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Interdependence vs. dependence:: a network analysis of regional integration projects in Africa, America, Asia and Europe

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Veröffentlichungsversion / Published Version
Arbeitspapier / working paper

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SSG Sozialwissenschaften, USB Köln

Empfohlene Zitierung / Suggested Citation:
Krapohl, S., & Fink, S. (2009). *Interdependence vs. dependence:: a network analysis of regional integration projects in Africa, America, Asia and Europe.* (Bamberger Online Papers on Integration Research (BOPIR), 3/2009). Bamberg: Universität Bamberg, Fak. Sozial- und Wirtschaftswissenschaften, Lehrstuhl für Internationale Beziehungen. https://nbn-resolving.org/urn:nbn:de:0168-ssoar-130540

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Interdependence vs. Dependence:

A Network Analysis of Regional Integration Projects in Africa, America, Asia and Europe

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Abstract:
Integration theories usually either implicitly or explicitly assume that regional integration is driven by intraregional economic interdependence, which allows for the utilisation of economies of scale or comparative cost advantages within the region. However, following the new regionalism of the 1990s, it has become clear that regional integration may also be used by the respective member states to improve their standing in the global economy, to become more attractive for foreign direct investment and development aid, or to be more powerful in international trade negotiations. In this paper, we argue that the latter motive is more important for developing countries than the former two, because developing countries are more dependent on economic relationships with other regions than on those with their neighbours. Thus, in order to understand regional integration in the Southern hemisphere, integration theory needs to incorporate interregional relationships and the resulting positive feedback for regional integration projects among developing countries. To support this argument, we present network analyses of intraregional and interregional trade of the European Community (EC), the North American Free Trade Agreement (NAFTA), the Association of Southeast-Asian Nations (ASEAN), the Common Market of South America (MERCOSUR) and the Southern African Development Community (SADC).

Keywords: European integration, integration theory, network analysis, new regionalism, regional integration outside Europe, regional trade

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1. Introduction

Traditional integration theories implicitly or explicitly stress the importance of intraregional economic interdependence for the development of regional integration projects. For neofunctionalism, interdependence is the necessary transmission belt which leads to the spill-over of regional integration from one sector to the other and finally to the political sphere (e.g. Haas 1958, 1967, Lindberg 1963, Nye 1971). For liberal intergouvernmentalism, asymmetric economic interdependence explains the outcomes of treaty negotiations between member states of a regional integration project (Moravcsik 1991, 1998). And for institutionalists, interdependence and the resulting transnational exchange lead to the need for regional institutions and stabilise these institutions by way of positive feedback (Pierson 1996, 2000, Sandholtz and Stone Sweet 1998, Stone Sweet and Sandholtz 2000). These theories are based on the economic rationale of intraregional trade and investment, which help to utilise comparative cost advantages and economies of scale by increasing economic transactions between the member states of a regional integration project (Mattli 1999). Accordingly, regional integration occurs in order to reduce barriers to trade and investment within the region, and thereby to increase economic growth and wealth. However, the problem with these traditional theories is that they concentrate on the famous European example of regional integration, and that they cannot simply be transferred to other regions, where the structural preconditions of regional integration are different.

Scholars who analyse the so-called ‘New Regionalism’ of the 1990s in regions other than Europe often stress that states establish regional integration projects in order to improve their standing in the global economic system and to reduce their dependence on other world regions (Mansfield and Milner 1999, Preusse 2004, Schirm 2002). Accordingly, regional integration may help to attract foreign direct investment from other world regions (Bende-Nabende 2002, Büthe and Milner 2005, Jaumotte 2004), to become more attractive as addressees of development aid (Robson 1993), or to increase their power in interregional or multilateral trade negotiations and to obtain better access to other regions’ markets (Doctor 2007,

Mansfield and Reinhardt 2003). These economic gains of regional integration are not solely produced within the respective regions, but they result from the reaction of other world regions on the respective regional integration project. They are not only dependent on economic and political developments within the own region, but also on those in other world regions. Thus, it is likely that these gains are less stable, because they are influenced by a variety of factors which cannot be controlled by the regional integration project.

We argue in this paper that the relative importance of intraregional interdependence and interregional dependence differ from region to region – and so do the respective gains from regional integration. Most notably, intraregional interdependence will be much more important for developed and industrialised regions of the northern hemisphere, whereas less developed regions of the southern hemisphere are likely to be more dependent on economic relationships with other world regions (Mattli 1999). This is due to the fact that the low level of economic development and the undiversified production structure of the latter are a huge obstacle for intraregional trade. Even if regional integration projects in the South abolished all intraregional barriers to trade, the potential to utilise comparative cost advantages and economies of scale would be limited, because the respective member states do not constitute attractive markets for each other. Thus, regions of the South remain dependent on trade with and foreign direct investment or development aid from other world regions. In contrast, the potential to utilise comparative cost advantages and economies of scale is much larger among more developed member states of regions in the North. Thus, the dependence on positive reactions from other world regions is much less important for the success and development of the respective regional integration projects.

If one aims to grasp not only regional integration in the North, but also in the South, one needs to expand existing theories of regional integration to include interregional relationships. So far, existing theories of regional integration may be able to explain why regional integration in the South is generally less successful than in the North – i.e. because there are only few comparative cost advantages and economies of scale to be utilised within the respective regions (Mattli 1999) –, but

they cannot explain why regional integration is increasingly popular in the South and why some of the respective integration schemes at least temporarily show some success and integration dynamic. We conclude from our findings that this unforeseen success is likely due to positive feedback from other world regions. Thus, regional integration in the South may be successful and dynamic as long as it is supported from outside (for the example of Southern Africa see Krapohl and Muntschick 2009). This marks a huge difference from regional integration in the North, where regional integration may become a self-sustaining process, but it also implies that regional integration in the South is not necessarily a hopeless effort.

To support our argument, we utilize network analysis and visualization techniques (Brandes et al. 1999). As interdependence is basically a relational concept, it is appropriate to use relational methods like network analysis. This family of techniques is widely used in policy analysis (Kenis and Schneider 1991; Beyers and Kerremans 2004). However, for international relations, its potential has yet to be discovered (Knoke and Burmeister-May 1990). Thus, our paper is also a demonstration of how network analysis may enrich the toolbox of international relations.

In the following, we proceed in three steps. Firstly, in the theoretical section, we discuss the importance of intraregional interdependence and interregional dependence for regional integration, as well as the structural economic preconditions for both factors. We hypothesise that the level of economic development within a region is the most important factor behind its intraregional interdependence and interregional dependence. Secondly, in the empirical section, we present network analyses of intraregional and interregional trade flows for five different regional integration schemes around the globe. We demonstrate that there are two different types of networks in the North and the South, which differ significantly in respect to the relative strength of intraregional and interregional economic relationships. Finally, in the conclusion, we summarise our findings and point to some consequences for regional integration theory.

2. Regional Integration between Interdependence and Dependence

We argue that regional integration aims to utilise economic gains within the respective region (as is stressed by European integration theories) and in the interaction with other world regions (as is implied in many approaches to 'New Regionalism'). Thereby, the relative importance of the two kinds of gains is mainly determined by intraregional interdependence between the member states of a region and by interregional dependence between the respective region and other world regions. The level of economic development in the respective regions is decisive for this interdependence or dependence, respectively, because it influences the potential to utilise comparative cost advantages and economies of scale within the region. Whereas intraregional interdependence is dominant in more developed regions of the North, less developed regions in the South are more dependent on their economic relationships with other regions.

2.1. Integration Theories and the Inward Orientation of Regional Integration

Despite the habitual debate between different theories of European integration, all neofunctionalist, intergovernmental and institutionalist approaches have in common that they rest on the assumption of high interregional interdependence in Europe and, consequently, a high economic demand for regional integration. The highly developed and diversified economies of Europe can profit enormously from liberalised intraregional trade and investment. Economic transactions across the borders of Europe allow the member states to specialise in the production of some goods in order to utilise comparative cost advantages and to use the opportunities of a larger Single Market in order to utilise economies of scale (Mattli 1999). These gains will be higher, as more barriers to trade and investment are abolished on the way from a free trade area to a customs union, a common market and finally an economic and monetary union (Balassa 1961). These opportunities for free trade and investment lead to the fact that market participants have an interest in market liberalisation, and they consequently express their demand for regional integration either in their capitals (as it is stressed by intergovernmentalists), or in Brussels or Luxembourg directly (as it is stressed by neounctionalists and institutionalists).

While theories of European integration agree to a great extent on the economic demand for integration, they vary considerably in respect to the supply side of regional integration and the resulting dynamic of integration projects. On the one hand, intergovernmentalists state that regional integration is only provided by the member states within intergovernmental negotiations (Moravscik 1991, 1998). Thus, economic interests have to be addressed to the respective governments, which then represent them at the EU level. Thereby, it is helpful if one of the member states is a benevolent hegemon which carries most of the costs of regional integration (Mattli 1999). On the other hand, neofunctionalists and institutionalists stress the importance of regional or even supranational institutions for the supply of regional integration. Here, economic demand for regional integration is also directly addressed to regional institutions which use this demand in order to push their own interest in strengthening regional integration (Hooge 2001, Stone Sweet 2004). In contrast to intergovernmentalism, neofunctionalism and institutionalism explicitly take a dynamic perspective and argue that regional institutions may have positive feedback for economic stakeholders, and may further increase economic interdependence within the region. This positive feedback provides the opportunity for further regional integration in the next round of a never-ending process (Nye 1971, Stone Sweet 1999). However, regardless of these differences between the theories, it is evident that neither intergovernmental negotiations, nor regional institutions would provide regional integration in Europe if this were not demanded by economic stakeholders from within the region.

2.2 ‘New Regionalism’ and the Outward Orientation of Regional Integration

In contrast to European integration theories, approaches which deal with the ‘New Regionalism’ of the 1990s usually stress the outward orientation of regional integration projects in regions other than Europe (Mansfield and Milner 1999, Preusse 2004, Schirm 2002). An integrated region constitutes a larger market and is supposed to be more stable in its economic policy, as long as the respective policies are protected by credible regional institutions. This makes a reason more attractive for economic stakeholders from other world regions. Firstly, foreign direct investment becomes more attractive if the produced goods obtain access to a larger regional

market, and if investors are protected against member states' changing economic policies by regional institutions (Bende-Nabende 2002, Büthe and Milner 2005, Jaumotte 2004). Secondly, a similar logic applies to development aid, which may also profit from economies of scale and a stable policy environment within a respective regional integration project (Robson 1993). And finally, the member states may profit from pooling their bargaining power within a regional integration project when they negotiate with other regions, states or international organisations (Doctor 2007, Mansfield and Reinhardt 2003). All in all, integrated regions are deemed to be better able to compete with other regions about scarce resources like foreign direct investment, development aid or access to other markets. Thus, regional integration can be used to improve the region's standing in the global economy and vis-à-vis other world regions.

If integration is used to improve the region's standing in the global economy and vis-à-vis other world regions, the economic gains from integration are not generated solely within the respective region, but they merely result from the successful interaction with other regions. This has consequences for regional integration theory. Firstly, intergovernmentalist approaches regard member states' interests as exogenous to the theory, so that it does not matter which factors shape these interests. However, intergovernmentalists need to widen their perspective to interests which do not emerge from interaction between the member states, but rather from interaction with other world regions. The resulting hypothesis would be that member states would have to choose between their regional and their global interests if these did not converge. If the global interests were more important, regional integration would stop as soon as it ceased to promote these interests. And secondly, neofunctionalist and institutionalist approaches are based on the assumption that economic stakeholders from within the region provide constant positive feedback in a way that regional institutions are strengthened and integration increases. However, if the gains from integration result from the reaction of actors in other world regions, such a stable interaction between economic stakeholders and regional institutions is less likely to emerge. Actors in other world regions are influenced by a variety of economic and political considerations, of which the integration project in a specific region is only one. Besides, they have much better exit options than if they were

located within the respective region. As a result, the positive feedback from other world regions on a specific regional integration project is likely to be less stable than positive feedback which is generated within the region. Thus, spill-over and institutionalisation effects are probably less likely and less stable than in the North.

2.3 Interdependence, Dependence and Economic Development

In this paper, we argue that the relative importance of the inward and outward orientation of regional integration results from the regions' levels of economic development and their positions in the global economic system. The more developed and diversified the economies of a regional integration project are, the more they profit from intraregional trade and investment (Mattli 1999). The diversified economies may specialise in the production of different products, and thus may utilise comparative cost advantages. Additionally, high economic development means that the respective economies are attractive markets and investment goals for each other in order to utilise economies of scale. As a result, as long as no excessive trade and investment barriers exists, such highly developed regions are distinguished by strong intraregional interdependence. In relation to the internal gains from market liberalisation, the external gains from the interaction with other world regions are likely to be less important, and the integration project is pushed forward by economic stakeholders from within the region.

However, if the economies of a regional integration project are less developed and diversified, intraregional interdependence is likely to remain weak, even if trade barriers are widely abolished. This is due to the fact that less developed economies depend mainly on the export of natural resources to more developed regions. They do not find customers within their own region, because the less developed economies of their neighbours are themselves dependent on the export of natural resources and do not have the capacity to process them. As a result, the economies of a regional integration project among less developed countries cannot utilise as many comparative cost advantages and economies of scale, because they are dependent on the export of similar products and do not constitute attractive markets for each other. Corresponding to the principle of communicating tubes, the weakness

of intraregional interdependence leads to the fact that the dependence on economic relationships with more developed regions becomes more important. Often, these economic partners will be the former colonial rulers who established close economic links with their colonies and maintained these relationships after granting these colonies independence. Thus, regional integration among developing countries is less likely to be pushed by economic stakeholders from within the regions, but is more dependent on positive feedback from more developed regions, which are the largest consumers of natural resources, and are thus the most important economic partners for developing countries.

Our hypothesis for the empirical analysis is that the trade network of regional integration projects will fall into two clearly distinguishable clusters: On the one hand, there will be the highly developed and diversified economies of the northern hemisphere. The member states of these regional integration projects have significantly denser economic relationships with each other than with other world regions. Thus, regional integration aims to utilise comparative cost advantages and economies of scale, and regional integration is pushed by economic stakeholders within the region. On the other hand, there will be the less developed regions of the southern hemisphere. The member states of these regional integration projects are highly dependent on exports to more developed regions in the North. Thus, regional integration aims to improve the standing of the respective regions vis-à-vis their economic partners, and the success and dynamic of the integration projects in the South are likely to be dependent on feedback from other world regions. Regional integration in the South may only be effectively pushed by economic stakeholders from within the region if regional integration has received positive feedback for quite some time, if the participating economies have developed further, and if more intraregional interdependence has emerged.

3. Empirical Analysis[1]

To analyze the hypothesis put forth in the theoretical section, this paper compares the intraregional interdependence and interregional interdependence of

[1] The authors would like to thank Daniel Rempe for valuable research support during the creation of the network graphs.

five regional integration projects (the North American Free Trade Agreement, NAFTA; the European Union, EU, respectively the European Community, EC; the Common Market of Southern America, MERCOSUR; the Association of Southeast Asian Nations, ASEAN; and the Southern African Development Community, SADC). Thus, the focus of the analysis is on two northern (EU, or EC and NAFTA,) and three southern (ASEAN, MERCOSUR and SADC) regional integration projects. To provide a common ground for comparison, the paper analyzes the regional integration projects ten years after their founding, or the begin of deeper economic integration in cases where political integration came first (as in the case of ASEAN and SADC). Thus, we compare the EC in 1967 with the NAFTA in 2004, the ASEAN in 2002, the MERCOSUR in 2002, and the SADC in 2001. Ten years are a reasonable time period, because economic and political actors have then had enough time to adjust to new regional institutions, and the first signs of regional integration dynamics should also be visible.

Concerning the operationalisation of economic interdependence, we use data about international trade flows. This data has at least two advantages in comparison to other measurements like intraregional and interregional flows of foreign direct investments. Firstly, the available trade data is more comprehensive than the data on foreign direct investments, as the former includes information about the origins and addressees of goods, whereas investment data is only available in a highly aggregated manner.[2] Secondly, trade data should also reflect, with some time lag, the developments of other important indicators. If foreign direct investment increases within a region, this should either lead to more intraregional trade in cases where investments are market driven, or to more interregional trade in cases where investments are driven by the search for cheap labour or natural resources. The sources for the trade data are the UN ComTrade (ASEAN, NAFTA, SADC and MERCOSUR) and World Trade Flows Data (EC) (Feenstra et al. 2005).[3] Following the approach of Feenstra et al. (2005), we rely on the reports of importers to assess the quantity of trade flows (measured in US$). As some countries are poor reporters

[2] See for example the data base on foreign direct investment from the United Nations Trade and Development Conference: http://stats.unctad.org/fdi/ReportFolders/reportFolders.aspx?sCS_referer=&sCS_ChosenLang=en.
[3] http://comtrade.un.org; http://cid.econ.ucdavis.edu/data/undata/undata.html

and data is lacking, we use reports by exporters to fill gaps in the data set. For each regional integration project, we gathered data on trade between the members of the project (intraregional trade), and trade between the members of the project and the three most important extraregional trade partners (interregional trade). Following the logic of the theoretical argument, the five regional integration projects should exhibit significant differences in the relations between these two kinds of trade flows.

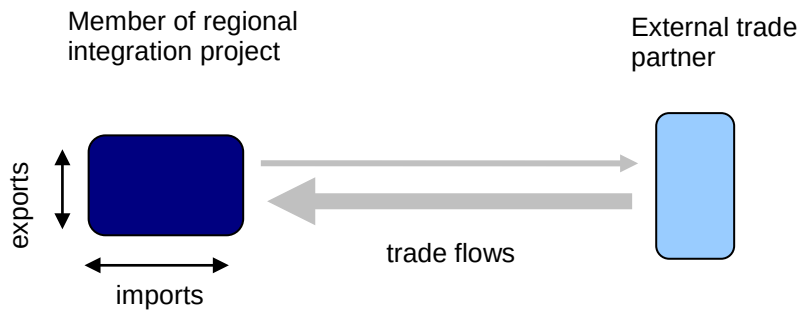
As the argument made in the theoretical section is basically a relational argument, the empirical analysis is based on relational methods, namely network analysis and network visualization (Scott 2006, Brandes, Kenis and Raab 2006; Brandes et al. 1999). These methods have mostly been used in policy analysis (Schneider and Kenis 1991, Thurner and Binder 2009), but in international relations, the potential of network analysis has not yet been used to its full extent. Apart from some applications in the 'dependencia' or 'world system' school (Knoke and Burmeister-May 1990, Snyder and Kick 1978), international relations scholars have only seldom used network methods and reasoning. This is surprising, as interdependence – a key concept of international relations – is also the cornerstone of network analysis. Additionally, the basic logic of network analysis is independent of the character of the units, be they individuals, organizations, or states. Network theories tend to work relatively well on different levels of analysis (Borgatti and Foster 2003: 1001, Marsden 1990: 438), and nothing in the logic of network analysis precludes its use on states as units. Thus, on the methodological side, this paper is an attempt to demonstrate the usefulness of network analysis for international relations.

We use visone[4] to visualize the trade networks. In order to ensure a structured and focused comparison, all network graphs contain the same information. For each member state of the respective regional integration project, we plotted the network connections to the three most important import and export partners.[5] Thus, the

[4] www.visone.info
[5] Note that we plotted the three most important import and export partners for each member state. Thus, our approach does *not* imply that each country has only six network connections (three ingoing and three outgoing). For example, in the European Community, Germany may be among the three most important export partners of the Netherlands, while the imports from the Netherlands do not

networks reflect the relations between the respective states and their most important partners, as this figures in policymakers' calculations. Trade between the external partners is omitted for visualization reasons, and because it does not pertain to the theoretical argument. The width of the network links (or 'ties', in network jargon) reflects the intensity of the trade relations. The arrows indicating intra-regional trade are depicted using black lines, whereas extra-regional trade is depicted using grey lines. Member states of the respective regional integration project are depicted in dark blue, whereas external partners appear in light blue. The relative position of countries as importers or exporters can be elucidated from the shape of their node symbols – the width of the node reflects the amount of imports, whereas the height of the nodes reflects the amount of exports (see Graph 3.1).

Graph 3.1: Legend for the Network Graphs



3.1 Regional Integration in the North

The two regional integration projects of the northern hemisphere differ widely in respect to their integration history, their institutional set up as well as the number and relative size of their member states. On the one hand, the European Union (EU) is the oldest, most successful and most advanced regional integration project in the world. It had already been set up in 1957 by six member states, and it developed throughout several rounds of enlargement and treaty amendments until it arrived at the full single market of 27 member states and an economic and monetary union of 16 member states that it represents today. Of all regional integration projects, the EU has the strongest and most complex regional institutions, which leads to the fact that

constitute a large portion of German imports. Thus, major trade countries like Germany have more than six ingoing and outgoing connections, as the network is also viewed through their partner's eyes.

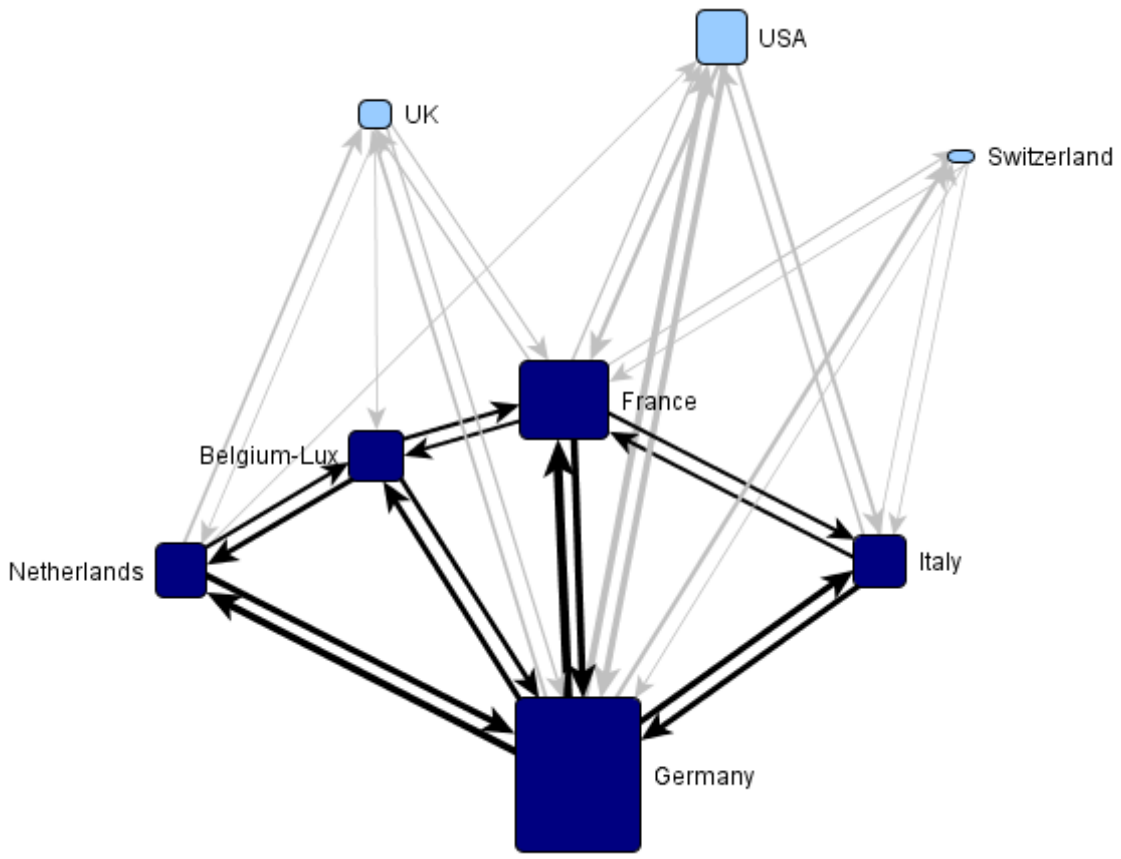
some scholars call it a political system *sui generis*, suggesting that it cannot be compared to any other international organisation (Jachtenfuchs 1997, for the opposite view see Gehring 2002). Nevertheless, in order to compare the European example with other, much younger regional integration projects, we choose the EU's predecessor – the EC of 1967, a customs union of six member states – as a reference point. On the other hand, the NAFTA was not founded by the four member states Canada, Mexico and USA until 1994. It is only a free trade area, and it is not expected to integrate any further. The NAFTA's regional institutions are much weaker and less complex than those of the EU (or, in our example, the EC), and only its dispute settlement mechanism may develop some independence from intergovernmental politics (Abbott 2000, Krapohl et al. 2009).

However, the EU (or rather EC) and the NAFTA are economically rather similar, which is the reason why they belong to the same cluster in our analysis. The two regions constitute the second largest and the largest market in the world, with respective shares of 30%, and 32% of the world gross domestic product in 2006. Both regions are highly industrialised and developed, with a per capita gross domestic product of 31,047 US$, and 34,593 US$, respectively, in 2006.[6] As a result, the economies of both regions should be able to utilise significant comparative cost advantages and economies of scale by intraregional trade, whereas interregional dependence should be much lower and less important than intraregional interdependence. Nevertheless, two qualifications have to be added to this general picture. Firstly, in the following analysis, we do not analyse the EU as it is today, but the EC of 1967. At this time, the respective regional market was much smaller and the economic development not as advanced as it is today. Besides, the 1960s were the time of relatively closed national economies, as well as the time of the Luxembourg compromise and the following Eurosclerosis, which hampered European integration (Dinan 2005). As a result, intraregional interdependence should be much higher today than in the 1960s, and if we find that intraregional interdependence was nevertheless dominant at this time, this should hold even truer today. And secondly, the NAFTA is distinguished by an asymmetry between two

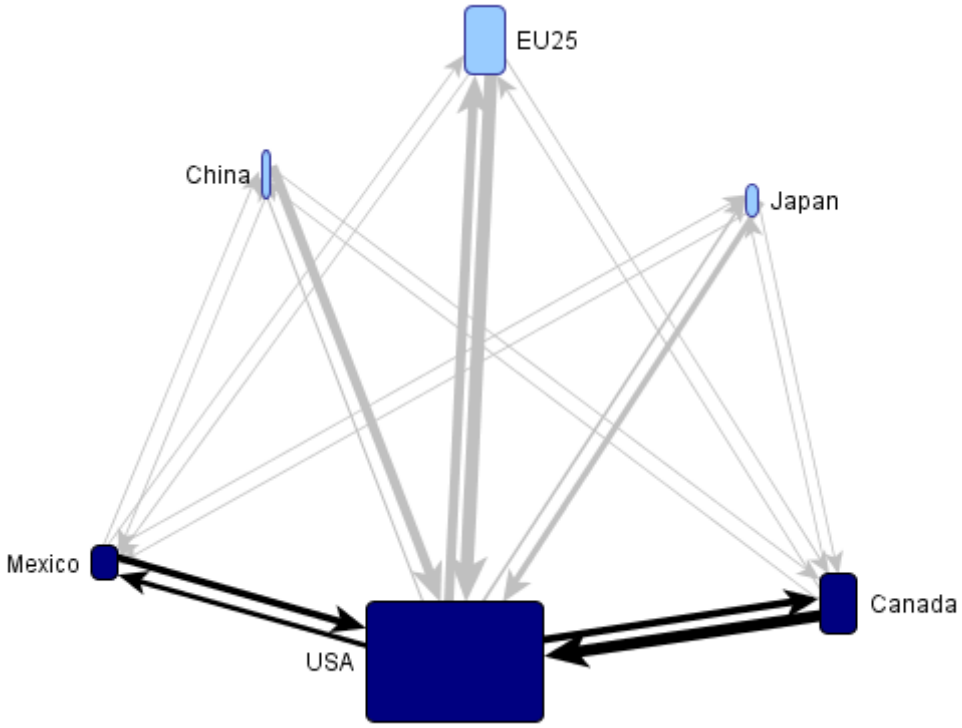
[6] The numbers are taken from the Regional Integration Knowledge System (RIKS) of the United Nations University – Comparative Regional Integration Studies (UNU-Cris), http://www.cris.unu.edu/riks/web/, 25.5.2009.

highly developed economies (Canada and the USA) and one emerging market (Mexico, which had a gross domestic product of only 9,104 US$ in 2006). However, it is especially this asymmetry which allows the member states to utilise comparative cost advantages and economies of scale. Whereas the USA profits from cheap labour in Mexico, Mexico itself gains enormously from easy access to the large market of the USA (Schirm 1997). Thus, although the NAFTA includes one less developed economy, it should nevertheless fit into the cluster of regional integration among developed economies, because it is the difference in development which should lead to intraregional interdependence.

Graph 3.2: Trade Network of the EC in 1967



Graph 3.3: Trade Network of the NAFTA in 2004



When analysing the trade networks of the EC and the NAFTA (see Graphs 3.2 and 3.3), it becomes visible that both regions are based on dense networks of intraregional trade. In fact, intraregional trade is more important for the two regions than trade with any external trade partner. This becomes more apparent in the case of the EC with six member states than within the NAFTA with only three member states, but in both graphs, the ties between economies of the regional integration project are more important than the ties to other regions. The small size of the extraregional trade partners in comparison to the member states is another indicator that the former are not as important for the regions' trade as the latter. Although only 21% of all EC exports remained within the region in 1967,[7] this value has more than tripled to roughly 70% in the EU today. Within the NAFTA, approximately 50% of exports remain within the region.[8]

It also becomes clear that the intraregional interdependence of both regions is largely based on trade with one member state of the respective integration project. In

[7] This number is calculated from our database on intraregional and interregional trade, which is also the basis of the network graph.
[8] WTO International Trade Statistics 2008: World Trade Developments in 2007, http://www.wto.org/english/res_e/statis_e/its2008_e/its08_world_trade_dev_e.pdf, 30/12/2008.

the EC, this is Germany, and in the NAFTA, it is the USA. Besides, these two powerful actors have strong economic relationships with extraregional trade partners. This makes the USA one of Germany's most important export markets, and the EU one of the USA's most important trade partners. However, in sum, the intraregional trade flows are clearly more important for Germany and the USA than the trade with extraregional economies. Thus, both states should have a clear interest in regional integration in order to liberalise and stabilise trade with their respective neighbours. Additionally, for the smaller states in the integration project (see e.g. the network ties of Belgium, Canada, or Italy), the more important trade partners are internal partners as well. Thus, their interest should also be in further integration.

To sum up, the two regional integration projects in Europe and North America are distinguished by a high level of economic interdependence of their member states. This demonstrates that the two highly developed and industrialised regions are able to profit from comparative cost advantages and economies of scale which are created within the respective regions. In comparison, trade with economies from other world regions is much less important, and it is only significant for the two trade giants Germany, and the USA. But still, these two powerful states should have a strong interest in regional integration, as their intarregional trade is in sum more important than their trade with any extraregional partner. One may conclude that regional integration in the EC and the NAFTA is largely driven by the desire to liberalise and stabilise the important intraregional trade flows. Thus, integration should be relatively stable and regional institutionalisation should occur even within the small limits left by the institutional design of the NAFTA (Krapohl et al. 2009). In contrast, interregional relationships should have much less influence on the success of integration in these two regions.

3.2 Regional Integration in the South

Like in the northern hemisphere, the regional integration projects in the South show a large variety of integration histories and institutional set ups, as well as number and size of member states. Whereas the MERCOSUR was newly founded in 1992 and became an incomplete customs union during the 1990s, the ASEAN and

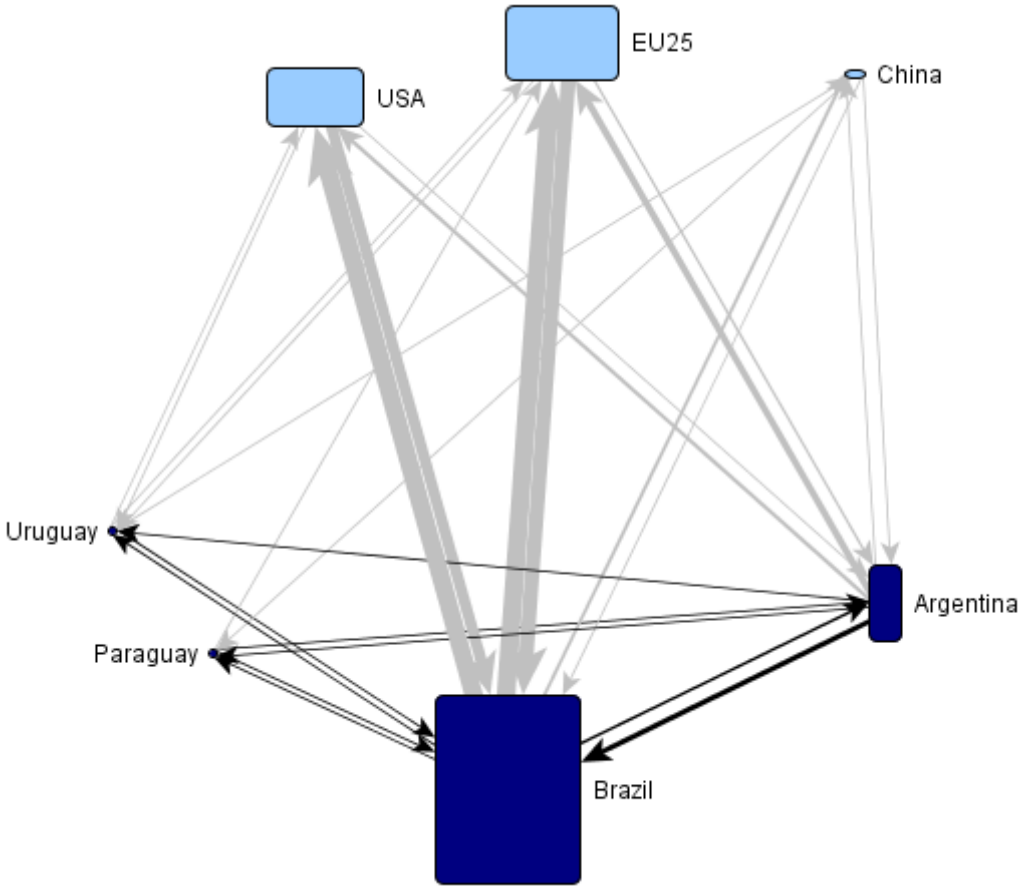
the SADC look back on a longer history, but they began with economic integration towards free trade areas only in 1992, and 1991, respectively. In the course of time, all three integration projects experienced some enlargement, and today, the ASEAN includes ten, the MERCOSUR five[9] and the SADC 15[10] member states. None of the three integration projects has supranational institutions comparable to those of the EU, but despite this fact, the strength of their regional institutions varies widely. The regional institutions of the MERCOSUR are probably the strongest and most complex, as they include several intergovernmental bodies, a secretariat, a parliamentary assembly and a dispute settlement mechanism with a permanent review tribunal (Krapohl et al. 2009). Next is the SADC, which also has a secretariat to support intergovernmental bodies and a tribunal, but the latter has so far been used only once (Vogt 2007). The ASEAN has only a secretariat and is solely based on intergovernmental decisions during summits or ministerial meetings (Ufen 2005).

The three regions of the southern hemisphere constitute much smaller markets, and their economies are much less developed than those in the North. Together, the ASEAN, the MERCOSUR and the SADC produced only 6% of the world gross domestic product in 2006, whereas their population counted for 16% of the world population. The per capita gross domestic product in 2006 varied between 1,854 US$ in the SADC, 1,913 US$ in the ASEAN and 5,660 US$ in the MERCOSUR. However, these aggregated numbers conceal some fundamental asymmetries within and between the regions. For example, in 2006, the per capita gross domestic product was only 141 US$ in the Democratic Republic of the Congo, but 5,923 US$ in Botswana; 514 US$ in Cambodia, but 31,028 in Singapore; and 1,542 US$ in Paraguay, but 5,663 US$ in Brazil.[11] Despite these asymmetries, it is unlikely that intraregional production networks like in the NAFTA will also emerge in the South. The general level of development is much lower, and the economies of the three regions are not diversified, but depend to a large degree on the export of natural resources and primary commodities, which are not extensively needed by their

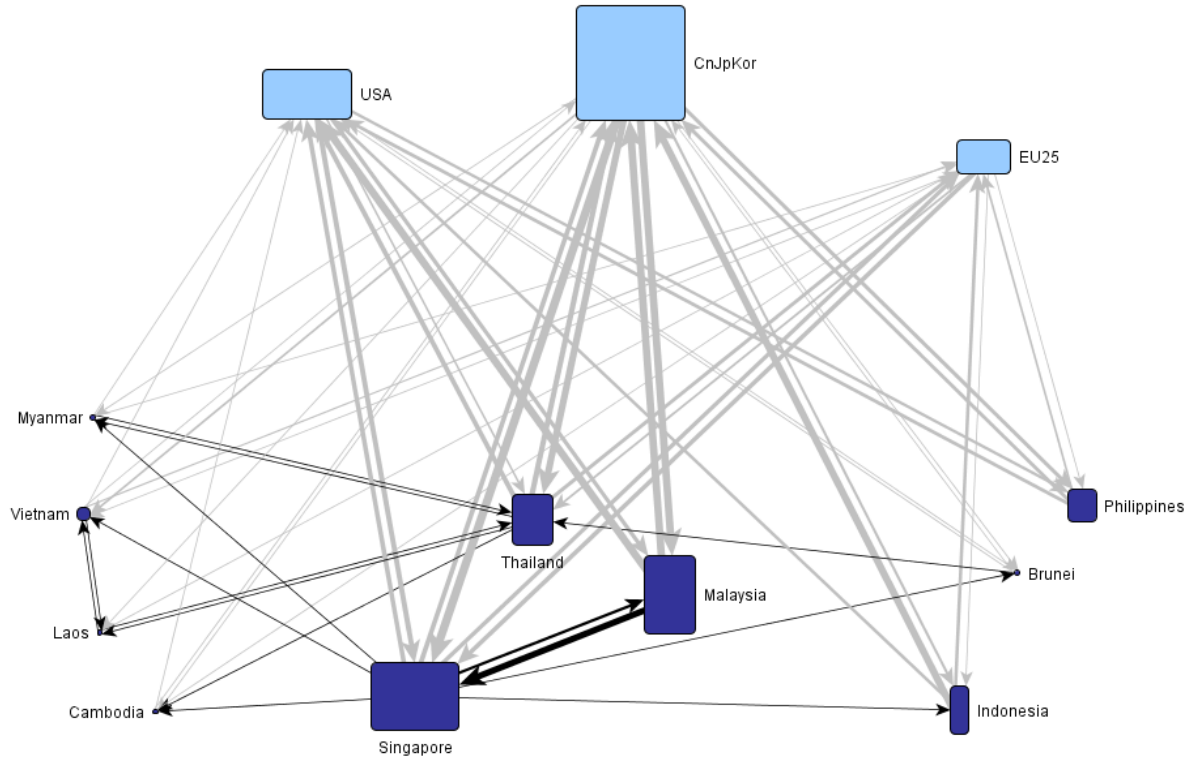
[9] However, the accession of Venezuela has yet to be ratified by Brazil. The following empirical analysis is based on the MERCOSUR of 2002, when Venezuela was not a member state.
[10] The following empirical analysis is based on the SADC of 2001, when the Seychelles were not a member state.
[11] The numbers are taken from the World Development Indicators of the World Bank, http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=135, 26/5/2009.

neighbours. Thus, the economies of the member states are unlikely to be able to utilise significant comparative cost advantages and economies of scale by way of intraregional trade. Instead, the main addressees of their exports are likely to be regions in the North or emerging markets like China, which need the natural resources and primary commodities, and which have enough industrial capacity to process them further. As a result, we expect that interregional trade is much more important for the ASEAN, the MERCOSUR and the SADC than it is for the EU (or rather the EC) and the NAFTA. This does not exclude the possibility that intraregional trade may be significant for some smaller member states which trade heavily with local trade giants such as Brazil, Singapore or South Africa, but in sum, this intraregional trade should be outnumbered by interregional trade with more developed regions in the North.

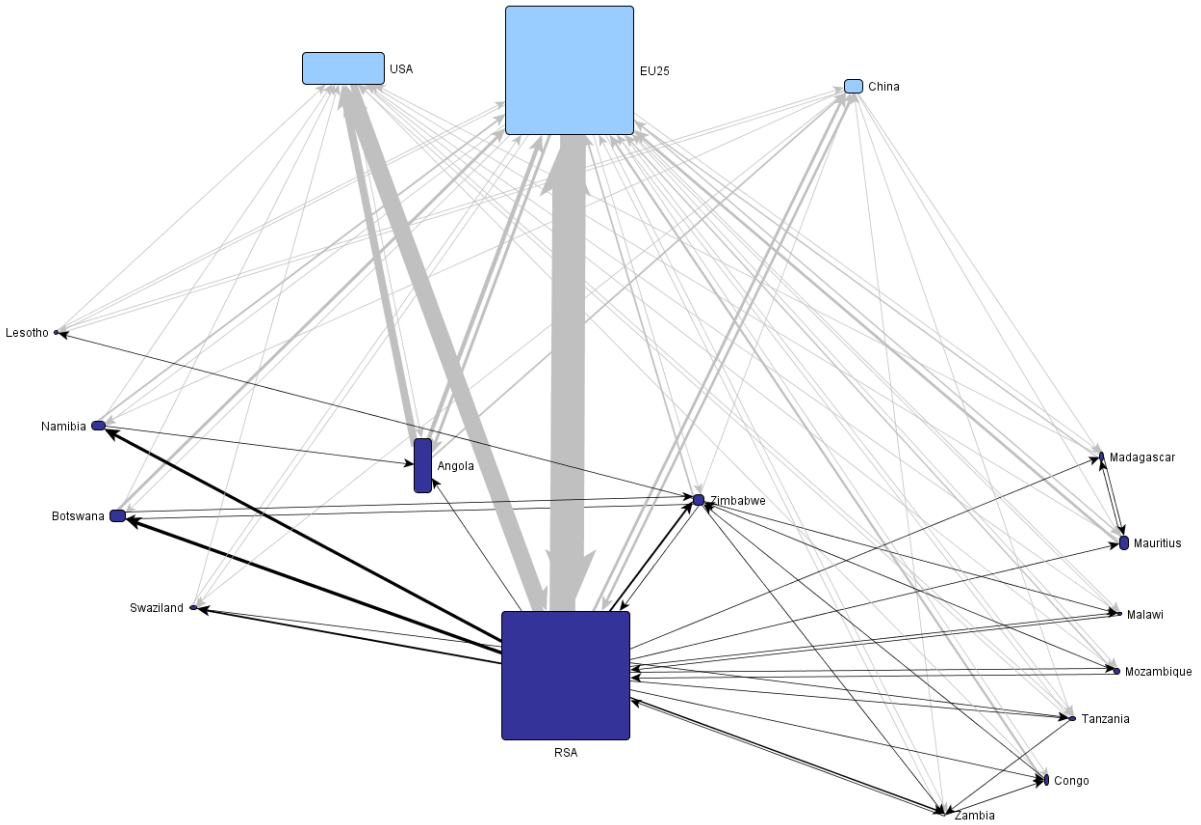
Graph 3.4: Trade Network of the MERCOSUR in 2002



Graph 3.5: Trade Network of the ASEAN in 2002



Graph 3.6: Trade Network of the SADC in 2001



It becomes clearly visible from the trade networks of the ASEAN, the MERCOSUR and the SADC (see Graphs 3.4, 3.5 and 3.6) that the regional integration projects in the South fundamentally differ from those in the North. Generally, the grey ties, which indicate interregional relationships with the three most important external trade partners, outbalance in both number and importance the black ties, which indicate intraregional trade. This becomes more visible in the less developed regions of the ASEAN and the SADC, where intraregional connections are insignificant in comparison to trade with the EU or with China, Japan and South Korea, which, together with the ASEAN, constitute the so-called ASEAN+3 countries (Nabers 2005). But even for the somewhat more developed region of the MERCOSUR, trade with the EU and the USA is more important than trade between Brasil and Argentina, not to mention trade with the two smaller member states Paraguay and Uruguay. The importance of interregional trade also manifests itself in the size of the extraregional trade partners which are depicted in light blue. For the SADC member states, the EU alone is the dominant trade partner within and outside of Southern Africa. For the ASEAN member states, Northeast Asia is the most important export market and supplier of import goods. And For the MERCOSUR, interregional trade is split between the EU and the USA. In contrast, intraregional trade counts for only 25% of all exports in the ASEAN, for 14% of all exports in the MERCOSUR and for 12% of all exports in the SADC (Krapohl and Muntschick 2009). Thus, interregional trade is much more important for the three regional integration projects than intraregional trade between their respective member states.

Despite the general dominance of interregional trade between regional integration projects in the South and more developed regions of the North, there also exist some significant intraregional trade flows around the regional trade giants Singapore, Brazil and South Africa. Like in the EU and the NAFTA, intraregional trade within the ASEAN, the MERCOSUR and the SADC is also largely based on the trade with only one member state (this is most obvious in the case of the SADC; Krapohl und Muntschick 2009). Thus, these regional giants could become ‘benevolent hegemons’, which would, in their own interests, supply regional integration for the whole region (Mattli 1999). However, in contrast to Germany and the USA, Brazil, Singapore and South Africa should have much less interest in

carrying the burdens of regional integration, because they have far fewer economic interests within the region. Whereas the own region is the most important trade partner for Germany and the USA, this is not the case for Brazil, Singapore and South Africa. Most Brazilian exports are shipped to the EU and the USA, Singapore trades most with Northeast Asia and the USA, whereas South Africa has an overwhelming interest in trade with the EU. Even if the economic relationships with the regional giants are significant for the smaller member states of the respective regional integration projects, this is not the case for the giants themselves. Thus, the dominance of interregional over intraregional trade in regions of the South is reflected within the trade of their potential hegemons, which are consequently unlikely to supply the club with good regional integration at their own expense.

Both within SADC and ASEAN, there are smaller member states that – according to their trade structure – are only weakly linked to all other member states. Consider for example the Philippines or Lesotho. From the perspective of the regional integration project, they are 'outliers' in the truest sense of the word, as their most important trade connections are to the North. Compare for example the structural network position of Belgium (Graph 3.1) to that of the Philippines (Graph 3.5). Belgium is integrated in the European trade network and has stakes in these trade relations, while the Philippines' most important partners are outside the region. Thus, the Philippines' interest (like the interests of comparable countries) cannot be to focus on regional trade, but to strengthen their standing vis-à-vis external partners.

To sum up, the member states of the three regional integration projects in South America, Southeast Asia and Southern Africa are more dependent on trade with other world regions than on trade with their respective neighbours. Intraregional trade is only important for the regions' smaller states, but the regional trade giants, which should carry a large part of the burden of regional integration, trade more with other world regions than with their neighbours. Generally, the economies in the South are too small and too underdeveloped to utilise comparative cost advantages and economies of scale on a significant scale within the respective regions. Thus, the ASEAN, the MERCOSUR and the SADC are highly dependent on the export of natural resources and primary commodities to the North, i.e. to the EU, North

America and Northeast Asia. One may thus conclude that regional integration is a way to improve the regions' standing vis-à-vis their extraregional trade partners. This also includes that the success and dynamics of the respective integration projects should, to a large extent, be dependent on the feedback of these extraregional partners. If regional integration in the South leads to increasing foreign direct investment, more development aid or better access to other regions' markets, regional integration will be reinforced. However, if external feedback is less positive or unstable, regional integration may be disturbed.

4. Conclusion and Consequences for Integration Theory

The analysis of trade networks in Europe, North America, South America, Southeast Asia and Southern Africa demonstrated that the respective regions fall into two clearly distinguishable clusters. On the one hand, there are the highly developed and industrialised regions of the North, which constitute enormously large markets with high gross domestic products. The member states of the EU and the NAFTA can profit significantly from liberalised intraregional trade, because this allows them to exploit comparative cost advantages and economies of scale. These regions are distinguished by a dominance of intraregional trade flows, whereas exports to other regions are comparatively less important for them. On the other hand, there are the less developed and industrialised regions of the South, which constitute much smaller markets with low or very low gross domestic products. The member states of the ASEAN, the MERCOSUR and the SADC cannot profit as much from intraregional trade, because the potential to utilise comparative cost advantages and economies of scale is low and would be low even if all trade barriers were abolished. The member states of these regions are much more dependent on exports to other world regions, whereas intraregional trade is much less important for them.

This finding implies that the positive feedback for regional integration needs to be generated in different ways in regions of the North and the South. As European integration theories usually stress, positive feedback for regional integration in the North is provided by the regions themselves. Economic actors profit from the abolishment of trade barriers and the liberalised intraregional trade, and thus, they

will push the regional integration process forward. In contrast, regional integration needs to receive positive feedback from other world regions in order to be successful. Regional integration is not a self-sustaining process as in the North, but needs to be supported from outside. For example, economic and political actors in other world regions need to decide whether to invest more, whether to give more development aid or whether to grant better access to their markets if regions in the South decide to integrate. However, these extraregional actors are influenced by a variety of different political and economic factors, and they have good exit options; i.e. they may easily decide not to engage in the respective regions of the South. Thus, the positive feedback from other world regions is likely to be less stable than positive feedback, which is generated within the own region. Although regional integration in the South is not a hopeless task, it is nevertheless likely to be less stable than in the North.

As a result, if regional integration theories aim to also address regional integration in the South, they have to include interregional relationships in their theoretical framework. Intergovernementalists could do this by opening up their analysis of member states' interests. Whereas liberal intergovernmentalism usually focuses on economic interdependence when analysing interests, it has to ask what influence interregional relations have on the interests of the member states if it aims to analyse regions of the South. If both interregional and intraregional factors favour regional integration, the respective integration projects are likely to be successful and to develop further. However, if interregional factors do not support regional integration, they may hinder the integration process, even if intraregional factors point in the other direction. And neofunctionalists and institutionalists have to ask how the dependence on extraregional feedback influences spill-over and institutionalisation processes. Such processes are usually assumed to depend to a large extent on constant positive feedback for regional institutions from within the region. If this feedback comes from outside the region and is less stable, a steady interaction between economic interests and regional institutions is less likely to emerge. Thus, spill-over and institutionalisation processes are less likely to emerge or to be stable.

5. Bibliography

Abbott, Frederick M. 2000: NAFTA and the Legalization of World Politics: A Case Study, in: International Organization 54/3, 519-547.

Balassa, Bela 1961: The Theory of Economic Integration, London.

Bende-Nabende, Anthony 2002: Globalisation, FDI, Regional Integration and Sustainable Development: Theory, Evidence and Policy, Aldershot.

Beyers, Jan/Kerremans, Bart 2004: Bureaucrats, Politicians, and Societal Interests: How Is European Policy Making Politicized?, in: Comparative Political Studies 37/4, 1119-1150.

Borgatti, Stephen P./Foster, Pacey C. 2003: The Network Paradigm in Organizational Research: A Review and Typology, in: Journal of Management, 29/6, 991-1014.

Büthe, Tim/Milner, Helen V. 2008: The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through International Trade Agreements? American Journal of Political Science 52/4, 741–62.

Brandes, Ulrik/Schneider, Volker/Wagner, Dorothea/Kenis, Patrick/Raab, Jörg 1999: Explorations into the Visualization of Policy Networks, in: Journal of Theoretical Politics 11/1, 75-106.

Brandes, Ulrik/Kenis, Patrick/Raab, Jörg 2006: Explanation Through Network Visualization, in: Methodology 2/1, 16-23.

Dinan, Desmond 2005: Ever Closer Union: An Introduction to European Integration, Basingstoke.

Doctor, Mahrukh 2007: Why Bother With Inter-Regionalism? Negotiations for a European Union-Mercosur Agreement, in: Journal of Common Market Studies 45/2, 281-314.

Feenstra, Robert C./Lipsey, Robert E./Deng, Haiyan, et al., 2005: World trade flows: 1962-2000, NBER working paper.

Gehring, Thomas 2002: Die Europäische Union als komplexe internationale Organisation: Wie durch Kommunikation und Entscheidung soziale Ordnung entsteht, Baden-Baden.

Haas, Ernst B. 1958: The Uniting of Europe: Political, Social, and Economic Forces 1950 - 1957, Stanford.

Haas, Ernst B. 1967: The Uniting of Europe and the Uniting of Latin America, in: Journal of Common Market Studies 5/4, 315–343.

Hooghe, Liesbet 2001: The European Commission and the Integration of Europe: Images of Governance, Cambridge.

Jachtenfuchs, Markus 1997: Die Europäische Union – Ein Gebilde sui generis?, in: Wolf, Klaus-Dieter (ed.): Projekt Europa im Übergang?, Baden-Baden, 15-35.

Jaumotte, Florence 2004: Foreign Direct Investment and Regional Trade Agreements: The Market Size Effect, in: International Monetary Fund Working Paper 04/206.

Kenis, Patrick/Schneider, Volker, 1991: Policy Networks and Policy Analysis: Scrutinizing a new analytical Toolbox, in: Marin, Bernd/Mayntz, Renate (eds.): Policy Networks: Empirical Evidence and Theoretical Considerations, Frankfurt/M, 25-59.

Knoke, David/ Burmeister-May, Jodi 1990: International Relations, in Knoke, David (ed.): Political Networks: The structural Perspective, Cambridge, 175-202.

Krapohl, Sebastian/Muntschick, Johannes 2009: Die zwei Logiken des Regionalismus: Die Bedeutung von Interdependenz und Dependenz für regionale Integration im südlichen Afrika, BOPIR 1/2009.

Krapohl, Sebastian/Dinkel,Julia/Faude,Benjamin 2009: Judicial Integration in the Americas? A Comparison of Dispute Settlement in NAFTA and MERCOSUR, BOPIR 3/2009.

Lindberg, Leon N./Scheingold, Stuart A. (Hrsg.) 1971: Regional Integration: Theory and Research, Cambridge, Massachusetts.

Mansfield, Edward D./Milner, Helen V. 1999: The New Wave of Regionalism, in: International Organization 53/3, 589-627.

Mansfield, Edward D./Reinhardt, Eric 2003: Multilateral Determinants of Regionalism: The Effects of GATT/WTO on the Formation of Preferential Trade Agreements, in: International Organization 57/3, 829-862.

Marsden, Peter V., 1990: Network Data and Measurement, in: Annual Review of Sociology 16, 435.

Mattli, Walter 1999: The Logic of Regional Integration: Europe and Beyond, Cambridge.

Moravcsik, Andrew 1991: Negotiating the Single European Act: National Interests and Conventional Statecraft in the European Community, in International Organization 45/1, 19-56.

Moravscik, Andrew 1998: The Choice for Europe: Social Purpose and State Power from Messina to Maastricht, Ithaca.

Nabers, Dirk 2005: Neuer Regionalismus in Ostasien: Das Forum der ASEAN+3, in: Nabers, Dirk/Ufen, Andreas (eds.): Regionale Integration - Neue Dynamiken in Afrika, Asien und Lateinamerika, Hamburg, 53-70.

Pierson, Paul 1996: The Path to European Integration: A Historical Institutionalist Analysis, in: Comparative Political Studies 29:2, 123-163.

Pierson, Paul 2000: Increasing Returns, Path Dependence, and the Study of Politics, in: American Political Science Review 94:2, 251-267.

Preusse, Heinz G. 2004: The New American Regionalism, Cheltenham.

Robson, Peter 1993: The New Regionalism and Developing Countries, in: Journal of Common Market Studies 31/3, 329-348.

Sandholtz, Wayne/Stone Sweet, Alec 1998: Integration, Supranational Governance, and the Institutionalization of the European Polity, in: Sandholtz, Wayne/Stone Sweet, Alec (eds.): European Integration and Supranational Governance, Oxford, 1-26.

Schirm, Stefan A. 1997a: Kooperation in den Amerikas: NAFTA, MERCOSUR und die neue Dynamik regionaler Zusammenarbeit, Baden-Baden.

Schirm, Stefan A. 2002: Globalization and the New Regionalism: Global Markets, Domestic Politics and Regional Cooperation, Malden.

Scott, John 2006: Social network analysis: A handbook, London.

Snyder, David/Kick, Edward L. 1978: Structural Position in the World System and Economic Growth 1955-1970: A Multiple-Network Analysis of Transnational Interactions, in: American Journal of Sociology 84/1, 1096-1126.

Stone Sweet, Alec 1999: Judicialization and the Construction of Governance, in: Comparative Political Studies 33/2, 147-184.

Stone Sweet, Alec 2004: The Judicial Construction of Europe, Oxford.

Thurner, Paul W./ Binder, Martin 2009: European Union transgovernmental networks: The emergence of a new political space beyond the nation-state?, in: European Journal of Political Research 48/1, 80-106.

Ufen, Andreas 2005: Die ASEAN. Ein südost-asiatischer Modellfall regionaler Integration?, in: Nabers, Dirk/Ufen, Andreas (eds.): Regionale Integration. Neue Dynamiken in Afrika, Asien und Lateinamerika, Hamburg, 23-52.

Vogt, Jörgen 2007: Die regionale Integration des südlichen Afrikas unter besonderer Betrachtung der Southern African Development Community (SADC), Baden-Baden.