Summary

Questions have recently been raised as to whether government resources should be used to ensure a level playing field for Dutch ports, as compared to foreign port competitors. On behalf of the Ministry of Infrastructure and the Environment (I&E), research (EUR-RHV en Ecorys, 2014; BCI, 2015) was conducted that indicates differences in the scale of government financing, the manner in which government resources are used, and the associated arguments for using government resources. As a follow up to these research studies, and also on behalf of I&E, calculations were made to determine what the economic effects are of government support for Dutch sea ports, both in terms of production and employment, as well as the effects on government financing (SEO, 2015). In addition to this, various other recently published studies have also calculated the economic effects of government investment in ports or of other transport measures. Some of these studies estimated a much higher economic impact. This therefore raises the question of if and how these various calculations are interrelated, and how port projects 'score' in comparison to other infrastructure projects. In this publication, the KiM Netherlands Institute for Transport Policy Analysis provides answers to these questions, based on a literature analysis.

Various analytical methods are available for estimating economic relationships and effects. The two most important perspectives are the macro-economic and micro-economic:

- The macro-economic perspective can be subdivided into statistical analyses of transactions between sectors (input/output analyses), and analyses of the consequences that a particular measure has for the national economy, as supported by macro models.
  - The input-output analyses provide a general and statistical overview of the importance of (port) sectors for the economy, and the interrelatedness of the various sectors. However, they are unsuitable for ascertaining the effects of individual measures.
  - Macro models examine the effects that measures have on the economic system as a whole, and not specifically on certain (segment) markets. The starting point for all models studied was the aim of gaining insights into the effects of a shock to the economy – from additional government investment - in terms of growth of the gross domestic product (GDP). The approach varied per study. Some studies included their own econometric model, which used data deriving from the National Accounts System and elsewhere. Some models also attempted to determine the spatial effects (for example, the dissemination of economic growth across the various regions).
- The micro-(prosperity) economic studies examine all the costs and benefits of individual measures for society; hence, they examine more than only the economic effects. The micro-economic studies use the SCBA (Social Cost-Benefit Analysis) tool to gain an overview of the national prosperity effects of each individual project, as expressed in monetary terms. In addition to the effects on the economy, all other societal effects are mapped as comprehensively as possible, and they are also preferably expressed in monetary terms. Examples of this are effects on safety, the environment and nature.

The findings of these studies, which were conducted using varying research methods, cannot be directly compared to one another. The research methods are too variable, and, in the studies examined, even within the same methods different definitions were used for sectors and measures. Due to the fact that all methods address the direct or economic effects and discuss the multipliers, it is understandable that confusion arose.

The literature analysis reveals that comparisons between the profitability of port projects and that of other transport investments can only be made with the help of the SCBA. Admittedly, macro models can also estimate the effects that policy has on the economy, but no calculations of port measures were made with these models. Investments in port projects more frequently receive positive scores than the average infrastructure project, especially in scenarios with high economic growth. There are few outliers, either from above or below. In low economic growth scenarios, the score of port projects is more likely to

be slightly below the average infrastructure project. Here, it must be remembered that SCBAs of port projects explicitly take into account the subtraction of benefits accrued from foreign countries. The profitability of port projects is therefore higher than was expressed in the national analysis. This calls for a European scope to these types of projects. And indeed, in two of the three SCBAs that were studied in greater detail, an analysis of the European costs and benefits was made.

All of which says nothing about the profitability of new projects. With every new measure, a new assessment must again be made of an investment's social costs and benefits. No generic multiplier or bandwidth can be provided. This not only applies to investments in the construction of infrastructure but also to other types of uses of government resources for sea ports. Moreover, following an estimate of the positive social benefits, deliberations pertaining to the use of government resources are still not complete. Related questions of legitimacy must first be addressed. In the measure under consideration, is a role for the government really necessary, or is a private party capable of implementing the measure? And an investment must also fit within the national government's budgetary framework. It is therefore useful to look beyond just the initial costs: for example, via VAT, income taxes and excise taxes, part of the expenditure can be 'recovered'.