected by the supply of water in reservoirs at the Nordic hydropower plants. Accordingly, the price varies with precipitation, which is difficult to take into consideration in price comparisons over time. One aspect of price trends is the electricity companies' trading margins, i.e. the difference between spot prices at Nord Pool and prices to customers. The Swedish Energy Agency has reported on its observations from the 'dry years' 2002 and 2003.³ This shows that the spot price rose sharply during these years. Simultaneously, the electricity companies' trading margins also increased. Customers with agreements in force until further notice incurred the largest differential between the spot price and the customer's price, while time-limited agreements entailed a relatively low trading margin. The fact that trading margins have risen may be interpreted in several ways. One interpretation is that the companies have not previously taken sufficiently into account the risks of selling electricity. Another is that competition has not sufficed to curb the growth in margins.

Network service is obligatory and provided in a monopoly. The Swedish Energy Agency plays a central part in supervision to ensure that network tariffs are reasonable. Here, prices have been broadly stable since the deregulation. The Swedish Energy Agency has previously expressed the view that there is scope for greater rationalisation in the network companies, which should result in unchanged or even reduced network charges. There are

³ Swedish Energy Agency, 'Dry Years: Trends on the Electricity Market — Some Observations from the Years 2002 and 2003' (*Torrår: Utvecklingen på elmarknaden – några iakttagelser från åren 2002 och 2003*, ER 7:2004).

methodological problems involved in assessing whether network tariffs are reasonable, and the fact that there is no well-informed, established method of interpretation.

Taxes and charges have been raised considerably in recent years as part of the ‘green tax shift’ (raised energy tax in return for lower income tax), both through the introduction of the Swedish ‘green electricity certificates’ (support for electricity production from renewable sources). Energy-intensive industry is entirely or largely exempt from these taxes and charges.

Obstacles to changing electricity supplier

Interest in changing supplier has increased. According to a March 2004 survey by the Nordic consulting and opinion-poll firm TEMO, 49% of households had been active on the electricity market by changing supplier or renegotiating their agreements. Households that had not been active had given the following reasons:

- They perceived the gain from being active as small. The variable portion of the price of electricity is only a small proportion of the total price, and the impact of change is therefore seen as limited. Price differences between companies and forms of agreement are also perceived as small by many household customers. Only when consumption is heavy, e.g. when heating is by electricity, are price differences seen as substantial.
- They foresaw difficulties in changing their electricity supplier.
- Different companies’ prices are difficult to survey and therefore compare. For some consumers, conditions on the liberalised electricity market may also be hard to understand.

Given that many customers perceived that they have weak incentives to change, owing to small price differences, the fact that about half of households have been active may be considered a relatively high figure. Among those who have been least active there are, however, many who have agreements until further notice, i.e. the most expensive form of agreement.

Vattenfall on the liberalised market

The foremost motive for the formation of the state-owned Vattenfall AB in 1991 was, according to the preparatory work, more efficient administration of the central government's capital through increased internal efficiency to boost earning capacity. The limited-company form of enterprise was also assumed to afford ample scope for inspection and control, in line with the owner's intentions. It was also found that Vattenfall AB would, in some subsectors, dominate the Swedish market and that this domination ought not to increase. According to the non-socialist government that had recently come to power, the incorporation should also be implemented in such a way as to improve the prospects of greater and more effective competition on the Swedish electricity market. At the same time it was said that the company, taking growing internationalisation into account, should be enabled to compete with the European power companies.⁴

The Swedish Parliamentary Committee on Industry and Trade expressed the following view at the time of the 2002 energy resolution:⁵

‘The Committee wishes to repeat once more that Vattenfall is a key national resource in the energy sector, not least in terms of the conversion of the energy system. The company's financial strength is, for example, helping to give Swedish industry access to reasonably priced electricity.’

In one of its reviews, the Swedish National Audit Office has studied the state's management of Vattenfall AB.⁶ One question in the review was how the requirement of businesslike operation relates to environmental and energy-policy objectives laid down by the Riksdag. In some respects, there is a corresponding relationship between operation according to business criteria and the aforesaid ambition that incorporation should improve the prospects of increased and more effective competition on the Swedish electricity

⁴ Government Bill 1991/92:49 (‘on certain issues connected with the conversion of the Swedish State Power Board's operations into limited-company form’).

⁵ Committee on Industry and Trade report (2001/02:NU17): *Energy Policy*.

⁶ Swedish National Audit Office, ‘Vattenfall AB — Functions and State Control’ (*Vattenfall AB – uppdrag och statens styrning*, RiR 2004:18).

market. The Swedish National Audit Office has not reviewed the latter issue, but the risk of conflicts between these two objectives is, in our view, marked.

Vattenfall's expansion in Germany and Poland is a case in point. According to the Swedish National Audit Office, Vattenfall's balance sheet suffered from its expansion in Germany and Poland. Its credit rating was reduced sharply. Vattenfall then gave priority to a favourable cash flow from operations, in order to pay off its loans. Price rises and higher margins from the retailing of electricity, and also rationalisation measures, benefited business, thereby raising the credit rating again. Thus, business criteria were given priority, at least in the short term, over price competition on existing markets. From a consumer viewpoint, this expansion is justified only if competition is likely to improve — or at least not deteriorate — in the long term. Arguments for the latter view might be that Vattenfall cannot hold its own in competition with other, mainly international operators unless it expands. It is outside our terms of reference to analyse in depth the motives underlying, and the management of, Vattenfall's conduct in this case. However, we find an obvious conflict of aims between the requirement of businesslike management and the wish that Vattenfall should help to boost competition, at least in the short term.

It may also be stated that Vattenfall is the Swedish SOE that provides the largest yield for its owner, i.e. for the Treasury. Here, too, a conflict of aims may be seen between the state's demands as owner and the state's wish for ample competition on the electricity market.

Short-term and long-term equilibrium

Before liberalisation, there was informal coordination of production and distribution resources. This coordination was based mainly on needs in Sweden, and one implication was that a certain surplus capacity, and also reserve capacity, should exist in Sweden for periods of peak power load. Since production and retailing were taking place in competition, while trading with the Nordic countries was increasing, there was scope for reducing capacity in Sweden.

Reserve capacity was no longer profitable for the companies. Altogether, the costs of production and distribution decreased.

The current situation is that reserve capacity for sustaining short-term equilibrium has decreased to the extent that special arrangements for providing spare capacity are being used and investigated. This may be described as a market failure, since it has major adverse external effects if electricity cannot be supplied in line with expectations. At present, Svenska Kraftnät has purchased spare capacity and has, at the same time, been charged with developing a market-oriented system for managing temporary load peaks. The intention is that these purchases should cease when a market system is introduced.

Long-term energy equilibrium is affected, on the one hand, by factors like increased demand, closure of the first nuclear power reactor in Barsebäck and possible closure of the second reactor there too. On the other hand, exchange with other countries is increasing; new production facilities (such as district-heating and windpower plants) are being built; and existing nuclear power and hydropower stations are being renovated and their capacity thus increased.

Monitoring competition

Monitoring of competition in production and retailing also needs to be improved. To date, the Swedish Competition Authority has not found it possible to take steps to combat the increase in ownership concentration. Cooperation among the Nordic competition authorities may possibly result in more concerted and rigorous application of the legislation. Better cooperation between the Swedish Competition Authority and the Swedish Energy Agency in competition issues is also necessary. How competition develops in the Swedish and Nordic electricity markets is heavily influenced by the action taken by the Swedish state from now on, both as owner of Vattenfall, the market's largest operator, and as regulator of the market.

Have the aims of liberalisation been attained?

The purpose of liberalising the electricity market was that increased competition should yield rational and efficient use of production and

distribution resources, freedom of choice and flexible supply terms at the lowest possible prices. In addition, incorporation of Vattenfall was seen partly as a step in the direction of creating a smoothly functioning electricity market with effective competition. As for prices, the aim is now that they should be 'reasonable', rather than 'the lowest possible', and that electricity should be supplied on terms that are internationally competitive.

Increased competition?

Competition was intensified with the liberalisation of 1996, since the option of choosing one's supplier had formerly been open to the really large customers only. Nonetheless, there is reason to discuss the extent to which the sector is exposed to competition and the possible course of future development.

Ownership concentration in the electricity sector was already marked at the time of liberalisation, and it has continued to increase. Both old operators and some of the newcomers (especially in the retailing of electricity) that entered the market after 1996 have discontinued their operations, been purchased or otherwise become linked with the spheres formed by the large companies. Production, in particular, is heavily concentrated in Sweden: three companies account for some 90% of production. New operators have difficulty in establishing themselves in production, since new plants have higher production costs than the power production and the large-scale hydropower and nuclear power plants that dominate the market at present.

With hindsight, the imperfections of competition in the electricity market hardly seem surprising. Two factors are particularly important to point out in this context. First, before the liberalisation no adequate analyses of ownership trends and their bearing on the functioning of the market appear to have been carried out. The market was already concentrated before liberalisation. Owing to the high entry costs in production, few new operators enter the market. Existing operators expand mainly by buying up other operations, not by investing in new production.

Secondly, in its role as Vattenfall's owner, the Swedish state has behaved in the same way as other operators in the market.

Accordingly, it has given higher priority to expansion through acquisition and payment of dividends to its owner, the state, than to reducing prices to the consumers. With different priorities, Vattenfall would have been able to play a more active role in boosting competition in the electricity market. It is therefore doubtful whether the aim of incorporating Vattenfall could have been realised in a manner that better met the requirements for increased and more effective competition on the Swedish electricity market.

One measure taken to boost competition was abolition of the requirement for hourly meters. This made switching to another electricity retailer (or negotiating with one's existing retailer) a reasonable proposition for consumers whose consumption was limited. Moreover, competition in Sweden has been favoured by the expansion of the market to include, at least periodically, the Nordic region, and with the option of dealing with Germany, Poland and Russia as well. Both supply and demand are thus increasing in the single market. One precondition of this trading is the extension of transmission lines. The EC Directive on the electricity market is also a key basis for an increase in competition.

Although competition may increase with the expansion of the market to include more countries, there is an obvious risk that competition from the individual consumer's point of view will not, at least in the long term, show any fundamental improvement. Ownership concentration may be expected to continue throughout the European electricity market, where several of the largest electricity companies are fully or partially state-owned.

Rational use of production and distribution resources?

Before liberalisation, there was informal coordination of production and distribution resources. This coordination was based mainly on needs in Sweden, and implications of this included the need for surplus and spare capacity to exist in Sweden for times of peak power load. Since post-liberalisation production and retailing took place in competition while, at the same time, trading with the Nordic countries was increasing, there was scope for reducing capacity in Sweden. Spare capacity ceased to be profitable for electricity companies. Overall, their costs of production and distribution were

falling. Thus, the aim of rational use of production and distribution resources may be said to have been achieved in the short term through reduction of previous surplus and spare capacity.

Whether the aim of using production and distribution resources rationally is achieved in the longer term depends on how short-term and long-term balance is dealt with from now on. Liberalisation may be said to make it easier to distinguish between what is rational in terms of business economics on the one hand and national economics on the other, in that companies have no commitments over and above what follows from their obligations to their own customers and owners. In some situations, e.g. at times of peak power load, there may be a need for measures that go beyond the commitments of the companies concerned in order to meet society's electricity supply needs.

Assuring customers of flexible terms and the lowest possible prices

The original objective of minimising prices has, over time, been superseded by the aim that prices should be reasonable and competitive with the business environment. We have also found that price competition is weak. The largest operator, Vattenfall, has given priority to expanding by means of acquisitions and paying dividends to its owner, the state, rather than reducing prices to the customers and engaging in price competition on the market.

Consumers can choose between variable prices or prices that are fixed for varying periods. Accordingly, different consumers' assessments of the trend of electricity prices and the need for security with respect to the cost of electricity can be taken into account. However, it is worth noting that abolition of the requirement of hourly meters — which was a precondition for most small-scale consumers' ability to choose electricity provider — simultaneously meant that customers who lacked hourly meters would have no financial incentives for reducing their consumption from times when total consumption and spot prices are at their highest. Thus, there is a contradiction here between small consumers' scope for choosing electricity supplier and the wish to reduce total consumption at times of peak load.

The Riksdag has resolved that all network companies must, by 2009, have installed electricity meters on the premises of all customers with at least monthly remote readings. Monthly readings do not permit price differentiation according to the timing of consumption. However, some network companies may replace their present old meters by hourly meters, although this is not required.

2.2 Postal services

In 1993 the formal postal monopoly on addressed letters and packages weighing up to 2 kg was abolished. At the same time, the new Postal Services Act introduced the requirement that comprehensive community postal services should exist. Cost-based and uniform prices for all were to be the rule for this service, and for individual items up to 500 grams there is a price ceiling. By issuing licensing regulations, the Swedish National Post and Telecom Agency (PTS) ensures that the service is provided in compliance with the law. To date, only Posten has been charged with providing this service.

Besides letters, ‘postal services’ are usually taken to mean the conveyance of packages, newspapers and items not addressed to individual recipients, such as direct mail. However, this part of the market has already been open to competition since before and is therefore not dealt with in detail in this report. The letter market may be subdivided into the submarkets for ‘*individual letters*’ and ‘*other mail*’. The latter represents a larger volume of post sent simultaneously, and consists of mail from companies, agencies and organisations to households, in particular. In 2003 ‘other mail’ made up some 73% of the total market and ‘individual letters’ the remaining 27%. The bulk of all mail is business-to-business (B2B) or business-to-consumer (B2C). Mail from households — mainly in the form of individual letters — accounts for only some 6% of the total mail market.

Since the postal market opened to competition, operators in postal services have proliferated rapidly to a peak of just over 100 in 1997. Today, the number of licensed postal companies is around 35. Most

of these are, however, very small and, for the most part, operate locally. Posten's only major competitor is CityMail. CityMail is active on the portion of the market represented by presorted mail, and delivers mail only to the Stockholm, Gothenburg and Skåne regions and through subcontractors in the island of Gotland.

According to data from 2003, Posten has a market share of some 90% for mail, while CityMail accounts for the rest. On the submarket for individual letters, Posten's market share exceeds 99%. In some areas a few small postal companies have secured substantial shares of local markets. In the total letter market, however, Posten still — ten years after its monopoly on delivery of letters was abolished — has a market share of around 93%.

The liberalisation process

Key decisions	Motives	Instruments	Comments
1991			CityMail commences operations and starts distributing corporate mail in Stockholm.
1992 Decision to open the postal market to competition.	To increase competition in the postal area with lower production costs and incentives for new and better methods of conveying mail.	Ordinance on Sweden Post's sole right to deliver letters ended from 1993.	
1993 Decisions on the Postal Services Act and Postal Services Ordinance.	To confirm by law the postal services to be provided to the public. To define the regulations governing postal operations.	Definition of basic postal services and regulations for postal operations in new Postal Services Act in force from March 1994. Price regulation (private letters). PTS given supervisory responsibility in the postal sector.	
1993 Decision to incorporate Sweden Post.	Limited-company form was deemed more appropriate for competitive operations.	Changed form of association for Sweden Post from March 1994.	The state-owned enterprise 'Posten AB' was formed.
1995			Posten bought 75% of the shares in CityMail. The company later went bankrupt.
1996			Guidelines issued by the Swedish Competition Authority reduced Posten's scope for price differentiation. CityMail recommenced operations with new owners.
1996 'First amendment' of the Postal Services Act.	To guarantee the postal service that Posten was providing de facto, and to exclude non-serious postal companies.	Definition of basic postal services extended in the Postal Services Act to cover newspapers and magazines as well. A licensing obligation for postal operations was imposed.	
1997			Passing of the EC Directive concerning common rules for the internal market for postal services. Number of licences for conducting postal operations rose from 12 to just over 100.

Key decisions	Motives	Instruments	Comments
1998 'Second amendment' to the Postal Services Act.	To adjust the Postal Services Act to trends of the postal market and the newly adopted EC Directive.	Basic postal services redefined in the Postal Services Act. New requirement that nationwide postal services should be based on costs. PTS given sector responsibility in the postal sector and entitled to issue licensing terms and conditions.	
1999 'Third amendment' to the Postal Services Act.	To create competitive neutrality and afford better joint use of postal infrastructure.	Rules in the Postal Services Act on management of the system of postal codes and rules on access to facilities for mail submission.	
2001 Special law on basic postal counter service.	Unclear connection between postal operations and counter service.	Issues relating to counter service separated from the Postal Services Act and regulated in the Basic Counter Service Act, which came into force in 2002.	
2003			Posten's market share 93%. Postal companies with licences numbered some 35.

State dominance of the market through Posten AB

Today, Posten is massively predominant in the Swedish postal market, both in the overall market and in the most competitive submarket, mail. In view of the aim of liberalization that competition in the postal sector should increase, our view is that the market situation may be regarded as a failure on the part of the regulator, i.e. the central government.

As for state ownership influence over Posten, it may be stated initially that there is an inherent conflict of aims between, on the one hand, the Government's ambition to bring about greater competition in the postal market and, on the other, the objective that Posten should be subject to business conditions and yield a market return for the owner. Given Posten's dominant position in the market, it may be advisable to review the need and scope for clarifying which price-setting strategy the company should pursue, i.e. whether the company should aim for profit maximisation or set average prices.

How, and how far, the Government — owing to its ownership influence on the company — is responsible for Posten's conduct in

the postal market should be discussed. In several different contexts during the liberalisation process, the Government has emphasised the need to impose the same conditions and requirements on Posten's operations as on private operators'. Nonetheless, the Swedish Competition Authority's many decisions concerning Posten's abuse of its dominant position prompts questions about the owner's control of the company.

We share the view of PTS that representatives of the owner, the state, appear to have been relatively passive during the period since liberalisation, in the light of Posten's fairly extensive competition-restricting activities. This applies, for example, to the owner's control and management of the issue of competitors' access to Posten's infrastructure. Could and should not the Government, in its day-to-day administration as owner, have stepped in to facilitate agreements with other operators, for example by imposing special requirements of access to post boxes, in the initial agreements between the state and Posten? A survey of the decision-making process entailed by liberalisation of the postal market has shown that the state's various agreements with the company have clarified one matter only. This matter is the company's obligation to 'consult' with other stakeholders about the postal-code system, and to provide information about planned changes in this system.

The Government has emphasised the importance of the SOEs setting a good example in various respects (in terms of gender equality, diversity and employer policy, for instance). Similarly, it may be said that the Government should also have been able to be more active in ensuring that Posten served as a good example in terms of not abusing its dominant position on the market.

Access to Posten's infrastructure not competitively neutral

The overall conclusion drawn by PTS is that regulation of access to Posten's postal infrastructure has, in the main, worked as intended and that this regulation has been a key precondition for the

emergence of competition.⁷ At the same time, however, this agency regards it as a shortcoming that redirection of mail is not covered by the rules of the Postal Services Act concerning access to postal infrastructure on competitively neutral terms. Another issue to discuss in this context is connected with Posten's function of administering the postal-code system. PTS is of the view that as long as the system is administered in accordance with its purpose of permitting efficient sorting and conveyance, and as long as it takes place in a competitively neutral way, there are no solid objections to its current regulation.

Irrespective of the PTS assessments, the fact remains that Posten is the dominant operator in the postal market and that effective competition cannot be said to exist on the market. It is therefore debatable whether a transfer of postal infrastructure to an independent administrative agency or SOE would stimulate competition between Posten, on the one hand, and existing and potential competitors on the other. Nevertheless, the question that also must be posed is whether, in view of the potential economies of scale in postal-service provision, it is at all possible for a new postal company to establish operations throughout the country in parallel and in competition with Posten's operations. Perhaps it is more realistic to try, at first, to provide the preconditions for newcomers' market entry and more competition in parts of Posten's activities. This is already taking place today, to some extent, through CityMail's geographical and product concentration and through the small postal operators' local activities.

Extending access to Posten's various production stages and infrastructure makes it possible to bring about increased competition without stimulating the kind of market entry that entails overall reduced efficiency in postal service provision. The preconditions for greater regulation of access to various parts of Posten's production stages should be studied in more detail.

⁷ Swedish National Post and Telecom Agency, 'Nine Years of Postal Legislation — An Evaluation' (*Nio år med postlagstiftningen – en utvärdering*, PTS-ER-2003:7).

Regulations still inadequate

Regarding the regulatory framework in the postal sector in general, the Postal Services Act of 1994 may be said not to have contained any regulations that promoted competition in the postal market. Our survey shows that the need and scope for special regulations to promote competition were not dealt with in detail in the preparatory work for the Act. This may be compared with the Telecommunications Act, which came into force the year before, in which effective competition was seen as a means of attaining telecoms-policy objectives. Retrospectively, the PTS view is that the legislation associated with liberalisation appears to have been inadequate in terms of generating favourable circumstances for competition. We share this assessment.

Regarding the question of whether there should be any regulations on competitors' access to Posten's post boxes etc, the then Government emphasised in its preparatory work for the Postal Services Act that it wishes to await practical developments before reaching a final decision. It is easy to criticise the Government in retrospect for not realising the need to regulate access to at least parts of Posten's infrastructure right from the start, when the Postal Services Act came into force. Nonetheless, it may be slightly naïve to believe that voluntary agreements are feasible in a situation in which strength is so unevenly balanced as it was to be in the postal market.

In order to prevent non-serious companies from entering the postal market, regulations imposing a licensing obligation for the conveyance of post were introduced in 1997. This obligation may pose entry problems in a market. The regulations and their application by PTS in its review work are, however, considered fairly 'generous' and thereby cannot be said to constitute an actual barrier to market entry. Moreover, the annual charges for conduct of postal operations are regarded as being low. PTS's view is that introducing the licensing obligation has facilitated its supervision since, through its preview, it can deter non-serious companies' attempts to enter the postal market.

Limited competitive supervision in the postal sector

Regarding the Swedish Competition Authority's action in the postal sector, PTS has pointed out that the agency's focus on the postal market in the initial period following liberalisation was restricted, and that its management of complaints against Posten in this initial phase seems to have been characterised by a degree of restraint and tolerance. Given Posten's entirely dominant position on the market and the limited competitive pressure that existed after liberalisation, PTS's view is that the market should, instead, have attracted particular attention.

PTS has an unclear and restricted role in promoting competition in the postal sector. Although PTS has (since 1997) been the body responsible for the postal sector, the agency has no defined task of promoting competition. Nor has it any specific authority to promote competition actively, alongside the negotiating role it has regarding access to postal infrastructure. There is a risk of this reducing its scope for taking steps, on its own initiative, to promote competition. In the light of this situation, there may be thought to be reason for considering the option of giving PTS a more explicit competition-promoting role in the postal sector, like that of its counterpart in the telecoms sector.

It may also be advisable to identify and study the need for further sector-specific regulations in the postal sector designed to promote competition. One conceivable example of a sector-specific rule for competition-promoting purposes is the demand for separate accounting of costs and income in various lines of business by postal companies with a dominant position on the market. This kind of requirement enhances transparency and may thereby make it easier to assess whether any cross-subsidisation and underpricing are taking place. In this context, it may be mentioned that PTS has indicated that further investigation is needed to answer the question of whether Posten's letter and parcel services are fully compliant with the requirement of the Postal Services Act that a provider of nationwide postal services must perform these services at prices that are based on costs.

Incorporation of Sweden Post

Whether incorporating Sweden Post was necessary to bring about better management of operations is debatable. The fact that, even after liberalisation, Posten had social commitments of various kinds and that the basic counter service received major grants is, as such, an argument against the corporate form of enterprise. It is questionable how far Sweden Post actually fulfilled the ‘incorporation criteria’⁸ defined by the Government, which were to be fulfilled for a business activity to be considered suitable for incorporation. Even a simple analysis makes it evident that two criteria — that operations should be subject to effective competition and not primarily geared towards political functions — were not fulfilled at the time of Sweden Post’s incorporation.

Regarding the issue of Posten’s management, both internal and on the part of the owner, it by no means goes without saying that simply incorporating the operations will make them more efficient. The form of association as such appears to be a less significant determinant of effective management than the owner’s and management’s knowledge of, and commitment to, the regulated company and the market concerned. Nor, similarly, is it self-evident that Sweden Post had to be incorporated to permit the desired postal services to be sustained. Moreover, the incorporation as such can hardly be deemed to have resulted in any demonstrable improvements with respect to the postal sector, compared with how an alert SOE could have been expected to act.

Nevertheless, the ambition of bringing about competition on equal terms in the postal market is a factor in favour of incorporation. The Government had hopes that liberalisation would boost competition on certain submarkets, at least, and that Posten would thereby become able to act on equal terms. At the same time, the company’s social commitments and the fact that it was receiving grants for its counter service meant that the competitive situation it faced diverged from that of its competitors from the start. Moreover, there may be said to something contradictory about the fact that the Government

⁸ Financial plan for the Budget Bill of 1993 (Govt. Bill. 1992/93:100, Appendix 1).

incorporated Posten to bring about competition on equal terms, while the company was expected to be the dominant operator in the postal market in the future as well.

Have the aims of liberalisation been attained?

The motive for liberalising the postal market was to boost competition. This, in turn, was expected to yield lower costs and incentives for new and better methods of conveying post, for consumers' benefit.

Although Posten retains to this day a highly dominant position in the postal market, competition has nonetheless emerged on at least some submarkets. There are around 35 operators at present, although most are very small and operate only locally. At the same time, the current situation of an overall share of some 93% for Posten may hardly be described as being in line with expectations of 'increased competition' in the postal sector.

Prices of postal products have variously risen and fallen since liberalisation. For the product group of individual letters prices have, however, risen sharply in relation to the CPI and more rapidly than those for other product groups. For various categories of sorted mail, increases have been considerably lower and in some cases prices have even fallen in real terms. The major gain in terms of prices is, however, that the price structure has been broadly adjusted to bring prices of various products more into line with costs. In this sense, the postal market has become more efficient. Another general conclusion that may be drawn is that the prices of products for which Posten lacks competitors have risen most.

Both actual and potential competition appears to have stimulated Posten, enhancing the efficiency of its activities. Posten's productivity has probably improved during the current period, although it is difficult to quantify the part played by deregulation in this. However, there has been substantial organisational development within the enterprise. Moreover, competition from CityMail may be said to have hastened the introduction of new methods, e.g. of delivering mail, with lower production costs as a result.

2.3 Telecoms

Through a series of legislative amendments, the telecoms market has successively developed from an unregulated monopoly under the aegis of the National Swedish Telecommunications Administration into its present-day regulated and increasingly competitive form. However, the past 20 years' development is very much also the outcome of technological advances, together with increased market internationalisation. Historically, telecoms services have mainly involved various forms of communication by means of telegrams, telex and voice telephony. In time, however, the market has come to comprise a broader spectrum of communications services of various kinds. What these have in common is that they are produced and provided by means of computer technology and electronic transmission.

The telecoms market is composed of a range of different submarkets. Besides Telia (Telia Sonera AB) and Tele 2 with, respectively, some 71 and 10% of revenues from end customers in the market, the *market for fixed-link (stationary) telephony* includes some 15 active operators. The latter are, however, very small and each has a market share of only 1–2%.

The *market for mobile telecoms services* contains five operators with their own network infrastructure. Three of these have a customer base and a turnover of substantial proportions. Telia is the largest, with 44% of the market in terms of revenues from end customers, followed by Tele 2 with 38%, while Vodafone has 15% of the market. Alongside the network operators, a number of small firms provide mobile services by leasing network capacity from the major companies. Although these small firms are relatively numerous, their operations are on a relatively small scale as yet.

In the *market for traffic in shared fixed and mobile networks* the rule is that all operators depend to varying degrees on using one another's networks, depending on where customers are and whom they want to communicate with. The market comprises traffic between fixed networks; between fixed and mobile networks; and between mobile

networks. It may be classified by type of traffic, call origin, intermediary services and call termination.

As for traffic to and from shared fixed networks, Telia is dominant owing to its control of the nationwide fixed-link telephony network. All preselected operators catering for private customers are therefore dependent on originating their customers' calls in Telia's network, and in most cases also terminating calls to recipients in Telia's network. Traffic to and among shared mobile networks is slightly more evenly distributed among the three major mobile operators that have their own networks. Telia's possession of an access network that reaches all established households has, on the other hand, meant that Telia has a de facto monopoly of fixed-link subscriptions, with substantial revenue advantages for the company.

To date, *the market for Internet services* has focused largely on various forms of Internet access. The original form consisted of dial-up modem access via an ordinary telephone subscription, but the market is gradually giving way to faster Internet connection through permanent broadband access. This is achieved by means, for example, of newly laid fibre-based networks or by using existing and upgraded cable TV networks. The market comprises a few large Internet Service Providers (ISPs) and about a hundred mainly very small ones. In terms of the number of active customers throughout the market for dial-up and fixed-link Internet access, Telia had a market share of 38% in 2003. Spray came second with 9%, followed by Glocalnet with 8%. The other companies' market shares were below 5%.

On the market for fixed-link Internet access in the same year, Telia had 42%, Bredbandsbolaget 14%, Comhem 11%, Bostream 9% and UPC 7%. Market shares for the other companies were below 5%.

The liberalisation process

Key decisions	Motives	Instruments	Comments
<p>1988 Decision on telecoms policy</p>	<p>To create a suitable telecoms system that helps to bring about efficient resource use in society.</p>	<p>The market was controlled by the National Swedish Telecommunications Administration and the Telecommunications Ordinance. The Administration provided telephone service throughout Sweden. The national telecommunications council took over certain official functions. The connection monopoly was gradually phased out.</p>	
<p>1992 Telecommunications Act and Radio Communication Act. 1993–2000 Successive overviews and legislative amendments</p>	<p>Effective competition is a means of attaining the objectives of telecoms policy. The market is being opened to competition on equal terms.</p>	<p>Market-entry regulations and licensing conditions for dominant operators. Incorporation of the National Swedish Telecommunications Administration into Telia AB, which was at first wholly state-owned. PTS took over all official functions.</p>	<p>In 1991–94, Telia had more than 90% of the market but new operators had entered the market. Competition existed mainly in international traffic and for companies. Tariffs were reset. 1996 Telia remained dominant but some competition for mobile telephony began to emerge, with consequent price reductions. The Internet market had grown substantially.</p>
<p>1996 Major overview of the Telecommunications Act, with amendments from 1 July 1997.</p>	<p>Increased competitive neutrality among operators. Increased competition in the mobile market. Adjustment in preparation for liberalisation of the EU telecoms market.</p>	<p>Tighter market-entry regulations and scope for PTS to intervene against market operators. A range of reforms on e.g. the right to choose service provider, number portability and national roaming were implemented successively.</p>	<p>1997–98 Telia continued to be the dominant network owner and almost the only competition was from operators with their own networks. The mobile market was growing but prices were stable. There was incipient competition for fixed-link telephony and new niche operators, e.g. IP telephony, began to appear. 1999–2000 Telia was still dominant, with 99% of the market for subscriptions and local calls. The 1999 reform enabling people to choose service providers had, however, been influential and boosted the number of fixed-link telephony operators. By June 2002, a third of private customers had chosen operators other than Telia.</p>

Key decisions	Motives	Instruments	Comments
Since 1995 Decision on IT policy.	An overall strategy for efficient competition and network extension in response to the market, to enable Sweden to lead the way in becoming an information society for all.		2001 National base networks were owned by Banverket, Teracom, Svenska Kraftnät and other bodies, but only Telia's network reach all the municipalities. Telia now has more than 50% of the broadband market ('broadband' here refers to fixed, high-capacity optical fibre networks). Sixty per cent of the population has access to the Internet and broadband penetration is roughly 13%.
2004 Electronic Communication Act	Coherent legislation and convergence throughout the whole sector for electronic communication, according to the ECDirective.	Joint regulations for tele-communications, IT, media and broadcasting. PTS defines relevant markets and dominant companies are subject to special conditions to promote competitive neutrality.	

Liberalisation of the telecoms market through successive regulation and increasing control

The telecoms market has been steered towards liberalisation and increased competition mainly through successive regulation of operators' behaviour by the Government. This growing competition is also, however, very much a result of technical development and increased internationalisation. Successive regulatory amendments have therefore often been a reaction to the fact that changes in the surrounding world have brought about modified circumstances and new opportunities on the market. However, since the regulatory framework has imposed stricter requirements on dominant operators than on others, small and newly established operators have been able to hold their own, survive and become stronger. With a regulatory and supervisory agency possessing relatively ample resources, successively expanding authority and a remit to intervene in market operators' mutual relationships, this has clearly helped to generate sufficient confidence among new operators for them to take the risk of entering the market and challenging dominant market operators.

Development curbed by delay in some reforms...

Criticism can also be levelled at the relatively slow rate at which certain reforms have been implemented. For example, the delay in introducing stricter requirements concerning entry into the access network until the EC Regulation on Local Loop Unbundling (LLUB) in 2001 probably enabled Telia to strengthen its position in relation to its competitors, both in the traditional telecoms market and in new markets such as those for broadband access and services. Moreover, Telia was allowed to keep its de facto monopoly of household subscriptions until February 2005, when PTS obliged Telia to provide a wholesale product for telephone subscriptions in the fixed network.

... but other reforms highly progressive

However, the tightening-up of the Telecommunications Act in 1997 gave PTS a remit not only to mediate in joint-traffic negotiations but also to decide on terms for concluding negotiations and signing agreements on traffic in shared networks. This reform represented a major advance for liberalisation of the telecoms market.

The measure that, in addition, has probably meant most for opening competition on the fixed-link telephony market is 'carrier preselection' (CPS), a reform that was fully implemented in 2002. This meant that for the first time, telephone customers were offered the facility of choosing which operator to select in advance (and sign a contract with) for their telephone calls, without having to dial a routing prefix. The result is that today, for corporate and household customers alike, there are a range of alternative telephony operators to choose from. To date, household customers and SMEs have had to be subscribers of and pay a fixed subscription charge to Telia. Competition in the fixed-link telephony market may therefore hardly be said to be particularly stiff.

Prices still high but trends going in the right direction

Through regulation of a dominant operator's scope for making use of its dominance, combined with active supervision by the regulatory

authority, a steady reduction in Telia's charges on traffic in the shared fixed-link network has proved attainable. However, in the mobile-telephony market — where, owing to previous legislation, only Telia's conduct has been regulated to date — charges on traffic in shared networks remain relatively low. As a result there is, for example, a risk of end customers being charged unnecessarily high prices, and of restricted use of mobile-telephony services.

Nevertheless, on the mobile market there are several alternative operators for the customers to choose from, and although, here too, Telia is in a strong position its dominance is less pronounced. Tele 2 and Vodafone also have substantial market shares, and the new Universal Mobile Telephony System (UMTS) or third-generation (3G) technology has prompted a new network operator to enter the market. Although certain bottlenecks and deadlock effects in the mobile networks mean that competition cannot be said to be fully functional, there are signs that the market is developing. Accordingly, Sweden's new EC-based Electronic Communication Act affords better scope for the regulatory agency's intervention to combat imbalances on the market.

Aims of redistributive policy on a commercial market a potential risk to development

One key factor that restricts the scope for newcomers to enter the mobile market is the restricted supply of radio frequencies. Given that there are no means of releasing new frequency bandwidth for new operators, efficient allocation of existing frequency bandwidth is therefore required. Nevertheless, PTS has found that the statutory public invitation procedure whereby frequency permits are assigned works only in situations where there is keen commercial interest in a service, and where the applicant companies themselves can define the conditions they are prepared to fulfil to obtain a permit. Ambitions of redistributive policy combined with the allocation of frequency permits also pose a risk to market openness. High, cost-push demands for area coverage may impede or destroy a commercial operator's prospects of entering the market and conducting business profitably. If the aim is for everyone in Sweden to be able to use the new network, it may be advisable to consider

how far the kind of expansion that cannot be accommodated in normal business operations must be procured instead.

One goal of IT policy is that households and companies throughout Sweden should have access to IT infrastructure with a high transmission capacity ('broadband'). However, access to broadband varies from one part of the country to another, and northern Central Sweden is the region with the lowest proportion of towns with area networks. There, roughly half of the urban areas have their own networks, against the nationwide average of 65%. Despite extensive subsidies for the municipalities' extensions of broadband networks, only just under a third of Sweden's households can currently get connected to some form of broadband. However, this represents an annual rise of some 20%.

Was it right not to separate infrastructure?

In contrast to several of the other markets we investigate in this report, no separation of infrastructure from services has taken place in the telecoms market. The objections that may be raised against this and the criticism it prompted, especially at first, may be said to have been blunted by the development that has taken place subsequently. Despite the economies of scale and coordination still available from telecoms networks like Telia's copper network, competitors have found it both feasible and worthwhile to lay new fibre-based networks. Besides the fact that this has somewhat reduced the original overall imbalance on the telecoms market, it has helped to bring about desirable product development and modernisation on the market. Accordingly, a special market and competition for network capacity have also, to some extent, emerged.

Retention of vertical integration of the infrastructure has, moreover, forced Telia to accept a range of regulations and requirements, and a power and market position that is eroded in some respects, which would not have been called for if the telecoms network had been separated from the company. This fact has in due course, through the asymmetric structure of the legislation, also come to apply to other operators who have attained dominant market positions. In many respects, these measures have thus had a favourable impact.

Considerable development but telecoms market still dominated by Telia

Since liberalisation began just over a decade ago, the telecoms market has developed considerably, although some critics would presumably describe this development as unnecessarily slow. Compared with other markets analysed here, however, the development of the telecoms market must be described as having been both rapid and correctly oriented. The explanation may be sought both in the rapid technological development of the telecoms sector, on the one hand, and in vigorous regulation and the regulatory agency on the other. Although the regulation may periodically have been weak or inadequate, it has often been possible for the agency's initiative in proposing reforms and its active market intervention to compensate.

The development of the telecoms market may, however, be said to be still limited by Telia's dominance in the nationwide fixed-link telephony network. This dominance in terms of the network may, in turn, impede development of fixed voice services, broadband penetration and associated development of broadband services.

Have the aims of liberalisation been attained?

The aims of liberalisation of the telecoms sector are clearly and unequivocally expressed. In order to attain the aims of telecoms policy in terms of effective telecommunications for all with a multifaceted product range and low prices, efficient competition must be created. The consumers must be given as much freedom of choice as possible in their use of telecoms services. The state should therefore ensure that a dominant market position is not abused. The telecoms market has also been slowly but steadily liberalised through regulation and control, resulting in gradually falling prices and customised product development.

New entrants and growing competition in parts of the market have successively reduced Telia's dominance. Moreover, the fact that the telecoms network has not, as in many other sectors, been separated from Telia has yielded some competition for, and technological

development of, network capacity. However, Telia's dominance due to its nationwide fixed-link telephony network represents a risk of slowed market development.

Ambitions of redistributive policy in the telecoms sector are expected to be attained within the framework of effective competition. The extension of telecommunications throughout Sweden should take place in response to the market and on market terms. Accordingly, profitability assessments in business economics may come into conflict with society's demands for accessibility and area coverage in areas where commercial conditions are lacking. There is a risk that sweeping requirements of this kind have inhibited market entry and market development. To the extent that measures of redistributive policy cannot be realised within the scope of normal business operations, it may therefore be advisable to apply special measures.

Effective competition has also been pinpointed as a means of attaining the objective of IT policy that Sweden should lead the world in becoming 'an information society for all'. The extension of the physical infrastructure was to take place on market terms, but increased accessibility of the IT society's services was to be driven by the use of various forms of government support and grants. However, this objective has not been fulfilled. Substantial sums have been paid in the form of both private and public spending, but a comprehensive nationwide network that affords access by going the last mile to the actual buildings is still lacking. Far from everyone has access to IT infrastructure with a high transmission capacity. Unless there is better coordination, whether there can be a comprehensive network that reaches every municipality in the country is uncertain.

2.4 Domestic aviation

Two-stage liberalisation of the Swedish domestic aviation market took place in 1992. From 1 January that year, SAS and Linjeflyg were to compete, while other companies could ply routes not used by SAS or Linjeflyg. In the second stage, these two companies' preferential rights were abolished, making it possible for other

Swedish companies to compete on all lines. Despite this change market concentration remains strong, although it has decreased slightly over the last few years.

Companies like Transwede, Malmö Aviation, Skyways and Braathens have attempted to compete with SAS in domestic aviation. However, they have found it difficult to compete effectively with such a dominant operator as SAS. Since liberalisation, SAS's market share has been 65–95%.

In recent years several airlines have begun to ply domestic routes, intensifying the competition. Some of them are low-price ('no-frills') carriers. At the beginning of 2003 there were some 13 airlines that conducted domestic operations on some 70 routes. Most of these companies are small in the domestic aviation market compared with SAS. On about ten domestic routes, competition between various airlines exists.

The liberalisation process

Key decisions	Motives	Instruments	Comments
<p>1990 Decision on competition between SAS and Linjeflyg (partial liberalisation) with effect from 1 January 1992.</p>	<p>Rationalisation gains benefiting consumers and the industry. Owing to capacity problems at Arlanda International Airport, liberalisation was only partial.</p>	<p>SAS and Linjeflyg were to be competitors. Other companies were allowed to operate on the routes where SAS and Linjeflyg had no operations. SAS's and Linjeflyg's commitments concerning flights to and from Norrland were to persist, and there were no changes in the system of slot distribution. Price regulation with the 'highest normal price' persisted. The Swedish Civil Aviation Administration (the Swedish CAA) was charged with drawing up future regulations for a deregulated market.</p>	<p>In February 1992, i.e. immediately after the partial liberalisation, SAS purchased a bankrupt Linjeflyg. Competition among the companies ceases.</p>
<p>1991 Decision to liberalise the Swedish domestic market from 1 July 1992. Agreement between the EC, Norway and Iceland that the EC regulations should apply.</p>	<p>Free competition was striven for on all routes, except those where this was not deemed possible for reasons of regional policy. Liberalisation was to be speeded up to bring market trends into line with those of the EC.</p>	<p>Preferential rights for SAS and Linjeflyg were abolished. The secondary network was opened to all operators, except on lines where a general transport obligation was introduced. EC regulations for market entry, slot distribution, etc were to be applied as far as possible. Free pricing was introduced. Swedish legislation was harmonised with that of the EC in the aviation sector. Work to develop a new structure for airports was to continue.</p>	

Key decisions	Motives	Instruments	Comments
1992 Decision on the EU's 'third package' for aviation, which began to apply in Sweden in August 1993.	The aviation market was to be part of the open, competitive single market. Council Regulation (EEC) No. 95/93 stated that: 'these objectives require strong support for carriers who intend to start operations on intra-Community routes'.	Access to the aviation market was regulated. The basic requirement is that all companies should be treated the same (however, foreign companies could be prevented from engaging in domestic traffic). Member states were given some scope for affecting the airlines' pricing, to combat strong operators' abuse of their position. If the Swedish CAA permitted compulsory data submission from companies in order to assess pricing, it could annul excessive 'basic prices' and also stop price falls. Allocation of slots was regulated: henceforth it would take place with all operators' full access to information, but the system of 'grandfather rights' remained.	Competition arose on some routes. New companies entered the market. Several of these rapidly succumbed to competition or were bought up by SAS. Some of the Swedish CAA's means of intervening to influence pricing have never been reviewed.
1997 Restriction of foreign companies' right to provide domestic transport services in the EU ended under the EU's third package for aviation.	To increase competition in the single market for aviation by extending it to the domestic markets of the countries concerned.	Removal of the option of exemption when it comes to preventing companies in the EU/EEA from competing on other countries' domestic markets.	
2003 Decision to divide the Swedish CAA into two agencies with effect from 1 January 2005.	To avoid conflict between the two roles of official authority and producer; strengthen political control; respond to developments outside Sweden; and adjust to the other EU countries' organisation.	Separation of official functions and exercise of official authority, without revenues, from producing functions with revenues and subject to competition from other operators.	

Market competition still limited

Since liberalisation of domestic aviation was implemented, competition has been limited. However, it has now increased and this is also reflected in prices, which until 2002 rose more than the overall price level: from 2003, this trend came to an end.

We can pinpoint some factors with a bearing on competition. At the time of liberalisation, SAS had a monopoly in domestic aviation. In this situation, it is difficult for new companies to get established in the market, since they are unable to benefit from the gains from network use and economies of scale afforded by the aviation industry. At the same time, they may have problems securing attractive take-off and landing slots. It is therefore particularly important that market entry should be feasible on terms that are competitively neutral, and that a dominant operator should not abuse its position. The fact that a partially state-owned operator has such a dominant position imposes particularly heavy requirements both on the regulatory framework and on official supervision of the company concerned by public authorities, to eliminate any suspicions of the company being favoured in relation to its competitors. As on several of the markets studied, the biggest operator is a former monopolist and wholly or partially owned by the state. In its capacity as owner of SAS, the state must act on the basis of what is best for SAS. However, this may come into conflict with decisions taken by the authorities that monitor the competitive situation. In one case, SAS has also had to reduce its bonus programme following a decision in the Market Court.

To improve competition on routes plied by several companies, slot allocation may need to be reviewed. There are various models for how this can be done, although the advantages and disadvantages of these models need clarifying.

Have the aims of liberalisation been attained?

The purpose of the liberalisation of domestic aviation that took place on 1 July 1992 was to increase competition and thereby bring about a reduction in ticket prices. The Government's aim was for free competition to prevail on all routes, except possibly those where this was deemed to be ruled out for reasons of regional policy.

Domestic airfares have risen markedly faster than the general price level since 1992. Unless the costs of aviation operations have risen in the same way as fares, the above-mentioned aim has not been attained.

As stated above, some — if limited — competition has arisen in domestic aviation. Nonetheless, the dominant operator SAS's competitors have very often found market entry difficult. Continued state monitoring is therefore needed to ensure that the trend is towards further strengthened competition.

For liberalisation, competition was announced as the means to be adopted, with exceptions if traffic was justified in terms of regional policy. There does not appear to have been any discussion concerning the routes that are profitable for a company but that cannot withstand a competitor. Here, there should be consideration of whether any special measures need to be taken.

2.5 Railways

The rail market can be divided into two submarkets, for passenger and goods transport respectively. These are completely different with respect to service content and demand patterns. The submarket for passenger transport exists mainly within Sweden's borders and is largely, in terms of the number of people travelling, local or regional in nature. Most rail-transport services, in terms of the number of passenger kilometres, are in long-distance transport; but in terms of the number of journeys, short-distance travel within and between towns and regions is predominant.

In *goods transport*, rail has a uniquely high market share of Swedish domestic goods transport compared with other European countries. Cross-border transport is, on the other hand, a stagnating market as far as the railways are concerned. There is, however, great potential for increased cross-border transport: using this potential is one aim of, for example, the railway reforms initiated by the EU. Although the domestic goods market is, basically, entirely open to companies domiciled in Sweden, Green Cargo AB (formerly SJ Gods) still accounts for the overwhelming share of the market. Besides the ore transport conducted by LKAB under its own aegis through its subsidiary MTAB, only a few minor goods companies operate in direct competition with Green Cargo. The other rail freight companies in the market are mainly engaged in supplementary

activities in the form of feeder transport services or as subcontractors to Green Cargo.

In the *passenger transport market* there are, besides SJ AB, some ten operators. SJ AB has exclusive rights, i.e. a legal monopoly on all passenger transport throughout Sweden. The local public transport authorities (PTAs), in turn, are entitled to operate transport services within their respective counties and can, under certain conditions, apply for transport rights in adjacent counties as well. The transport SJ is unable to provide with commercial profitability can, under certain conditions, be purchased in competition by the bodies responsible for transport in the various counties, and by Rikstrafiken (the National Public Transport Agency) if it is a matter of transport across county borders. The contractor is selected by means of competitive bidding and a contract is signed for specific transport services over a defined period. The competition that exists in the market for passenger transport thus relates only to traffic across county borders defined by SJ AB as unprofitable and the transport within counties organised by the PTAs.

Rail transport is characterised by the need for access not only to tracks but to a range of other functions common to the whole sector. These functions are both physical (industrial tracks, marshalling yards, goods terminals) and those connected with stations and stops for passenger transport. Owing to these comprehensive aspects, rail infrastructure has been organised in such a way that there is infrastructure separate from transport operations, administered and financed by the state through the National Rail Administration. However, it has not been entirely clear how the line should be drawn between what should be assigned to infrastructure, for which the Administration is responsible, and what should remain part of transport operations conducted by the state-owned enterprise SJ (the Swedish State Railways). Likewise, inadequate restructuring of ownership of support and input functions may be said to have entailed a persistent imbalance in the relative strength of operators in the market.

The liberalisation process

Key decisions	Motives	Instruments	Comments
1979 Reform of authority for transport.	Gradual transfer of responsibility for local transport to municipalities and county councils.	Setting up of public transport authorities (PTAs), responsible for local, county and regional public transport, to purchase transport services.	SJ was the sole contractor.
1985 New Rail Act.	To improve SJ's financial results.	Reduced central control by SJ.	
1988–90 Transport-policy resolution.	To safeguard the long-term survival of rail transport.	Division of rail operations into the state-owned enterprise SJ and the infrastructure administrator, the National Rail Administration.	PTAs' procurements resulted in reduced costs for transport services purchased, although SJ remained the only contractor. New local and regional rail routes.
1990 Growth Bill and Budget Bill of 1990/91.	Infrastructure as the driver of growth.	SJ as a comprehensive transport company.	
1991 Rail Safety Act.	Increased safety.	Permits required for all transport services.	BK tåg competed with SJ in the county of Småland.
1992 Unprofitable interregional transport services exposed to competition.	To cut costs and enhance efficiency.	Guidelines on procurement through competitive bidding for unprofitable interregional transport services.	Competition on four out of 12 routes, but SJ won them all. Found guilty of underpricing.
1994–95 First deregulation decision.	Increased efficiency in railway operation.	Decision on deregulation of rail transport from 1 January 1995. Riksdag resolution on deregulation postponed.	A-Train opened a new rail route in 1999.
1996 Second deregulation decision.	To develop goods transport and make it easier for PTAs to develop regional transport services.	Deregulation of goods transport. Traffic routing for the National Rail Administration, a PTA, given increased transport rights.	MTAB formed. Minor goods operators obtained transport rights as subcontractors to SJ. A few new rail routes were opened.
1997–98 Communications Committee; new resolution on transport policy.	To enhance the competitiveness of rail in relation to other modes of transport.	Capillary network for the National Rail Administration. Deregulation of long-distance coach transport in 1999.	Increased number of routes by long-distance coach lowered prices.
1998–99		Rikstrafiken (National Public Transport Agency) and new directives on procurement.	Tågkompaniet and BSM Järnväg gained transport operations from SJ.
2000 Decision on changed form of operation for SJ.	To increase SJ's competitiveness.	Incorporation of SJ to form the wholly state-owned SJ AB and Green Cargo AB.	
2000–2004 EU railway package.	Vitalisation of European railways.	New comprehensive Rail Act. Increased scope for entry into goods market. Setting-up of the Swedish Rail Agency.	

Management of state-owned rail enterprises

Despite the hiving-off of responsibility for and financing of infrastructure from unprofitable traffic over a long period SJ, the SOE, SJ has had profitability problems to wrestle with. These problems have persisted even after the incorporation of passenger and goods transport in SJ AB and Green Cargo AB.

Despite comprehensive restructuring of activities in SJ, with major staff cutbacks as one result, the company is still showing a loss. At year-end 2002, SJ faced the prospect of liquidation following depletion of more than half its equity. The financial problems were, according to the Government Bill connected with the company's reconstruction, due mainly to loss-making contracts and valuation of rolling stock, inefficient operation and inadequate maintenance of rolling stock. Only through a substantial contribution of capital from the state during 2003 was it possible to save the company from bankruptcy.

Activities in Green Cargo, the goods-transport enterprise, recently received attention in a Government Bill. The Government stated that, despite large-scale efforts to promote efficiency and rationalisation, these operations are still showing a loss. The Government therefore sought the Riksdag's approval to either provide a state capital contribution or sell all or a portion of the shares in Green Cargo, after detailed review and restructuring of the company. The Riksdag has since resolved in accordance with the Bill.

The explanation for the recurrent management problems in the state rail enterprises may be sought in the presence of imbalances and lack of authority between SJ and its owner, the state. SJ's information advantage in terms of operations and economic conditions means that the state has difficulty in obtaining sufficient information to make independent decisions on how activities should be conducted. Again and again, the state has urged SJ to focus on its core activity and phase out peripheral operations that make no positive contribution to the transport business, without any change in a positive direction being achieved.

The risk is that with a formal but, essentially, unregulated monopoly — where, besides the requirement of financial return for the owner, no requirements concerning scale or levels of service and price are specified — neither consumers nor the public in general may benefit from the gains derived from the monopoly. Since SJ is, in principle, alone in determining which transport services are commercially viable and should therefore be provided with the aid of the legal sole right, SJ also in practice greatly influences the scale of traffic supported and purchased by society.

If the formal monopoly is to be retained, it must be accompanied by a clarification of its implications, in terms of both obligations and rights for its owners. If the monopoly is, instead, abolished and SJ given the same status as other companies in the market, the state as owner should clarify the objective of state ownership and define in detail its requirements and expectations concerning the company.

Market entry is risky

The nature of SJ's transport monopoly, as such, gives rise to 'political risk' and creates uncertain conditions for SJ's competitors. SJ has the sole right to operate on the passenger-transport routes on the mainline network that it deems commercially profitable. If SJ opts not to operate, the state — through Rikstrafiken or the PTAs collectively — may choose, instead, to outsource transport services. This took place, for example, on the West Coast line (*Väst kustbanan*), when a private company was engaged. When SJ, less than a year later, announced that it now intended to recommence its services, it changed 'overnight' the private company's capacity to conduct its operations in the long term. In this situation, the company opted to wind up its operations. As long as exclusive rights are constructed in this way, there is nothing to stop a similar situation arising again. (SJ has since announced that it has decided to discontinue its subsidiary, Linx, which is running the transport services in question.)

SJ's sole right also affords a special status for the company in the market for contracting transport operations. On several occasions, complaints have been filed that SJ has contravened the prohibitions

in the Competition Act. On one occasion, in Stockholm City Court, SJ was found guilty of abusing its dominant position through underpricing and incurred a charge for damaging competition. Since then, however, despite several new complaints, the Swedish Competition Authority has not found reason to examine any more cases. Without an economic and organisational difference between contracting transport operations that are protected by monopoly and those that face competition, there is nothing to stop SJ from using its scope to place a lower bid in procurements, thereby distorting competition on the contracting market.

Another example of the political risk that, in relation to many other sectors, has played a part in creating uncertain conditions for entry into the railway market is the non-Socialist Government's resolution to deregulate rail transport in full, swiftly followed by the Social Democratic Government's resolution after its accession in 1994 not to implement this deregulation. It is hard to avoid the conclusion that rapid and unpredictable reversals of decisions exacerbate business risk in railway business and reduce potential railway operators' desire to enter the market. This is a matter of how urgent or unavoidable the changes may be in a democratic system affected by altered elector sympathies. The resolution to deregulate the railway market had also already been initiated when the decision was taken to make procurement of passenger-transport services on the mainline network competitive the year before. This development must therefore have seemed even more unexpected.

Inefficient investment and track use

Criticism of the administrative model of track allocation used to distribute track capacity has increased with the rising number of railway operators and parties in need of track access. In practice, the model means that the allocation takes place in negotiations between the National Rail Administration and the train operators, in a process slated by various operators for lacking scope for accessing information and predicting process outcome. For new operators, in particular, the model spells difficulties in obtaining access to attractive train locations.

Under newly adopted EC Directives, work is therefore under way to develop a transparent model of track allocation that assures all stakeholders of competitively neutral and non-discriminatory access to the tracks. It has been proposed that the model should be, as it is today, based on an economic cost-effectiveness assessment when the priority criteria to apply among different applicants are selected.

Decisions on railway investments should, according to the objectives of transport policy, have economic benefits as their starting point. Nevertheless, according to a report from the Swedish Institute for Transport and Communications Analysis (SIKA), investments of dubious or negative profitability are sometimes implemented while the more profitable projects are pushed into the background. Economic benefits have been questioned, by the National Rail Administration as well as the Swedish National Road and Transport Research Institute (VTI), in such projects as the North Bothnia line.

Nowadays, in the planning process that precedes decisions on investments in railway infrastructure, interests are coordinated at central, regional and local level alike, represented by the National Rail Administration and also the county administrative boards and municipalities concerned. Documentation concerning transport demand is based mainly on forecasts drawn up by the Administration and SIKA, as well as on the PTAs' plans for future investments. Accordingly, there is no close and binding connection with the companies providing goods and passenger transport that are to ply the tracks. To ensure profitability in investments, the interest in infrastructure investments that the parties concerned express in the course of the planning should be verified by means of some form of association or preliminary agreement between the state and, for example, PTAs and major freight operators in goods transport.

Investment decisions should thus be based on calculations of economic profitability. In order for an investment to be profitable, the revenues or benefits from transport must exceed the costs or sacrifices for the same. The costs in this kind of calculation consist both of costs of building and maintaining the tracks and of external (social) costs in the form, for example, of the costs of environmental degradation. The extent of these revenues is determined to a high

degree by the transport base, i.e. the number of people or quantity of goods for which the wish to use the tracks may arise. Accordingly, a robust connection between demand for transport and investments in tracks, irrespective of whether transport services are commercially profitable or not, would improve the scope for taking decisions about profitable track investments.

Division of costs between taxpayers and users unsustainable in the long term

The stated aim of transport policy is that the central or local government should provide satisfactory transport provision for all, at the lowest possible economic cost. To the extent that transport cannot be provided in a manner that is profitable in the business sense, it is organised, financed and procured by either the PTAs or Rikstrafiken. However, through the National Rail Administration, the state remains responsible for extending and operating infrastructure.

Over time, the Public Transport Agency has increasingly taken over the interregional transport services formerly provided, with profitability, by SJ; and the scale and costs of the rail transport financed by municipalities and county councils have risen. As the municipalities' financial situation has become ever more troublesome, however, it has become more difficult to fulfil previous transport commitments, let alone increase them in line with future needs and demand.

With the model currently applied for providing passenger rail transport on unprofitable routes, there is a growing need for tax financing since, despite rising demand, the services are not a paying proposition. Moreover, ongoing and completed extensions of railway infrastructure, both regional (the Mälars and Svealand lines) and interregional (the Bothnia and North Bothnia lines), call for additional tax financing of transport on these routes. Without careful study both of the transport services the central and local government should procure and of the mode of transport that best meets current public-transport needs, there is a danger of future costs soaring out of hand. It is therefore vital for this analysis and review to take place from a clearly defined perspective of economic benefits. The purpose

of the 1991 decision to procure the unprofitable mainline passenger transport services by means of competitive bidding with effect from the 1993 transport year was to boost efficiency and reduce costs of interregional transport. Simultaneously, procurement of rail transport on certain routes, in view of the costs in relation to regional-policy benefits, was questioned.

On the whole, the Public Transport Agency has procured the same rail transport, in the same configuration, as the previous procurement committee; and the PTAs have opted to an unexpectedly large extent to sustain the previous rail services instead of replacing them with the often less costly bus and coach services. This has happened although transport provision, according to the aims of transport policy, was intended to be feasible with whatever mode of transport might be selected.

Genuine desire to subject railways to competition?

Pushing the rail sector market towards a sound competitive market must be regarded as relatively tentative and lacking in real vigour. The very slow liberalisation process comprises almost as many steps to the side or backward as forward. Phasing out the goods monopoly took place over a prolonged period, and to this very day Green Cargo has been allowed to retain its preferential right to traffic that is already established. The company still exerts control over key functions of importance to the railways, such as certain workshops and major goods terminals. Only now, with the entry into force of the new EU-based Rail Act, has the goods market been set entirely free in Sweden.

Regarding passenger transport, SJ retains to this day its sole right to run commercially profitable services on the national state railways. The competition that exists in the passenger market thus relates only to the unprofitable services. Competition for this traffic originally stemmed from the transfer to municipalities and county councils of responsibility for running or closing down county services. Not until the 1991 resolution that came into effect from the 1993 transport year, whereby the unprofitable passenger transport on the mainline

network was to be procured through competitive bidding, was scope created for exposing this transport to competition as well.

One question that may be posed in the context is whether the Government and Riksdag genuinely intended to make rail transport an industry facing competition. The aims of liberalising the railway sector are expressed in terms of freedom of choice and competition. On the other hand, this need not necessarily be interpreted as meaning that freedom of choice and competition must exist in the sector. Other transport options, too, may serve as sufficiently good substitutes to give passengers and freight purchasers the opportunity of choosing who their carrier should be, and how they or their goods should be transported.

Division of cost responsibility not competitively neutral

Since the aim is a functioning competitive market, one key precondition is for all transport options to be treated in a competitively neutral way, and to encounter similar parameters of market entry and operation. One important aspect is the division of cost responsibility between operators of different transport modes, in the form of the taxes and charges they have to pay for their use of infrastructure. According to the transport-policy resolution, this uniformity should particularly apply to the portions of the transport market where substantial competition between various transport options may be found. Nevertheless, current figures from SIKÅ concerning rail, road and sea transport show that taxes and charges need to be raised to fulfil the marginal-cost principle. However, this applies most to rail transport, which basically pays only a third of its external costs, while sea and road transport meet 70% and 90% of theirs respectively. With the tax and charge structure that exists today, this also means that rail transport enjoys relatively major advantages at the expense of transport by sea and road.

Competitive requirements incidental and liberalisation far from complete

The single most important measures taken by the Government in the railway industry — measures that have helped to liberalise, and pave the way for competition in, the market — may be said to be the reform creating local (county and municipal) public transport authorities (the PTAs); the separation of infrastructure and transport services; and abolition of the formal monopoly in the goods market. Very recently, too, an independent regulatory agency has also been set up with the function of exercising market supervision. This measure probably has good prospects of helping to tighten up competition in the market.

However, the two first-mentioned measures may be described as prompted by financing and profitability considerations rather than a wish to introduce competition into the market. But the transfer of responsibility for transport to the PTAs meant that they were given the opportunity, but no obligation, to outsource transport services and, through competition, attempt to curb costs.

Separating infrastructure and its high fixed costs from transport operation also meant paving the way for market entry unimpeded by the natural monopoly in the infrastructure. From the competition point of view this must also be regarded as both a correct and a necessary measure. However, the dividing line between matters that could be assigned to infrastructure and other matters, too, was not entirely clear. Implementing the separation therefore took place in stages and over a long period. SJ long retained, for example, large portions of the capillary network and also the property stock that should naturally be part of the fixed infrastructure of the railway sector. Key functions like train planning and operative transport management, as well as ownership of railway stations and maintenance workshops, also long remained under the control of the transport enterprise.

Green Cargo, for instance, still controls entry into strategically important goods terminals, including land for developing new ones. The Railways Commission has also pointed out that the fact that SJ

has at its disposal most of the existing vehicles for passenger transport is curbing the development of an independent vehicle market. Based on a perspective of competitive neutrality, the separation may still not be said to have been fully implemented.

Development hampered by owner's protection attempts

One recurrent feature of the way the railway market is controlled is the Government's and Riksdag's measures to remedy the recurrent financial deficits and problems of SJ, the transport company. Although these have often involved substantial contributions from public finances in the form of direct capital contributions, or indirectly through various forms of reliefs on demands and obligations, they have not sufficed to prevent the problems from recurring to date. This owner's will to protect its enterprise has, moreover, often been exerted at the expense of considerations based more on transport policy. Despite good arguments for an abolition of the monopoly, SJ still — 15 years after liberalisation began — has a unilateral exclusive right to conduct the passenger-transport operations it finds profitable, combined with the right to discontinue (or resume) the operations it has defined as unprofitable.

New conditions

With the recently (1 July 2004) instituted Swedish Rail Agency this country's rail sector now, in accordance with EC directives, has a regulatory agency independent from both transport companies on the one hand and infrastructure providers on the other. This agency will take over part, but not all, of the National Rail Administration's official functions and exercise of official authority. The Agency's task is to engage in supervision of the rail, road, underground and tram systems, and to work for safety in these systems and an efficient railway market with sound competition. This supervision will thus, as before, comprise safety issues and matters of operating compatibility. But the sector-specific monitoring of competition is new: previously, this monitoring of the railway market took place solely through the agency of the Swedish Competition Authority. One question in this context is whether the agency, in relation to its

relatively extensive functions, has been given a sufficient remit and adequate resources. One finding of a follow-up study of Rikstrafiken's activities carried out by the Swedish Agency for Public Management is that an underdimensioning of the remit, resources and skills in relation to the sector the Agency was set up to influence means that it has little capacity to fulfil its intended purposes.

In any case, the setting-up of the Swedish Rail Agency represents a necessary and welcome consolidation of competition monitoring on the market. In view of the prevailing market model, in which only the unprofitable rail routes in passenger transport face competition while competition in goods transport remains dominated by a SOE, it is doubtful whether the railway market may be described as one of functioning competition. How far the new Agency alone, without other intervention or changes in the market, can help to bring about a more functional and efficient market is, on the other hand, doubtful. Further changes are required in the current market situation, such as abolition of SJ's formal transport monopoly and special measures to stimulate development of better-functioning competition in the market for goods transport.

Have the aims of liberalisation been attained?

The aims of liberalisation of the railway market have been formulated successively in conjunction with several government resolutions, and within the framework of step-by-step development towards a more open market. One interpretation of the objectives may be briefly summarised in the words 'efficient and attractive rail transport services and an increased share of railways in the overall transport system'; 'competition between transport providers and solutions for the same needs'; and 'increased efficiency and reduced costs of unprofitable transport services'. Despite this interpretation, it is evident from our survey of the liberalisation process that what the Government actually intended to achieve by liberalising the railway market is unclear. Was it to solve profitability problems in the rail sector, or to bring about improved customisation and technological development?

Regarding profitability problems in SOEs it has not, despite rising demand in passenger transport in particular, been possible to solve these problems in a lasting way. Technological development in the railway market has been criticised as being both slow and not cost-effective. Alongside the infrastructure, this issue is largely concentrated on railway vehicles. Besides the lack of standardisation on the vehicle side and a manufacturing industry still excessively governed by technology and the producers, the state has hampered the emergence of a functioning vehicle market by its conduct (e.g. grants for investments in vehicles and wide-body trains lacking secondhand value). The Railways Commission pinpoints, for example, financial arrangements (leasing agreements entered into by SJ) developed in recent years and the regional vehicle grant for the PTAs as such, which curb this development. However, liberalisation must be said to have paved the way for the future emergence of a functioning vehicle market, which in turn opens up opportunities for increased and more differentiated vehicle development.

As for the ambition of bringing about better coordination of public transport, much still remains to be done. There is still, for example, no overall, workable coordination of the transport range funded by the central and local government. The boundaries between the responsibilities of Rikstrafiken and the PTAs respectively are unclear. In many cases the former's function has, despite its responsibility for developing and coordinating transport, been reduced to financing the interregional part of the PTAs' arrangements. The comprehensive approach to transport expressed in the objectives of transport policy have not to any appreciable extent come to be reflected in the range of transport services subject to public control.

Regarding customisation, passengers in public transport may be said still to have limited influence both on procured transport services and on those provided by SJ with exclusive rights. In goods transport, there is widespread dissatisfaction among customers concerning, for example, the lack of rail companies they can approach.

Information about the range and content of travel services has become increasingly complex with the rising number of operators in

passenger transport. These operators offer a variety of travel services at different prices and on varying terms. The transaction costs of obtaining information on travel options on the market have therefore made themselves felt. This applies, in particular, given the fact that a train trip is often part of a more composite journey that requires more than one mode of transport to get from door to door. To reduce transaction costs and enhance accessibility throughout the transport system, passengers would need access to a more comprehensive system of passenger information, covering more modes of transport and the whole country, than is available today.

All in all, competition in the rail sector may be said to be rudimentary owing to monopolies in commercial passenger transport and dominance in goods transport. The attractiveness of rail transport is affected by the fact that prices for passengers have risen faster than the overall price trend, and on the goods side there is widespread dissatisfaction with the level of service and specific services offered by the rail companies. As a share of total passenger traffic, however, especially in the unprofitable portion of traffic, rail has shown a relatively rapid increase, very much because of large-scale investments in track extension in recent years. Goods transport by rail, on the other hand, accounts for a shrinking share of the total market for goods transport.

Moreover, the ambition of bringing about competition between transport operators and arrangements for the same needs may be said to be impeded, to some extent, by a lack of competitive neutrality between the various modes of transport. This is partly because, in terms of taxes and charges, rail travel is relatively favoured in comparison with road and sea transport. Where unprofitable traffic is concerned, the option of procuring transport services through competitive bidding has resulted, at least initially, in major cost savings.

2.6 Taxis

Taxi transport may be divided into three segments: publicly funded (subsidised), private and business services. *Subsidised taxi services*

comprise those for the elderly and disabled, patients and school pupils, and supplementary services, and their principals and financiers are county councils and municipalities. Subsidised services are purchased by the municipalities and county councils on a contracting market, while private and business services are provided on an open, competitive market. In 2003, the publicly funded services accounted for just over 50% of aggregate market turnover. However, this figure varies greatly from one part of Sweden to another. In the Stockholm area they are estimated at 15–20% of the market, while in sparsely populated areas the estimate is more than 90%.

Private transport services make up just under a quarter of total turnover throughout Sweden, while in Stockholm they account for just over half of the market. Business transport is an expanding market and is estimated at just over a fifth of the total. Business customers are concentrated mainly in metropolitan areas with a high density of businesses.

One typical feature of the taxi sector is that it is composed of many small companies, which distinguishes it from the other liberalised sectors studied in this report. One explanation of this is the relatively small investments required to establish a taxi business. In the period 1991–2003, the trend was towards a higher proportion of single-vehicle companies. More than 70% of existing firms at present have only one vehicle each, compared with 55% in 1991.

Taxi companies are often connected to booking centres for the purpose of coordinating certain operations. As a rule, the same prices are applied throughout the centre and, for example, similar uniforms and logotypes are used, with the result that it gives the impression of being a unit. Moreover, it is common for some administration, such as customer invoicing and marketing, to take place in the centres. The number of booking centres has been estimated at just over 350. In small and medium-sized towns, the taxi market is often dominated by a single booking centre, while in major cities like Stockholm, Gothenburg and Malmö there are some ten to more than 20 centres. In a 1998 report, the proportion of taxi companies connected with a booking centre was estimated at just over 70%.

Before liberalisation, the centres were often run by incorporated associations owned by the carriers. Nowadays, most of the centres have been converted into limited companies with the carriers as partners. Some county councils and municipalities also run their own special centres to coordinate publicly funded travel. In addition there are also companies whose mission and operations consist solely of booking centres that sell their services to taxi companies and also municipalities and county councils.

Before the liberalisation of the Swedish taxi market in 1990, taxi services were regulated in detail in legislation on commercial transport. In brief, liberalisation meant the abolition of supply and price regulation, traffic areas and command plans. In contrast to the previous situation, all taxi owners were now entitled to set their own prices, decide how many vehicles to keep on the road and determine when they would be driven. The requirement of belonging to a booking centre was also lifted. In conjunction with the liberalisation, even stricter requirements regarding taxi owners' suitability were imposed and regulations on taximeters and price information introduced

To conduct taxi operations, as previously, a person needs a special transport licence issued by the county administrative board. It is these boards, too, that exert supervision of licence holders to ensure that they comply with current regulations. Transport licences are given only to those who, with respect to proficiency, financial circumstances and reputation, are deemed suitable to conduct the business. Besides transport licences, taxi drivers need special ID cards to drive vehicles in taxi transport. To obtain such a card — and thereby the right to drive a taxi — a person must meet certain requirements. The driver must be at least 21 years old and have had a driving licence for at least two years; and with respect to professional competence also be deemed suitable — proficient and law-abiding enough — to work as a driver in taxi transport.

The liberalisation process

Key decisions	Motives	Instruments	Comments
1986 Simplification of the legislation governing commercial goods transport and provision of transport services.	More efficient use of resources.	Abolition of supply regulation from 1987.	
1988 The 1988 resolution on transport policy, including the decision to deregulate the taxi sector.	Increased competition, with scope for new ideas to raise efficiency in the sector with improved customer service and pressure on prices.	Supply and price regulation and the requirement of being connected to a booking centre ended. Tightening-up of suitability assessment. Special requirements concerning taximeters and price information. Scope in procurement of publicly funded taxi services for influencing the service level offered by taxi operations in general.	Liberalisation of the taxi market came into effect on 1 July 1990.
1991–1995 Successive tightening-up of the regulations relating to taxi operations.	Tackling problems relating to taxi customers' situation and safety, and also to distorted competition on the market.	Tightened-up regulations on price information and taximeters. Requirement of taxi-driver IDs and other measures to make supervision more efficient.	Appointment of the Sector Reform Commission by the Government in 1995.
1998 New Commercial Traffic Act.	Modernisation of legislation in the commercial transport sector and harmonisation with the EU regulatory framework.	Tightened-up eligibility requirements for taxi drivers' ID cards and abolition of the compulsory combined time/distance tariff schedule ⁹ .	The Government appointed the Taxi Commission of 1998.
2000 Resolution on group exemptions in the taxi sector.	Better supply of taxis in less densely populated areas, combined with efficient competition.	Group exemptions from the prohibition in the Competition Act on cooperation, for joint taxi operations fulfilling certain conditions.	In 2004 the Riksdag stated that the system of national group exemptions should be retained until further notice.
2003			Taxi Business Commission appointed by the Government.

⁹ *Translator's note:* the Swedish term *brytpunktstaxa* (literally 'cut-off point tariff') refers to the compulsory form of pricing used when the Swedish taxi industry was regulated and tariffs imposed by the authorities. Since such a schedule entails pricing by time below a particular speed (the 'cut-off point') and by distance above the cut-off point, the fare depends on how much time is spent in traffic congestion, as well as on the distance actually travelled. Fares are thus neither predictable nor comparable.

Successive regulatory amendments since liberalisation

The taxi market was liberalised, broadly speaking, all at once in 1990 when regulation of services provided and fares charged came to an end. In subsequent years, there has been continued investigation and a series of new or amended regulations have been introduced in the taxi sector. This is, as such, a problem for the taxi sector and market functioning, and has entailed uncertainty for companies in the market regarding the long-term ground rules.

In our view, it is clear that the adjustment problems and detriment to be caused by liberalisation were misjudged and underestimated. The need for an overview of the liberalised taxi market was not appreciated, with underdimensioning in this respect as a result. This may appear strange in view of the fact that deregulation of services provided meant that county administrative boards' resources were released. Criticism may also be levelled at the way in which the Government then acted in order to tackle problems that had arisen. Our survey shows that in the years immediately following liberalisation, the Government amended and tightened up the regulations with a view to remedying these problems. However, its manner of dealing with them appears uncertain and long drawn-out. One example of this is the introduction of ID cards for taxi drivers on which the Government decided in December 1992, but which did not begin to apply until January 1995.

Many measures to date justified

Irrespective of the process as such, it is debatable whether the successively more stringent requirements concerning taxi drivers' suitability, taximeters, price information, etc constitute a barrier to entry into the taxi market. In our view, measures taken in this sector — such as the elimination of the compulsory time/distance fare schedule and introduction of comparative prices — have mainly been justified. The motives for these measures have been to make it easier for consumers to assess taxi services and to combat the widespread economic crime in the sector. Well-informed customers and equal competitive terms are a key precondition for functioning

competition. Moreover, the fact that both the number of licensees and the number of taxis nationwide now exceed the numbers in the period before liberalisation indicates that the tightened-up requirements have not been a crucial barrier to market entry.

Two separate taxi markets

It is important to emphasise that, for taxi services, market situation and competitive conditions differ tremendously between sparsely populated and metropolitan areas. In some parts of Sweden, publicly funded taxi journeys make up more than 90% of the total taxi market, while the corresponding figure in large cities is very much lower. The option of providing taxi services for private customers alone probably exists only in large cities. Accordingly, it is virtually a matter of two separate taxi markets with divergent conditions: the market for subsidised travel and the market for private and business travel.

One of the biggest problems in the taxi sector today is the incidence of economic crime, which distorts competition on the market. Another problem is that of tax evasion. We consider that tackling these problems should be a priority task. As long as they persist, they hold back the development of functioning competition in the taxi market and the favourable effects that would ensue from this. Given that these problems have existed in the market for a long time, it is surprising that they have still not been remedied. Criticism may therefore be directed against the decision-makers' passive and indecisive stance. We consider, for example, that the proposal of compulsory emptying of taximeters at special centres, as previously proposed by two different commissions of inquiry (but not realised), should now once more be subjected to special analysis by the Taxi Business Commission.

Regarding the rules adopted in the taxi sector to date governing exemption from the prohibition in the Competition Act on cooperation that restricts competition, they may be said to conflict with the ambition of boosting competition in the taxi sector, which was one of the motives for liberalisation. At the same time, the measures are in line with the objective of good accessibility in the

sector. In this case, the Government has reached a compromise in which the public interest of access to taxis in less densely populated areas has been deemed to outweigh the general principle of banning cooperation that restricts competition. Regardless of this fact, the existence of only one booking centre that customers can contact in many local markets is, in terms of competition, a problem. It impedes price competition and service differentiation between different taxi companies. As far as we know, no study of the effects of the exemptions, or the extent to which they are actually necessary to meet public interests, has been carried out. We therefore believe it may now be time to perform a detailed evaluation of this issue.

The problems of booking centres are exacerbated to the extent that the centres actively prevent new companies from joining, or make it difficult. In such cases the centres are barriers to market entry, especially in areas with a high proportion of travel ordered in advance and/or where the customers have been highly familiar with the established centres for some time. Another, closely related problem is that procurement of publicly funded taxi transport by municipalities and county councils means that competition on the taxi market is restricted for the duration of the contract concerned. This in turn may result in fewer companies taking part in the tender procedure for the subsequent period. This problem illustrates the importance of purchasing units, as far as possible, configuring their procurement of publicly funded travel in such a way as to take the long-term competitive situation into account as well.

Apart from the market-entry problems that may arise owing to booking centres, as reported above, we consider that no major barriers to entry into the Swedish taxi market exist at present.

Who is responsible for monitoring the taxi market?

In our work on this report, we have noted that documentation and analysis of market conditions and the competitive situation in the taxi sector occur only on a small scale compared with the five other markets studied. A number of research studies have been carried out focusing mainly on the effects of liberalising the taxi market. Moreover, in a few reports, the Swedish Competition Authority has

touched on the competitive situation in the taxi sector, but otherwise not dealt with these issues in detail. The activities of the Swedish Competition Authority in the taxi sector have related mainly to taxi companies' cooperation in booking centres where the Authority (especially before introduction of the exemption rules) has processed applications for exemptions from the ban on competition-restricting cooperation contained in the Competition Act.

In the taxi sector, unlike any of the other markets studied, there is no public agency with overall responsibility for monitoring the market. However, the PTAs are obliged by law to 'devote attention to taxi issues and work for satisfactory provision of taxi services'. Moreover, the county administrative boards have a general function of promoting efficient competition in their respective counties. However, to the extent that this takes place in the taxi sector, it affects only the situation in the individual counties concerned. Knowledge of market conditions and of the competitive situation in the taxi sector as a whole appears, however, to be limited.

Have the aims of liberalisation been attained?

One underlying motive for liberalisation of the taxi market was to boost competition and afford scope for new business ideas. This would, it was thought, make the sector more efficient, as well as improving customer service and exerting pressure on prices.

Since liberalisation, competition in the taxi market has intensified in at least some submarkets. Liberalisation has brought about an overall increase in the supply of taxis and, as a result, shorter waiting times for customers in the metropolitan areas, in particular. There are also certain facts that suggest that taxi customers have perceived that they have been treated more pleasantly since liberalisation.

The prices of taxi journeys for private individuals, on the other hand, have not been subjected to pressure in accordance with the stated aims of the reform. On the contrary, prices have risen faster than

Sweden's consumer price index and net price index¹⁰ since the 1990 liberalisation. It should be added that, at least in metropolitan and urban traffic, a marked improvement in quality has simultaneously taken place since the waiting times for obtaining a taxi have, by and large, disappeared.

Cost trends for publicly funded travel are more difficult to discern. Given that the taxi companies charged the same fares for subsidised journeys as for private ones before liberalisation and that a differentiation between the two is now taking place, however, the trend of costs for publicly funded travel should at least have been more gradual than that for private travel. This may suggest that the increased competition, combined with the scope for purchasing publicly funded taxi travel, has had a favourable impact on costs. Moreover, some studies have shown that there is a connection between the degree of competition in procurement and the costs of this travel.

¹⁰ *Translator's note:* the Swedish NPI is obtained through elimination of the price-influencing effects of changed indirect taxes and various subsidies, and represents an attempt to measure underlying inflation.

3 Continuation of the process essential

3.1 Difficulty of meeting unclear objectives

Our review shows that decision-makers have had fairly unclear aims and motives for liberalising the markets. Comprehensive analysis of the various aims and motives for the six sectors reveals ambiguous and sometimes conflicting objectives. It also shows that the markets have been opened to competition in varying degrees. How the different aims have been interpreted has had a bearing on how effective control of the markets has been. At the same time, the degree of competition on a market is clearly governed not only by political decisions but also by various specific market characteristics or external environmental factors, such as technological development and increasing internationalisation.

3.2 Care in pursuing redistributive policy goals and ambitions

We find that liberalising the six markets has not reduced scope for fulfilling the ambitions of redistributive policy. There are various models and methods for realising defined distribution targets and — except that it may sometimes be difficult to interpret the actual content of such notions as ‘for all’ and ‘efficient services’ — there is nothing to suggest that the objectives have not been attained on the liberalised markets as well. However, it is important for redistributive policy to be implemented in as optimal a way as possible. Without questioning the redistributive-policy aims that have been adopted, one may ask whether the models and methods chosen are optimal or whether they mean that competition on the liberalised markets is in danger of being restricted unnecessarily. There may therefore be reason to study which other approaches are feasible in the various sectors in order to attain the aims of redistributive policy.

3.3 Deregulated but not competitive

All functioning markets require regulation, and in general no market can therefore be described as deregulated. The term *deregulation*, which is often used in these contexts, is therefore not a felicitous one — especially since liberalising a market and exposing it to competition normally entail more, rather than fewer, regulations. This applies to the six markets we have analysed. However, the concepts of deregulation and deregulated markets must not be confused with that of *exposure to competition*. The fact that a market is deregulated does not necessarily mean that it is one in which competition functions — only that it has been subjected to some form of revision or reform of the regulation to which it is subject. Since regulatory reform in the six markets studied has been aimed at opening them to competition or making them more competitive, we have chosen to use the term *liberalisation* to describe this process.

For a market to be exposed to competition, entry and exit must be unrestricted; producers must be able to act independently of one another; and consumers must have a chance to make free choices among the options available on the market. Based on the objectives and motives selected for liberalisation in these markets, we have investigated how far various measures and interventions have enabled them to be opened and to develop into functioning competitive markets.

In the table below, we describe in simplified form the ‘market profile’ and conditions for competition on the six markets today. The bullet points indicate the existence of various forms of market-entry barriers and circumstances that reduce competition. While the points in the first, second and third columns relate mainly to various types of entry barriers, i.e. obstacles to free entry into and exit from the markets, the points in the fourth and fifth columns are more a matter of the producers’ scope for acting independently of one another. Finally, the points in the sixth column concern the presence of obstacles to consumers’ mobility, i.e. factors that impede their ability to choose among different offers on the market.

The bullet points in brackets are intended to convey the existence of the obstacles or restrictions listed above on a small scale, or to indicate that they are of minor importance because, for example, they apply only to parts of the market. These impediments vary in nature and significance. Individual impediments of major importance of a combination of different impediments may have a crucial bearing on the scope for entering, and competing on, the market.

	1. Formal monopolies	2. Other barriers to market entry (bottlenecks/capacity shortages, technical trade barriers, etc)	3. Purchaser monopolies (procurement through competitive bidding)	4. Competitively non-neutral access to infrastructure	5. Problems of business concentration and dominance	6. Transaction costs etc that afford weak incentives for consumers to act
Electricity	(•)	(•)			•	•
Postal services		(•)		•	•	
Telecoms		(•)		•	•	•
Domestic aviation		•	(•)	(•)	•	
Railways	•	•	(•)	(•)	•	(•)
Taxi services			(•)		(•)	•

From this point of view, none of the six markets may be described as fully exposed to competition today. To a large extent, of course, the measures taken have of course resulted in the elimination or reduction of restrictions on competition and barriers to market entry. However, it should be emphasised that there is no self-evident connection between public interventions and political governance, on the one hand, and outcomes and effects on the market on the other. Conditions for competition and market development are also governed by factors other than those that can be influenced by means of public policy. Irrespective of the causes, however, obstacles persist to such a high degree that it is difficult to assert that the six markets are fully exposed to genuine competition to the extent specified in the stated aims of the liberalisations.

3.4 Further measures required

Although all the markets surveyed here have been subjected to deregulation in various ways and to varying degrees, none of them may be described as fully exposed to competition at present. Although, too, a range of problems persist on the telecoms market, this is the market that may be said to have progressed furthest in the sense that competitors of the previous monopoly have relatively ample scope for acting freely and consumers have genuine choices. Besides the measures taken to bring about competitive neutrality on the market, rapid technological development is probably one key explanation for this situation.

In all the markets, there are still needs for additional measures to attain functioning competition. Although not all impediments to competition can be eliminated, there are a range of conceivable measures that should be tried out further to enhance the six markets' efficiency. We therefore present in the full report a series of possible actions that could be taken — actions that have not been explored in detail, but that could reduce or entirely solve the market problems identified. These may, in some cases, be all that is needed to solve a problem. In other cases further, supplementary measures are called for.

3.5 Special market monitoring and supervision required for deregulated but not yet functioning markets

Special supervision and active market monitoring are important on recently deregulated markets that are not yet fully functional. The effectiveness and impact of the supervision depends on clear objectives and remits, and also resources and skills, for the public agencies concerned. Sector-specific agencies' remits, resources and skills for preventive measures to promote competition should therefore supplement the Swedish Competition Authority's supervision and monitoring.

To date, there have been no sector-specific agencies with the function of monitoring competition in sectors like aviation and rail. However, the new Swedish Rail Agency will perform a market-monitoring function, while it is unclear whether the Swedish Civil Aviation Authority, set up at year-end 2004, will do so. In the electricity market, regulation and supervision have focused more on network operations, which are protected by a monopoly, while activities facing competition have been largely left without supervision. Telecoms is the only sector with a sectorial agency that has explicit competition-promoting functions, in the sense that the agency can actively define conditions for the market operators or intervene against operators' behaviour. The Swedish National Post and Telecom Agency can, for example, define special conditions for dominant operators in order to ensure that small competitors do not incur disadvantages. The Swedish Energy Agency, on the other hand, is gradually reviewing the fairness of network charges and also disputes concerning connection to the electricity grid. The regulations on the various markets are governed to a large extent by EC directives.

3.6 State's dual role as owner and force in society problematical

Control of state-owned enterprises (SOEs) in the six markets has to some extent been beset by problems and conflicts due to unclear or contradictory aims. Moreover, the motive for ownership of certain SOEs appears somewhat unclear. This in turn helps to explain why definitions of the SOEs' objectives have often been fuzzy, giving them hazy notions of the parameters of their work. The aims for the sector concerned and the goals of liberalisation sometimes conflict with the requirements imposed on the SOEs regarding yield for their owner, the state. Since the SOEs are the largest operators in all the markets (except the taxi sector), this factor is immensely important.

The state can own companies in order to guarantee the provision of services that are vital in social and macroeconomic, but unprofitable in business, terms. It may do so as a means of combating various forms of market imperfections, or for various social reasons. If, on

the other hand, the state owns enterprises that operate in a fully competitive market and otherwise lack elements of special official functions, it is essential for them to be subject to the same terms as other companies in the market.

For the SOEs, there must be systematic analysis of the motives for state ownership and of whether there are any other ways of fulfilling these motives. If the conclusion is that the state should own a particular company, it is important also to analyse how conflicts can be avoided between the objectives of this ownership and the overarching motives of liberating markets and opening them to competition on equal terms.