THE IMPACTS OF MARKET LIBERALISATION ON INVESTMENT IN ELECTRICITY SECTOR IN ASEAN

Tue Anh Nguyen, University of Greenwich, Phone: +44 208 338 9989, Email: t.nguyen@gre.ac.uk

Overview

In the last 20 years, one of the reasons for remarkably strong GDP growth rates in ASEAN is the increasing employment of energy and electrical products to assist manufacturing and transportation. Traditional sector arrangement of public provision offers lower electricity prices at the cost of government debts. With increasing pressure on the government accounts and the increasing need for reliable consistent investment in the system, these countries have looked at the example of UK and EU's regulatory reforms in transport, communication and utilities industries that seemed to successfully spurred investments.

Unbundling and liberalization of electricity systems has been the paradigm model used by policy makers and international institutions as the essential framework for developing the sector and dealing with issues including inadequate pricing, lack of capacity, fiscal constraints, efficiency problems, and underinvestment. The core principle is that there exists a potential competitive market for generating capacity that will drive continuous commercial investment to efficiently supply electricity to meet the growing demands in developing economies. This requires upfront government commitment in creating and opening the market and eventually minimal government regulation.

With time, literature has changed from stating and restating the belief in this liberalisation process to a more critical look at empirical evidences that may say otherwise. The shift in priority in the energy trilemma has shown that not only does the power sector need investment to deliver cheap electricity for the whole population, it needs to do so at the least cost to the environment. The role of the government therefore has shifted from taking the backseat of monitoring the sector to taking the initiative in developing new technologies and applying those eco-friendly technologies to produce electricity at an initially higher cost. The intervention of the government is commonly considered as distortion to the market mechanisms. However, it should not be forgotten that the government is never completely disappearing from the investment side of the sector and its role is irreplaceable by any other private actors.

There exists an increasing amount of literature looking at the impact of liberalisation process on prices and social welfare but a surprisingly limited number of those look at the impact on investment. One reason is that major institutions like the World Bank and ADB are strongly persuading recipient countries that investment will come, with time and with initiative taken by the government themselves. Reports generated from these IFIs' database are popularly used by policy makers and researchers. Having analysed all major IFIs' data sources exposes a need to evaluate critically their credibility and currency.

The research hopes to fill the gap in literature that looks at the impact of market liberalisation process on investment by investigating the flow of financing from different actors and institutions in the sector before and after regulatory reforms in Thailand and Vietnam. The research also hopes to construct a credible database of all investments in electricity generation from 1990 to 2013 in these 2 countries. The objectives of the research include rationalising the role of government and public sector in comparison to the private sector and understanding the determinants of investment decisions by different actors.

Methodology

In order to answer the over-arching research question, the research process is divided into two stages. The first stage is to construct a database of investment in electricity sector in Thailand and Vietnam since 1980 to 2014 where data is available.

The second stage is employing statistical analysis, which will use the data collected to identify the pattern and scale of funding of reforms, the relative scale and role of different sources of finance, the breakdown in relation to renewable energy, and the network of actual actors involved, conducted not only at aggregate national level, but also at project level - in particular, by quantifying the relationship between private and public direct financing and debt finance from private banks and IFIs.

Thirdly, Social network analysis fits in the purpose of creating a visually realistic social network of financiers, recipients and implementers, constructing channels of funds, identifying the key players and active networks of players based on their attributes (ownership, purposes, geography). A

longitudinal model of SNA was used to reflect the dynamic aspect of financing structure from 1990-2013 using UCINET-6.

Findings

1. Constructed database shows that reports by PPIAF, WB and ADB exaggerated the role of private sector in investment outlay whilst under-estimating the value of public investment. In fact, greenfield investment outlay in electricity generation accounts for less than 10% of total actual investment happened throughout the years.
2. Public sector actors including government institutions and SOEs are the dominant recipients and create highly dense connections in the financing network whilst the network of private sector actors is much more sparse and receive much less fund from financiers.
3. Funds for Market Reforms account for approximately a third of total financing from donors and banks, which is comparable to other developmental, infrastructure funds. Large proportion of funds from other IFIs are directed to the government institutions as borrowers, implementers and end users.
4. The value of loans for renewable generations accounts for only 4% on average of total in the last 20 years. Recipients of these loans are VSPP or IPPs whose connection to the network was enabled by the government institutions. Private participation is also limited to government-guaranteed PPAs.

Discussions and Conclusions

The costs of the reforms are themselves substantial, using one third or more of all IFIs' financing, directed at government ministries and agencies. These 'reform' loans can be seen as a fixed overhead, without any direct increase in generating capacity or network extension, thus reducing the leverage achieved bu direct project loans, and increasing the costs of direct investments. The funds for policy reforms and privatisation aims to reduce the role of governments and leverage private sector development, and costs of reforms are substantial. However, the research shows that the majority of IFIs' funds do not actually reach and involve private actors. With increasing generation capacity, the role of government institutions grows, as well as the funds received by the dominant vertically-integrated SOEs. There then exists a contradiction between the Funds' objectives of reducing the role of government in the market and strengthening the role of public actors in the market.

Public infrastructure sectors became important and difficult targets for governments who want to reform because their traditional set-up of the networks is vertically and horizontally integrated to allow easy central control and involve national and social security issues. There was no room for any private company to build or join the network. So unbundling came in as a necessary step to separate input and output, lowering entry barriers and allowing for bidding or contracting to privately owned companies. The state-planned system was criticised of biased investment decisions toward overinvestment, hence believing in investment decisions driven by current and expected prices in competitive markets: ''Provided that effective competitive markets are established….more efficient investment can be expected…''. Companies on the one hand wish to operate freely on their own playground. On the other hand, they demand assurance from the government. Private participation is limited to long-term power purchase agreements that are vulnerable to overcharging and corruption. The government, whose role is presumably minimised in a competitive market, is believed to play critical role in critical time. Not only ensuring an effective model of market to start with, the government needs to constantly monitor the structure of the market, system reliability, input fuel diversity, and run costly and highly competent regulators and agencies to ensure fair competition. In need of remedial action, the government needs to balance short and long term investment decisions, provide incentives not just in the energy industry but other related industries, and ensure stable and complementary fiscal and monetary policies. More importantly, governments are actually the largest investors in new generation projects in many shapes and forms. In fact, the government's is not expected to ever end as 'the end of point of reform is not always clearly defined' (IEA 2007).

References

Besant-Jones and Vagliasindi (2013), 'Revisiting Policy Options on the Market Structure in the power sector', March 109

Estache, Antonio & Goicoechea, Ana & Trujillo, Lourdes, 2009. "Utilities reforms and corruption in developing countries," Utilities Policy, Elsevier, vol. 17(2), pages 191-202, June.

IEA. (2007). Tackling Investment Challenges in Power Generation in IEA Countries (p. 208). OECD Publishing. doi:10.1787/9789264030084-en