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FINANCING OF THE ROLL-OUT OF BROADBAND NETWORKS

-- Note by Sweden --

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*More documents related to this discussion can be found at:
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1. Introduction

1. Sweden has a strong IT and telecom sector. Paired with a tradition of research and innovation this has resulted in a long line of commercially successful services, products and businesses. A large share of the Swedish workforce is employed in IT or related sectors. Other key sectors such as the automotive industry, the pharmaceutical industry and the engineering industry benefit from Sweden's early progress in the IT sector.

2. According to an international survey conducted by the World Economic Forum, Sweden is one of few truly knowledge-based economies. Key factors for Sweden's advancement as a prominent IT nation is a well educated population, a high usage of IT, an interest for new technology and a good access to broadband.

3. Sweden's ambitious goals for establishing and maintaining an information society can be viewed in this light. The aim is safe, robust and accessible communications primarily provided by efficient markets. There should also be a variety of services that facilitate everyday life for homes and businesses across the country as a whole.

4. The overall objective for Sweden is to have world-class broadband. All households and businesses should also have good opportunities to use electronic public services with broadband access.

5. The national broadband targets are presented in the Broadband Strategy for Sweden (adopted in 2009), in which it is stated that 90 per cent of all households and businesses should have access to broadband at a minimum speed of 100 Mbps by 2020. The broadband targets for the European Union are presented in the Digital Agenda for Europe. The objective is to bring basic broadband to all Europeans by 2013 and to seek to ensure that everyone in Europe has access to at least 30 Mbps and that at least 50 per cent of all households in Europe subscribe to at least 100 Mbps by 2020.

2. Early government initiatives

6. Sweden first established a political agenda for the roll-out of broadband infrastructure in the late 1990s. The program aimed at guiding and facilitating a market-based roll-out.

7. The government set out to maintain a consistent policy so that regulatory uncertainties about the government's ambitions could be avoided. A tax relief was introduced for establishing a significantly faster connection and regulations were changed to increase overall incentives for investments.

8. Furthermore, the government allocated significant funds for rolling out broadband in prioritised areas from a regional and business perspective where investments from the free market could not be expected within five years. However, government grants for infrastructure investments were to cover only a small part of the total cost. From the outset emphasis was put on local and regional involvement, and securing efficient competition was at the forefront of the government's considerations.

9. Municipalities could receive grants for investing in broadband under certain conditions. The municipality were required to have a local IT infrastructure program. The municipalities were to describe how monopolization of the IT infrastructure was to be avoided and how broadband capacity could be offered on reasonable and non-discriminatory terms.

10. The available grants for investments in infrastructure can be viewed in light of Sweden's geographic and demographic characteristics. Sweden has a low population density of which a certain proportion lives in rural areas. A complete reliance on market forces would have increased the gap between rural and urban areas in terms of broadband roll-out. The available grant was aimed at bridging this gap by supporting investments in rural areas.

11. The main receivers of the grant were TeliaSonera (the then and current Significant Market Power operator), municipally owned companies, Teracom and Tele2. In the aftermath of the *dotcom* bubble private funding available for broadband infrastructure projects was low. In the absence of private initiatives some municipalities built their own broadband infrastructure with grants from the government.

12. The municipally owned companies should carry their own costs like a private company, although their status as just another market actor can be disputed.

13. In evaluating the early broadband grants a national inquiry voiced concern over insufficient auditing of infrastructure projects that received grants. The inquiry proposed putting in place new instruments to make sure that competition was not distorted. Another concern was that grants may have been given to projects that would have been satisfied by the market alone. These effects were unwanted consequences of an era where roll-out of broadband had priority and the level of private funding was low as a result of the temporary economic slump in the IT sector.

3. Recent policy for investments in broadband

14. While Sweden's early policy for broadband roll-out can be viewed as a coherent attempt to secure a basic broadband infrastructure in all parts of Sweden, the current era is characterized by several simultaneous efforts, including at the EU-level.

15. The Broadband Strategy for Sweden (2009) together with the Digital Agenda for Sweden (2011) and the European Digital Agenda (2010) lays the foundation for the on-going process of improving access to high-speed broadband.

16. The underlying principle in the Swedish broadband strategy is that electronic communication services and broadband are provided by the market and that the task of the government is to establish good market conditions and eliminate obstacles to development. But the government also has a role to play in rural and sparsely populated areas where in certain areas it is not commercially viable to invest in the deployment of broadband infrastructure due to high deployment costs and low population density.

17. In 2013, 57 per cent of all households and businesses in Sweden had access at 100 Mbps or faster. 73 per cent of the population had access at 30 Mbps, but there is a noticeable difference between urban and rural areas. In urban areas 81 per cent of the population had 30 Mbps or faster. The corresponding proportion for rural areas was 12 per cent.

3.1 Funding infrastructure investments in broadband

18. An efficient infrastructure for IT is best achieved through well-functioning markets. Several broadband operators, sometimes using competing IT infrastructures, have established themselves in urban areas and offer a variety of services to consumers. A government inquiry identified four main private companies investing in broadband. These are Hi3G Access, Tele2, Telenor and TeliaSonera. Since then the private equity firm EQT has announced its entry on the Swedish market. Of these it is primarily TeliaSonera (through a subsidiary company) and municipally owned companies which are investing in fibre infrastructure. Together they account for 75 per cent of the total investments in fixed broadband infrastructure. Certain legal restrictions apply for municipally owned companies, two of the more

important are that they cannot conduct business outside of the municipality's geographic borders and that they have to allow access for other telecom companies.

19. Swedish competition legislation primarily aims at achieving competition once the broadband infrastructure is in place. The Electronic Communications Act (SFS 2003:389) is an implementation of EU directives. It requires the Significant Market Power operator TeliaSonera to provide access to broadband infrastructure and not discriminate against its competitors.

20. National funding for broadband infrastructure is fully in line with the EU state aid rules and is only available in areas where commercial incentives are insufficient. There are usually fewer operators to choose from in these areas, however market based or municipal infrastructure investments appear to be sufficient for a majority of the population. The national funding accounts for only a small share of total investments, but can still be an incentive for an investor.

21. The allocation of EU and government grants follows certain guidelines that aim to limit market intervention and the replacement of commercial investments. During the period 2007-2013, state aid for broadband deployment has mainly been channelled through European funds (the rural development program and the regional fund), but also via a national ducting fund. The EU funds are combined with national co-financing and the total amount of public funding for broadband infrastructure during the period 2007-2013 has been approximately 275 million EUR. Sweden aims at continuing the use of EU funds combined with national co-financing for investments in broadband infrastructure during the period 2014-2020.

3.1.1 Examples of schemes for public intervention

3.1.1.1 The Swedish Rural Development Program

22. Most of the aid to broadband deployment during the period 2007-2013 has been granted via the Swedish Rural Development Program, for which the EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband networks are applicable.

23. The grant available for broadband infrastructure investments within the Rural Development Program is set at a level that requires private investment. There is no fixed standard for the level of the grant, but the grant should not make it economically more beneficial to invest in rural areas compared to urban areas.

24. Applicants for this grant are mainly community organisations formed for the purpose of accessing high-speed internet, or municipalities. The community organisation can, after being granted financial support, purchase the roll-out of broadband infrastructure from market actors in accordance with their local needs.

25. The aid is granted to projects that cannot expect market-based roll-out of broadband infrastructure within three years. Such a market analysis includes a mapping of the access to broadband in the area. The market analysis is made public and market actors are given the opportunity to comment on it. The final decision about a grant can be made one month after its publication.

26. When the broadband infrastructure is in place, the aid applicant must ensure that the infrastructure is available to several operators at the same time and is technology-neutral. Third party operators should be allowed access to broadband, such as dark fibre, in a non-discriminatory fashion for a period of at least seven years. The seven-year period can be extended if the Board of Agriculture estimates that the proprietor of the broadband infrastructure has a significant influence on the market. Within those seven years the price of access will be set in line with comparable services. The Board of Agriculture and

other regulatory government authorities have not received any complaints of companies not complying with these rules.

27. Five years after the new broadband has been put to use, the granting government authority will inquire if the profit from the broadband made available with government grants is higher than the average profit within the sector. A separate accounting for this broadband infrastructure is mandatory in order to facilitate this supervision. If the profit exceeds the average profit the granting authority will require that an amount that corresponds to the granted funds is paid back.

28. Projects that are granted less than 200,000 EUR have fewer conditions; however it is still necessary to allow third party operator's access to broadband in a non-discriminatory fashion and for prices of such access to be set in line with comparable services.

3.1.1.2 The National Ducting Fund

The National Ducting Fund, which is a national de minimis grant, has also been used to finance IT-infrastructure projects. Since 2008 it has been used to finance broadband projects in areas where broadband roll-out cannot rely on market forces alone. The receivers of this grant are municipalities and independent parties, such as community organisations.

When choosing between different equally important infrastructure projects, those that are most beneficial from a business perspective are given preference. Grants can only be awarded if the need for new infrastructure cannot be satisfied by market initiatives within three years.

This grant also comes with certain conditions and terms about non-discriminatory treatment and price regulation that last for five years. The infrastructure project shall allow for at least two IT infrastructure providers to use the ducting simultaneously. Documentation of the ducting should be maintained and be available to the public for at least five years after the project is finished. The price for access should be reasonable considering the cost price and the grant received. Unreasonable pricing can lead to the payback of grants received. The regulatory agencies have yet to receive any complaints of unreasonable pricing.

3.1.2 Regulation and cooperation for investments

29. As well as funding for infrastructure projects, it is also essential to enable such investments through regulation and finding ways for different parts of society to meet and agree on specific measures to facilitate broadband infrastructure investments.

30. One important regulatory change is the new Planning and Building Act from 2011 (SFS 2010:900). With the new law the broadband infrastructure will be coordinated with other infrastructure and increased emphasis has been placed on planning for broadband infrastructure.

31. In 2010 the government appointed a broadband council in which market stakeholders such as industry organisations, businesses and public authorities participate together with the government. The Minister of ICT is head of the council. The purpose of the Broadband Forum is to work together to identify relevant issues and to find constructive solutions to help achieve the targets established in the Broadband Strategy. It has been successful so far and stakeholders have reacted very positively to the work done within the council. A few examples of the themes tackled in some of the working groups have been the quality and documentation of infrastructure, challenges and obstacles in relation to broadband deployment and support and guidance for municipalities in developing broadband strategies

32. With the risk of cartels and other prohibited behaviour the Competition Authority is generally hesitant towards market actor cooperation. However, this cooperation can be motivated by the overall societal benefits.

33. The government has also initiated an inquiry to pursue the national IT goals, communicate the digital agenda, promote cooperation for increased digitalization and analyse the development.

34. The main regulatory agencies in the telecom sector, the Swedish Post and Telecom Authority and the Swedish Competition Authority have, together with the Swedish Association of Local Authorities and Regions agreed on principles for municipal efforts for broadband investments.

35. The principles aim to deepen the knowledge of current rules and regulations in the sector within municipalities in order to achieve more efficient governance of the broadband sector.

36. The principles also offer guidelines for municipalities' IT infrastructure investments and for administering existing infrastructure. The guidelines aim to increase investments and emphasise fundamental issues concerning competition. Emphasis is also placed on equal treatment, including avoiding monopolisation of the municipally owned infrastructure, non-discriminatory contracts and the importance of competition law overall.

37. Desirable municipal efforts for efficient roll-out of broadband are also highlighted. For example, the municipalities should consider the need for further development of broadband in the area, develop a policy for broadband roll-out and pursue a good dialogue with private businesses concerning competition matters, including promoting the establishment of parallel fiber where possible and suitable. Municipalities should also deal with all concerns and requests from parties in the broadband sector without delay.

4. Broadband roll-out and competition in Sweden

38. The Swedish Post and Telecom Authority predicts that the goal of achieving high-speed internet access (100 Mbps) for 90 per cent of the population by 2020 is achievable. Even under a less favourable investment climate the authority predicts that 80 per cent of the population will have high-speed internet access by 2020. Key factors for maintaining a high level of investments are commitment to further investments by concerned parties and high demand for fast internet from end users.

39. One reason for Sweden's comparatively well-developed network of fibre infrastructure is the early investments made by municipalities in the 1990s and onwards. These networks act in accordance with EU state aid rules and have restrictions that limit their influence on the subsequent access market.

40. One important consideration is that the broadband infrastructure market is a two-stage market. In the first stage of broadband roll-out there is general consensus, manifested in the EU state aid legislation, that market solutions are preferred if at all possible. But there is also a second stage where companies ultimately compete for services to consumers. While competition in the first stage has only one time period, competition in the second stage has many time periods. To achieve balance between these two markets is the difficult task.

41. In the second stage market for fixed and mobile broadband subscriptions there are currently five companies with a substantial market share, of which one is not active in the mobile market and one is not active in the fixed market. The three largest companies have a combined market share of 76 per cent.