

Summary

Major risks in transfer to digital radio
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The Government and Riksdag are facing a decision on implementing a transition from analogue terrestrial radio via the FM bandwidth to digital terrestrial radio with DAB+-technology. The transition is motivated by the fact that digital radio will add value for the listeners and Sveriges Radio will be better able to fulfil its public service mandate. The Government considers that investment in digital radio is economically viable since the costs of distributing radio broadcasts will decrease in the long term.

Purpose: The Swedish National Audit Office has investigated whether central government has contributed to effective transition from terrestrial digital radio, partly from a macroeconomic perspective and partly from a listener perspective. The audit also aimed to provide reference data to the Riksdag that illustrates the consequences of and alternatives to closing down the FM network and replacing it with a DAB+ network. It was not the purpose of the audit to weigh up the pros and cons, but to point out risks and problems that the Swedish NAO considers to have been underestimated or not taken into consideration by previous investigations.

Reasons: A transition to terrestrial digital radio has been the subject of several reports since the early 1990s, and there are strong interests in the radio industry to develop radio by building a terrestrial digital radio network. There is now a plan to close down the FM network and adopt a terrestrial digital radio network in 2022. Any transition will entail consequences for society and radio listeners, and there are risks that need to be taken into account ahead of a transition. One overall risk is whether it is the right time for a transition to terrestrial digital radio in relation to the major changes taking place in communication technology and media, where people's media habits are rapidly changing. Another risk concerns whether the investigations made have underestimated the costs and overestimated the benefit of a new terrestrial radio network.

One argument for Sweden's transition to digital terrestrial radio with DAB+ technology is that the Swedish radio network must harmonise with radio networks in neighbouring countries. Development of digital radio in other countries is, however, not clear-cut as regards DAB. }0{>

The Swedish National Audit Office draws the following conclusions

The Swedish NAO considers that the planned transition to terrestrial digital radio is associated with considerable risks.

The Government's preparations for the transition are inadequate

A transition to a digital terrestrial radio network implies a major shift in technology that affects the entire population of Sweden. The Government is responsible for making comprehensive



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preparations for such major technology shifts. In the opinion of the Swedish NAO the existing reference data are not sufficiently comprehensive and thorough. Over the years the Government has set up a number of inquiries but there are question marks as to whether digital radio fulfils a need for listeners, whether there are sufficiently good technical alternatives to DAB+ and whether DAB+ provides the coverage that the FM network has.

In 2014 the Government instructed a coordinator to draw up a plan for the transition to terrestrial digital radio. However, the coordinator's terms of reference were narrow and restricted since actors, choice of technology and time for closing down the FM frequency band had already been determined. This restriction has meant that the inquiry on transition to digital radio did not address certain risks of the transition, including the risk that listeners in future will not buy DAB+ sets to the extent required for a successful transition.

The inquiries on transition to terrestrial digital radio have not made a sufficiently thorough analysis of radio listening in a future perspective. Throughout the years, most recently in 2008, the Government has initiated inquiries on technical alternatives to DAB+, but considering the rapid developments in this technology area a new inquiry on technical alternatives would have been reasonable before making a decision on the radio of the future. According to technical experts there are good reasons to believe that internet-based technology will dominate developments and various technologies will merge. DAB+ technology is, however, a separate system that is not included in this development.

There is no clear listener perspective

A risk of the transition to DAB+ radio is that the Government will introduce a new standard for radio listening that it is not clear that listeners need. The Swedish NAO considers that neither the need nor the demand from listeners for terrestrial digital radio has been established. The lack of research into listener demand was one of the reasons that the Government in 2005 decided not to continue the expansion of DAB+.

The value added of digital radio for listeners is more terrestrial radio channels to listen to. However, it is uncertain if this would justify a transition from FM, since most listeners already have access to this value added via the Internet. It is also doubtful whether there is a demand from listeners for more channels. The most recent investigation into listeners' preferences was carried out in 2008 and showed that a third of those asked were interested in new channels.

One problem is that Sveriges Radio, due to the provisions of the Fundamental Law on Freedom of Expression, cannot as things stand today count programme services via the Internet as fulfilling the licensing conditions, only programmes broadcast in the terrestrial network. To date the Government has not considered it necessary to initiate a review of the law. In the opinion of the Swedish NAO the Government should consider modernising the provisions of the Fundamental Law on Freedom of Expression. The present formulation of the provisions is an unnecessary



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constraint on public service since the Internet can be expected to be the central place for media consumption in the future.

A change from FM to DAB+ is also associated with costs for the listeners, not least for car owners, since new car radios are more expensive than radio sets for the home. All FM receivers will have to be replaced, since they cannot receive radio broadcasts using DAB+ technology.

A criterion in the digital radio coordinator's plan for closing down the FM network in 2022 is that 50 per cent of the population is to listen to digital radio via a digital platform. The Swedish NAO considers that there are two problems with such a criterion – partly how to measure this reliably, partly how to obtain information on how many people actually only listen to FM radio. If 50 per cent of the population listen to internet radio and 50 per cent to FM radio it would be unfortunate to close down the FM frequency band and invest in DAB+, among other things from the point of view of emergency preparedness.

The technical assessments have weaknesses

There are deficiencies in the technical assessments underlying the plan to close down the FM network and transfer to digital terrestrial radio. For example there is a risk of worse coverage with DAB+ than the FM network, according to assessments made by Professor Jens Zander at the Royal Institute of Technology on behalf of the Swedish NAO. To deal with worse coverage, the investment required in a DAB+ network will probably be greater than shown by the only calculation that exists, carried out by Teracom in 2012. The Government's proposal in 2013 to appoint a coordinator to present a plan for transition to digital radio in 2022 was partly based on that calculation.

An extension of the DAB+ network also entails a risk that today's utilisation of radio frequencies may have negative consequences for future planning of the frequency range. Frequencies may have a value in the long term and the greater the frequency range that is used today, the less there will be in the future. The frequencies allocated for DAB+ will probably be of considerable value for the national economy for other use in the longer term. The Government should take this into account for economy, efficiency and effectiveness in the use of public funds.

The transfer is probably not cost-effective for the national economy

The Government has stressed the importance of resource-effective digitisation. On the other hand, the Government has not carried out a macroeconomic analysis of the transition to terrestrial digital radio that takes into account the costs to listeners for new equipment, their evaluation of new channels or the value of alternative use of the frequencies that digital radio will make use of. The Swedish NAO has therefore presented an example of how a macroeconomic estimate could be made and what a transition may mean in terms of the national economy.

The estimate does not cover all aspects, but indicates that a transition to terrestrial digital radio will entail macroeconomic risks and that it will probably not be cost-effective for the national



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economy, not even in a 50-year perspective, if the digital radio coordinator's plan is followed. A transition to digital radio saves money for the radio companies, in the form of lower broadcasting costs, but it entails considerable costs for the listeners, since they must buy new radio sets both for their homes and their cars.

To prevent a transition being excessively expensive for listeners, the period of parallel broadcasts should be as long as possible; at least 15 years according to the Swedish NAO's calculations, even if this will probably be more expensive for the radio companies.

