Editorial introduction

THE DESIRED AND UNDESIRED EFFECTS OF INFRASTRUCTURE AND TRANSPORT POLICY REFORMS: AN INTRODUCTION

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Papers selected for this special issue were among those presented at the International Workshop "the desired and undesired effects of Infrastructure and Transport Policy Reforms," held in the School of Economics and Business at the Universitat de Barcelona in November 2013. The workshop was jointly organized by the research unit Governments and Markets (Universitat de Barcelona) and the Cornell Program in Infrastructure Policy (Cornell University). The main topics discussed were ownership, financing and regulation, and public–private collaboration in transport policy. This special issue addresses those issues using case studies from various sectors including as airports and aviation, ports, and infrastructure overall.

Sismanidou and Tarradellas provide a sustained examination of the Adolfo Suarez Madrid-Barajas Airport expansion, which offers an important case study. After the 2006 expansion, the airport became the largest in the world as measured by terminal area.

Three clear messages are discussed. First, demand forecasts employing a linear relationship between air traffic and GDP may fail to accurately predict future traffic growth. Second, the expansion would have benefitted from a more flexible approach, including consideration of alternatives to a large new terminal. The authors suggest including phased facility expansions as well as optimizing existing capacity through demand management tools such as congestion pricing or slot allocation mechanisms. Third, they argue that airport investment decisions should be more closely linked to airlines' business strategies as well as information provided by external experts. Using arguments developed in prior literature, the authors discuss omitted factors that help explain the deviation between actual and predicted traffic. Those factors include: (i) stronger connecting-traffic competition in the Europe- an air market; (ii) negative effects of new high-speed rail lines on the airport's traffic volume; (iii) the growing presence of low-cost airlines at Madrid's airport; and (iv) the advantages to an airline of pursuing a multi-hub strategy.

Sismanidou and Tarradellas' framework could be usefully extended to other infrastructure projects and sectors that would benefit from more accurate demand forecasts, such as roads or high-speed rail lines. Although current forecasting methods'

shortcomings for infrastructure are clear, more research is needed to develop new and more robust methods.

Tembleque-Vilalta and Suau-Sanchez examine the impact of a new aircraft type on long-haul route profitability. They focus on the Barcelona-to-Tokyo and Barcelona-to-Beijing routes. Those cases are relevant. Barcelona is the largest non-hub airport in Europe while Tokyo and Beijing are the two largest air markets in the Far East. The paper uses an integrated model for forecasting new routes, which is a sophisticated approach. It is, however, accessible to a wide audience given its practical orientation. The model is comprehensive and considers relevant factors affecting demand and supply in air routes, including capacity, service quality, fares, travel time and airlines' operational costs. It also uses a rich dataset that includes detailed passenger data.

The author's findings are relevant. They conclude that a non-stop Barcelona-Tokyo flight would be feasible using a Boeing 787-family aircraft. However, a non-stop Barcelona-Beijing flight remains unviable. The paper also has clear economic and geographic implications: new aircraft types may facilitate non-stop intercontinental destinations in non-hub airports so that mid-size cities can also benefit from the globalization. Finally, it helps guide airport operators regarding where to direct infrastruc- ture connectivity improvement efforts.

Tembleque-Vilalta and Suau-Sanchez's research could be usefully extended. One avenue is to explore economic benefits associated to new non-stop intercontinental flights, including opportunities for bilateral investments and trade between urban areas impacted by the non-stop air link. Although the role of innovation on new-route viability is examined, the introduction of a business innovation, such as a discount airline, could be similarly considered.

Castillo-Manzano, Castro-Nuño, Fageda and González-Aregall analyze the impact of Spanish port liberalization on freight traffic. They focus on reforms in 2003 and 2010, elaborate on their policy and legal details, and offer a statistical analysis isolating their impact on freight traffic. The 2003 reform restricted tariff flexibility and suppressed inter-port competition. However, the 2010 reform introduced financial self-sufficiency, flexible tariffs and greater managerial discretion.

The paper's topic is important for transport policy. It offers a useful discussion that is applicable beyond the Spanish case and Spain's specific port reforms. The paper underscores the importance of strong political consensus and flexibility in realizing socially beneficial reform of port policy. Conversely, it illustrates how unpredictability, interest group hostility, and contradictory succes- sive reforms mitigate reform's impact. The paper provides the necessary technical analysis of how specific regulations may affect port performance by having direct and indirect effects on quality, efficiency, commitment to sustainability and intermodality. It also highlights the importance of institutions and political processes in achieving successful transport policy reforms.

All those interested in port management worldwide will benefit from insights into how liberalizing reforms such as self-manage-ment and flexible rates can result in

better port performance. Liberalization policies in the port sector deserve as much attention as other transport modes such air and rail transportation.

Castillo-Manzano, Castro-Nuño, Fageda and González-Aregall also shed light on the role of institutions and collective decision mechanisms in driving port reform. By including institutional analysis, the article opens a fruitful avenue for future research assessing the impact of transport policy reform.

Guasch, Suárez-Alemán and Trujillo examine the provision of mega-ports in Chile as a case study of private infrastructure investment. Chile offers an appealing research setting due to its broadly successful record of introducing private finance in infrastructure through concession contracts. The authors utilize their analysis to suggest modifications of the standard concession procurement model as applied to mega-ports. They offer policy recommendations that are atypically specific. The paper is pioneering in its focus on the technological and legal dimensions of various aspects of mega-port delivery. In particular, the authors separate the provision of breakwaters around ports from port operations themselves. They stress that constructing breakwaters are unusually large, costly, and irreversible undertakings, and may be un-bankable under certain conditions. The authors find that the characteristics of breakwaters are likely to differ greatly from the port terminals themselves. For example, breakwaters often have much longer useful lives than port terminals. There is also a strong lack of complementarity, since breakwaters and terminals require two very different types of business skills. This raises the question of whether breakwater provision should be bundled with port terminal provision or whether they should be provided separately. The perennial PPP issue of risk allocation across the public and private sectors becomes particularly important in this context.

Guasch, Suárez-Alemán and Trujillo conclude, given their different asset life cycle, lack of complementarity, and easier access to finance, that breakwater construction should be separated from terminal construction for mega-ports. They further recommend that the government deliver the breakwater element of ports, but put the terminal component out for tender. The natural follow-up question is whether the breakwaters should be done by the government under a concession model or as a traditional public works project. Although the conclusion is likely to depend on a value for money analysis, the authors here lean toward traditional procurement, where the public sector finances and tenders the works for the breakwater component. This careful and insightful analysis of project delivery offers a template for other investigations of unique procurement situations.

Siemiatycki provides an excellent overview of investment by Canada's seven large pension funds in infrastructure facilities such as roads, bridges, airports and transit. He stresses that Canadian pension funds have enormous assets under their control, which can be deployed into infrastructure construction and renovation. Siemiatycki's goal is to better understand the key factors that make a sector or infrastructure marketplace appealing to investors. He stresses that the stable, long-term cash flows typically generated by (priced) infrastructure projects are an excellent match for the

long-dated liabilities such funds bear. This is particularly true of defined-benefit (as opposed to defined contribution) pension plans. There is thus a striking confluence of interests between pension fund investors and the inherent nature of infrastructure investment, even relative to other “buy-and-hold” style investors. He notes that the massive capital reserves and centralized management of pension funds generates the scale and level of expertise necessary to engage directly in infrastructure investment.

To better understand pension fund investment in infrastruc-ture, Siemiatycki conducted detailed interviews with eleven portfolio managers and board trustees at large Canadian public pension funds. He focuses on the issue of pension fund investment in transportation. He finds that, for surface transportation, toll roads and bridges are the most attractive asset type because they often have long-term revenue streams from direct user fees such as road tolls, airplane landing fees, boat docking charges, advertising revenue, parking fees, etc. This implies that pension funds often assume the revenue (or demand) risk associated with those transportation facilities, but require a higher expected return for those types of investments.

Siemiatycki also examines other key considerations in trans- portation infrastructure investment, such as the degree of competition faced by the facility, the geography of the investment, the degree of leverage and control, and the role of socially responsible investing in infrastructure. He concludes that, although the characteristics of transportation infrastructure investment often match the needs of large pension funds, not all such investments have equal appeal. Certain asset types, locations, and deal structures are more likely to attract pension fund investment. In particular, so-called brownfield investment, where demand for facility usage is well known, is particularly attractive.

All papers included in this special issue address interesting and novel topics in the field of transport policy. They provide useful insights into the problems and reforms dealt with, and suggest avenues for future work that other researchers will likely take up in the future.

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