

# Stakeholder management and path dependence in large-scale transport infrastructure development: the port of Antwerp case (1960–2010)

Michael Dooms<sup>a,\*</sup>, Alain Verbeke<sup>b,1</sup>, Elvira Haezendonck<sup>a,2</sup>

<sup>a</sup> Vrije Universiteit Brussel, Department of Business, Unit Management and Strategy, Pleinlaan 2, B-1050 Brussels, Belgium

<sup>b</sup> University of Calgary, Haskayne School of Business, McCaig Chair in Management, 2500 University Drive NW, Calgary, Canada AB T2N 1N4

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## ABSTRACT

The present paper argues that the effective implementation of new, large-scale seaport infrastructure projects provides a stimulus to policy makers to engage on a path of continuous reflection on who and what matters in decision-making: the continuous updating of one's understanding of spatial differentiation of stakeholder views is critical in this respect, and involves the real inclusion of spatially proximate and spatially distant stakeholders.

We analyze the role of path dependency in the socio-political process of long-term strategic port planning and the related requisite governance changes needed for effective implementation of large scale port projects. We mainly base ourselves on the most recent insights from stakeholder theory and the strategic planning literature, applied to the transport sector. Further, we take as a starting point one of the criticisms on path dependence that its proper application warrants more attention to temporal dynamics. We attempt to define these temporal dynamics and argue that (1) these are best identified by means of stakeholder-based analysis, and (2) long-term, strategic port planning based on real stakeholder inclusion can act as a driver for governance change in the broader port region or port system.

We use a case-based, action-research type methodological approach, analyzing the strategic port planning process of the port of Antwerp to support our argument. We combine diachronic analysis of stakeholder inclusion in port planning, with an analysis of the general economic and infrastructural evolution of the port area and its impacts on stakeholders since 1960, and pay special attention to port governance changes during the period 1960–2010.

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## 1. Introduction

In this paper, we analyze the role of path dependence in long-term strategic seaport planning, with a focus on two key parameters. First, the 'subject' of this planning, i.e., large-scale investment projects. Second, the governance mechanisms deployed to select and implement these projects. We build upon Pearson (2000) and Kay (2005) who argued that applying the path dependence concept involves analysis of temporal dynamics. Temporal dynamics in this case imply that important changes in investment strategy and governance are usually triggered by a set of events, i.e., exogenous events as well as shifts in the roles and behaviors of stakeholders, occurring prior to these observed changes.

We show that stakeholder-based analysis can provide a useful lens to analyze path dependence as described above. We also demonstrate that sufficient attention to stakeholder inclusion can go a

long way towards implementing effectively the 'right' investment projects and improving governance, even though there may be a significant time lag between such stakeholder inclusion and the resulting, observed changes in investment strategy and governance. Stakeholder inclusion means in this case substantial ex ante involvement of port users, local communities, interest groups, government agencies and other relevant stakeholders in the port planning process.

By identifying the effects of stakeholder inclusion (or the lack thereof) on investment strategies and governance change processes, we contribute to both stakeholder management and path dependence theories.

Several scholars have identified the need for increased participation and formal inclusion of stakeholders in infrastructure planning and related project evaluation (Banville et al., 1998; Bickerstaff et al., 2002; Stough and Rietveld, 1997). In particular local stakeholders (local communities, local interest groups, municipal governments) deserve special attention in the context of transport infrastructure planning. Various case-study-based analyses have been written of infrastructure expansion projects with a focus on the importance of the local stakeholders in strategic planning and implementation. These case studies include airports

\* Corresponding author. Tel.: +32 2 629 21 30; fax: +32 2 629 20 60.

E-mail addresses: [Michael.Dooms@vub.ac.be](mailto:Michael.Dooms@vub.ac.be) (M. Dooms), [alainverbeke@ucalgary.ca](mailto:alainverbeke@ucalgary.ca) (A. Verbeke), [Elvira.Haezendonck@vub.ac.be](mailto:Elvira.Haezendonck@vub.ac.be) (E. Haezendonck).

<sup>1</sup> Tel.: +1 403 220 8803; fax: +1 403 282 0095.

<sup>2</sup> Tel.: +32 2 629 21 31; fax: +32 2 629 20 60.

(Caruana and Simmons, 2001; Feldhoff, 2002; May and Hill, 2006), seaports (de Langen and Visser, 2005; Gleave, 1997; O'Connor, 2010; Wiegman and Louw, 2011), rail networks (Charlton et al., 1995), etc. Here, much attention has been paid to the evolving conflicts between different geographic interest levels (local versus regional versus national) and to the interface between cities or urban regions and their airports/seaports in the context of particular projects. However, little attention was devoted to path dependence, in terms of contextual forces (and changes therein) driving stakeholder inclusion, and the impact thereof on investment project analysis and governance (e.g., changes in the institutional design of port authorities, which are responsible for planning, managing and developing 'hub' infrastructure).

The path dependence concept and the related historical, institutional analysis is not entirely absent in the literature on transport infrastructure development or transport policy. Recent contributions in this sphere include applications to public–private partnerships (Mu et al., 2011) and seaports (Debie et al., 2007; Jacobs, 2007; Ng and Pallis, 2010). The broader field of regional economic development has also discussed the applicability of the path dependence concept, see Martin and Sunley (2006). These authors have included, as possible parameters affecting the path of local economic development, elements such as region-specific institutions, social norms and cultural traditions. Further, they have argued that these contextual parameters, as sources of path dependence, vary across locations, and can also be multi-dimensional in nature. This path dependence perspective is consistent with the insight from stakeholder theory that the influence of particular stakeholders and their objectives is contingent upon the context at hand (Campbell, 1997), and can change over time and through space (Beaulieu and Pasquero, 2002; Friedman and Miles, 2002; Winn, 2001).

The stakeholder concept is now commonly used in transport project evaluation (De Brucker and Verbeke, 2007), but it has not yet been included in path-dependence focused, longitudinal analyses of strategic seaport planning processes. In the present paper, we establish the link between path dependence and stakeholder dynamics. Here, we make a distinction between location-independent and location-dependent changes in the roles and behavior of stakeholders – changes driven by contextual parameters – and the impact thereof on strategic seaport planning.

## 2. Spatial and temporal dynamics of stakeholder management in seaport regions

Port authorities, which are often formally responsible for strategic seaport planning, must take into account the diverging goals and preferences of various stakeholder groups, thereby balancing the need for efficiency in day-to-day port operations and effective implementation of long-term port development plans. Notteboom and Winkelmann (2002) and Moglia and Sanguineri (2003) have illustrated how concepts from the stakeholder management literature can be applied to the port sector and contribute to sustainable port development.

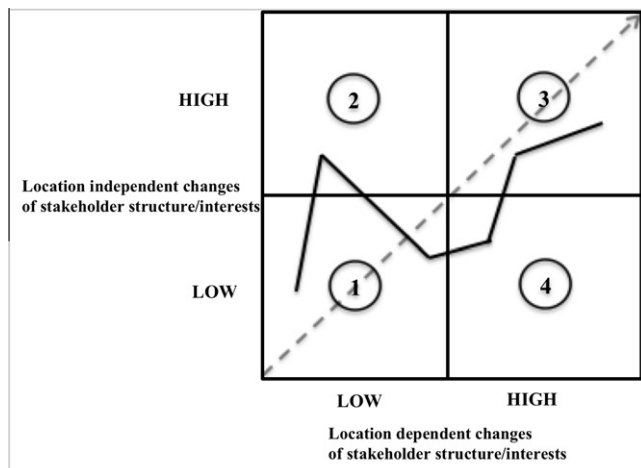
When engaging in active stakeholder management, spatial aspects should be taken into account (e.g. van Tulder and van der Zwart, 2006). In international business research, 'institutional distance' is used as a concept explicitly addressing the spatial aspects of stakeholder management (Kostova and Zaheer, 1999). The concept is applied to show the increasing challenges of stakeholder management when a firm decides to invest internationally. Institutional distance in the context of international business is determined, inter alia, by (1) the distinction between 'home' environment and 'host' environment stakeholders, and (2) the fact that stakeholder groups in different countries have different views

on what constitutes 'corporate citizenship'. According to Kostova and Zaheer (1999), an increase in institutional distance will typically make it more difficult for foreign multinational enterprises to maintain organizational legitimacy.

For port authorities, recent developments suggest that the generic concept of institutional distance has become very important. Foreign activities of port authorities are common for only a limited number of large port operating companies, such as PSA (Singapore), Hutchinson Whampoa, Dubai Ports and the Port of Rotterdam, which recently invested in a port in Oman as well as in Brazil. However, the concept of institutional distance can also be applicable in a purely domestic context, whenever the port expands further away from its historical location, e.g. from the city center towards other municipalities or locations 'populated' with different stakeholders than in the original location. In most cases, this expansion results in an increasing number of stakeholders affected by the port's development. In particular in a landlord governance model, whereby the port is owned by a local public authority such as a municipality or city, port expansion could result in increasing institutional distance and related institutional barriers to further port development. In most cases, stakeholder groups in 'host municipalities/regions' have idiosyncratic views on what it entails for the port authority to be (or become) a legitimate 'corporate citizen'. These stakeholders have historically (i.e. over a long time period) not been influenced by port development and have not experienced the related positive and negative externalities of economic port activities, as they were positioned at 'the periphery' for a long time (Ball, 1996). As a result, stakeholder expectations towards port activities and port expansion can vary substantially when taking into account spatial dimensions. In other words, the path dependent trajectories of previously peripheral stakeholders' preferences regarding port investments and governance will likely be very different from those of stakeholders located closer to the port's core. Here, a tailored approach to stakeholder management and governance is required to achieve organizational legitimacy in the entire port region. This managerial challenge may be exacerbated if a port authority develops an extended gateway strategy, explicitly intended to increase the reach of the 'home port location' into the regional hinterland (cf. Hall et al., 2011; Notteboom and Rodrigue, 2005; Rodrigue et al., 2010).

With regard to the temporal dynamics of stakeholder management in the port context, a first observation is that this dimension is actually strongly linked to the spatial dimension, because as noted above, previously peripheral stakeholders (from both a geographic and managerial salience perspective) lack the experience of port activities. Second, port planning processes as well as the lead-times for the construction of port development projects are lengthy (Heaver, 1995). Large-scale port development projects are typically characterized by long-term impacts, subject to a high level of uncertainty (e.g. employment impacts, environmental impacts) due to changes in the socio-economic, technological and political environment. When impacts actually materialize (and diverge from initial expectations), this may lead to changes in the salience stakeholders attach to impact categories over time. Such dynamics add to the complexity of managing stakeholder relations, in particular for the key institutions managing port development, i.e., port authorities.

Both above dimensions, i.e., the geographic (or spatial) dimension and the dynamic (or temporal) dimension, represent two faces of path dependent stakeholder management. The vertical axis in Fig. 1, shows 'location independent changes in stakeholder structure and interests', with 'structure' referring to changes in the stakeholders themselves, i.e., their appearance or disappearance, and 'interests' referring to changes in objectives of existing stakeholders that are unrelated to location. Here, path dependence obviously matters, but stakeholder groups' preferences are not affected by geography. Examples include the general increase of salience of environmental pressure groups and changes in the regulatory re-



**Fig. 1.** Location versus non-location based changes of stakeholder structure and interests.

game affecting port strategies and development (e.g. the increased role of the European Commission as a supranational force for European ports), general economic trends (e.g. developments in the container sector) or technological developments such as vessel size evolution. The horizontal axis in Fig. 1 represents the 'location-based changes in stakeholder structure and interests', referring to changes that can be linked directly to a location (and typically to the new locus of port expansion). Drivers of such changes include, inter alia, new local regulations and stakeholder actions influencing port development, shifts of power resulting from local political elections, and reactions of host communities to port expansion that are different from the reactions in the port's home base.

When considering both faces of path dependent stakeholder management, a matrix (Fig. 1) results. Within this matrix, moves occur over time, and these moves ultimately determine what port investment strategy and port governance should look like. Indeed, many ports have over the past few decades evolved from a position in the bottom-left corner of Fig. 1 to a position in the top-right corner, meaning that they have been subject to significant exogenous changes in the economic system in general that have affected stakeholder groups' preferences independently of location, but also to changes that have influenced stakeholder preferences dependent upon location. The latter have resulted from continuously extending the scope of port activities to neighboring host communities, with the perceptions and interests of these previously peripheral stakeholders sometimes far removed from the positive preferences towards the port that are typical for 'home based' stakeholders.

It is important to note that movements along both dimensions in Fig. 1 do not necessarily take place in synchronized fashion (represented by the dotted line in Fig. 1), suggesting that path dependence is actually a complex phenomenon in this context (represented by the full line in Fig. 1), in particular when a stakeholder-based approach is adopted to explain changes in port investment strategy and governance. In the following sections, we will demonstrate that over a 50 year time period, the port of Antwerp has moved from a position in quadrant 1 in Fig. 1, towards quadrant 3, but not always capable of adapting its governance structure to changes in both dimensions in a timely fashion.

### 3. Background, methodology and findings of the case study

#### 3.1. Background

The case description, findings and input included in this article result from a comprehensive research study for the Province of

East-Flanders and the Inter-municipal Cooperation Waasland (ICW) aimed at an analysis of socio-economic, spatial and environmental impacts resulting from the development of the left bank of the port of Antwerp (also called the "Waaslandhaven"). The authors of this paper were actively involved as action researchers in all study phases, between April 2005 and February 2007, rigorously following the action research principles prescribed by Edén and Huxham (1996), Schein (2008), Susman and Evered (1978) and Westbrook (1995).

The port of Antwerp historically developed on the right bank of the river Scheldt, within the City of Antwerp's territorial boundaries. In the 1960s, the strong demand for industrial land pushed the port towards developing the left bank area, located on territory outside the city of Antwerp, in a different province (the province of East-Flanders rather than the province of Antwerp). Around 10,000 hectares of land were expropriated from the local communities on the left bank to allow further port expansion. In the 1970s and 1980s, industrial growth was slower than anticipated, and in the 1990s, container traffic grew very fast. These tendencies drastically changed the socio-economic context and stakeholder expectations that had been instrumental to a political agreement reached during the 1970s. More recently, the development of a long-term vision by means of an 'Economic Development Study' during the strategic planning process for the port of Antwerp, published in 2005, provided new insights into the potential development of the port and the related impacts on the different stakeholders, such as, inter alia, the financial revenues for the Antwerp Port Authority (APA), fully owned by the City of Antwerp, as well as the increase of transport flows in the total port area. As a result, new stakeholder demands, in particular from regional and local communities on the left bank, increased and led to strong pressures to change the governance structure of the port of Antwerp as a growing imbalance was perceived between the beneficial impacts (which would flow mainly to the right bank) and the nuisances of port development (which would affect mainly the left bank). Importantly, the 'Economic Development Study' mentioned above was the direct reason for these new pressures, as the left bank stakeholders also felt that the APA would be more open than in the past to engage in a constructive dialogue on future governance, given that all information on future economic development scenarios was now on the table, in a comprehensive and transparent fashion.

Given the formal acceptance of the results of the Economic Development Study by the right bank stakeholders, two important left bank stakeholders, namely the Province of East Flanders (as an institution co-responsible for the strategic planning process) and the ICW (representing the municipalities of the sub-region on the Left Bank) felt that there was momentum to unbundle the study results and to perform additional calculations in terms of the distribution of broad categories of impacts (i.e. financial, socio-economic, spatial, environmental) between right bank and left bank stakeholders.

These calculations were to be made using the current governance structure as the basis. The research was then validated by right bank and left bank stakeholders in order to provide a common basis for negotiations to craft a more balanced and legitimate governance structure, which would legitimize the role of the port of Antwerp and make the implementation of the long-term development vision possible. The main aim of the research, besides providing a detailed historical account of port development impacts, was the development of a methodologically sound system, accepted by the community of stakeholders, to 'allocate' the future, quantifiable impacts of the long-term development of the port to different stakeholder groups through calculations and quantification, complemented with additional research on the qualitative impacts of long-term port development.

Another part of the research involved an analysis on how to increase the legitimacy of port activities within the current gover-

nance structure, as well as exploratory legal research into alternative governance models. This research was conducted by legal scholars in the University of Antwerp academic community, specialized in maritime and port management law. This exploratory legal research resulted in two approaches in terms of alternative governance models, which were based on the outcomes of – and evaluated against – the impact analysis (including both a historical and future-oriented component). The first approach started from the idea that within the current governance structure, the existing legal framework(s) apparently offered unexploited possibilities for left bank stakeholders to increase their influence and to weigh on the decisions of the APA. The second approach suggested substantive changes to the legal framework and the related governance structure, such as e.g. changes to the shareholder structure of the APA, and the creation of port holding company bundling left and right bank port assets into one legal structure.

The present article does not include the in-depth legal analysis of these alternative future governance mechanisms for the port, but focuses instead on the economic analysis conducted – especially the development of stakeholder relations and resulting governance structures from a historical point of view, as well as the unbundling of future port development effects over the left bank and the right bank of the Antwerp port as an expression of stakeholder impact analysis, affecting port governance.

### 3.2. Case study methodology

Several scholars have proposed qualitative, case-study-based approaches as a valid research method to apply stakeholder and path dependence theories. In the context of stakeholder theory, we can refer to [Friedman and Miles \(2002\)](#), [Munda \(2004\)](#) and [Winn \(2001\)](#) as examples of case study based approaches. For studies applying the path dependence concept, [Bennett and Elman \(2006\)](#) provide an overview of the different strengths offered by case study methods, including detailed, comprehensive analysis of historical cases.

In line with these case studies, we used the following sources: direct observation and interaction during formal and informal meetings, interviews, and content analysis of formal studies, documents and archival records. Formal meetings included seven meetings with a steering committee (consisting of nine members: two representatives from the Province of East-Flanders, three representatives from ICW and four representatives from the Left Bank Company (LBC)) and two meetings with an expert and stakeholder committee (consisting of a larger stakeholder representation of 21 members, including experts from the left bank municipalities, the APA and the Flemish regional Government). Informal meetings and interviews were held with a variety of stakeholders and experts, such as the CFO and senior staff members of the APA for financial modeling purposes; experts within the APA and LBC, as well as large terminal operators to gain insights into the separate dynamics influencing traffic development on the right and the left bank. Interviews were also held with the municipalities to gain insight into the evolution of costs and benefits of municipalities linked to port area and activity growth. Fifteen individuals participated in informal meetings and interviews.

A final source for the development of the case study is a content analysis of 52 formal documents and studies, not including annual reports of the LBC and APA. There were five main sources of these documents. First, documents and formal studies on the historical development of the Left Bank, as well as specific data on land use and financial parameters, provided by the LBC and ICW. Second, the members of the legal research team had access to a large library of documents with regard to the historical development of the Left Bank. In particular legal texts describing the current governance structure as well as reports from dedicated committees of

the Belgian Parliament during the 1970s and 1980s were accessed. Third, the APA provided a large set of formal studies conducted in the past, inter alia all social cost-benefit analyses of projects on the Left Bank. Fourth, the research team sourced all relevant policy documents, minutes of city council meetings and formal studies with a link to the left bank development from the APA archive/library. These included documents dating from 1800 until 2005. Fifth, the research team used several documents from the ongoing Strategic Planning Process for the port of Antwerp, including studies on land use, traffic growth and the Economic Development Study.

### 3.3. Results and findings

#### 3.3.1. Introduction

Here, we analyze the historical changes from a stakeholder management perspective, with a focus on the period 1960–2005. Furthermore, we assess each stakeholder group's shifting perceptions of the expected future impacts of port development for the period 2005–2030. We demonstrate the importance of such shifts for policy makers and port managers, who need to take into account path dependence and dynamic and spatial aspects of stakeholder management when designing and implementing port governance structures. We argue that without a governance system considered as legitimate by all stakeholders involved, the implementation of the vision for long-term infrastructure development (horizon 2030) as accepted by the stakeholders during the strategic planning process for the port of Antwerp, becomes highly uncertain. In other words, though high-level legal planning decisions under the form of an agreed-upon 'Strategic Environmental Impact Report – S-EIR' may be performed, the approval of subsequent specific planning decisions on the realization of concrete future projects of port development (e.g. the construction of a new dock) could be jeopardized due to a lack of legitimacy of the governance structures managing the port area. Here, path dependence plays a role as stakeholder preferences influenced by the past heavily constrain current and future decision-making regarding port expansion.

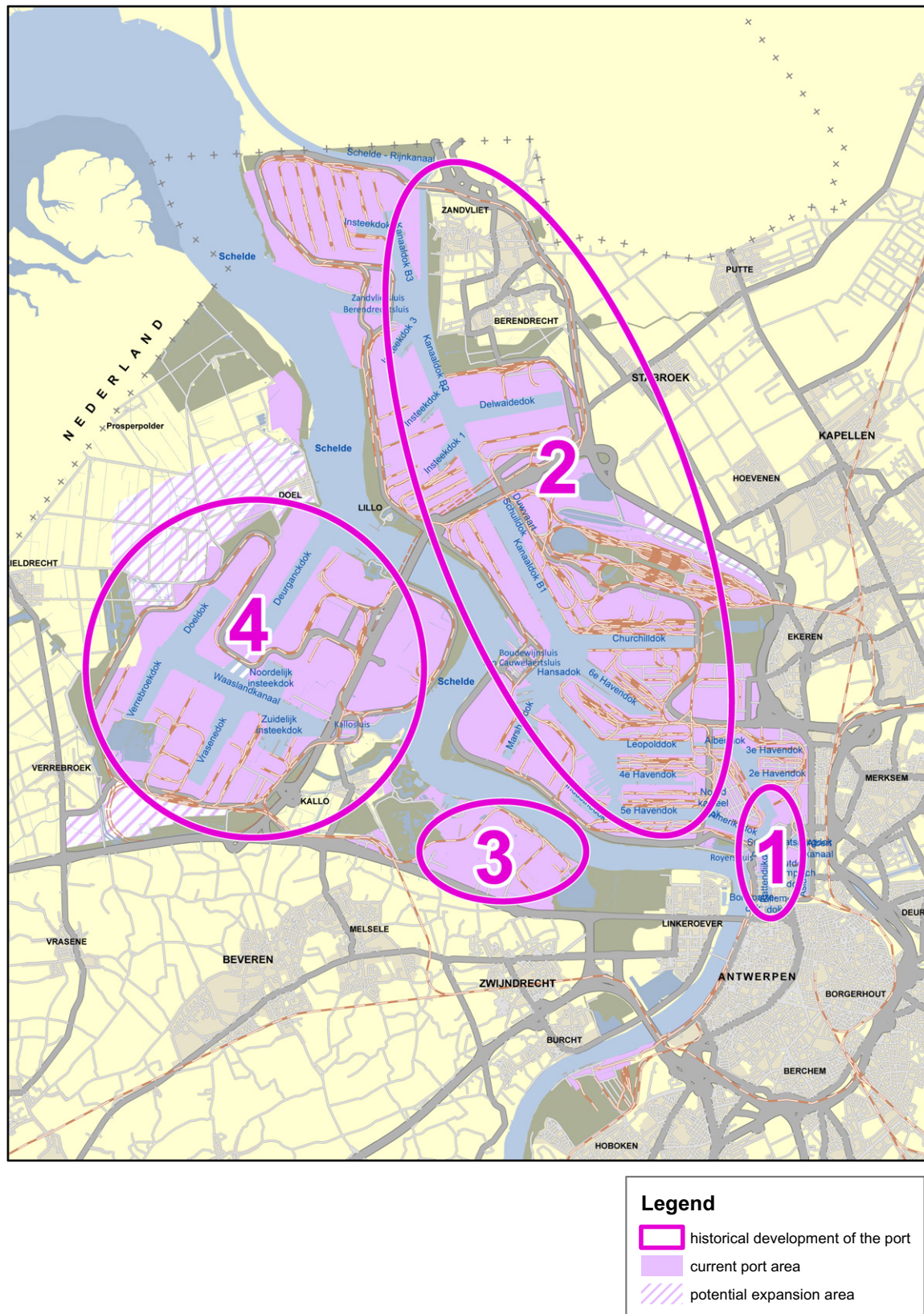
#### 3.3.2. Historical analysis of stakeholder relations and impacts in the Waaslandhaven (1800–2005)

[Fig. 2](#) shows the physical lay-out of the port and the different development phases.

The first plans to expand on the left bank (areas 3 and 4 in [Fig. 2](#)), according to the archive of the APA, date back to the Napoleon era (1800–1815), when plans were developed to build a maritime city on the left bank. During the period 1815–1850, no other concrete plans to develop the left bank area into a port area are known according to our search of the archives of the APA. In the period 1850–1914 (start of the First World War), several plans to develop the left bank, designed and financed by private parties (private persons, shipping companies, etc.), were presented to the Antwerp City Council, but those were not approved due to a potential loss of employment and economic activity for the right bank community. Furthermore, the Antwerp City Council favored the expansion to the North on the right bank (area 2 in [Fig. 2](#)) ([Suykens, 1965](#)).

From an institutional point of view, it is remarkable that this position was adopted, as the City of Antwerp did not have the full right of initiative with regard to the development of the port, which at the time belonged exclusively to the Belgian National Government. Finally, it is noteworthy that the different proposals all contained elements such as (a) 'unity of governance' between the port components on the right bank and on the left bank; (b) a formal representation of the State in the governance structure of the port; and (c) the construction of infrastructural links (tun-





**Fig. 2.** Map of the port of Antwerp. Legend: 1. Historical location of the port; 2. Port and industrial development of the Right Bank (Accomplished in the 1980s); 3. First industrial development of the Left Bank (end of 1950s); 4. Port and industrial development of the Left Bank (started 1960s, still ongoing). Area 1, 2, 3: Territory of the Province of Antwerp (Zwijndrecht, area 3, since 1923). Area 4: Territory of the Province of East Flanders. Source: Port of Antwerp and own additions.

nels) between the right and left banks. The main argument of those crafting plans for the left bank, and who proposed changes in the

governance structure (including the proposal to allow representatives of the State in the port's governing body), was that the impact

of port activities stretched beyond the borders of the City of Antwerp (Suykens, 1965). However, in these documents, there is no mentioning whatsoever of left bank stakeholders to be included in a new governance structure in case the expansion were realized.

The diverging preferences of the City Council, the State, as well as the representatives of private developers, clearly suggest that from a historical point of view, the spatial dimension of impacts played an important role in the discussions between the different stakeholders, where port expansion is concerned. Eventually, no decision was taken and after the end of the First World War, the port continued to be developed on the right bank. No new plans for expansion on the left bank were discussed between the two World Wars. From the point of view of left bank stakeholders (municipalities, local communities, as well as the Province of East Flanders), there are no indications in the archives that left bank representatives were involved or consulted in the discussions in the period 1850–end of the Second World War.

Furthermore, in several formal studies and documents, a clear evolution is found in the type of economic activity that stakeholders believed should be developed on the left bank: whereas in the period just before 1900 the commercial activity of the port (cargo handling and distribution) was thought to be driving a future left bank development, this increasingly shifted towards maritime industrial activity: in 1920 the City of Antwerp explicitly proposed to the State to annex part of the left bank area to locate maritime and industrial firms. In the 1960s, 'traditional' port activities such as pure cargo handling and distribution were even explicitly perceived as having lower priority vis-à-vis maritime industrial development. Given the long lead times for port development, this change in preferences also suggests that when doing long term planning for port infrastructure, attention should be devoted to the changing nature of stakeholders' preferences over long time periods.

After the end of the Second World War, most European economies started recording strong growth in the 1950s. The port of Antwerp more than doubled its traffic between 1953 and 1965: from 28.3 million tons to 59.4 million tons. This period (1955–1965) also ended a 10-year development scheme on the right bank, after which further expansion possibilities on the Right Bank (area 2 in Fig. 2) were not possible anymore for space limitations. Already at the start of this development program, the port authority had stressed the need for expansion on the left bank (Nicqué, 1990). In 1964, the National Bank of Belgium announced in its yearly report the plan to reconvert 10,000 hectare of agricultural area on the left bank into a maritime and industrial development area (at the time the largest proposal for land reconversion in Europe). It is noteworthy that the decisions to expand the port and industrial activity on the left bank in 1965, were already preceded, since 1959, by the investment of large multinational industrial firms on the territory of the Municipality of Zwijndrecht (area 3 in Fig. 2). From 1968 on, important steps were taken towards implementing this expansion. For example, a large number of expropriations were decided upon to allow construction of a maritime access to the left bank area (the Kallo-lock). This led to loud protests from farmers and local community representatives, as government decisions had been made unilaterally, based on analyses performed by right bank stakeholders such as the Antwerp Branch of the National Bank of Belgium in 1963 and a special committee of civil servants of the City of Antwerp (ACUSH – Committee of Civil Servants for the Expansion of City and Port) in 1965.

In the meantime, the Economic Council of the Province of East-Flanders, had analyzed the project and formulated several remarks (EROV, 1966), which were ignored in the reports of the right bank stakeholders. According to EROV, the location of the area posed problems from an institutional point of view, as it belonged to the territory of the Province of East Flanders. An adapted gover-

nance structure, with participation of left bank stakeholders, was considered a necessity. From a social policy perspective, EROV expressed the need for social guidance following the proposed expropriations, the changing face of the region (from agriculture to industry), the housing problems related to the development, the loss of green areas and the loss of river tourism. From a mobility perspective, attention was asked to the issue of the commuting flows. It is remarkable that the flow of goods to and from the hinterland was not mentioned as an infrastructural or environmental challenge. Only in the 1980 and 1990s, negative environmental externalities resulting from port and industry freight transport flows such as atmospheric pollution, noise, road congestion, and security came to the forefront in discussions regarding port expansion on the left bank.

During the 1970s, further studies were conducted and discussions held on the scale of the expansion as well as the governance structure. For the first time, left bank stakeholders were invited to the Belgian Parliament to express their concerns in dedicated committees. Based on these discussions, a compromise was reached within the Belgian Government and a governance framework was proposed whereby the APA (fully owned by the City of Antwerp) would manage all 'traditional' port activities (which basically means the areas destined for cargo handling terminals without a direct link to maritime industry). Simultaneously, a new company would be established, which would be responsible for the development of the industrial area. This new company – "Company for the Management of Land and Industrialization of the Left Bank" would be called the "Left Bank Company (LBC)", and it has several minority shareholders, including:

- The Flemish Region (15%).
- The Antwerp Port Authority (APA) (37.5%).
- The Inter-municipal Cooperation of the Waasland (ICW), grouping all municipalities of the sub-region Waasland (34.6%).
- The Municipality of Beveren (10.4%).
- The Municipality of Zwijndrecht (2.5%).

As a result of the above, all governance activities regarding the infrastructure and land management of the left bank area have been divided between two companies as of 1978: on the one hand the APA, on the other hand the LBC. It is remarkable that the APA has an equity share as well as representatives on the Board of Directors of the LBC, and not vice versa. However, during the period between 1978 and 1995, this governance structure, though asymmetrical and an imperfect compromise for all parties, was subject to little criticism, since the infrastructural and economic development of the left bank proceeded much slower than expected; the economic crisis in the 1970s and the beginning of the 1980s had strongly slowed down industrial development in Western Europe. Furthermore, developing countries were competing with industrial clusters around the world to attract footloose investments.

From 1995 on, tensions on the lack of formal representation of left bank stakeholders in the governance structure of the APA started to rise again as plans to develop a new container handling facility (the Deurganckdok) were made public by the APA. This implied the transformation of development areas initially classified as industrial land (and supposedly, once developed, falling under the governance of the LBC) into traditional cargo handling facilities, which meant that the APA would substantially increase its influence in the left bank area, with new financial revenues flowing to the APA, i.e., to the main right bank stakeholder as it is fully owned by the City of Antwerp. Eventually, the project was approved in 1998 on all government levels, and no changes were made to the extant governance structure, despite fundamental concerns of left bank stakeholders with regard to the legitimacy

of the decision, and the related future legitimacy of the APA in the left bank area. The resulting investment project, the Deurganckdok, started operating in July 2005.

As a conclusion, from a historical point of view, and adopting a path dependence perspective, decisions regarding the governance and the expansion of the port of Antwerp on the left bank, have been made with little or no input from left bank stakeholders, as they were not formally represented within the prevailing institutional structures. In the period 1960–2000, two important planning decisions were proposed by the APA and right bank stakeholders, and consequently approved by various higher government levels, fundamentally altering the economic future of the region on the left bank and increasing substantially the influence of the APA in the ‘host’ region. First, the decision to transform agricultural areas into port and industrial areas in 1965; second, the decision in 1998 to transform what was mainly believed by left bank stakeholders to be future maritime-industrial areas (to be managed by the LBC) into maritime cargo handling and distribution facilities (to be managed by the APA). From an institutional distance perspective, this means that the APA is increasingly faced with opposition of host stakeholders and could lose legitimacy in the near future when new port expansion projects need to be developed on the left bank.

Furthermore, the combination of (1) continuous discrepancies between real and projected positive impacts over time (such as employment and traffic growth), and (2) the identification of a new substantial negative impact under the form of increasing hinterland transport and related externalities – due to decisions to alter the economic vocation of the left bank (mobility generating containerization instead of industrialization, which is considered as an activity generating less mobility) – have further damaged the APA’s societal legitimacy as perceived by the left bank stakeholders. The case of left bank stakeholders to change the governance structure of the APA has been strengthened further. Referring to the concept of institutional distance, a potential solution to reduce this distance between the APA and the host stakeholders of the left bank, could indeed be to increase the formal representation of left bank stakeholders in the governance structure of the APA.

With regard to spatial and dynamic aspects of stakeholder management, it is therefore useful, based on the conclusions of the historical perspective and the analysis of dynamic aspects of impacts, to examine how the different impacts that influence stakeholder preferences may change in the long term (2030). The potential future impacts of port expansion perceived by the variety of stakeholders can provide insight on the extent to which a formal representation of left bank stakeholders is necessary in order to guarantee sustainable and legitimate port expansion on the left bank. In other words, the focus should not merely be on past experience, but also on potential future impacts and the influence thereof on stakeholder preferences.

### 3.3.3. Projected impacts of the expansion of the Waaslandhaven (up to 2030)

During the strategic planning process for the port of Antwerp, an Economic Development Study was conducted. In this study, a variety of long term impacts (until 2030) was calculated of the development of the port as a whole, based on a traffic forecast and industrial development scenarios. The results of this study were formally validated by various stakeholders on the right bank and the left bank, such as the APA, the LBC, the ICW, the Flemish Regional Government and the Municipalities of Beveren and Zwijndrecht. The results and the overall approach used by the Economic Development Study provided the basis for more detailed calculations for the purposes of this research project. In the present paper, we limit ourselves to the main results of these calculations. The fol-

lowing impacts were unbundled and the change in their share in the total impact of the port area, was calculated wherever relevant:

- Traffic, value added and employment: the calculations showed that the left bank will generate approximately 50% of traffic and value added in 2030. Fig. 3 shows the evolution of traffic and value added. The share of the left bank in terms of employment generation in the transport sector is expected to rise from 19.7% to 45.3% in 2030.
- Mobility impacts: these calculations showed that the impact of additional road transport will largely be experienced by local communities on the left bank, whereas on the right bank, a temporary decrease will be experienced due to a modal shift.
- Port dues and concession fees: one of the main reasons of opposition by left bank stakeholders to the present governance approach, is that the expected future financial revenues of the port expansion on the left bank will largely accrue to the APA (fully 100% owned by the City of Antwerp). Under the current situation, the collected port dues by the APA on the left bank are limited, as the left bank accounts for only 15% of the total port traffic. The results (see Fig. 4) show that after 2015, the left bank activities will contribute more to the result of the Port of Antwerp in terms of income from the container business than the right bank. In absolute terms, a financial flow of ca. 60 million euro per year (nominal value 2005) is expected in the long term. Calculations based on potential future land use show that the share of the left bank in the total revenue of concession fees of the APA will increase from 18% in the current situation to 37–43% in 2030, depending on the growth scenario adopted. Finally, it should be mentioned that a third financial flow should be considered, since the APA is a shareholder of the LBC. Calculations based on the current business model of the LBC showed that the APA could receive up to 2 million euro of dividends per year (a 10-fold increase as compared to the situation in the period before 2005; nominal value 2005).
- Local taxes: both municipalities on the left bank levy local taxes on economic activity. For the municipality of Zwijndrecht, the impact is very limited as there is only limited space available for expansion and high tax rates are already applied. For the municipality of Beveren, calculations showed that the fiscal revenues could triple between 2005 and 2030.
- Other, non-quantifiable impacts: from the point of view of the municipalities and their inhabitants, a number of non-quantifiable negative impacts were identified, such as higher operational and capital costs of municipal services, including effects on demand for services from the fire brigade, the police, and the municipal administration; environmental impacts such as emissions and noise; reduced safety due to increased road traffic; transport of dangerous good by road and rail through den-

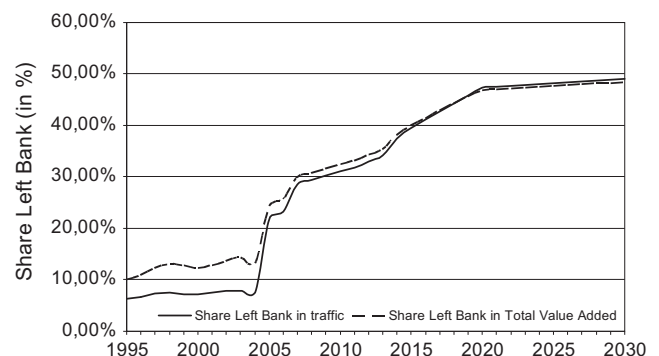


Fig. 3. Future share of the left bank in traffic and value added.



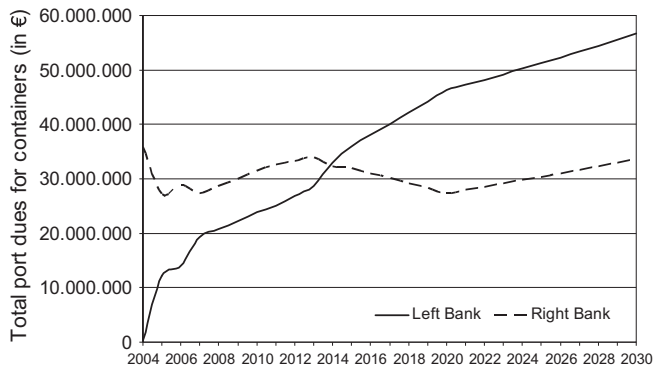


Fig. 4. Port dues from container traffic.

sely populated areas; reduced local mobility; risk of polluted soils. On the other hand, for the inhabitants, the higher fiscal revenues from the port and industrial activity earned by the municipalities affected could result in lower property and personal income taxes, and in a higher than average supply of public infrastructure (covering, *inter alia*, sports, education, and culture). Furthermore, port and industrial companies typically support various local initiatives under their corporate social responsibility (CSR) programs. However, these benefits are not unique to port development: other municipalities in the Flemish Region share the same characteristics (such as the combination of low property and income taxes for inhabitants and a better than average public infrastructure), without suffering from negative externalities.

### 3.3.4. Overall evaluation of variations in impacts and resulting stakeholder preferences

Here, we summarize the results to show the link between variations in impacts, their influence on stakeholder preferences, and the implications for port governance. The objective of this overall evaluation is to show the large variety of impacts affecting preferences, rather than to compare the relative importance of criteria and/or make normative statements on the significance of impacts. For illustrative purposes, the positive and negative assessments of the impacts as made by stakeholders, were included based on the results of the impact analyses described in Section 3.3, and complemented with insights obtained from the stakeholder dialogues (formal and informal meetings) conducted throughout the research. The resulting, overall evaluation in Table 1 gives an overview of how future impacts resulting from port development will be perceived by the stakeholders under the current port governance framework.

For each impact and for each stakeholder, the evolution of stakeholder preferences is shown, more specifically the perception of the legitimacy of port activity and development in the Waaslandhaven, on a (---) to (+++) scale with 0 as neutral score.

Blanks were left in Table 1 to reflect instances whereby the evolution of a specific impact does not influence the stakeholder preference towards port activity and development (e.g. the evolution of concession fees has no relevance in term of affecting the preferences of the Flemish Region). The qualitative assessment on the (---) to (+++) scale is based on either real quantifiable impacts (see Section 3.3.3 for some examples) and/or the contribution of a specific impact to the organizational objectives of a stakeholder. A good example of the latter is the following: the development of the left bank has caused problems for the Inter-municipal Cooperation of the Waasland (the ICW, i.e., a 'host' stakeholder) as some member-municipalities such as Beveren benefit from additional economic growth as well as additional revenue from taxes,

whereas sister municipalities do not – but undergo similar substantial negative impacts instead – which could lead to imbalances in the sub-regional economic development, and also jeopardize the functioning of the ICW, given its internal conflicts. As a result, the development of the left bank in the period 2005–2030 is very likely negatively to influence the preferences of this 'host' stakeholder, and thus jeopardize the legitimacy of further port development as this stakeholder may well veto further expansion.

Based on the overall evaluation in Table 1, it can be concluded that a real risk exists of future loss of organizational legitimacy of the APA as perceived by left bank stakeholders, in particular the municipalities of Beveren and Zwijndrecht as well as the ICW. Both the evolution of the impacts and the resulting influence on (future) stakeholder preferences towards port development, show that the APA (the 'home' stakeholder) will most likely adopt a positive preference in the future, whereas the 'host' stakeholders will develop a negative preference. In order to increase the legitimacy of the APA and to secure future port development of the Waaslandhaven on the left bank, changes to the current governance structure are necessary. This can be realized through formal representation of left bank stakeholders in the governance structure, or the design of a new governance structure (e.g. merger of the Left Bank Company with the APA) – in order to alter the negative attitudes of host stakeholders on the left bank.

## 4. Discussion

Based on a historical analysis of socio-economic, spatial and environmental impacts and their influence on stakeholder preferences (period 1800–2005), as well as calculations of these future impacts with regard to the development of the Waaslandhaven on the left bank of the port of Antwerp, we have shown that the spatial and dynamic aspects of stakeholder management should be carefully analyzed in order to secure sustainable port development in terms of local and regional legitimacy of a port authority, even if a broadly accepted vision for future development of the port area already exists. Furthermore, in the context of path dependence, special attention needs to be devoted to both location dependent and location independent changes in stakeholder structure and interests, which are often linked to project implementation and (non-)realization of socio-economic, spatial and environmental impacts, as well as to what constitutes appropriate governance structures for port areas.

Based on the information of Section 3, Table 2 summarizes both the location dependent and location independent sources of changes in stakeholder structure and interests over the 1960–2010 period, as well as changes in the governance structure of the port area.

Table 2 also suggests on a-synchronic development of location dependent and independent changes throughout the 1960–2010 period. Dividing this period into decades, the location dependent and location independent sources of changes in stakeholder structure and interests exhibit varying levels of intensity. Based on the detailed insights of the historical analysis, Table 3 provides a summary of Table 2 by suggesting a general and overall assessment per decade, as well as the related governance changes.

Fig. 5 combines the results of this analysis, showing that the Port of Antwerp has moved from quadrant 1 to quadrant 3 in an incremental fashion through ever increasing complexity in terms of stakeholders and interests to be managed, but in an a-synchronic way, which we believe has hampered discussion on altering governance structures. From the analysis we conclude that discussions about changes to governance in the context of the port of Antwerp generally occurred: (1) *after* periods when the intensity of location dependent and location independent changes of stake-



**Table 1**

Overall evaluation of the future development of the Waaslandhaven and the impact on stakeholder attitudes.

Expected evolution of stakeholders preferences over time, without change of governance structure						
Impact	FR	APA	MZ	ICW	LBC	MB
Traffic Growth		+++				
Employment	++	++	+	++		+++
Added value	++	++				
Port dues (containers)		+++				
Concession fees		+++			+	
Dividend flow Left Bank	+	+	+	+		+
Municipal fiscal revenue			0			++
Low municipal tax pressure			–			0
Municipal public infrastructure			0			+
Investment costs	–	---	–	0	0	--
Operating costs	–	–	–	0	–	--
Local environmental impact			---			---
Local mobility impact			---			---
Safety and Security			---			---
Unbalanced subregional growth			–	--		–
Legitimacy governance structure	0	0	---	---	0	---
Total	5+/2–	14+/4–	2+/16–	3+/5–	1+/1–	7+/17–

Legend: Very positive evolution: +++; Positive evolution: ++; Moderate positive evolution: +; Neutral: 0; Moderate negative evolution: –; Negative evolution: --; Very negative evolution: ---.

Abbreviations: N/A = Not Applicable; FR = Flemish Region; APA = Antwerp Port Authority; MZ = Municipality Zwijndrecht; ICW = Intermunicipal Cooperation Waasland; LBC = Left Bank Company; MB = Municipality Beveren.

holder structure/interests were both medium to high; and (2) at points in time when there were less 'intense' location dependent and location independent changes. This conclusion also supports Pearson's (2000) and Kay's (2005) views that a proper application of the concept of path dependence warrants more attention to temporal dynamics.

The case study also shows that path dependence helps to explain how the societal legitimacy of the APA has decreased over time, despite sustained economic growth in the period 1990–2005. From an institutional perspective, the current perception of an unbalanced governance structure is clearly linked to the legal frameworks created in the 1970s, including the creation of specific organizations (such as the LBC), as well as a number of controversial planning decisions taken without inclusion of left bank stakeholders (expansion decisions in 1963 as well as 1998 when a large container terminal expansion project was agreed upon). Problems associated with the effective implementation of the 1998 planning decision, such as litigation from local community stakeholders and interest groups, forced the APA, within the framework of Regional Government decisions, to start a new type of strategic planning process in 2001, characterized by stakeholder inclusion in order to avoid further litigation against port development projects. This example of what we could call, in line with Hall (2003), institutional transformation, provided a further platform for institutional change as the governance structures of the port area as a whole, in particular the representative structure and tasks of the APA, were again explicitly questioned by a variety of stakeholders. Here, the assessment of long-term future impacts of the present governance structure, made possible by a previously completed study accepted by all stakeholders, and based on real stakeholder inclusion (e.g. by joint fact finding and formal representation in steering committees), provided a momentum shift in the governance structure debate (which was never really settled, even after the creation of the LBC, and remained somewhat latent since the 1980s). Clearly, self-reinforcement or positive feedback processes are present (Pearson, 2000) and the costs of changes to the current governance structure will probably increase as the projected impacts, especially negative externalities, materialize in the future. Moreover, future port expansion, most likely under the form of additional container capacity, will probably be vetoed in task forces or become the subject of litigation in courts by left bank stakeholders. In other words,

future port expansion on the left bank will probably come at a price, namely a fundamental change in the way the port of Antwerp is governed (the so-called 'institutional approach'). If not, one could argue that a sub-optimal path will be followed, confirming the current governance structure, thereby probably jeopardizing the port of Antwerp's position as a container hub in the long term – a type of negative 'lock-in' in terms of the regional economy (Martin and Sunley, 2006). Also, in line with Page (2006), we should take into account additional negative external or exogenous effects, in our framework in most cases directly related to location independent changes of stakeholder structure and interests, when adopting a path dependence perspective, such as the evolution in vessel size (potentially harmful to the competitive position of a river port such as Antwerp) or a structural slowdown in container traffic growth due to a long economic crisis. When such paths become reality, container terminal expansion will probably be delayed, and consequently the discussion on the institutional structure will also stall. Such a situation could be further strengthened by the stickiness of the 'local political economy' and 'human agency' (Hall, 2003) or also the 'entrenchment of certain institutional arrangements' (Levi, 1997), leading to a status quo in terms of the organizations overseeing regional development. In fact, the economic and financial crisis of 2008/2009, resulting in a severe slowdown in traffic growth, has shifted the stakeholder interests from the governance issue towards other competitiveness issues such as labor issues in the conventional cargo sector (a location dependent source of stakeholder structure/interests changes given the particular organization of labor in the port of Antwerp) and efficient hinterland infrastructure and operations (a location independent source given the global tendency towards port regionalization, see Notteboom and Rodrigue, 2005). Only limited progress was made in the governance structure debate, under the form of an additional study during 2009, based on joint fact finding of left bank and right bank stakeholders, on the financial and organizational impacts of alternative port governance models. The results of this study were not made public. Elections at the municipal level, a potential important source of location dependent changes of stakeholder structure and interests, foreseen at the end of 2012, could potentially bring the issue again into the societal and political debate. The above elements also confirm the multi-dimensional nature of path dependence as suggested

**Table 2**

Overview of location dependent and location independent sources of changes in stakeholder structure and interests (1960–2010).

Period	Location dependent sources of change	Location independent source of change	Governance structure changes and stakeholder actions
Pre-1960	Several proposals to expand port on the Left Bank, by Right Bank stakeholders (not implemented given availability of space on Right Bank)	World Wars and economic crises reduce long-term growth rates and allow further expansion on the Right Bank	No significant changes in structure/involvement of Left Bank stakeholders
1960s	1963–1965: Approval of plan to expand on the Left Bank  1966: Report of EROV (Left Bank governmental institution) pointing to negative social and mobility externalities 1968: First expropriations on Left Bank	Strong economic growth leads to expansion of US multinationals to Europe; industrial expansion/ process industry seen as main driver of economic development in European port areas Port expansion exclusively evaluated in terms of economic criteria/contribution to welfare in economic terms	Decision making exclusively by Right Bank stakeholders and central government  Left Bank stakeholders express need to change governance structure of APA  Protests from farmers and local communities
1970s	Start of construction work  Political willingness on the level of the National Government to involve Left Bank stakeholders	Economic crisis (oil shocks) slows down expected industrial development	Left Bank stakeholders invited to parliament for hearings Creation of the LBC as compromise between stakeholder interests
1980s	1986: First maritime traffic on Left Bank  1989: Regional Government becomes responsible for port development policy	Economic volatility, crisis and globalization further reduce competitiveness of Left Bank to attract industrial companies	Status-quo
1990s	1995: Proposal to shift the industrial vocation of the area to container handling facilities (Deurganckdok project) 1998: Regional government approves proposal; reconfirms in 2001 with emergency decree following litigation	Strong growth in the container sector; port competition requires focus on attracting containerized cargo Growing attention paid by local communities to environmental spill-overs  Supranational government (European Commission) actively takes role in port development /policy (e.g. enforcement of Bird and Habitat directives)	Status-quo but with a strong increase in tension between Left Bank and Right Bank stakeholders  Legal action of local environmental stakeholders before European Court of Justice slows down container expansion
2000s	2001: Port Decree issued by Regional Government imposes long-term strategic plan to prevent legal action of stakeholders against future port expansion 2005: Economic Development Study  2005: Opening of Deurganckdok, a large tidal container dock on the Left Bank	2000–2008: Strong continuous growth in the container sector  Explicit attention to ‘balanced’ growth (integration of economic and environmental criteria) by all stakeholders  2009 onwards: Economic crisis hits the port sector hard; results in focus on competitiveness and economic criteria by Left Bank and Right Bank stakeholders	Creation of a joint task force representing Left Bank and Right Bank stakeholders  Results of the Economic Development study are used to increase the pressure for governance structure changes; jointly steered additional research is executed gaining insights into distribution of costs and benefits of Left Bank expansion Status-quo: Governance structure of the 1970s remains unchanged  Tension between stakeholders is reduced
2010 onwards	2010: Competitiveness plan for the port	High economic volatility in the wake of 2009 crisis continues	Status-quo: dialogue on change of governance structure stalled

**Table 3**

Summary of levels of intensity per decade (1960–2010).

Period	Location dependent sources of change	Location independent sources of change	Governance structure APA
Pre-1960	Low	Low	Unaltered
1960s	Medium	High	Unaltered
1970s	Medium	High	Unaltered, but creation LBC at the end of the 1970s following structured dialogue
1980s	Medium	Low	Unaltered, implementation of agreement of the 1970s
1990s	High	High	Unaltered
2000s	Medium	Medium	Unaltered, but structured dialogue about change after 2005
2010 onwards	Low	High	Unaltered, dialogue stalled after 2009 economic crisis

by Martin and Sunley (2006), and confirm that regional path dependence needs to be analyzed from two perspectives. First, the micro-level perspective of firms and institutions (and their

relationships), which often acts as the driver of location dependent changes in stakeholder structure and interests. Second, the macro-evolution of the regional entity as a whole, which often functions

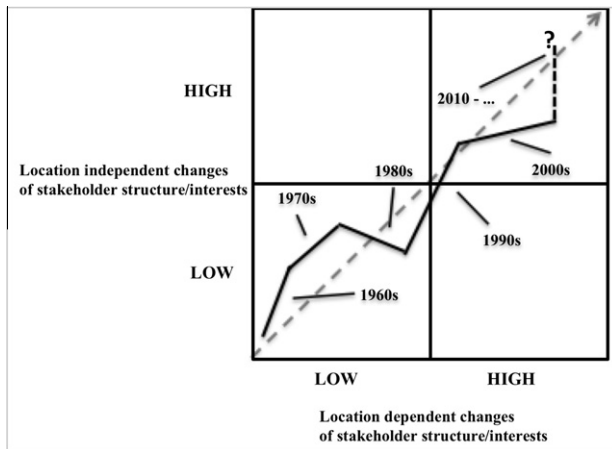


Fig. 5. A-synchronic development of location and non-location based changes of stakeholder structure and interests.

as the driver of more location independent changes in stakeholder structure and interests.

## 5. Conclusion

The present case study has shown that an enlargement of the geographic area where port activities take place, in this case via developing the port on the other side of a river, can significantly influence the port's societal legitimacy, and therefore long-term sustainability of port activities and port development. Our historical analysis has shown that during the period when port expansion took place, mainly on the left bank of the river Scheldt (1960–2005), the APA lost societal legitimacy, because of insufficient attention devoted to the spatial aspects of stakeholder relations.

As regards the dynamic aspects of stakeholder management, our historical analysis has described the diversity in stakeholder preferences – resulting from the different 'initial position' of 'home-base' and 'peripheral' stakeholders, and from changes in stakeholder impacts over time. The divergence in preferences on the desirability of further port development is likely to increase further in the future. Under the current port governance framework, the APA is losing legitimacy for two reasons. First, there has been a relative neglect of the spatial aspects of stakeholder management, i.e. the change in the number and types of salient stakeholders during the 1960–2005 period, with previously 'peripheral' stakeholders having their own 'initial' set of preferences. Second, stakeholder management conducted by the APA should have taken into account the changing impacts of port development on stakeholders, but this dynamic element was also neglected. The above dual neglect could jeopardize the further development of the port. One way out of this conundrum, is to re-open negotiations between the APA (the main right bank stakeholder) and various left bank stakeholders, to discuss potential alternative governance structures that would ensure formal representation and genuine influence on port strategy of the left bank stakeholders. As a result, negative stakeholder preferences towards port development on the left bank could be reduced.

An important comment should be made regarding the type of impacts to be considered over long time periods. The historical analysis has shown that the number and types of impacts that drive stakeholder preferences towards port activities and port development, change over time. Concrete examples include impacts that were almost non-existent in societal discussions in the 1960s, but have strongly influenced stakeholder preferences from the 1990s on, such as the creation of value added (in addition to

employment) and perhaps more significantly, mobility and environmental impacts (e.g., emissions and noise as well as the loss of nature and habitats). However, some impacts have almost disappeared from contemporary stakeholder discussions, e.g., the social and demographic impacts of port development that are related to population growth and imbalances in the housing market.

In general terms, the analysis has shown that the number of stakeholders and interests to consider, have increased substantially over the period under consideration (1960–2010). These parameters have influenced both the development path of the port as well as the tensions between stakeholders as to what constitutes a fair and effective governance structure.

Dynamic aspects of stakeholder management should therefore not only be considered by the stakeholders involved directly in port management and decision making, but also by the research community, which often advises governments and other stakeholders in these matters. A port's investment strategy and its governance structure do not just 'adapt' as a result of 'objective analysis' performed by decision makers and consultants with a view to improve effectiveness and efficiency. Path dependence matters, but not simply in the sense that history places boundaries on what is feasible and likely to materialize in the future. By explicitly taking into account the dynamic and spatial dimensions of stakeholder interests, and artfully orchestrating stakeholder interactions, decision makers in the realm of port expansion strategy and governance can affect the port's investments and its evolving governance path. Distinguishing between location-dependent and location-independent, exogenous changes in stakeholder structure and interests, can further enhance decision makers' ability to manage stakeholders, and help them optimize the development path of their port.

In the case of Antwerp, the expansion of the port across geographic space has forced the APA to face several new stakeholders with interests different from the initial stakeholders. The many changes in the world economy, occurring over the past decades, have further exacerbated the stakeholder management challenge for the APA faced with many new stakeholders. The question can now be raised whether the APA should continue with further outward expansion and engage in investments to address the related stakeholder management challenges, or should consolidate its activities within its present boundaries to avoid more resource-intensive stakeholder management, and the related increase in institutional distance costs.

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