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Economic Survey of SWITZERLAND 2007:

REGULATING THE ELECTRICITY MARKET: FURTHER REFORMS ARE NECESSARY

This is an excerpt of the OECD Economic Survey of Switzerland, 2007, from the section on network industries in chapter 4

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The new regulatory framework for the electricity market marks a significant step towards competition

Electricity prices remain above average in the OECD, notwithstanding the abundance of low-cost hydroelectric as well as nuclear power, which have made Swiss electricity prices less sensitive than elsewhere to increases in oil and gas prices in recent years. Prices are particularly high for small and medium-sized enterprises with little bargaining power in the market (OECD, 2006a). The regulatory framework has thus far not supported competition. Enforcement of the rights of competing suppliers to gain access to the networks of incumbents has had to rely on provisions against abuse of dominance in general competition law. This framework has allowed only large business customers to choose suppliers. Retail service to small customers is subject to universal service obligations, obliging suppliers to provide electricity at regulated prices.

Reforming the regulatory framework of the electricity industry has ranked high in the government's strategy to strengthen long-term economic growth prospects. After the first attempt to introduce a sector-specific regulatory framework in 2002 failed in a referendum, a new regulatory framework was approved by parliament and will come into force in October 2008. It provides for the creation of an independent, sector-specific regulator, rules on vertical separation of network activities from those in which competition is possible, notably electricity generation, wholesale and retail trade. The new legislation gives all large business customers the legal right to choose their electricity supplier from the outset, while households and small businesses will be given such choice in 2013.

The new energy regulation framework constitutes a major step forward, introducing the major institutional arrangements for competition in electricity generation and for electricity trading. Indeed, experience across OECD countries shows that an effective regulatory framework is needed to achieve sustained competition following liberalisation in electricity markets. Economic benefits have proven most significant in electricity generation, whereas electricity retailing activities appear to have offered limited scope for cost reduction and quality improvements.

Scope still exists, however, to improve the regulation of network access prices. The legislation foresees rate-of-return regulation, which sets prices according to *ex post* observed costs, until 2013. Price-cap regulation may be adopted thereafter, whereby price caps would be set for several years in advance. Price-cap regulation provides better incentives to save costs, and experience with price cap

regulation in the United Kingdom, for example suggests that cost savings can be significant. Price cap regulation should be introduced as soon as possible. However, price-cap regulation involves a trade-off between static and dynamic efficiency, as a longer price cap improves incentives to reduce costs but generates efficiency losses through more pronounced deviations of prices from marginal cost. The trade-off can be improved through benchmark-regulation, according to which regulated prices are set on the basis of costs of other network operators, allowing separation of regulated prices from each operator's own costs (see Weyman-Jones *et al*., 2006 for a description of benchmark regulation practices). Moreover, owing to this disconnect, benchmark regulation avoids incentives to misreport costs (Shleifer, 1985), which can impair price cap regulation. A combination of price cap and benchmark regulation is used in Germany. In Switzerland, owing to the large number of regional and local network operators, the scope for benchmark regulation is large. Benchmark regulation should be introduced in the regulation of network access prices.

Vertical separation rules need to be strengthened

Effective rules concerning vertical separation are critical for sustained competition in electricity markets to occur. This is especially true in Switzerland, where the ownership structure in the industry is characterised by a high degree of vertical integration, which gives network owners incentives to discriminate against competitors wishing to gain access to their networks (see **Box 4.2**). Moreover, the legislation has opted for a light regulatory regime, with modest staffing levels and restricted powers to intervene. Such a light regulatory framework requires that incentives and scope for incumbents to discriminate against competitors be limited through stringent vertical separation requirements, thereby alleviating the need for the regulator to intervene.

The new regulatory framework requires legal, managerial and accounting separation of electricity generation from transmission operations as well as accounting separation of retail trading from distribution. In order to put managerial separation of electricity transmission from generation into practice a transmission systems operator was set up (**Box 4.3**).

Box 4.2. **The Swiss electricity market**

The electricity generation market is characterised by a high degree of concentration with a group of five incumbent companies (the *Überlandwerke*) controlling 80% of electricity generation. International interconnection is ample, creating scope for foreign electricity generators to compete on the Swiss market. However, the emergence of competition from foreign suppliers still depends on effective rules to prevent discrimination resulting from vertical integration (see **Box 4.3** below). Vertical integration is also strong, with the *Überlandwerke* owning the Swiss transmission network. The *Überlandwerke* also own stakes in local electricity utilities and are active in electricity retailing. Of the five *Überlandwerke*, three are fully owned by cantons and municipalities, one is majority-owned by a canton and one has majority private ownership. The electricity distribution network is owned by a multitude of local electricity utilities mostly owned by municipalities (see OECD, 2003 and 2006 for detailed descriptions of the market structure).

Box 4.3. **Vertical separation of electricity generation and transmission**

A new corporation, *Swissgrid,* was set up in 2006 to manage electricity transmission network operations. The five *Überlandwerke* own the electricity transmission network as well as *Swissgrid.* They are expected to transfer their transmission assets to *Swissgrid* by 2012, retaining commensurate shares in it. Since the *Überlandwerke* are owned mostly by the cantons *Swissgrid* is largely in public ownership. The *Überlandwerke* are represented on the board of *Swissgrid*, although they are required not to intervene in its operations, and members of its board are not allowed to hold managerial positions in the *Überlandwerke*. However, as a corporation *Swissgrid* would need to act in the interests of its owners, whose profits would benefit from discrimination against new market entrants. *Swissgrid's* board also includes representatives of the cantons that own significant stakes in electricity generation, further weakening its independence.

Two models have emerged in OECD countries to achieve ownership separation between electricity generation and transmission operations (IEA, 2001). According to the first model, transmission system operators own the transmission network but are not allowed to own electricity generation assets (practiced in the United Kingdom and the Nordic countries, for example). According to the second model, ownership of generation and transmission assets remains integrated, but the transmission system operator has no ownership ties with the integrated companies owning electricity generation and transmission assets. This model has for example been followed by some states in the United States. The first model is preferable, as unifying transmission system operations with transmission asset ownership helps ensure that efficient decisions are taken with respect to investment decisions concerning the transmission network. The second option may, however, be preferred if ownership separation of transmission and generation assets is judged to be too difficult to achieve.

In the current Swiss context, implementing the preferred model of vertical separation of electricity generation from transmission would require the *Überlandwerke* to divest electricity generation assets. This step would ensure that incentives to discriminate against competing electricity generators would be eliminated, while transmission asset ownership and transmission operations would be unified. The preponderance of public ownership in the *Überlandwerke* might make this option politically viable, although it would require the co-operation of cantons and municipalities, which are fully autonomous in this respect. Alternatively, the *Überlandwerke* could retain ownership of their electricity generation assets. In this case, in order to ensure incentives to discriminate against market entrants are avoided, *Swissgrid* should not be owned by the *Überlandwerke*. In either case, cantons should be allowed to be involved in *Swissgrid* only if they divest their generation assets.

Legal, managerial and accounting separation can be effective in preventing discrimination against market entrants by incumbents if the regulator is able to observe and take action against discriminatory behaviour. However, experience across OECD countries shows that regulators are not able to detect and stop discrimination against competing electricity generators seeking access to the electricity transmission network because the transmission network needs to be actively managed in real time.[1] Therefore, legal, managerial and accounting separation between the transmission system operator and generators is not sufficient. Incentives to discriminate need to be eliminated through ownership separation of electricity generation from transmission operations (see, for example, Hunt, 2002; IEA, 2001). Indeed, without such ownership separation, the potential benefits of the new regulatory framework may well not be realised. Ownership separation between electricity generation and transmission operations should be introduced.

The effectiveness of accounting separation depends on the introduction of cost accounting rules that are adapted to the information needs of the regulator. Indeed, since accounting separation is the only unbundling requirement imposed on distribution networks, it is particularly important that it be effectively implemented. However, the new legislation does not introduce regulatory cost accounting rules. Cost accounting for company financial accounts is not well adapted for regulatory purposes (OECD, 2006a).

Ownership of stakes in local utilities by the *Überlandwerke* generates risks for the independence of the demand side from the supply side of the market. Local utilities will be in a key position when it comes to putting competition among electricity suppliers into practice, especially in the transition period up to 2013, when households cannot yet freely choose their supplier. The weak vertical separation requirements on the distribution networks would generate further scope for the large incumbent electricity generation companies to discriminate against competitors with an adverse impact on market entry as well as on the scope of foreign electricity generators to compete. In Germany, for example, deepening vertical integration following market liberalisation contributed to weak competition, as reflected in low customer switching rates, and to rising prices (OECD, 2006d). The acquisition of further stakes in electricity distribution networks by the *Überlandwerke* should be prevented.

1. For example, to ensure that electricity supply and demand are equalised.

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