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Challenges for regional cooperation in Sub-Sahara Africa
–
Does country-specific competitiveness affect regional trade volumes within SADC?

Author:
Tjerk WEHLAND
s1912879

Supervisor:
Dr. Olaf VAN VLIET
Second Reader
Dr. Maarten BERG

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Declaration of Authorship

I, Tjerk WEHLAND

s1912879, declare that this thesis titled, *Challenges for regional cooperation in Sub-Sahara Africa - Does country-specific competitiveness affect regional trade volumes within SADC?* and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.

- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.

- Where I have consulted the published work of others, this is always clearly attributed.

- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.

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Signed: Tjerk Wehland

Date: Berlin 01 July 2018

Abstract

This paper evaluates the significance country-specific variables possess for explaining regional trade volumes within the Southern African Development Community (SADC) between 2005 and 2016.

With negotiations on a Free Trade Area concluded in 2008 the Community has experienced a subsequent growth in regional trade volumes - however, observers noted that the trade creation effects associated with this form of trade liberalisation have been more limited then expected. This assessment is in line with an overall African trend: Intra-African trade has not picked up significantly in the last decades despite increasing trade volumes continuously being a major priority for policy makers and regionalisation efforts being supported by multiple Regional Economic Communities on the continent. The research presented here offers an explanation for this observation by investigating the role of county-competitiveness as an explanatory variable for trade volumes before and after the creation of a SADC-Free Trade Zone.

Employing a regression analysis with controls for fixed effects on both aggregated exports at country-level as well as country-by-country regional exports on a yearly-basis, the researcher finds limited evidence for positive effects of Competitiveness scores as reported by the Global Competitiveness Index after a Free Trade Zone was established. The results are, however, not robust if additional controls for competing explanations for higher regional trade flows such as income levels of the exporting economy, FDI inflow and infrastructure are accounted for. In the absence of theorised effects of competitiveness, GDP-per-capita remains a strong explanation for the expansion of regional trade volumes at country-level.

In terms of interactions between Competitiveness scores and country-specific variables, the research furthermore shows that competitiveness critically depends on good governance-indicators. Countries looking to increase their regional trade volumes should, according to the analysis, not focus on competitiveness but pursue policy choices aimed more broadly at increasing national income levels. If higher Competitiveness Score are coveted, in order to potentially attract more FDI, for example, nations should focus on their institutional framework and strive to increase the level of domestic Human Development and strengthen ownership protection as well as governance indicators.

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List of Abbreviations

AMU	Arab Maghreb Union
AU	African Union
CAECU	Central African Economic and Customs Union
CEAO	Communauté Èconomique de l'Afrique de l'Ouest
COMESA	Common Market for Eastern and Southern Africa
ECOWAS	Economic Community of West African States
ECCAS	Economic Community of Central African States
EEC	European Economic Community
EU	European Union
IGAD	Intergovernmental Authority on Development
FDI	Foreign Direct Ivestment
FTZ	Free Trade Zone
GCI	Global Competitiveness Index
GCR	Global Competitiveness Report
OPEC	Organisation of Petroleum Exporting Countries
OSBP	One Stop Border Point
PTA	Preferential Trade Area of Eastern and Southern African States
REC	Regional Economic Community
RI	Regional Integration
RIA	Regional Integration Agreement
UNCTAD	United Nations Conference on Trade and Development
SACU	Southern African Customs **Union**
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SME	Small and Medium Enterprises
WEF	World Economic Forum

Chapter 1

Introduction and Research Question

The questions of how to best access Africa's potential for economic growth in order to help the continent catch-up to other parts of the world in terms of living standards, development and stability has occupied the minds of politicians, academics and aid workers for more than 50 years.

Over time, the proposed toolkit of remedies changed according to drifts in the perception of what kept the continent back, be it a lack of funds, a set of "bad" institutions or wrong policy choices. Economists, political scientists and scholars in the field of Public Administration come to different conclusions on what exactly is the predominant obstacle for growth in Africa and - accordingly - each discipline proposes different solutions to stimulate growth rates. Interdisciplinary consensus is, however, often reached when it comes to the beneficial role higher levels of intra-African trading could play in terms of promoting economic expansion on the continent. One of the primary means to this end has been a promotion of closer regional cooperation in regional communities.

This support for regionalisation was based on the assumption that a clear and seemingly straightforward channel of causality existed between Regional Economic Communities (RECs), acting as a foundation for future Free Trade Zones (FTZ) and Custom Unions (CU) which in turn would result in reductions to tariff-, and border-based barriers to trade. As regionally traded goods would become cheaper due to decreased costs associated with exports, community trade was believed to increase accordingly.

Economists hoped that by reducing tariff barriers to regional trade, Africa's companies would be able to expand into new regional markets, attract desperately needed Foreign Direct Investments (FDI) and that consumer welfare would improve overall as a result of cross-national value chains, economies of scale and regional competition.

Political scientists and scholars of Public Administration on the other hand, saw a push for more regionalism and a subsequent increase in intra-regional trading as beneficial to the quality of national institutions and regional stability. Abolishing

border-barriers to trade was considered to counter rent-seeking behaviour and corruption by reducing incentives for handing out bribes and smuggling commodities. At the same time, proponents of liberal- and institutionalist theories in International Relations saw more regional trading and cooperation within a common institutional framework, as provided by regional communities, as beneficial for furthering mutual trust and creating a common interest in good governance, regional stability and peace on the continent.

Taking these benefits into account, it seems unsurprising that the endeavour to enhance regional cooperation and integration in Africa was generally met with great enthusiasm by African nations and followed with interest from abroad. Institutionally, the 1970s and 1980s saw many regional communities being established all over the continent and hopes were high for profitable regional cooperation in following years.

However, even though progress was quickly made on paper, tenable institutional advances, meaning the transfer of significant authority on trade policy from the national- to the community level, was made slowly - if at all. "Afro-Optimism" was closely followed by disappointment and the question remained why these projects, widely regarded as very beneficial for the continent, were left to wither.

Perhaps an even greater puzzle presented itself when evaluating the performance of communities that actually managed to introduce a Free Trade Zone in their region. Observers noted that despite reductions to border-barriers to trade, regional trade shares and volumes failed to pick up as strongly as envisioned. The seemingly simple causal relationship between closer regionalism and intra-regional trade volumes failed to materialise, leaving politicians and observers both puzzled and frustrated.

New and recent impetus to provide explanations for the interactions between regional communities and trade has come through a shift in focus by policy makers from border-based barriers- to the importance of nation-specific-moderators for trade flows. In 2015, during a speech in front of international economists attending a WTO summit in Nairobi Anabel Gonzalez, then Senior Director of the World Bank Group's Trade & Competitiveness Global Practice Division affirmed that "Effective regional integration is more than removing tariffs - it is about addressing on-the-ground constraints that paralyse the daily operations of ordinary producers and traders" (Gonzales, 2015). Furthermore, she stressed that in order to achieve higher regional trade values, action was required "at both the supra-national and national levels"; institutional reform, she claimed, at the regional level would have to be met by improvements to infrastructure and factor productivity within individual economies.

This paper takes Gonzales' assessment on the dependency of regional trading on country-specific factors as the foundation for further research. After providing a definition of regional integration and cooperation in Chapter 2, an overview of the

importance of the concept to African countries as well as Community-based initiatives and their performance up to recent years is provided in Chapter 3. Chapter 4 focuses on the presumed causal interactions between Regional Communities and trade volumes. It is theorised that an important explanatory variable for growing exports are price levels of exported commodities. Lowering border-based barriers to trade via establishing Free Trade Zones between regional neighbours is a means to making regional exports cheaper. At the same time, a focus on cost of exports for the importing nation opens the door for other variables to be considered as necessary for growing regional exports.

One of these variables is the productivity of the exporting economy, with higher levels of productivity theorised to be beneficial to lower prices of exported goods which in turn stimulates greater import demand for these products in the community. In the absence of tariff barriers to trade following the implementation of a Free Trade zone, these commodities should have an additional advantage when competing against imports offered by countries not part of the Free Trade Zone. This, in turn, would lead to trade creation effects between regional neighbours, boosting volumes of regional trade.

Consideration for country-specific variables and their potential for stimulating trade volumes within Africa's regional communities also offers explanations for continuously low trade in existing African Free Trade Zones. If Free Trade Zones primarily consists of countries with low economic productivity the elimination of border-based barriers to trade should be of little consequence. While importing from within the zone becomes more attractive as exporting becomes cheaper the positive price effects might not be sufficient to compete with other economies, operating on higher levels of productivity. Thus, we strong effects of Free Trade Zone would show themselves only if the are accompanied by local economies operating at adequate levels of efficiency relative to global averages.

Price- and productivity levels are difficult to measure, especially so in developing countries, which often lack comprehensive statistical data on commodity's market (clearing) prices and the efficiency of factor-usages (Emran & Shilipi, 2010, p. 1). Therefore, the impact of the factors on the dependent variable of this research, total value of traded commodities within a regional community, will be approximated by relying on the World Economic Forum's (WEF) Global Competitiveness Index (GCI). The total score value for each country and time unit is considered as the main independent variable and the reliability and validity of the index as a measure of competitiveness and productivity is critically evaluated.

The importance of country-specific characteristics and national economic competitiveness as measured by the Global Competitiveness Index is then analysed by a regression model, accounting for fixed-effects and a number of possible confounders, on interactions between competitiveness, trade volumes and an existing Free Trade Zone within the Southern African Development Community (SADC) between 2005 and 2016. SADC-member states have been chosen as units of analysis

due to their strong divergence in terms of macroeconomic indicators and Competitiveness scores, making the Community a prime environment for assessing the role of country-specific characteristics and national competitiveness levels for trade volumes. In summary, four main questions will be considered by this paper:

1. Why have African nations defined regional cooperation as an important policy goal?

2. What main supranational initiatives have been undertaken to reach higher intra-African trade volumes?

3. How can the causal interaction between country-specific variables and regional trade volumes be conceptualised?

4. Following from 3.: Does national competitiveness as measured by the World Economic Forum's (WEF) Global Competitiveness Index (GCI) serve as a mediator between Community-based cooperation and increased trade volumes?

The first two questions are addressed by means of a literature review and provide a description of regional interactions, questions 3 and 4 are explanatory questions with question 3 focusing on the presumed causal mechanism that is tested by regression analysis in the course of finding an answer to question 4. The title of the thesis - "Challenges for regional cooperation in Sub-Sahara Africa - Does country-specific competitiveness affect regional trade volumes within SADC?" - places the focus of the presented research on the role of competitiveness as the main independent variable of interest and question 4 accordingly treated as the research question for this thesis. The other three questions provide background on the institutional environment of regional cooperation in Africa as well as a discussion of associated challenges, leading to the contemporary discussion on the role of country-specific and competitiveness-based explanations for trade volumes that forms the basis for the analytical and theoretical parts of this research.

Operationalising productivity levels along the lines of national competitiveness is an imperfect solution for inferring the role of productivity and prices for regional trade within SADC; the causal effect is derived through a channel accounting for several variables which are not observed directly, productivity and price level of commodities. Scientifically, the research is therefore as much exploratory as it is explanatory in treating competitiveness scores as reported by the Global Competitiveness Index as an important mediator in the causal channel moderating Africa's regional trade. While the importance of domestic factors within individual countries for the overall success of economic communities has discussed already (for example Matthews, 2003; United Nations Economic Commission for Africa, 2016, Hartzenberg, 2011), three things stand out about the research presented here.

First, existing research on the significance of differences *within* Economic Communities for realised regional trade is very rare and claims about the efficiency of

Communities with regard to enhancing trade volumes are therefore often generalizing and unspecific, focusing on aggregated trade volumes for the entire zones instead of country-specific gains (as in Hartzenberg, 2011; Adelmann, 2003). By focusing on the Economic Community that is commonly considered to be of limited effectiveness in promoting regional trade, SADC and employing a design that places a country's competitiveness and its regional trade volumes at the centre of the investigation, a more nuanced understanding of the causal channel leading from regional cooperation to trade is achieved.

Second, most statistical testing of causal mechanisms moderating the effectiveness of regional trade-promotion by Communities has been focused on border-barriers to trade (Hartzenberg, 2011; Bach 1993; Foroutan & Pritchett, 1993) and relies primarily on the same set of macro data such as GDP-per-capita and infrastructure indicators. Tests on interactions between country-specific competitiveness within economic communities and intra-regional trade volume has not been conducted yet and the Competitiveness Index is therefore an entirely novel variable to consider when thinking about country-specific effects of regional integration for African trade volumes.

Third, the Global Competitiveness Index as produced by the World Economic Forum has become a point of reference for developing countries in tracking their progress in generating beneficial conditions for economic growth (Ben Barka, 2012; Söderbaum & Taylor, 2008). A number of studies have already used the GCI's data to analyse policy choices (Sant'Anna, De Araujo Ribeiro et al., 2011) and business executives are using the survey to inform their investment decisions (World Economic Forum, 2016, p. 3). At the same time, academics have been critical of the Indices validity, methodological approach and underlying values systems (Lall, 2001; Bergsteiner & Avery, 2012; Djogo & Stanisic, 2016). This paper evaluates the critique and provides new evidence for assessing the robustness of Competitiveness Scores by testing them against other performance indicators drawing on the same set of underlying assumptions and variables, such as the HDI, is conducted. Both the discussion and tests expand on the existing literature and theoretical criticsm by Lall (2001) and Bergsteiner & Avery, thereby providing a point of reference for further studies informed by the Global Competitiveness Index.

Besides the scientific relevance, the thesis' question is also of high relevance in terms of its societal implications. Not only is deeper regional integration, as outlined above, seen as a major remedy for some of Africa's most pressing economic and societal problems, but current solutions for stagnating regional trade volumes discussed among the continent's policy makers, as exemplified by the statements of Mrs Gonzales, is shifting from a border barrier-focus towards integrative measures that aim to strengthen and interconnect individual national economies within Economic Communities. A focus on competitiveness as a country-specific mediator between regional integration and growing trade volumes is a contribution to an

emerging discussion that already reshapes Africa's approach to regionalism. Furthermore, it sheds light on the limitations of the effectiveness of institutional design aimed at boosting trade volumes across diverging economies.

As Europe undergoes a renewed "pivot to Africa" in a bid to curb immigration from the continent, concepts that provide African nations with policy solutions aimed at increasing their facilities for capacity building are in high demand. The 5th African Union-EU Summit in November 2017 in Abidjan culminated in policy makers from both continents reaffirming the importance of sustainable economic growth and better perspective for Africa's youth as a focal point for future cooperation (Council of the European Union, 2017). Strengthening intra-African trade ties can play an important role for reaching this goal but a clear conceptualisation of how regional cooperation and trade volumes are connected is required to identify priorities for development cooperation. Investigating the role of country-competitiveness can therefore help to identify future focus areas for targeted development efforts on the African continent.

Chapter 2

The concept of regional integration

In order to establish as basis for further investigation, an definition of regional integration, its specific significance with regard to economic regional integration in Africa as well as a distinction between "regional integration" and regional cooperation will be provided in this Chapter.

Mattli (1999), affirms that "[...] regional integration is a product of many and varied forces" (p. 3) and advocates a methodological framework that treats RI as a confluence of political and economic motives. According to Mattli, an interdisciplinary approach, a vantage point that takes into account multiple disciplines is also better suited to explain the various pitfalls that contribute to such projects not living up to expectations. A review on conceptualisations of regional integration will therefore be based on an interdisciplinary approach. In order to classify, which definitions and concepts can serves as a point of reference in this regard, first the three crucial disciplinary dimensions of regional integration are given.

Mattlli as well as Baldwin and Wyplosz (2004) argue that economic and political motives and development are crucial for starting and defining regionalisation efforts. Following functional and neofunctional arguments, Mattli considered the political dimension of regional integration to be concerned with peaceful and stable systems of cooperation (Mattli, 1999, p. 22f.), a goal that is reached by cooperation in supranational entities. These are "[entrusted] with a certain task, carrying with it command over the requisite powers and means" (Mattli, 1999, p. 22; quoting Mitrany, 1996, p. 31) and based upon delegation of power by (mainly) nation-states which integrate out of self-interest, following functional considerations of the benefits of more cooperation (Mattli, 1999, p. 23-25). While this approach explains the reasons states have for shedding power in favour of supranational-cooperation, economics analysis whether the pay-out expected are realised and the micro- and macroeconomic levels. As Mattli states "[economics] looks at markets of goods and considers the welfare implication of discriminating mergers of such markets" (p. 31). Interactions can be exemplified by considering important integration by establishing FTZs and Customs Unions (CU) and associated economic effects. Free Trade Areas are considered to facilitate regional trade by allowing foreign industries to directly compete with national producers on the terms of relative productivity after tariffs,

which are factor-unrelated reasons for increased costs of imported goods, are eliminated (p. 32). A result is increased consumer surplus as price competition rises. This argument will be further explored in Chapter 4. Customs Unions, expand the interaction between regionalisation and trade by imposing a common external tariff on imports by the CU-member states vis-á-vis the rest of the world. Economically, this is said to potentially result in trade diversion effects, as a tariff levels might discourage exports from outside the CU, even though products in question are cheaper in terms of factor inputs. This would reduce consumer surplus and place foreign industries at a disadvantage when competing with CU-economies for CU-intern market shares.

Merging both political and economic dimension and associated effects of regional integration is crucial for understanding the course RI took in Africa and modelling interaction between the political and economic sphere informed a number of studies and recommendations for integration on the continent (African Capacity Building Foundation, 2008; Ben Barka, 2012). Consequently, the following proposition for a definition considers disciplines as equally important for RI.

2.1 Defining "regionalism" in Africa

Scholars argue that the multitude of projects aimed at closer regional integration throughout history have underperformed or failed altogether, with the European Union as the most prominent exception (Baldwin & Wyplosz, 2004; Mattli, 1999). This thesis' research on regionalism within SADC likewise embarks from an assessment among academics and policy makers, that the zone has so far failed to realise many of the positive outcomes associated with schemes of regional integration (Kayizzi-Mugerwa et al., 2014; Asante, 1997). As failure is being considered the norm when it comes to RI, studying why exactly such projects failed to take off leads directly into conceptual ambiguity: Only if we know what goals were being pursued by initiatives of regional integration can we determine whether they were reached or not – and which factors contributed to their failure directly and what others were present, but unrelated. Against this background, the basal definition as brought forward by Mattli (1999):

> "[Regional Integration describes the] linking [of] domains of two or more
> formerly independent states to the extent that authority over key areas
> of national policy is shifted to the supranational level" (p. 1).

The definition can divided into two conceptual dimensions RI: Voluntariness and motives (ibid., p. 2-3). The first dimension obviously alludes to a country's ability to decide on its own whether or not to join an integrative scheme, free from outside coercion by force. Mattli notes that fully voluntary schemes of RI have only been established as late as the 19th century[1]. The second dimension, then, considers the

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[1] An example for an early integration scheme brought about mainly by coercion might be the Delian League (Sommer, 2013) and – more contemporary, the Warsaw Pact (Kennedy, 1994)

areas of integration and subsequently the goals associated with closer interaction in these field between states. Historically, most integration schemes have been concerned with enhancing security, while modern projects focus on promoting trade and economic growth (Mattli, 1999) as well as – more profound – trust and cooperation (Kayizzi-Mugerwa et al. 2014). This interpretation provides a good fundament against which to think about, and ultimately judge, the forms which regional integration in Africa have taken.

RI on the continent has been described as a "rational response to the difficulties faced by a continent with many small national markets and landlocked countries" (Hartzenberg, 2011, p. 1). While the benefits associated with closer regional integration in Africa also include institutional gains such as less corruption and increased political stability (Bliss & Husain, 1993), the main goal of integration schemes, as stated by policy makers and scholar, lies with boosting the economic output of African nations[2]. The form that policies, aimed at increasing regional integration by extending authority over national policy areas to the sphere of supranationality, might take are exemplified concisely by the European Commission's International Cooperation and Development Unit whereas regional integration includes:

> "[...] the process of overcoming barriers that divide neighbouring countries, by common accord, and of jointly managing shared resources and assets. Essentially, it is a process by which groups of countries liberalise trade, creating a common market for goods, people, capital and services." (European Commission, 2018)

Therefore, when considering the term "regional integration" in its contextual usage with regard to Africa, we can summarise the definitions outlined above and define the term in the scope of this paper and with regard to its primary meaning in the African context as denoting *voluntarily signing over authority over national policy areas to a supranational entity with the overall goal of liberalising trade and creating a common market for African countries*[3]. The instrument of choice for reaching this goal has so far been, as the next chapter will detail, the drafting of Regional Integration Agreements with a number of supranational institutions designed to reduce barriers to free trade among African countries, such as Free Trade Zones. At the same time, the definition rejects approaches to define regionalism in terms of a fixed outcome for regional trade shares, which might follow from a liberalised environment in which to conduct trade, but are not required to define a region as economically integrated. To state this briefly: Economic regional integration, liberalising regional trade, does not translate directly to regional trading. Thus, "successful integration"

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[2] "Since the early years of independence in Africa, regional integration has pre-occupied many in Africa who believed that it was the main instrument to promote economic growth and development" (Jordaan, 2014, p. 1). See also assessments and recommendations by international organisations such as the African Union (United Nation, African Union, 2010).

[3] The definition presents as synthesis of conceptual summaries found in Mattli (1999) as well as provided by the European Commission (2018).

does not automatically mean economically effectivte. This, in turn, opens the way to the question: How can it be determined why regional integration in some cases led to higher regional trade volumes - but not in others? Here, the researcher suggests a close investigation of country-specific factors which, as theorised in Chapter 4, might provide an answer to this puzzle through a clear conceptualisation of the causal interactions between variables that lead from more regionalisation to higher trade voluems, with special regard for the role of country-competitiveness.

2.1.1 Regional Integration vs. Regional Cooperation

In the course of this paper, the term "regional integration" will sometimes be abbreviated or substituted by either "regionalism" or "regionalisation". This mainly serves the purpose of reducing the tediousness of reading parts of the investigation which make reiterating references to the concept. The term "regional cooperation" on the other hand is used with deliberate reference to a procedural development and is an element of regional integration.

While regional integration, as outlined in the previous section, denotes a common set of supranational institutions that exercise authority over a defined policy area serving a broader goal such as collective security or economic growth, regional cooperation can be seen as a subtotal- and procedural component towards regional integration (Haas, 1970). Asante (2010) notes that "regional cooperation may help describe steps along the way to regional integration" (p. 21). Thus, if "regional cooperation" is referenced in the African context in the course of this work, the term can be understood as "steps undertaken towards the overall goal of liberalising trade and creating a common market for African countries." The concrete steps of the integration process, increased regional cooperation, are outlined in the next Chapter.

Chapter 3

An overview of integration initiative in Africa

Intra-African trade volumes and how to increase them have featured for a long time on the continent's policy agenda. As an instrument of choice for improving regional cooperation as defined in Chapter 2, Regional Economic Communities have played a prominent role to facilitate stronger growth in regional trading.

This chapter provides an overview of Community-based regional cooperation in Africa and focuses on the reported results and underlying assumption of causality flowing from treaties on regional integration to trade. Regional Integration is presented as a long-coveted goal for African nation which has been pursued with enthusiasm but limited success in the past. Much emphasis was placed on a quick reduction of tariff-barriers to trade in comprehensive integration steps in line with "liberalising trade and creating a common market for Africa". The endeavours left the continents with a convoluted system of overlapping Regional Economic Communities. Subsequently, authors and policy makers began to reaffirm the need for strengthening trade relationships between individual countries as well as productivity of individual economies before turning to ambitious institutional reforms facilitating market integration. This denotes, as will be further outlined in Chapter 4, a shift in focus of what holds intra-regional exports in Africa back by considering other mediators in the causal channel, such as price of exports for the importing country.

The failure of boosting trade volumes from tariff-focused intiatives of regionalisation presents the background for the turn to country-specific mediators in the subsequent Chapters.

3.1   Regional Integration: A dated- but current policy issue

Talking in a contemporary setting about regional integration in Africa, the concept's relevance with regard to growth and development as well as progression or failure of established or already dissolved systems of regional co-operators references a long-standing and complex policy issue on the continent.

Evidence for Africa's fragmentation in terms of free trade flows considerably pre-dates strong European influence on the continent. Scottish merchant Mungo Park, who travelled various African countries in his journey from the Atlantic to the Pacific coast in search of new business opportunities in 1796, provides an example in his experience report "Travels in the interior districts of Africa". Just after disembarking in modern-day Gambia he shares an observation on the high tariff barriers to trade local and foreign merchants alike had to face:

> "[The amount of trade flow on the Gambia (...) encouraged the king of Barra] to establish [...] exorbitant duties which traders of all nations are obliged to pay, amounting to nearly 20£[1] on every vessel." (Park, 2002, p. 8)

Park's account is interesting because, it provides a glimpse at institutionalised barriers to trade in the form of tariffs which seem to have been established independently of European involvement[2].

In the present day, scholars have found Africa's restrictive tariff-systems as still being an important factor for explaining slow economic growth on the continent. Researchers from diverse academic backgrounds have continuously reaffirmed the need for Africa to move "closer together" in terms of trade under a set of common institutions and combat the continent's fragmentation.

Habiba (2012) identifies small market sizes and fragmented economic spaces as historic problems which challenge the growth of African economies. He proposes closer regional integration as a solution. Kayizzi-Mugerwa et al. (2014) find that "regional integration has considerable potential for driving more robust and equitable economic growth as well as promoting poverty and unemployment reduction in Africa" (p.1). This notion is shared by international organisation both within- and outside Africa and considered especially important by the African Union which issues copious reports on a yearly bases detailing the state of regional integration on the continent (United Nation, African Union, 2010). An important assumption is the assumed connection between regional economic cooperation and intra-regional trade: With regional integration begetting reduced tariff barriers for trade which in result making imports from neighbouring countries more attractive in terms of price levels (Yongzheng & Gupta, 2005, p.3).

Expanding the list of beneficial effects, these higher ratios of intra-regional trade are thought to be one of the main potential sources for growth for African economies (Geda & Seid, 2015) which in turn promises to relieve poverty (Adom, Sharma et al., 2010) and bring further payouts in term of connecting people and cultures and thus

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[1] Close to 1550£ today in today's worth, according to the UK's Composite Price Index (Alioth Finance, 2018)

[2] Addressing "European involvement" is making reference to the allegation that colonisation provides a strong explanatory reasons for low regional trade in Africa, as border demarcations by colonisers is said to have subsequently deprived countries of access to the sea or river systems as a basis for a natural infrastructure and exploitation of colonies called only for construction of infrastructure connecting ports and inland production facilities, not African nations among each other.

turn into a stepping stone towards an "ever closer union", following Neofunctional-stic rationales (Mattli, 1999 p. 21). Cited as necessary steps to achieve this end often include reduction to tarrif- and border-based barriers to trade, eventually leading to a number of regional Free Trade Zones (The World Bank, 2012). Abolishing border barriers to trade is furthermore linked to a possible decrease in corruption and crime, as circumventing high tariffs through bribery or smuggeling is associated with sub-stantial monetary gains (Ben Barka, 2012).

Against the background and the multitude of benefits associated with closer integration, reduced tariff barriers and higher trade volumes, it is unsurprising that the policy issue featured prominently of Africa's reform agenda ever since the era of decolonialisation in the 1960s and -70s (Asante, 1997).

The following section offers an overview of the history of African regionalisation. After describing the development of regional trade volumes in the decades from 1970 to the mid-2000s, roughly divide into an era of "regionalisation-optimism" until the late 1980s, followed by gridlock in progression and results often described as disappointing in terms of trade increases. Applied to this assessment, reasons and theories surrounding the disappoint effects of RI on trade volumes will be discussed by offering insights from academic literature. Working from general observations to specific case for answering the analytical questions posed in this research, the second part of the chapter deals with regionalisation within SADC and associated challenges.

3.1.1 Institutionalising Integration: Regional Economic Communities

The path from regional political agreements to ever-deeper economic integration has been quite clearly envisioned by African policy makers in the past. Each step on the agenda was seen as part of an process towards forming an ever closer union and – finally – transitioning from the realm of common economic policy into a fully sovereign political entity. The presumed path is outlined in Figure 3.1 below.

FIGURE 3.1: Parth of Regional Cooperation for African countries
Adapted from Economic Commission for Africa (2016)
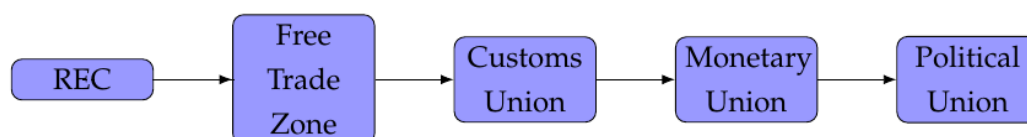
This approach aspires to mirror the steps in European integration, but – according to authors such as Asante (1997), Fawole (2005) or Guy (1989) – put considerably less emphasize on incremental integration and inherent necessities which were of great consequence in the European case, as informed by Neofunctionalist inter-pretation (Jeffery, 2001; Mattli, 1999). Where European cooperation embarked from

relatively modest beginnings in the form of joint exploitation of natural resources in the German-French border regions of the Ruhr valley, African countries started out with agenda of integration in mind which would have speedily transformed the continent into an economic and political union by great strides instead of incremental steps (Asante, 1997; Jeffery, 2001).

After the signature of agreements of regional integration, policy makers from states party to these treatise were expected to speedily agree upon tenants of a free trade zone. This zone would see tariffs between participating countries gradually abolished, while also simplifying bureaucratic procedures necessary for imports and exports (Guy, 1989). In order to specifically enable African firms to profit from these arrangements, firms would sometimes be required to have at least 50% of their equity in the hands of African owners, as was an early requirement within the Economic Community of West African States (ECOWAS) (Bach, 1983).

Free Trade Zones would subsequently be proceeded by a Customs Union (United Nation, African Union, 2010), which was presumed to be able to draw on established sets of common institutions and cooperation under Free Trade Agreements. Whereas Free Trade Zones are multilateral and non-exclusive in nature, requiring countries to agree on the elimination of tariffs within their region but with a potentially unlimited scope for other countries to join, a Customs Union is more ambitious and exclusive.

Customs Union rely on the ability to establish common import duties and tariffs that each individual member state applies to goods to- and from the rest of the world (Baldwin & Wyplosz, 2004). This is both a step towards closer economic integration as it is a clear sign of political cooperation: after all, each country loses the authority to individually make decision with regard to tariff levels which is now delegated to a supranational level.

As the first major goal post of the integration agenda in Africa, establishing Free Trade Zones was believed to form a not-so-distant policy objective(Asante, 1997). However, over 40 years since the first RIAs where signed, only five completed Free Trade Zone exists on the continent (consult Table 3.1) with some others at least partially in effect and many RIAs stagnating with regard to negotiations on tariff exemptions (Adelmann, 2003; World Bank, 2012; United Nation, African Union, 2010). Furthermore, while it is possible to be a member of multiple Free Trade Areas, which would entail negotiations between a country aspiring to join and those already participating in a FTZ, a country can only be part to one Free Trade Area under a Customs Union, as this by definition requires a common set of duties and tariffs vis-à-vis all states which are not members to the Union. Accordingly, overlapping memberships in multiple Free Trade Zones prevents the graduation from step 2 to step 3 in Figure 3.1. SADC, for example, is currently hindered from progressing to a Customs Union in the foreseeable future since some states are member to both the SADC- and another Free Trade Area (TRALAC, 2015).

A functioning Customs Union would over time make way for a Monetary Union.

This would signify a further increase in devolution of state powers as members of a monetary union lose the ability to unilaterally decide on monetary policy and instead rely on a common currency with only a single exchange rate for the whole union. While transaction costs and cross-border investments are made significantly cheaper, states can no longer devalue their currency at will in order to produce an economic stimulus (Mattli, 1999). To successfully prevent, negative effects such as problems to refinance on the global financial markets or smother their domestic economies, states are required to display a high amount of economic convergence before forming such as Union (Baldwin & Wyplosz, 2004).

As a final step, full political integration of African nations would be reached under a system that is similar to the European Union, where authority over the most important policy areas rests with a political entity that represents the whole population of the continent with an executive and legislative organ (United Nation, African Union, 2010).

3.1.2 "Integrative Enthusiasm" between 1970-1985

Endeavours to increase regional economic cooperation can be traced back to the colonial era. The Southern African Customs Union (SACU), together with its predecessor, a customs Union between the English Cape Colony and Boer Republic of the Oranje-Freestate, had been established in the late 19th century.

A first major push for more regionalism in post-colonial Africa followed right after the onset of the "African Decade" in the early 1960s. 1964 saw the establishment of the Central African Economic and Customs Union (CAECU) by six African states through the Brazzaville Treaty. The initiative, while failing to gain significant traction in the short-term not least due to regional instabilities brought about by the developing Congo Crisis, was the first cautious step towards regional integration on the continent post-independence and set the tone for future undertakings in this field.

CAECU's goal was an "ever closer union" with the "elimination of impediments to inter-state trade" (Union of International Associations, 2018) as one of its main goals. While vision of a "United Africa", with sufficient clout to face former colonisers on equal terms were already expressed (ibid.), the value of integration was mainly seen in the economic sphere. Newly independent nations sought to deepen regional ties mainly for concrete economic gains in their own interest. As Söderbaum and Tailor (2008) note

> "[Regional Integration] was the product of a global mood, which believed that economic integration was a feasible adjunct towards the realisation of the nationalist goal of self-reliant growth" (p. 141)

Regional cooperation in matters of trade and higher intra-African trade flows was seen as a supplement to national initiatives - and states which had just won

their freedom by appealing to notions of nationhood or ethnicity were largely uninterested to immediately move on to a common set of institutions or a submission to supranational, outside, authority (ibid.; Reid, 2010). The intermediate goal of increasing regional, intra-African trade volumes was comparably uncontroversial. Furthermore, considering underdeveloped and taxed domestic resource in the direct aftermath of decolonialisation (Dorothee, Bauer et al., 2015), boosting economic growth via regional cooperation must have seemed as a cost-effective solution to common problem on the continent, requiring "only" the willingness – and ability – to agree on a common set of institutions, rather than concrete improvement of domestic factors of production.

This perception of regionalism as a gateway to "self-reliant" growth was interwind with the aspiration of securing and reaffirming the independence of African countries from former colonisers and the Global North in general (Asante, 1997; Fawole, 2005). If regional integration could have been leveraged to boost national economies while reducing the reliance on imports and exports to and from the global economy, pursuing closer regional cooperation would have served a domestic as well as foreign policy goal.

The influence of colonialisation on African motives to integrate areas of their economies can also be traced beyond geopolitical considerations. Asante (1997), quoting Adedeji (1976) describes regional integration as a "sine qua non" (p. 31) for colonized countries that had been left with "the disadvantage of small size, low per capita incomes, small population, and narrow resource bases" (p. 30) after economic exploitation and "balkanization of the continent into arbitrary nation-states" (p. 31).

International developments in the late 1960s and early 1970s gave further fuel to proponents of regional cooperation. The Oil Crisis of 1973 hit Africa's emerging economies particularly hard, although effects were not felt equally across the continent. The United Nations Sixth Special Session, assessing the effects of the crisis on individual economies in 1974, found that among the 32 countries that were "most seriously affected" (United Nations, 2018, p. 10) by the crisis, 20 were based in Africa. Among the proposed reforms to prevent future economic calamities related to a shortage of essential resources, the General Assembly urged its member states to undertake "all efforts" in order to "improve access to markets in developed countries through the progressive removal of tariff and non-tariff barriers" (ibid., p. 6). African leaders to this as an additional motive to push for further regionalism and voices calling for economic autarky from the Global North were now joined by proponents for the general economic self-reliance of the continent to mitigate future world market shocks (Asante, 1997).

This policy objective received further momentum by international developments. Politicians in favour of regionalism in the 1970s were able to easily point to an example for successful integration in the form of the European Economic Community (EEC). Following the Adoption of the Treaty of Rome in 1957 which laid the foundation for Europe's path towards substantial economic and political cooperation,

observers noted the substantial growth displayed by members of the EEC and regional trade volumes (Jeffery, 2001). This not only lead European countries, formerly critical of transferring authority to supranational institutions such as Denmark and England to join the EEC from the 1970s onwards, but sparked "integration fever" (Mattli, 1999, p. 6) across the globe as other regions scrambled to emulate the European success story. At the same time, resource-rich African nations also took note of the performance of the Organization of Petroleum Exporting Countries (OPEC), which served as yet another example for "strength through collective action and solidarity [and] a compelling case for collective 'Southern' Action in pursuit of counter-dependency ambitions" (Asante, 1997, p. 39).

Against this background of multiple and compelling arguments for more regional cooperation, CAECU was soon joined by a multitude of other regional communities on the African continent. Just a quick glance over the main Communities set up over a time frame of just under ten years exemplifies the high hopes the continent placed in those initiative.

In May 1975, 16 states convened in Lagos to establish the Economic Community of West African States (ECOWAS). As the region was already host to the Communauté économique de l'Afrique de l'Ouest (CEAO), a smaller initiative established in 1973 by six francophone West African states, the environment for broad regionalisation was complex from the start (Bach, 1983). CEAO later expanded and transformed into the West African Economic and Monetary Union (UEMOA) in 1994. In the south of the continent, RI proceeded slightly less convoluted as nine states founded the Southern African Development Coordination Conference (SADCC). The SADCC can be seen as the forerunner to SADC, which it was reformed into in 1992 after the ascension of Namibia. South Africa only joined the community following the fall of the Apartheid regime in 1994. In close succession to SADCC, the Preferential Trade Area of Eastern and Southern African States (PTA) (1981), which was reformed into the Common Market for Eastern and Southern Africa (COMESA) in 1994, the Economic Community of Central African States (ECCAS) (1983) sharing its area of operations with the Commonauté Èconomique des Ètats d'Afrique Centrale (UDEAC) (1983) (Asante, 1997) (Adelmann, 2003). North Africa entered the fray via the establishment of the Arab Maghreb Union (AMU) in 1988 (United Nations Economic Commission for Africa, 2018). Finally, the Intergovernmental Authority on Development (IGAD), building upon an early regional initiative for crisis prevention in East Africa completed the REC-ensemble in 1996 (IGAD, 2018).

Coming to grasp with the multitude of initiative and overlaps is not an easy task. Figure 3.2 presents an illustration adapted from Oshikoya (Oshikoya, 2010), to better depict the net of membership resulting from this flurry of institutional drafting in contemporary circumstances[3].

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[3] For the sake of simplicity, Communities with fewer than five members are not shown. The reformed PTA, consisting of 22 members is also not included – a more elaborate list can be found in (Oshikoya, 2010) and with regard to membership in the PTA at (FAO, 2018)

FIGURE 3.2: Overview of (overlapping) Community-memberships in
2014, own illustration based on Oshikoya (2010)
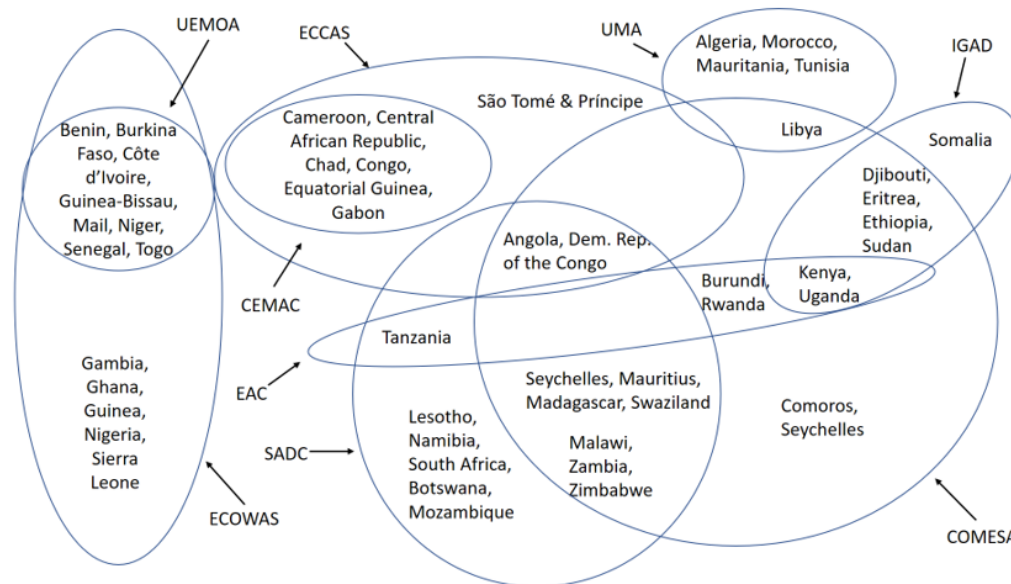
While the amount of established Economic Communities can be interpreted at the very least as a "symbolic tribute to the ideals of African unity" (Bach, 1983, p. 1) in the late 20th century, their abundance does already hint at the role diverging motivations and country-interests played in the realm of African regionalism.

As has been stated at the beginning of the chapter, regional cooperation was – among other important considerations – seen as a means to achieve rapid national growth and thus cement the power-base of young nation states (Fawole 2005). Vying for control of the integration agenda and the direction common regional trade policy would take became an important part of regional politics (Asante, 1997). Rifts between countries resulted in the split of regions into multiple Economic Communities. ECOWAS and UEMOA, for example, developed separately over disagreement about Nigeria's role as the dominant regional power in West Africa, while SADCC started out as an economic counterbalance to South Africa under white-minority rule (Asante, 1997). Conflicts for leadership are still a factor in contemporary settings. Hulse (Hulse, 2016) considers Nigeria within ECOWAS and South Africa within SADC still to be mainly self-interested powers that pursue policy solutions which are tailored to the requirements of their own economies, whileFawole (2005) adds in his research that smaller countries are often suspicious of larger regional powers and resist closer integration for fear of being taken advantage of.

While set up to combat trade fragmentation it might be prudent to ask whether the "integration fever" of the 1980s not merely transferred the issue to the supranational level. Membership in multiple regional integration schemes has proven to be a serious problem for various communities, not least SADC, in moving forward with their integration agenda. Furthermore, and even more disappointing, might be the

missed increases in regional trade volumes following of this period of integration fever.

3.1.3   Incremental Gains and Disillusionment after the 1980's

While the multitude of Regional Economic Communities established in the 1970s and -80s is a testament to the desire for closer cooperation in Africa, the subsequent years were a testament to their inadequacy for actually reaching this goal. Not only did Africa's share in the world economic failed to increase, it actually declined steadily, but African countries also did not notice any increase in regional trade volumes (Bliss & Husain, 1993). Afro-Optimism had run its course and scholars started to question the choices and commitment of African countries with regard to closer regional cooperation. Or, as Fawole (2005) states: "[Countries] have been carried away by [their] excitement [...] pursuing sometimes overambitious targets" (p. 47).

What little progress had indeed been made is illustrated in Figure 3.3 below[4].

FIGURE 3.3: Intra-regional exports as percentage of total exports by selected African regional groups (1970-1992)
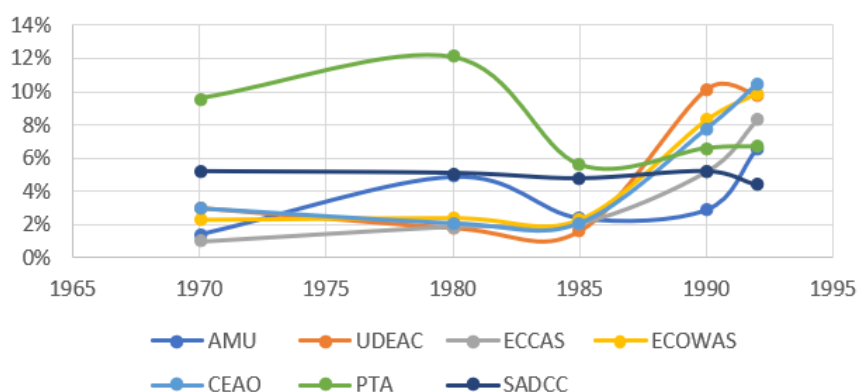
As can be seen in Figure 3.3, the effects of "integration fever" failed to materialise for over a decade. Especially noteworthy are both the slump in PTA-regional trading between 1980 and 1990 and the absolute stagnation in relative trade volumes within all other Regional Economic Communities, except CEAO. The decline in intra-PTA trade after 1980 followed from a shift in the export patterns of Kenya and Zimbabwe, the two biggest economies within PTA, which reacted to shifts in world market demands for agricultural products (Guy, 1989). The resulting downturn, according to Asante (1997), gives a "misleading impression" (p. 49) of PTA's true performance, as it had one of the first sets of functioning and commonly adopted institutions in the field of trade integration.

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[4] Reported trade values within a regional group sometimes precede the formal establishment of a REC but are nevertheless included in the diagram to obtain a point of reference

The stagnating trade volumes in other Communities are mainly explained by a lack of institutional reform or the non-adoption of formally agreed-upon policy (Fawole, 2005). This, in turn, has been explained by a lack of consensus between countries about the concrete design of Free Trade Zones and arbitration mechanisms, animosity and power politics within Communities and a lack of necessary capacities, human resources and infrastructure to create working institutions in general (Bach, 1983; Iqbal & Khan, 1998; African Capacity Building Foundation, 2008). If solely institutions were expected to pave the way to higher regional trading it might bluntly be state: We observe no change, since nothing changed. The limited success post-1985 is, following these sources, not based on surmounting these problems by a stronger focus on incremental measures, prompting countries to focus on "important, but low profile matters" (p. 147). This assumption is also underscored by Gonzales' (2015) assessment that countries should supplement institutional approaches to overcoming obstacles to regional trade flows with policies focusing on productivity at the national level in order to reach stronger results when it comes to regional trade values.

3.1.4 Current state and challenges of regional economic cooperation

Despite a population of 1.03 billion, Sub-Saharan Africa is largely marginalized within the global economy due to a GDP of US$ 1.5 trillion, corresponding to per capita incomes of only US$ 1467 (World Bank, 2018; Hartzenberg, 2011)[5]. While the continent has made significant strides in the last one and a half decades, with more than 400% growth in GDP for Sub-Saharan Africa[6] , this only translates into a boost to the region's relative share in global GDP from 1% to little more than 2% over the course of 16 years[7].

In addition, countries such as Botswana – which displayed higher growth rates in its per-capita income levels than any other country in the world in the last 35 years (Acemoglu et al., 2011, p.3), or Nigeria, show high GDP growth due to global demand for primary materials such as oil and diamonds (United Nation, African Union, 2010) – in Nigeria's case gains are also inflated by high population growth (World Bank, 2018)[8] – which calls the sustainability of this economic growth further into question (Kayizzi-Mugerwa et al,. 2014).

A slightly more positive assessment is reached by experts when turning to trends in intra-African trade. It is acknowledged, that today most of intra-African trade is conducted between members of the same regional community. 64% of the entire intra-African trade by ECOWAS-countries, for example, occurs with other ECOWAS member states. South Africa possess the strongest regional economic ties with 90%

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[5] Data from 2016

[6] From a mere 368.8 billion in 2000 to 1,516 trillion in 2016 (World Bank, 2018)

[7] 368.8 billion relative to 33.566 Trillion in 2000 and 1.516 trillion to 75.872 trillion in 2016

[8] Between 2000 and 2016 Nigeria's GDP grew by 872%, more than twice the rate recorded for Sub-Sahara Africa as a whole. However, the country's GDP per capita, "only" increased by 186%, compared to an 266% increase for the entire region.

of intra-African imports and exports coming from or going to other countries in SADC. (United Nations Economic Commission for Africa, 2016). Around the beginning of the new millennium, continental trade volumes, measured of total value of exports, only accounted for around 2.5% of Africa's GDP. This expanded to a little more than 3.5% in 2009-2010, only to plummet again in subsequent years (United Nations Economic Commission for Africa, 2016).

The limited amount of trade has been described as problematic by many actors concerned with the continent's economic prospects, such as the United Nations Economic Commission for Africa. A persistent assessment expressed by scholars such as Hartzenberg (2011), Adelmann (2003) or Fawole (2005) is that progress in the field of regional cooperation has been mostly stagnating since the introduction of the policy issue in the 1960s.

The reasons for Africa's limited gains in regional trade volumes have been varied and the problem dimensions are said to span political, economic and administrative dimensions. It has already been described that "integrative enthusiasm" in the 1960s and -70s led to a multitude of regional economic communities being established, often in direct rivalry. While members within one community agreed to reduce border-based barriers to trade vis-à-vis each other, this did nothing to facilitate trade with other communities. In some cases, Regional Economic Communities were specifically established to divert trade flows away from regional rivals, such as in the case of UEMOA, whose members sought to limit Nigeria's economic and political clout in West Africa (Asante, 1997). Economic fragmentation was only incompletely addressed by Communities and facilitating trade between different regional groups remained demanding and a taxing affair (Adelmann, 2003).

Moreover, many Communities are said to have failed to establish working institutions which would translate the policy goals formulated in Regional Integration Agreements into concrete economic effects such as increased trade volumes among community members. As high tariffs and border-based bureaucratic procedures are among the most commonly cited hindrances to trade flows and their reduction are the central aims of RIAs, Free Trade Zones and Customs Unions were considered to be among the best remedies to these obstacles (Adom et al., 2010; Hartzenberg, 2011; Kayizzi-Mugerwa et al., 2014), as outlined also in the previous subsection.

However, when tracking the success of Africa's contemporary 17 regional trade blocs in actually establishing these institutions, the overall results are disappointing for many Communities. Table 3.1 on the next page gives an overview over institutions for liberalising trade considered as functional by the United Nations Economic Commission for Africa and the African Union.

TABLE 3.1: Existence of Free Trade Zones or Customs Unions within
selected RECs as of 2016
Source: United Nations Economic Commission for Africa, 2016, p. 16

	ECOWAS	EAC	COMESA	SADC	ECCAS	IGAD
FTZ	+	+	+	+	+	-
CU	+	+	-	-	-	-

Out of 17 Communities, only five have so far managed to develop at least one of the institutions that are considered central parts in the causal channel from closer regional cooperation towards higher regional trade volumes.

Additionally, for Communities such as SADC, the way forward in terms of institutional evolution – towards a Customs Union – is complicated. As illustrated by Figure 3.2, describing the "Galaxy of regional cooperation" in Africa, Community-membership overlaps for many countries, complicating negotiations on Custom Unions . As already outlined above, a community preparing to establish a Customs Union while member states are affiliated with other Free Trade Zones, which they have to withdraw from before regional cooperation can be deepened. Since a Customs Union requires all member states to agree on one set of external tariffs it is at odds with the obligations of yet another Free Trade Zone membership, which binds the very same county to guarantee tariff free exports within the zone (Mattli, 1999). This has proven to halt integration efforts for the more successful communities, this is to say those that have already managed to establish Free Trade Zones and specifically halts regionalisation progress in Southern Africa at the moment (TRALAC, 2015).

Hulse (2016) identifies the role of individual countries as an explanatory factor for institutional developments within regional economic communities. She assesses the role that South Africa and Nigeria play as the dominant regional actors within their economic communities and associates strides in integration process with the willingness of these regional powerhouses to become invested in the project: "SADC lacked a concrete integration agenda until South Africa joined the organisation in 1994" (p. 22) while "Nigeria displayed an absence of leadership in relation to the ECOWAS Trade Liberalization Scheme" (p. 25).

Hulse states that both approaches had a strong effect on integration efforts, with ECOWAS being held back by Nigeria's lethargy and SADC profiting from South Africa's initiative. However, she also affirms that countries seem to inform their support for regional cooperation along considerations of self-interest and granted or withdraw support according to their own assessments of what is to gain from more integration (p. 25). This, she argues, leads to conflict and institutional gridlock as smaller countries are resisting the agenda of "a self-interested actor that does not have their best interest at heart" (p.23).

Beyond political conflicts, Economic Communities are also said to be hold back by constraints in Human Resources, such as bureaucratic expertise and administrative know-how needed to efficiently operate regional communities on a daily basis.

The African Capacity Building Foundation, found that Free Trade Zones often failed to display their full potential in terms of boosting regional trade volumes due to a lack of adequate staffing and training for border officials and civil servants tasked with overseeing the implementation of trade reforms (African Capacity Building Foundation, 2008). Furthermore, a lack of data processing, communicating and transportation infrastructure is said to limit the gains from reduced border-barriers to trade further.

The consideration of country-characteristics leads to even more factors associated with limited gains in trade under RECs. The small size of Africa's economies is considered, as described by Gravity Models of Trade, a limit to their bilateral trade volumes, with only countries displaying relatively high levels of GDP, such as South Africa, expected to gain much from reduced tariff barriers (Foroutan & Pritchett, 1993).

Distance is a crucial factor as well, as economic interaction is considered to fall off as origin and destination of goods are growing more distant – an important consideration for a continent three times the size of Europe (World Bank, 2012). In addition to poor road- and railroad-networks, 15 African countries are landlocked and many others possess only underdeveloped port facilities (Kayizzi-Mugerwa, Anyanwu et al., 2014; Ben Barka, 2012). Despite logistical shortcomings, Africa's businesses also have to deal with financing constraints, as Foreign Direct Investment (FDI) in the continent is still limited and a lack of liquidity is among the most commonly cited constraints for firms to expand their business. The lack of financing is not directly remedied by RECs, also an increase in continental free trade is often considered as a good way to direct FDI (Oshikoya, 2010; Hartzenberg, 2011).

In light of these limitations, officials have expressed the significance of country specific variables for closer regional integration, especially with regard to domestic productivity. During a special African Union summit in March 2018, the Secretary-General of the United Nations Conference on Trade and Development (UNCTAD), Mukhisa Kituyi, called for a "new mindset in the relationship between governments and businesses" – states had to realise, he said, that the best way to make regional integration on the continent more attractive was to boost the productivity of domestic markets as "African businesses create the conditions at home to invest the surpluses in Africa" (UNCTAD, 2018).

The Brookings Institute in a recent report affirmed that more productive economies increase the value of Free Trade Agreements between African countries and allow nations to build intra-regional value chains (Siba & Sow, 2018).

Recently, the role competitiveness of national economies plays for successful integration has been considered as well as it was presumed to interact directly with a country's productivity. Hartzenberg (2011) argues that the overall competitiveness of economies is an important factor for productivity and - in turn - price levels of traded commodities – with most African countries operating on low levels of competitiveness (World Economic Forum, 2017). Since competitiveness is directly

related to the cost of products (World Economic Forum, 2017) and cost of products is an important factor for deciding where to source imports from (Economic Commission for Africa, 2013), high relative product costs – due to low competitiveness even once border-barriers to trade are absent – are presumed to be a major reasons for low regional trade volumes even once regional economic communities are in place. This new turn toward country-specific characteristics and their importance from strong intra-African trade is further explored along the conceptualisation of a causal channel from regionalisation to trade in the course of the next chapter.

3.2   Summary

This chapter served as an introduction to the issue of regional cooperation and trade on the African continent. The long history of economic fragmentation has been outlined and put into a contemporary perspective. Furthermore, closer cooperation has been described as one of the most important policy issues in the post-colonialisation period. African nations were convinced that Regional Economic Communities, over time drifting to ever deeper states of cooperation, symbolized the way forward for the continent. The reasons for this notion were manifold, spanning the fields of economics, security and global politics. An important assumptions underlining the presumed positive effects in all of these field was the beneficial role of higher regional trade volumes as an effect of integration and Community-membership. Success in this regard, however, has been limited as the signing of Regional Integration Agreements was often not followed up by concrete policies, preserving the status quo in regional trade while adding an additional layer of complexity through several overlapping Communities, hindering continent-wide cooperation.

The gridlock in institution-building still persists today. Some successes have been made, however, as several country groups managed to agree on partial, or in the case of SADC fully realised, Free Trade Areas. While this progress does correspond to an increase in regional trade volumes, observers still argue that these levels are lower than should be expected or indeed aimed for (World Bank 2012, United Nations Economic Commission for African 2016, p. 54).

The search of solutions to the persistent problem of trade volumes which are perceived to be to low, presently shifts from past intitatives wthat focused solely on border-barriers to trade and - in light of their seemingly disappoint results - turn towards the role of other factors important to regional trade volumes. Recently, voices among policy makers (e.g. Gonzales 2015) and academics (e.g. Hartzenberg, 2011) have expressed sympathy for approaches that focus on country-specific characteristics to revitalise the process of regional integration through functional dependencies and direct interactions among African economies. This provides relevance to the discussion of competitiveness and its role in promoting regional trade values.

The presumed causal interaction between competitiveness, productivity and higher regional trade volumes is presented in detail in the next chapter.

Chapter 4

Theoretical Framework

This Chapter serves multiple functions. The presumed causal channel between regional integration and higher trade volumes will be examined and supplemented by price- and productivity factors. As an approximation to the role these variables are considered to play, competitiveness is introduced as a possible mediators. Following a literature review concerned with the implications of an Open-Economy-Model of trade, import demand and its relationship to commodity price levels, a number of hypothesis for further investigation are derived.

4.1 Theorised Interaction between main Independent and Dependent Variable

Results for regional trade between members of Africa's Free Trade Zones have been, as exemplified by the literature reviewed in the previous Chapter, largely disappointing. A reason for this observation might be that the causal channel that would have lead from Regional Economic Communities, with institutions liberalsing trade flows in place, to higher regional trade volumes was incompletely conceptualised and should consider a country's competitiveness and other factors at the national level, to discern the effectiveness of regional economic cooperation. The presumed mediating role of competitiveness will be explored in this subchapter.

4.1.1 Causal Channel: Country-specific variables and regional trade volumes

The research question "Does country-specific competitiveness affect regional trade volumes within SADC?" contains already the assumption that a simplistic channel as depicted in Figure 4.1 is insufficient to assume the effects of regional integration on trade volumes.

Chapter 3 already outlined that this relationship does not seem to hold true for Africa's RECs. Therefore, it is assumed that the channel is rather more complex than portrayed below.

FIGURE 4.1: Flowchart: Simplified Causal Interaction between REC-membership and regional Trade Volumes
Source: Own conceptualisation, following causal assumption established by the United Nations Economic Commission for Africa (2016)
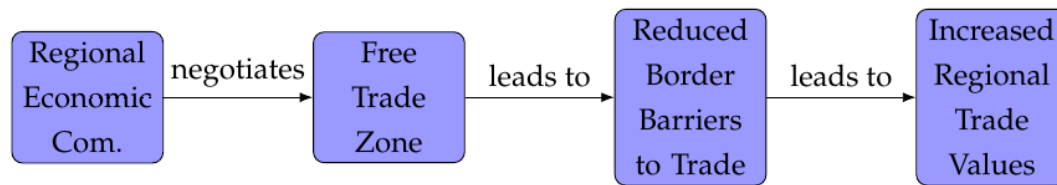
Considering the missing causal interactions in Africa's Communities, the channel depicted in Figure 4.1 seems to have underperformed. The subsequent research tries to discern whether the causal interaction can be upheld, once a more elaborate set of causal interactions is added to the channel.

Figure 4.2 also considers reduced Regional Integration agreements and lower border barriers to trade as factors potentially playing a positive role in encouraging the growth of regional trade but under the added assumption that these variables are - at the same time - conditioned on the existence of other variables present at the level of an individual country.

FIGURE 4.2: Flowchart: Advanced Causal Interaction between Free Trade Areas and Regional Trade Volumes with consideration for the roles of Competitiveness and prices of Imports
Source: Own conceptualisation
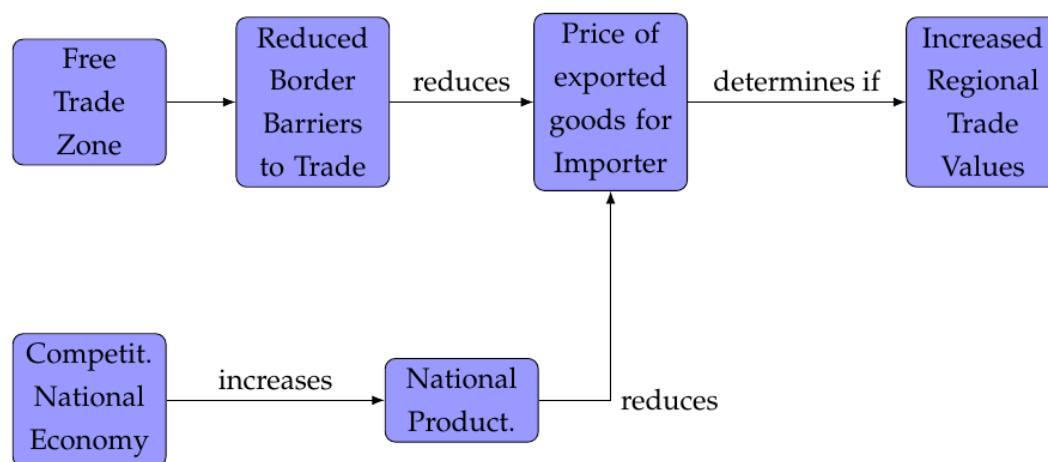
The design suggests taking price levels of exported commodities in the importing nation as the relevant mediator in the relationship between regional cooperation and trade volumes. This would haven been, as detailed in Chapter 5, the preferential way of discerning causal interactions within the channel in Figure 4.2. The researcher had, however, to take into account available data sources over the period of investigation in the SADC zone.

The problem of missing or incomplete data is a persistent problem for econometric research concerned with computing demand functions in developing countries. Price levels for domestic goods and the associated elasticity of demand is no exception to this. As Emran and Shilpi note "Owning to the unavailability of time-series data on the domestic market-clearing price of imports, the estimation of [...] aggregated import demand remains a daunting task for [...] developing countries" (p.1). Missing data on price levels presented itself as a challenge for this research as well as no clear prices for imported commodiets at country level could be generated for the timeframe of the research. To deal with this problem, the causal channel has been adapted a second time, to include a competitiveness and the interaction of this variable with levels of national productivity as a substitute to price data. Thus, in summary, competitiveness was considered to be a predictor for price levels of exported goods through its influence on national productivity. This interaction, in turn, explains the volume of regional trading expected by a regional economy.

Investigating the intermediate role of competitiveness calls - under the assumption of the above-outlined causal channel - for a mediation analysis. A mediator, according to Toshkov (Toshkov, 2016), "mediates (translates, carries over) the effect of X on Y [. . .] the mechanism through which the main explanatory variable is exercised" (p. 219 f.). Regional Integration Agreements as shown in Figure 1 is already dependant in its effect on trade volumes on a, albeit quite ostensible, mediator: In the causal model employed here, positive effects are brought about not by signing a RIA, but obviously through associated policy reforms that facilitate trade flows, such as reducing border barriers to trade.

While the notion that gains in trade volumes result from concrete reform, not from merely expressing a willingness to integrate, seems almost superfluous to the discussion, we have already seen in Chapter 3 that policy makers in Africa have sometimes enthusiastically agreed to closer cooperation – and failed to provide any institutionalised action which would have set them on a causal path towards increased trading. In this regard, even the rather simple channel displayed in Figure 4.1 would have sufficed to – partially – explain the shortfall of Africa's RIAs. In the case of SADC, however, concrete institutional advances have clearly been made and a full-fledged Free Trade Zone, realising reduced border barriers to regional trade flows, has been established since at least 2012. Missing gains in regional trade volumes, therefore, have to be associated either with the persistence of other, more important hindrances confounding the causal channel or a missing link in the channel itself, stopping the relationship between SADC's commitment to free trade and actually increased trade volumes in the zone from being fully realised.

This second notion is what the more elaborate channel in Figure 4.2 displays. It is presumed that reduced border barriers to trade is a step in the right direction when it comes to a presumed causal relationship between trade volumes and integration, but relies on another mediator, high levels of economic competitiveness, to establish a coherent causal link.

Approaching the question of regional trade volumes via an investigation into the mediating influence necessitates to control for "variable[s] that confound the link between the mediator and outcome variable" (Toshkov, 2016, p. 220). Confounders in this case denote such variables that both affect the mediator, country competitiveness and the outcome variable, relative regional trade volumes, simultaneously. Thus, a complete causal channel would take a form akin to Figure 4.3.

FIGURE 4.3: Flowchart: Expanded Causal Interactions shown in Fig. 4.2 accounting for the influence of Confounders
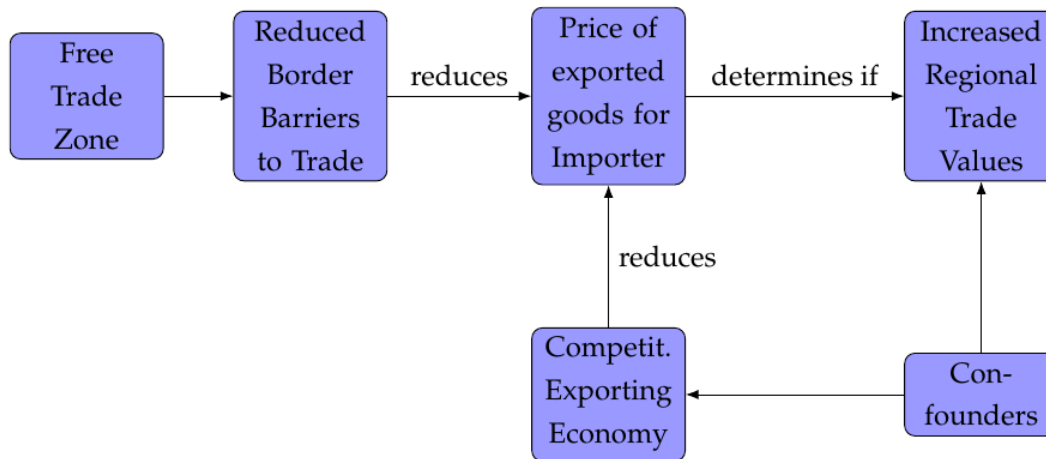
Following from these assumption and the expanded causal channel, the author presumes that

H1: Regional trade volumes are affected by levels of the exporter's competitiveness

To further elaborate on this main hypothesis as brought forward in **H1**, the total value of regional trade volumes is expected to increase in line with rising levels of country competitiveness on the side of the exporting country or, with consideration to confounders and control variables:

$$TradeVal_{it1} < TradeVal_{it1+n}; if GCI_{it1+n} > GCI_{it1} \tag{4.1}$$

Accordingly, the null hypothesis (H_0), which rejects a causal relationship between the independent and dependent variable would presume that

$$TradeVal_{it1} < TradeVal_{it1+n}; if GCI_{it1+n} \leq GCI_{it1} \tag{4.2}$$

for the same a country i in a base year $t1$, 2005, against observations for future years up to 2016, which, if each year is conceptualised as an increase in t by 1, gives $N_{(t)} = 12$.

4.1.2 Income- and Price-sensitivity of exports: Consumption Model of an Open Economy

RIA's were established under the assumption that intra-African trade is mainly stifled by the high costs of products imported from/exported to other African countries, which in turn was attributed to high border-barriers to trade, such as tariffs and bureaucratic expenses (e.g. licensing) (Economic Commission for Africa, 2013). Since associated gains in trade volumes are said to have not fully materialised following reduced border barriers to trade after the establishment of Free Trade Areas, the research hypothesis is that abolishing border-barriers to trade flows constitutes a beneficial-, but not in itself sufficient condition for realizing higher intra-regional trade volumes.

Hartzenberg (2011) argues that the overall competitiveness of economies is an important factor for productivity and - in turn - price levels of traded commodities – with most African countries operating on low levels of competitiveness. This should make their products relatively more expensive than those produced by more competitive nations (World Economic Forum, 2017; Borchert, 2011). As consumers decide whether to consume locally or import goods, they considered the relative price tags attached to both options, opting to import more if the imports price compares favourably to the domestic price or imports offer access to products not present domestically (ibid., p. 54).

When the decision to import is made, consumers will once again be persuaded by price levels, choosing the exporter who offers the demanded goods for the cheapest price (Reiniger, 2007; Khan& Ross, 1977). Tariffs and other border-based barriers to trade increase the price of exporting goods which also drives up the price at which they can be offered to a foreign market (Hartzenberg, 2011, p. 5; Kayizzi-Mugerwa, Anyanwu et al., 2014, p. 2). Once these barriers are reduced, the price is supposed to good down, offering potential for trade creation effects (Mattli, 1999, p. 32). If no such effects are noticeable or are, as often presumed in the literature (see discussion in Chapter 3), not realized according to expectations, an alternative explanation could be that regional goods are still considered to be comparatively expensive compared to import options from the rest of the world which than take precedents over regional imports.

Related to competitiveness, it is expected to see competitive nations ahead when it comes to capitalising from reduced barriers to African trade: As their economies are more competitive, they are presumed to also operate on higher levels of productivity. This means that they can produce commodities cheaper than less competitive nations. Their position in competing on the best value-for-money basis with possible exporters from around the world on import volumes to another regional country is therefore already stronger. Once border-based barriers to trade are abolished regionally and prices of exports go down for all countries in a region, competitive regional economies receive an additional boost to their ability to compete based on the best prices. While less competitive nations are still not able to outcompete international

imports, more cost-efficient producers in the region might have a chance - benefiting both from the elimination of tariffs and their productive economies.

This leads the researcher to formulate two more hypothesis:

H2: Regional trade volumes are affected by levels of the exporter's competitiveness, regardless if the trade partners trade within a Free Trade Zone

This interactions, as mediated by commodity prices and import choices, can be further outlined by a general consumption model within an open economy. Such a model is reported in Equation 4.1 following Bofinger (2011, p. 526)

$$Y^n = \alpha + b \cdot Y + G + I - n \cdot r + X - M \tag{4.3}$$

With Y being the aggregated output of an economy, α the autonomous consumption, unrelated to output levels, b, the marginal propensity to consume, G standing for government expenditure, I, the domestic investments, n as the marginal interest elasticity of demand, r the real interest rate and X and M, exports and imports respectively. These last two variables are of the most importance for the research presented here. The value of X is presumed to be connected with income levels at their destination via m^F: the marginal propensity to import in the destination country, F.

Both the realized values of imports

$$M = m \cdot Y \tag{4.4}$$

as well as exports

$$X = m^F \cdot Y^F \tag{4.5}$$

thus are connected to domestic and foreign income levels and we would expect to see increased exports by the factor m^F once income levels in the country Y^F, the trade partner, increase. For example, it has been reported that the marginal propensity to import in the Netherlands stands at

$$m = 0.52$$

This denotes that trade partners of the Netherlands can, ceteris paribus, expect an increase in their imports to the Netherlands for the total value of 0.52€ for each 1€ increase in Dutch GDP (Borchert, 2011).

In terms of total values, we would therefore expect exports to grow as Y^F, the income level of a nation's trade partner, increases. Correspondingly, increased imports following an increase in national disposable income should depresse real GDP-growth by the factor m^F, as expenditures on foreign goods decrease the value Y^n in the general formula - meaning that capital is exported to trade partners. Marginal

propensity to import therefore is an important factor for predicting bilateral trade flows. Bofinger treats this variable as exogenous in his equation which warrants a closer investigation into factors influencing marginal propensity to import in the next subchapter.

4.1.3 Demand for Imports

The Open Economy Consumption model offers a starting points for further investigation. Of special importance for the rest of this thesis is the interpretation of the marginal propensity to import, the willingness of a consumer from country A to consume a bundle of goods from country B over a domestic product, thus prompting the flow of trade between both countries.

It has already been outlined that a relationship exists between domestic income levels and the demand for exports, with higher disposable income being associated with increased imports, since consumer utility increases with the number of different available products (Stirböck, 2006). Furthermore, Stirböck finds that "substitution of domestic products by foreign products is influenced by the price competitiveness of the foreign good on the domestic market" (p. 3). A theoretical deduction of this statement has been, among many others, provided by Reininger (2007), who computes the optimal consumption for a budget constrained, utility-maximizing rational individual operating as consumer within an open economy and finds that demand functions and subsequent consumption decision are informed by price levels of bundles of domestic goods relative to foreign substitutes (p. 169).

This can be further exemplified by looking at a simple specification of an aggregated model of demand for imports. Khan & Ross (1977), discus the aggregated demand for imports and, as Reininger, take a general utility function of a consumer within an open economy as the basis for import demand following

$$M^d = F(P, Y) \tag{4.6}$$

with M^d as the total quantity of demanded imports as a function of P, the ratio of price levels of imports relative to domestic price levels, thus

$$P = \frac{p^n}{p^d} \tag{4.7}$$

and Y as the real gross domestic product of the importer. Mervar (1994) lists the presumed effects of these variables on import demand as following: an increase in a country's gross domestic product Y as well as a reduction in P, which, according to equation 4.5, either comes from an increase in domestic price levels, p^d or a reduction of p^n, boosts the demand for imports. Khan & Ross (1977), indicate that resulted changes might be subject to time lags (p. 151).

The restricting influence of cheap international exports for developing stronger regional trade in developing countries has been outlined by a number of authors.

Obhi and Baiyegunhi (2017) find that consumer-choice in the food sector in Nigeria are strongly mediated along price-quality considerations. The author's find in their investigation of the Nigerian rice market that "[...] consumers in Nigeria compare price and quality differentials before making a choice between local and imported rice brands" (p.9). The author's suggest increased import tariffs as policy response aimed at increasing the market share of domestic suppliers. In a study on the Ghanaian market for chicken products and associated competition between local and imported commodities, Donkor, Sarpong et al. (2013) likewise find a consumer preference for the cheaper supplier and suggested "ensuring competitive price[s] for locally produced chicken" by increasing farmers' access to financing options (p. 82).

Nteegah and Mansi (2016) affirm the importance of exchange rates between trade partners for import demand in Nigeria, with depreciation of the importers currency making imports more expensive and thus less attractive. In a previous study on the same country, Olayide (1968) deduced that trade restrictions such as tariffs and certification procedures reduced the demand for imports between trade partners and suggested an increase in relative price levels as the reason. Stirböck (2006), however, cautions against broadly accepting price dependency as a driver of import demands. In here study for the German Federal Reserve Bank she finds in here analysis of factors associated with German import demand that price dependency can plausibly only exist with regard to price elastic commodity groups in the country's import bundle. After excluding the relatively price-inelastic energy imports from the bundle of imports, a price dependency became more noticeable, however.

The relationship between the relative price levels of imported goods and the actual propensity to import is, however, not always valid. John Maynard Keynes, for example, argued, that polities may choose the "luxury" of not sourcing their goods from the cheapest international supplier and instead opt for national self-reliance (Keynes, 1933, p. 760). The willingness to do so is subsequently moderate along considerations which cannot simply be incorporate in the equation above, such as security, support for the national economy or animosity of the consumer towards foreign industries – notions which are still often employed when challenging the "fairness" and adequacy of international markets.

In contrast, Keynes theorises that increased internationalisation in trade is seen more favourable in developing countries particularly because consumers here are more price sensitive (p. 759f.). In his interpretation, therefore, the prices of goods are especially important for consumer choices in developed countries since exchanges via trade promises savings on commodities which are of importance for highly budget-constrained consumers in developed nations with low income levels. As the price of imports varies across countries, price sensitivity can affect the decision where to source imports from, with relatively chapter countries becoming more attractive trade partners as also argued by Stirböck and Hartzenberg.

It can be conclude that substantial evidence exists in the international trade literature, as well as in the specific African context, for assuming that import decision

critically depend on the price levels of commodities offered by exporters. We can therefore assumed that the inclusion of "price level of exports" into the causal channel as presented by Figure 4.2 is a valid addition to the interaction model.

4.1.4 Price-sensitivity and competitiveness

For price-elastic goods, price levels are a factor informing decision-making in open economies when deciding whether to import goods or to consume locally. Stirböck (2016) affirms that exports are contributing to utility gains on the side of consumers and are sometimes indispensable for a functioning economy. However, since consumers operate under budget constraints, the most cost-efficient exporters will be considered when deciding where to source imports from (Reiniger 2016). The competitiveness of national economies, in turn, might be used as a proxy to identify countries that offer goods especially cost-effective.

The competitiveness of economies, both in terms of the efficiency with which resources, capital and labour are used and administrative processes are handled is important for the prices of produced goods and services (World Economic Forum, 2017). More competitive countries are thought to produce goods cheaper than less competitive nations under ceteris paribus and international organisations considered the low level of competitiveness displayed by many Africa countries a major hindrance to African trade, since low competitiveness leads to higher price levels which in turn are said to discourage trade between African nations which opt for imports from other world regions offering commodities more cheaply (United Nations Economic Commission for Africa, 2016; Hartzenberg, 2011). Olayide (1968), Bofinger (2011) and Borchert (2011), among others find that reducing tariff barriers to trade enables cheaper exports which Borchert associates with cheaper prices on the subsequently imported goods.

Ben Barka (2012) finds a similar effect for faster transit times following abolished border-checks or established One-Stop-Border posts between African countries with an established Free Trade Zone or bilateral agreements on trade liberalisation in place. If price levels where to play a role for trade volumes between African countries, the theory would therefore expect these measures to have a strong effect on regional trade volumes as they decrease prices. As discussed in Chapter 3, these effects have not materialised. It might therefore be possible that competitiveness serves as a moderating factor in the causal channel from Regional Integration Agreement to regional trade volumes as African countries operating on low levels of competitiveness are not able to challenge the commodity prices offered by other exporters to members of their regional groupings (World Economic Forum, 2017). Therefore, investigating the interactions between competitiveness and regional trade volumes might serve as an explanation which bridges the gap between increase regional cooperation and regional trade and might predict the overall gains individual countries are likely to see in their regional exports following closer regionalisation.

4.1.5   Competitiveness and Governance Indicators

A country's competitiveness is presumed to depend heavily on domestic institutional characteristics. For the computation of the Global Competitiveness Index, ownership protection, constraints on the executive's decision-making power and transparency of the political process are highly important (see Appendix A). Accordingly, it is expected that a causal channel depending on competitiveness score levels depicts regional trade volumes as also dependent on indicators of good governance. As these are considered jointly with indicators of health, infrastructure and education by the World Economic Forum, a last hypothesis can therefore be formulated as:

H3: Regional trade volumes should by affected by country-specific indicators of good governance, infrastructure, health and education

Testing the four hypothesis requires a careful operationalisation and assessment of independent variables, most importantly competitiveness. The next Chapter not only provides a comprehensive overview over units- and time frame of analysis but also a thorough discussion of the Global Competitive Index. As the index supplies the main independent variable of investigation, this disucssion will also offer an evaluation of the criticism directed at the index by academics and provide a justification for employing the index within the research desing.

Chapter 5

Research Design

To test the hypothesis presented in the previous chapter a research design focusing on the SADC zone and country-specific variables as displayed by the Community's member states between 2005 and 2016 is proposed as follows.

Explanations for SADC's performance in the realm of regional trading, building upon the theoretical blocks outlined in the previous chapter, with special regard to the role country competitiveness plays for realised trade volumes will be investigated based on a empirical and positivist, large-N, research design. The analysis relies on a regression model with controls for fixed effects covering the main dependent and independent variable as well as additional variables of interests and a number of control variables over multiple years and both at the aggregated country- as well a on a country-by-country trade-relationship basis. units of observations and the timeframe, 2005-2016, are justified and critically evaluated.

Concentrating on SADC-nations as the units of analysis offers two advantages when considering the role of competitiveness for regional trade volumes. First, the Community arguably possesses the most advanced set of institutions when it comes to regional integration, with both a Free Trade Zone and Court of Arbitration, tasked with resolving judicial disputes arising for economic harmonisation, established in 2008. Second, SADC-members offer a great diversity in macroeconomic- and competitiveness-related indicators as relatively advanced economies as South Africa and Mauritius operate within the same Free Trade Zone as some of the most uncompetitive and underdeveloped countries of the world such as Zimbabwe and Malawi. This is a promising setting to explore the theorised interactions between competitiveness and trade volumes in a Regional Economic Community since country-characteristics are strongly unequal, while the institutional component as characterised by a Free Trade Dummy variable is the same for all economies under investigation. If the rejection of simple interactions between Free Trade Zone and trade volumes displayed in Figure 4.1 holds true, this dummy would affect countries differently according to their national characteristics.

5.1 Units of Analysis: 13 SADC-member states

The Community consists of 15 member states, with a diverse set of national characteristics and capabilities. SADC spans a distance of over 4,200km from North to South, more than half the length of the African continent. Members include the regional powerhouse that is South Africa, a relatively stable and prosperous emerging market economy, the Democratic Republic of the Congo, sometimes classified as a 'failed state' due to unceasing conflict in parts of the country, six landlocked and four island nations. Table 5.1 presents some of the most important socio-economic variables of these countries at a glance.

TABLE 5.1: Selected macro-data for SADC members
Sources: World Bank, 2018; Transparency International, 2018; United
Nations Development Program, 2018

	Size (in 1000 km², rounded)	Population (in million)	GDP/cap (current $, rounded)	HDI (estimates for 2015)	CPI-Score
Angola	1246	28.81	3308	0.533	18
Botswana	566	2.25	6924	0.698	60
Dem. Rep of the Congo	2267	78.73	439	0.435	21
Lesotho	30	2.2	1039	0.497	39
Madagascar	582	24.89	401	0.512	26
Malawi	94	18.09	300	0.476	31
Mauritius	2	1.26	9631	0.781	54
Mozambique	786	28.82	382	0.418	27
Namibia	823	2.47	4415	0.640	52
Seychelles	0,46	0,094	15075	0.782	-
South Africa	1213	56.01	5274	0.418	45
Swaziland	17	1.34	2770	0.541	-
Tanzania	885	55.57	877	0.531	32
Zambia	743	16.59	1269	0.579	38
Zimbabwe	387	16.15	1029	0.516	22

Some figures warrant explanation. The Seychelles boast an exceptionally high GDP-per-capita ration of over 15.000$, leaving the rest of SADC far behind. This is mainly due to a booming tourism- and successful fishing industry (African Development Bank Group, 2018). Recently, the country has also pushed for legislation that would allow to act as another Offshore Financial Centre to the globalised economy (International Monetary Fund, 2018). The nation also performs well in terms of its score on the United Nations' Human Development Index and is, together with Mauritius, the continent's frontrunner in this regard. At the same time, Mozambique, the Democratic Republic of the Congo (DRC) and Malawi are among the countries with the lowest HDI worldwide. While the Seychelles, Madagascar and Mauritius are island nations within the Indian Ocean, six nations, Lesotho, Swaziland, Botswana, Zimbabwe, Zambia and Malawi have no access to the sea whatsoever, making them landlocked countries.

The interesting diversity in national macroeconomic variables between SADC's member states can also be found in terms of their competitiveness score as reported

in the Global Competitiveness Index 2016. Competitiveness scores for 2016 for SADC-nations are displayed in Table 5.2.

TABLE 5.2: GIC Scores for SADC economies in 2016
Source: World Economic Forum, 2016

Country	AGO	BWA	DRC	LSO	MDG	MWI	MUSA	MOZ	NAM	SYC	ZAF	SZ	TZA	ZMB	ZWE
Competitiveness Score (2016)	-	4.2	-	3.7	3.3	3.2	4.4	3.2	4	3.9	4.4	3.4	3.6	3.9	3.5

With the highest score potential being a 7[1] and the lowest value possible a 1 [2], a substantial fluctuation of competitiveness scores within the region can be observed region. While Mauritius and South Africa are not only the most competitive nations within SADC, but on the continent as a whole (being ranked on places 45 and 47 in competitiveness globally), according to the report, Malawi and Zimbabwe rank among the least competitive countries in the entry world (134th and 126th place). The interesting diversity of variables between SADC's member states can also be found in terms of their competitiveness as reported in the Global Competitiveness Index 2016.

While this internal variation between countries as well as the relative success of SADC in reaching higher regional trade volumes where most other RECs failed appears very appealing in terms of research design, potentially also presenting opportunities for a most-different-systems design if appropriate matching mechanism can be found (Toshkov, 2016), focusing on the community is not without problems. For one, after having accounted for missing data points and having to drop the DRC and the Comoros altogether due to lack of data on the main independent- and various other variables, only 13 countries remain within the frame of analysis. This is precariously little considering the nuanced differences in competitiveness among some of the states as well as the complex nature of the causal channel under investigation which makes it difficult to reliably identify all possible confounders, threatening significant results even with ample supply of data available (ibid.).

While the researcher is aware of this shortfall, it is difficult to remedy without significantly changing the research design. Adding additional Free Trade Zones to analysis, ECOWAS presenting itself as an interesting and potentially promising choice, eliminates the shared institutional ramifications for regional cooperation, as ECOWAS's Free Trade Zones is not as fully developed as SADC's (United Nation, African Union, 2010). Differences, then, cannot clearly be ascribed to the divergent characteristics of individual countries, a tenant central to the hypothesis chain on which this research is based. This problem, in turn, might be addressable by further matching through operationalising the depth of regional economic integration within Economic Communities and subsequently introducing this figure into the regression model. While the African Regional Integration Index (ARII), published by

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[1] Best worldwide score being a 5.81 in 2016
[2] With 2.74 being the lowest value globally reported in 2016

the African Union, does exist and might provide just the measurement necessary in this regard, the Index has only been made available in the year 2015 and an inclusion would therefore reduce the number of available data points even further.

However, in the future the index might, if deemed acceptable according to scientific standards, be a great tool to expand the proposed research on integration and trade as well as the framework suggested in this paper and allow better cross-country and even continent-wide evaluation of regional integration.

5.2   Time frame of analysis

The data gathered covers 12 years, from 2005 up to and including 2016, with each year representing exactly one time unit. It would have been desirable to stretch the time frame for the analysis even further back as to generate more data points and secure significant results during the observation. This was sadly not possible under the employed research question. The Global Competitiveness Index was only introduced in 2001 and its methodology significantly altered in 2005, making earlier observations on competitiveness incompatible with the chosen design or – in the timespan from 2001 to 2005, presenting a high threat to the internal validity to the operationalised variable.

From a methodological point of view, however, the time frame appears suitable for two reasons. First, intra-regional trade flows stagnated for most of the 1990s due to institutional hiatus of the Regional Economic Communities before and shortly after South Africa's ascension. The gains in regional trade volumes post-2005, totalling nearly 300%, promise a lot of variation in outcomes between the units of observation. Second, the time frame can be divided into a period in which trade was facilitated without an established Free Trade Zone, 2005-2008, and a period with an operating Free Trade Zone, 2009-2016. This hopefully allows for a more nuanced investigation into the importance of competitiveness with- and without an additional institutional layer of regional cooperation.

5.3   Operationalisation of key Variables

This chapter details how the theoretical concepts important for the testing of hypothesis as outlined above are operationalised. It covers the main independent and dependent variable of interest and additionally a number of confounders, inferencing variables and country-data macro-datasets are discussed and introduced. The operationalisation of the main independent variable, competitiveness, via the Global Competitiveness Index especially with regard to recent criticism of the index, is evaluated extensively.

5.3.1 Competitiveness of exporting country

As Competitiveness functions as the main independent variable of interest and a crucial part of the theorised causal channel in this research, the term warrants a detailed investigation. The measurement and operationalisation of the concept follows the approach of the World Economic Forum (WEF) and its annual Global Competitiveness Report (GCR) which scores countries based on their level of economic competitiveness by using the Global Competitiveness Index (GCI), which has been developed and is continually improved by the WEF.

The WEF's approach, and consequently this research, is interested in competitiveness on the macro-level, as a set of characteristics displayed by a national economy that are subsequently aggregated to describe the prospects of national productivity (Djogo & Stanisic, 2016). The basal concept of what competitiveness is considered to be, the ability to produce commodities and services with high efficiency from a stock of given factor inputs (Scott & Klodge, 1985), must not be confused with competition, which denotes "how a country, region, sector or firm can outflank rivals and gain at their expense" (Financial Times Lexicon, 2018). Increasing levels of competitiveness is, however, considered to interact with the concept of competition in the long run, as "the ability to compete [is boosted] by increasing productivity" (ibid.). This, in turn, enables a nation engaged competitively in international trade and balance its current account – or produce a surplus (Djogo & Stanisic, 2016).

Within the settings of a national economy, increasing competitiveness is considered an important means to achieve economic growth and improve the well-being of citizens. Fagerberg (1988) writes that competitiveness describes the "capability to achieve main economic goals, including growth of income and employment" (p. 355) and the European Commission links the concept to "the ability of an economy to provide its population with high and rising standards of living on a sustainable basis" (European Commission, 2001). In summary, macroeconomic competitiveness is a measure of the capabilities of a country to produce goods and services efficiently. Through higher competitiveness, countries can gain an edge over international competitors and increase export volumes as well as total domestic production. This, then, benefits the overall pursuit of macroeconomic goals such as rising levels of GDP per capita and higher employment. The conceptual question remains, which characteristics of a country are important determinants of its competitiveness? The GCI as published by the WEF offers both a disaggregation and subsequent measurement tool for competitiveness.

According to the WEF, and quite similar to definitions discussed above, competitiveness can be defined as

> "The set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the economy can achieve"
> (World Economic Forum, 2018, p. 11)

This definition can be dissected into multiple parts. Competitiveness as a factor of a country's economic performance depends on an analysis that transcends the realm of economics and considers the wider institutional environment in which economic operations take place. Furthermore, institutional characteristics, healthcare and education are presented as important drivers for a country's competitiveness by the GCR. Accordingly, the overall score of a country is a result of aggregated and weighted subscores of 114 indicators within three subindices, "Basic requirements", "Efficiency enhancers" and "Innovations and sophistication factors".

Each subindex is designed to incorporate the most important factors for one of three economic models: Factor-driven, efficiency-driven and innovation driven-economies. Following a "theory of stages of development" (World Economic Forum, 2017, p. 37), it is presumed that factor-driven economies mainly depend on "unskilled labour and natural resources" (ibid.), but over time increase their efficiency and product quality, graduating to efficiency-driven economies. As wages rise, these economies finally become "innovation-driven", sustaining themselves through research-and-development processes and capital intensive production processes. Countries are grouped at these stages following their GDP per capita-levels[3] and their relative share of exports of mineral goods as part of total exports over a five year average, with a 70% ratio automatically defaulting to factor-driven economies (p. 37). For countries of each development stage, the subindices are evaluated differently. Whereas factor-driven economies see their pillars 1-4 being weighted at 60% collectively, these pillars only influence the overall score of "innovation-driven" countries by 20%. This follows the assumption that different characteristics should project different effects within economies in different stages of development. Therefore, at various development stages, countries find some variables matter less in terms of their productivity, while others matter more. These assumptions, Lall (2001) states, are in line with Michael E. Porter's "competitiveness diamond" which he developed in his book "The Competitive Advantage of Nations" in 1990 (Porter, 1990). In it, Porter argues that a nation's competitiveness does not relate to a country's factor endowments relative to factor-intensities as reported as the industry level. Instead, increases in competitiveness depend on the ability of firms to innovate and increase the overall efficiency with which factors are used (Porter, 1990). The notion that "countries must shift from basic or simple factors (cheap unskilled labor and natural resources) to advanced ones (innovation and ICT infrastructur)" (Lall, 2001, p. 1510) informs the changing evaluation of pillars for developing economies under the GCI as detailed by Figure 5.1 on the next page.

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[3] <2,000 US$ are factor-driven, 3000-8,999 US$ are efficiency-driven, >17,000 US$ are innovation-driven, with all intermediate values denoting that the country is "in transition", in which case relative weights are averaged between both stages

FIGURE 5.1: Pillars of the Global Competitiveness Index
Source: World Economic Forum, 2016, p. 37
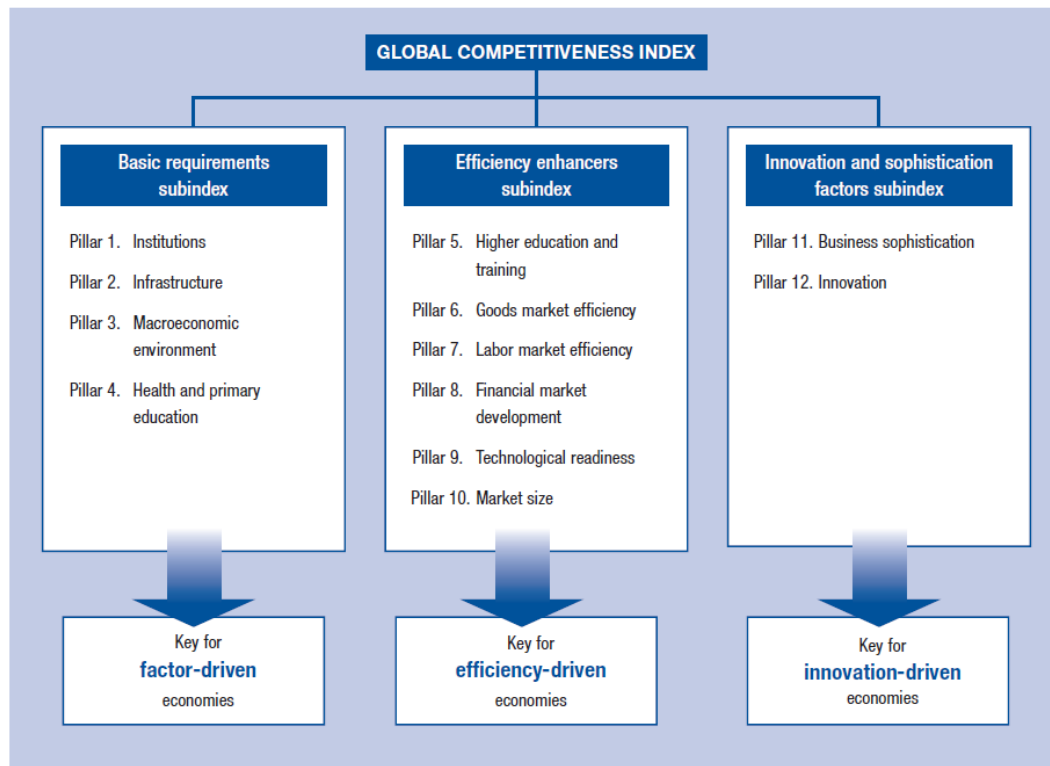
In 2017, Mauritius was the only country under investigation in this paper ranked as "transitioning from an efficiency-driven and innovation-driven economy", while South Africa and Namibia are both considered efficiency-driven. Botswana is considered "transitioning between factor-driven and efficiency-driven economy" while all other countries within SADC are still designated as factor-driven economies. Values for the indicators are gathered by analysing data from international organisations, most importantly the World Bank, private companies, such as providers of basic utilities and communication services and via the "Executive Opinion Survey", a questionnaire answered by 14723 (2017) business executives in the investigated economies in 147 countries. Executives are asked to share their perception of the state of various competitiveness indicators in their country, such as protection against expropriation, security and corporate ethics. The survey are not representative, as no exhausting parent population has been defined clearly by the World Economic Forum and subsequently the realized sample sizes cannot be assessed in terms of their representative status. This shortcoming will be discussed later in this subchapter.

Collectively, the data for each economy is weighted and transformed into an ordinal scale, ranging from 1 to 7, with 1 being the poorest and 7 the best possible score. Countries are then ranked on the basis of their overall score values, weighted against their individual development level.

The individual 144 indicators as the basis for each score as well as the corresponding computation used to derived the total Competitiveness Index Score are to extensive to be fully described here. Instead, the weighted indicators for the year 2017 are part of the Appendix of this paper. Overall, the set of indicators and pillars has remained unchanged since 2005, with small adjustments having been made to the mathematical operations used to weigh countries scores in 2012 (World Economic Forum, 2017).

Critique of the GCI

The World Economic Forums does not fail to outline that private businesses as well as international organizations such as the World Bank, the OECD or the International Monetary Fund refer to their work as the basis for analysis of development prospects for individual countries in their publications (World Economic Forum, 2017, p. 77). In academia, the Competitiveness Index has also informed a number of papers, such as Talmaciu & Cismas (2016) study on the effect of educational policy on country-competitiveness. Djogog and Stanisic (2016) use the GCI methodology as a foundation and test for their own competitiveness index. In development economics, references to a country's competitiveness scores are used as supplements for broader assessments of economic prospects and productivity. Jordaan (2014), for example, contrasts the poor infrastructure of Namibia with the nation's relatively high GCI score to conclude that the economy possesses a high potential for growth, if improvements to port facilities and road networks could be made. Similarly, the United Nations' Economic Commission for Africa makes continuous reference to the development of GCI scores for African countries in its annual reports "Assessing regional integration in Africa". These application of the GCI in academic literature and on the side of policymakers should, however, not be taken as a general statement on the GCI's suitability to actually provide robust, objective and valid measurements of competitiveness. Indeed, it is important to note that the index has a number of important weaknesses and is far from uncontroversial in academia. Some of the most important points of critique, covering methodological concerns in data collection, the validity of the measurement as pertaining to the abstract concept of competitiveness and accusation of subjectivity and the deliberate propagation of a neoliberal model of economics, will be considered.

Methods The GCI relies, as described previously, on a mix of macro data, obtained from international institutions – mainly the World Bank, as well as responses by business executives, overwhelmingly from the private sectors, recorded via a survey conducted through local partners of the WEF. The survey population is obtained in three steps: The preparation of a "sample frame", a "large list of potential respondents, which includes firms representing the main sectors of the economy" (World Economic Forum, 2016, p. 82), separation of the sample frame into two sets, one

including only large firms, one which includes both Small and Medium Enterprises (SME)[4], and lastly a "choose a new selection of these firms from both lists to receive the Survey", with consideration to include new respondents as well as entities already present in previous survey (ibid.). Sub-Sahara Africa sports the most respondents of small enterprises, as 49% of all interviewed executives in the region work in firms with less than 50 employees. Interviews are conducted by partner institutes via telephone, mailed paper forms and as online surveys.

A number of immediate methodological problems are associated with this approach. First, in Social Sciences it is considered imperative to clearly map the population and its characteristics before drawing a sample (Schnell et al., 2014). In the existing case, this would denote to generate a clear understanding of how many firms operate within a surveyed economy as well as the relative share of their size by employees. If the drawn sample does not correspond to the real distribution in the population, results might be biased. In the case of Sub-Sahara Africa, for example, it could be considered problematic the number of SMEs interviewed is given as around 80% in 2016 (World Economic Forum, 2016, p. 84), while the World Bank considered their "real" share in the region's economies to be up to 90% (World Bank, 2018).

Lall further argues that interpreting responses obtained from executives in different countries by the survey with deserves more attention as not to threaten reliability. Most importantly, it seems unclear if "questions [. . .] are clear and unambiguous, allowing respondents in different countries to interpret them identically" (p. 1516). Similarly, she questions whether executives in different countries possess and equal amount of information to answer the questions similarly in the presences of objectively similar circumstances. It might, for example be easier for a Dutch manager of a small enterprise to determine truthfully, whether "scientific research institutions in your country are world class" (p. 1517) than for a businessman in South Africa, simply because the former went with greater likelihood to a university than the latter, having more opportunity to learn about the quality of research in his country.

Another concern raised by Lall, which still has not been addressed in the published methodological section of the GCR, is the grouping of countries into factor-, efficiency- and innovation driven economies. Being sorted into a group has direct and large effects on score computation, as weights for variables are prescribed based on the respective stage of economic development. The WEF affirms that the mechanism is "in line with well-known economic theory of stages of development" (World Economic Forum, 2016, p. 37), but the relative weigh attributed to each indicator for an economy at a given stage of development seems arbitrary. Why does the WEF consider the quality of institutions to be equally important as infrastructure, the macroeconomic environment and health and primary education in a factor-driven economy to be exactly three times more important for economies with a GDP per

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[4] Small enterprises are considered to have fewer than 50 employees, while medium to large ones are considered to have from 151-1,000 employees.

capita of below US\$ 2,000 than for a country with more than US\$ 17,000? Or why is the score value for the 4th pillar, health and primary education, drawn exactly evenly from health and education indicators?

These discrete choices in the background without further explanation is concerning both from a methodological viewpoint as well as when considering the overall validity of the index, that is, adequately measuring the underlying concept (Toshkov, 2016), a country's competitiveness.

Validity   The GCI often does not test whether causal relationships are in line with theoretical expectations and to guard against reverse causality. Lall (2001) gives an example for the presumed interaction between "stringency of environmental regulations" and "demanding regulatory standards", which are, by the WEF to be explanatory variables for higher incomes, "when common sense suggests that these are likely to be the result rather than cause of high income" (p. 1514p.). Similar problems present themselves when dissecting the relationship between variables concerned with levels of education within a country and its competitiveness score. The WEF presents education as the independent variable, a gateway to higher competitiveness and subsequently income, while also affirming that high competitiveness over time improves a nation's abilities to provide better education to its citizens (World Economic Forum, 2016, pp. 3, 31). It is not made clear, why dependent and independent variable have been assigned their respective place in the causal channel.

It is further questioned whether the indicators employed in the index are exhaustive enough to present a truthful representation of the underlying concept of competitiveness. Djogo and Stanisic (2016) suggest that the balance of a nation's current account, unemployment rates, annual costs of salaries and investment rates should be considered as well in the GCI. Both authors state that discounting international capital imports and exports and current account balances lead overestimating a country's real competitiveness if better health care, for example, is finance by debt.

In general terms, it can finally be doubted whether competitiveness is indeed "man made" (Lall, 2011, p. 1510, citing Porter (1990)) and depends on variables directly affecting the productivity and innovativness at the firm level or whether factor intensity of industries and relative factor endowments of the whole economy a nations's competitivness and chances to successfully compete on global markets as the Heckschler-Ohlin Model presumes (Porter, 1990). This broader discourse is not part of the methodological annex of the GCI which – due to the topics importance for the entire operationalisation of the concept – is puzzling.

Ideology   Lastly, authors have refuted the GCI's findings as ideologically biased towards a neoliberal model of free trade and market liberalisation. Bergsteiner & Avery (2012) argue that the indices' design favours economies that strongly display

characteristics of neoliberalism domestically which would over time encourage nations with worse scores to try and emulate their policy choices in order to attract foreign business (p. 394). This is said to be mostly observable by the GCI's choice of indicators in its executive opinion survey, unjustified precedence of the opinion survey over quantitative data, something already criticised by Lall (2001, p. 1516), when opportune.

Bergsteiner & Avery state that some indicators as well as their associated sign when computing index scores are not directly related to competitiveness and have to be understood as "ideologically contaminated" (p. 394). As an example, the discuss question 7.04 in the 2016 questionnaire which reads "How would you characterize the hiring and firing of workers in your country?", with reports of low standard in dismissal protection contributing to higher scores in the GCI. The authors argue that many innovation-driven economies, the paragons in terms of competitiveness-friendly policy, rely to a large degree on low turnover in the workplace, since knowledge, expertise and experience are highly valuable resources at these stages of development. Furthermore, the question does not take into account the overall effects of a "hire-and-fire"-policies, which, according to Bergsteiner & Avery (2012) are costly in the long run.

Both authors further lament the absence of indicators which are concerned with corporate social responsibility and sustainability in the index. They consider both factors as important determinants of robust competitiveness and growth in the future.

Lall (2001) further examines the implications for developing countries interested in raising their score levels in the GCI. She finds that the WEF generally presumes "that markets are efficient in all countries" (p, 1506). From a development perspective, Lall (2001) argues, this notion and any scoring based on it does not present a good basis for policy choices in developing countries, since the protection of infant industries as well as "well-managed industrial policy" with a pivotal role for state regulation (p. 1506) can be paramount for industrial development in these nations.

In total, differing index scores and country ranks should not be taken at face value when assessing the economic prospects or overall competitiveness of a country. Instead, they, according to the discussed source, reveal a set off hegemonic ideas, to speak in the words of Antonio Gramsci (Jacobitz, 1991, p. 28) rather than present information about the relative position of a country in the world economy, denying score values any significance as a description for economic interactions between states.

Evaluation   Given the ample critique of the index presented here, why is it used at all for this study? I will address the criticism, following the categories established above. The WEF seems to be aware of limitation in their methodological toolkit and its approach to researching indicators as well as the construction of score values are open to review and improvements.

The Forum has made a major amendment to the indicator set in 2005, following a broad list of recommendations by academics as well as researchers from the Gallup Institute (World Economic Forum, 2016, p. 36), while the process of weighting indicator values has been adapted in 2012. Furthermore, a country's GCI can be compared, as will be done in the analysis, tested against other variables the regression analysis which are on the one hand said by the WEF to affect competitiveness strongly but are - on the other hand - not as controversial in the scientific community. This includes measures such as protection against expropriation or HDI values. If the interaction between these variables and the GCI follows the presumed interaction of the discrete indicators and the GCI, our confidence in the WEF's operationalisation of competitiveness might increase.

In terms of validity, it is important to note that every research design and the subsequently obtained model serve as a simplification of reality that shines light on a single causal relationship (Schnell et al., 2014). By necessity, many variables that influence result will not be consider, either because the researcher does not know off- or fails to obtain data on them. The unclear line of causality, especially in between GCI-income levels and GCI-HDI, both further discussed below, are problematic and deserve special attention in the analysis. It is desirable that the index improves both in terms of testing for the flow of causality as well as extend the range of its indicators (also with regard to the ideological criticism). However, the research is not aware of the existence of another index that is presently able to resolve these questions to a greater extent than the GCI, with both the World Competitiveness Report by the Institute for Management and Development and the World Bank's Ease of Doing Business Index facing very similar criticism (Lall 2011) (The Economist, 2018).

In terms of criticism pertaining to a neoliberal bias of the index, a similarly pragmatic response has to be made. While disagreement with certain questions – or their absence – is very understandable, we might still conclude that the index holds a certain worth, especially with regard to its more quantitative methods. Furthermore, this set of criticism is not echoed on the African continent, where pride themselves in reaching high ranks within the index and connect their rankings to beneficial economic development (United Nation, African Union, 2010) (Ben Barka, Ben Barka Januar 2012 – Border Posts, 2012) (Adom et al., 2010). Furthermore, many figures which are boosting index scores especially for so-called "factor-driven economies", which are most important to this research, such as good access to primary education, an efficient health care system and institutions which defend individual property rights are similar to goals promoted by the United Nations' General Assembly (United Nations Regional Information Centre, 2018) and might not be as ideologically loaded as argued by Lall nor are they as strongly influence by the opinion survey so extensively criticised by Bergsteiger & Avery. Collectively, these points do not refute the criticism and rightful concerns directed at the GCI. When interpreting index scores, country rankings or empirical analysis based on both, it is paramount to keep the limitations of the underlying operationalisation of competitiveness in

mind. However, especially against this background, conducting research using the GCI might possess an inherent worth as results might also be interpreted in light of the indices quality. Subsequently, statements on additionally introduced ambiguity through an imperfect operator, might themselves be valid research outcomes.

For this research, Competitivness scores for all SADC-countries was gathered from Global Competitivness Reports between 2005 and 2016. It has to be noted that for some years values are missing for specific countries, since the World Economic Forum was not able to produce a score set for some countries due to the absence of data. Notoriously frequent missing values are reported for the Comoros (no data available over the entire time frame), the DRC (only one data point available) Angola (only six data points available) and the Seychelles (three data points). Countries with missing data for a year have been included for the respective time unit when computing SADC-score averages. Due to the total or near total lack of data, the Comoros and DRC are, as described in the discussion of the research design, not included in the regression analysis. For the Seychelles and Angola as well as all other countries with infrequent missing values for competitiveness, the last available score valuation has been lagged for subsequent points in time in the analysis.

5.3.2 Regional Trade Volumes

The main dependent variable, trade volumes, has already been referred to extensively in the course of this paper. The concepts is central to all endeavours of measuring the level of regional cooperation on the continent[5]. The trade volumes a country records is the total value of all goods and services which are either exported or imported by this nation (Bofinger, 2011). For the research, only trade in commodities, not in services was considered. In my sample all values are reported in current US$ as given by the United Nation's ComTrade-International Trade Statistics database, requiring controls for the rate of inflation in the reporting nation to be inserted separately, since current US$ would otherwise overestimate the reported trade values in past years (ComTrade, 2018). Thus, regional trade volumes as the dependent variable in this work have been conceptualised as the total value of exports in current US$ as reported by the exporting nation to an importing country also part of SADC - and this investigation. Thus, excluded countries, the DRC and the Comoros were not considered either as the origin nor the destination of trade flows.

The overall construction of the independent variable has, however, not been as straightforward as this definition suggests.

Globally, and the case of this work, regionally when talking about regional trade volumes, trade volumes follow the logic of "communicating tubes" (Dieter, 2018), with the imports of country A to country B matching exactly the exports of county B to country A[6]. If, in this scenario, the imports are deducted from the exports we

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[5] see for example assessments by the United Nations and others (United Nations Economic Commission for Africa, 2016; Yang & Gupza, 2005; Adom, Sharma et al. (2010)

[6] This relationship also holds true if expanding the model with Re-ex- and imports

expect the total to be 0 accordingly.If this relationship holds, it is of no consequence whether exports of country A to country B or imports of country B to country B are chosen to denominate the total value of exports for country A in this trade relationship. Table 5.3 further outlines this relationship.

TABLE 5.3: Schematic Overview of matching bilateral Imports and Exports

Reported by Country A	Reported by Country B
Exports to B	Imports from A
Imports from B	Exports to A

The principle of communicating tubes in the case of regional trade volumes, as outlined above, would suggest that 2 data points, for example imports and exports as reported by country A only, is enough to discern the respective volumes displayed by country B in these categories.

Studies cited in the course of this work, for example by the Economic Commission for Africa, make no mention of how they went about collecting data to establish regional export levels. However, in the course of data collection I found it noteworthy that import and exports levels reported by a Country A as recorded within ComTrade quite regularly did not match up with exports and imports reported respectively by their trade partner in the same time frame. These data mismatches were sometimes quite severe, resulting in a difference of several percentage points in overall trade volumes.

Accordingly, a first data set tracked total value of exports for each country and year by forming country pairs with every SADC-state under investigation having 12 potential trade partners under the applied research design model. Once tracking every country's reported exports to each other country for each year under investigation and summing up all available results, 13 x 12 = 156 data points, one for every country and year, were generated over the whole time frame of 12 years.

For these pairs both the exports as reported by country A to country B as well as the imports by country B from county B were tracked. For example, exports going to Angola from Botswana, as reported by Botswana, were contrasted with imports coming from Botswana as reported by Angola to check for consistent reporting. This yielded inconsistent results, as in many cases reported imports from country A to country B did not match recorded imports of country B to country A. ComTrade itself suggests motives of confidentiality by the export as the source for mismatched reporting, which provides a challenge for deciding which reported value to consider as the "correct" one.

To address this, in a first step data gathered from ComTrade was matched, wherever possible, against existing data sources. This was, however, not possible for all 156 data points. Thus, the author choose to resort to a pragmatic approach: If mismatches were found and no recurses to literature were possible, the higher of the two

values reported within a year for regional imports- and exports within SADC was included into the data set. If, for example, collective regional imports by all countries amounted to US$ 100 but collective regional exports only amounted to US$ 95 million, than that year would show regional exports at US$ 100 million.

This rational behind this decision is rather straightforward. The first consideration was given to the explanation provided by ComTrade, citing a preference for confidentiality on the side of the reporter. This would suggest that data was omitted in the reports and which ever reported value is higher should be considered the more robust figure.

A second consideration could be given to a more pragmatic reason.Reporting imports and exports takes time, resource and expertise to be undertaken. While "over reporting" might follow from human error this is just as likely to result in "under-reporting" which would additionally save time and expenses occasionally and is thus deemed the more likely of the two reporting errors to occur. Another approach, tied to another set of assumptions, could have led to the opposite result: If we expect systematic falsification of the data we would have reason to include the lower of the two values reported. This would follow the rational that states might have an interest to downplay their capital export, if possible, to preserve access to cheap refinancing option on the financial markets. I would argue in favour of giving assumption 1 precedence in the lack of more data on this subject since the underlying theory is much simpler.

In order to improve the overall significance of the findings and obtain access to more reported values. A second set of data was generated. This time, reported values were disaggregated at country level, meaning each individual trade relationship between each possible country pair for every year was recorded. If every country would have reported one figure for each other country in the region for each year this approach would theoretically have provided a total of 3744 separate data points (156x2x12), covering all import-export relationships between all country pairs both as "reporter" and "reported partner". However, only 3014 data points were obtainable by ComTrade, meaning that 730 possible observations went unreported on. No country managed to submit a full report on its trade relationships within the investigated time frame. A fully report would mean submitting 312 observations (13x12x2) between 2005 and 2016. Only Botswana managed to pass 300 reported trade volumes (301) with Lesotho being the most negligent reporter (68) and most other countries falling between 230 and 260 reported values. The low reporting scores of Angola (117) and the Seychelles (168) are especially important when considering the subsequent findings of this research as both countries already provided low data turnouts for the main independent variable of interest, competitiveness score levels.

In a second step, the dataset was condensed to only the reported export values in each country-by-country relationship, leaving 1286 data points for the analysis.

To sum up: Two data sets on trade volumes have been produced for the investigation. First, aggregated yearly regional exports for each country to the region as a

whole, 156 observations, have been obtained by combining all available ComTrade data points for each country and year, with precedents being given to the higher values, if imports and exports did not add up – following the rational outlined above. Furthermore, these figures have been divided by the total exports of the country with the whole world to derive the share of regional exports as a quotient, which is presented in the descriptive part of the following chapter.

The second dataset tracked country exports on a country-by-country level without accounting for mismatches in reported import-and-export values. The resulting dataset has 1286 observations, after dropping all aggregated exports at the "World"-level and all reports for "Imports". Country-by-country exports here are not evaluated against total global exports and merely represent the total value of reported exports from country A to country B valued at current US$ prices.

5.3.3 Conceptualisation of Confounders and Control Variables

Confounders, as discussed at the start of this chapters may be differentiated into two categories. First, it has to be established whether the confounder makes the research design invalid to trace causality between the main dependent and independent variable altogether. This is the case if the variable in question

Second, confounders which do not fall into category 1 but which influence the outcome of the Large-N-Design once they are identified, have to measured and included in the design.

Linder Hypothesis: The influence of GDP per capita

The Linder Hypothesis presents a competing explanation for missing gains in trade volumes between integrated economies. The hypothesis presumes that trade volumes will expand for countries with high per-capita income levels.

The underlying effect is presumed to be facilitated by the fact that high income-countries display domestic consumption patterns that facilitate a stronger demand for goods. As high per-capita income drives both consumption patterns as well as economic capabilities, countries will engage in more trade, both in terms of imports and exports (Bofinger, 2011, p. 353). This relationship further follows from the discussion on import demand introduced by equations 4.6 and 4.7. If countries increase their income levels, we expect them to import more according to their marginal demand for imports. Therefore, rising income levels can result in trade creation effects.

This relates directly to the relationship which is assumed to exist between domestic levels of competitiveness and trade volumes within regional economic communities. The relationship between competitiveness and economic performance has already been described. To recapitulate it is sufficient to note that high competitiveness is presumed to increase a nations domestic production, which raises levels of GDP-per-capita. This in turn serves as the basis for further increases in competitiveness as increased prosperity enhances factor-, efficiency-, and innovation-drivers for

competitiveness according to the GCR (World Economic Forum, 2018). Therefore we expect increases in GDP-per-capita to correspond with increases in levels of competitiveness.

Building on the introduced Linder Hypothesis, the role of GDP-per-capita has to be expanded within the theoretical model. For countries with higher per-capita income we have to assume stronger effects in terms of regional trading. This qualifies GDP-per-capita as a confounder which should affecting both competitiveness and – conditionally – regional trade volumes positively and depress the effect of competitiveness on trade volumes.

Level of Human Development

One possible confounder to the relationship between competitiveness and trade volumes is the level of Human Development reported for a nation.

Human Development (HD) as conceptualised and measured by the United Nations Development Program (UNDP) is often referenced by policy makers and academics when trying to outline the quality of life within a country without relying exclusively on economic indicators or material wealth. The UN describes HD as a measurement which tries to depict "The richness of human life, rather than simply the richness of the economy in which human beings live" (United Nations Development Program, 2018). Data collection and methodology is handled by the UNDP which also publishes the annual Human Development Index. The index scores countries based on various societal characteristics, divided into factors which are all credited as "directly enhance human abilities" and those which "create conditions for human development". Figure 5.2 provides an overview of most of the HDI's subsets.

FIGURE 5.2: Selected Indicators of Human Development
Source: United Nations Development Program, 2018
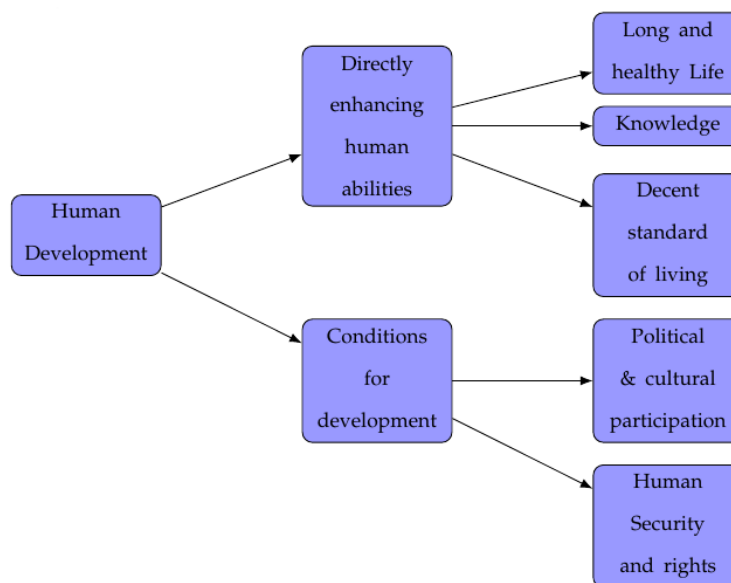
A multitude of authors have expressed criticism of the HDI on the basis of methodological concerns, said to undermine the validity in truly measuring the state of human development within a nation. MacGillivray and White (MacGillivray & White, 1992), for example, criticise faults in the statistical evaluation and the existence of unaddressed confounders, while Carvalhal Monteiro et al. (Carvalhal Monteiro et al., 2018) express concern of the current operationalisation of the associated concepts. Still, the index has proved to be influential, being employed in a wide variety of research and has informed a number of policy decision. Sant'Anna et al. used the index to identify resource-demands within the educational systems of developing countries (Sant'Anna et al., 2011). And African countries and organisations concerned with the continents development equate rising index scores with overall progress of African societies (United Nation, African Union, 2010).

If the HDI is contrasted with the GCI a number of complex interactions may be theorized. First, both indices place a focus on education and a populations knowledge base, with both the HDI and GCI expecting increasing score levels as the general education within a population rises (World Economic Forum, 2018) (United Nations Development Program, 2018). For the GCI, education is both key for efficiency gains within economies as well as key for innovation. Health as well as institutions that safeguard human rights are "basic requirements" for competitiveness, according to the GCI (World Economic Forum, 2018, p. 12) as well as for the UNDP's HDI. Accordingly, we expect both indices to mirror each other to some degree. The question remains, which indicator we expect to "move first" that is whether higher levels of HDI beget an increase in competitiveness or whether higher competitiveness scores enable countries to increase their expenditure on education and healthcare, thus subsequently driving their HDI scores up. The GCR is ambiguous about this topic, listing education and health as individuals pillars within their analytical subsets while also stating that "the competitiveness agenda [. . .] has intrinsic as well as instrumental value for human development" (p. 8), in the course of the report. Clarification may be provided by looking at other scientific work. Talmacui and Cismas (Talmaciu & Cismas, 2016) investigate the relationship between investments in tertiary education in Central and Eastern European countries and their levels of national competitiveness as measured by the GCR. Their analysis presumes that human development enables countries to perform more competitively and subsequently argue for development policies directed at increasing levels of human development instead of programs targeted directly at economic competitiveness. This focus is also mirrored by development initiatives, which commonly target health, knowledge and human rights through their programs, while boosting the state of a country's competitiveness is not of direct importance (United Nations Development Program, 2018). While it is dangerous to assume that the causal channel cannot flow from competitiveness towards human development, we can at least observe that policies are often focusing on the latter. Together with the presented research design from other studies and the ambiguous of the GCR, I suggest to treat competitiveness

mainly as an effect rather than a source of Human Development. The complex nature of the interactions between both concepts makes an absolute statement in this regard unfeasible, however.

To summarise, the HDI is expected to interact with levels of competitiveness in a variety of ways. It is interesting to note that both indices share a number of categories for their construction making it already likely that score levels will in some regard converge, meaning we would associate higher levels of competitiveness with increased HDI values and vice-versa. This effect is presumed to be compounded mainly by the role that knowledge plays in both the HDI and the GCI. We expect, accordingly, that countries with a higher HDI are also displaying higher levels of competitiveness. At the same time, tracking both values within the regression, the direction of causality, ambiguous as discussed above, can be further investigated.

Foreign Direct Investment

Foreign Direct Investment (FDI) describe the "value of cross-border transaction related to direct investments during a given period of time" (OECD, 2018). The associated values describe flows of capital from and into a country. Net gains, or inward flows, in FDI values represent investments of foreign capital in the domestic businesses out-valuing outward flows that is capital being invested into "enterprises in a foreign economy, such as through purchases of equity or reinvestment of earning" (ibid.). The research needs to control for this values since FDI flows are important for both Competitiveness and trade volumes. In terms of competitiveness, FDI contributes to a growing domestic capital stock and business liquidity, which in turn allows for greater productivity by substituting labour through capital or boost R&D (Hartzenberg, 2011). On the other hand, FDI inflows should increase both the value of reported exports as well as overall imports. As FDI increases the per capita income levels of the population the total value of imported goods should grow in line with the marginal demand for imports as outlined in the previous chapter. Simultaneously, FDI should also increase the overall output of the domestic industries in line with the assumption presented in the previous paragraph which should in turn boost the volume of exported commodities. In effect, we expect controls for FDI to reduce the impact of Competitiveness on trade volumes in the regression equation if properly controlled for.

Infrastructure

Space and geography have been citied frequently as important impediments to economic growth and trade in Africa. Acknowledging the size of the African continent, spanning more than three times the expanse of Europe with over 30 million km2 (Reid, 2010), is just the first step in understanding why trade between the continent's countries is more difficult to facilitate than in other regions of the world.

One of the central tenants of Economic Geography, continuously reaffirmed by estimates obtained from Gravity models of Trade representing all world regions, holds that distance is a crucial factor for the volumes of bilateral trade flows (Carrère & Schiff, 2005). It has been presumed, that the amount of trade between two places is roughly halved for every 800km of distance under the assumption ceteris paribus (ibid.).

African countries routinely perform weak on indicator scores for infrastructure, both in terms of supply of basic utilities such as electricity and telephone lines, as well as regarding the quality of roads, railroads, air transport and port infrastructure (World Economic Forum, 2017). Poor regional infrastructure leads to underdeveloped regional trade, as exporters find it easier and cheaper to access European markets by ship or plane than exporting to African markets by truck (Jordaan, 2014).

The assessment of a country's infrastructure is an important part of the Global Competitiveness Indices computation as outlined above. Subsequently and following from the previous paragraphs, it is expected that poor infrastructure also hinders regional exports as well as depressed Competitiveness score values. Accordingly, the level of a nation's infrastructure as measured by the World Bank's Logistics Performance Index is used to control for the influence of this variable. It is expected that the influence of the Competitiveness Index is lowered if infrastructure is included in the equation. However, it is expected that results for the GCI are still significant, since the measurement of competitiveness draws on a number of other variables for computation.

5.3.4 Additional Variables of Interest

The key variables described above are accompanied by a number of other country-specific variables as well as indicators on the global level. General country data has been drawn from the World Bank databases. These include GDP/GDP per capita and population figures and the Logistics Performance Index – as an operationalisation for the quality of infrastructure relevant to facilitating trade flows within a country and beyond its borders (World Bank, 2018).

The effect of fluctuating prices of raw materials on the world market is assessed by tracking the interaction between national export values and the development of international resource prices , provided – as well – by the World Bank in the Commodity Price-database (World Bank, 2018).

Information on the landlocked-/islandlocked-status of economies as well as the status of inter-country free trade has been drawn from the annual reports on African integration as published by the United Nations Economic Commission for Africa (United Nations Economic Commission for Africa, 2016).

Finally, a set of governance indicators to test the reliance of Competitiveness Scores on the institutional environment within a nation's political system.

The inclusion of these variables follows from observations by Acemoglu et al. (2001), who identified the guarantee of property rights as one of the most important

institutional factors for economic growth in emerging economies and as a strong indictor for the presence of wider institutional characteristics beneficial to economic development. Following the choices of variables made by other researcher (Acemoglu, Robison et al., 2001, 2011; MacGillivray and White, 1992 or Rodrik, 1998) the overall governance score provided by the Mo Ibrahimi Foundation (Mo Ibrahimi Foundation, 2018) together with score obtained in the Constraints on the Executive-Index by the Polity IV Project (Polity IV Project, 2018) are used to investigate the links between Competitiveness scores at country levels and country performance in area of protection against expropriation and overall governance.

5.4 Method of analysis: Regression analysis on characteristics of importing and exporting Countries

Data for the selected SADC-member states is incorporated along the designated time frame for analysis in a regression model. Both simple descriptive statistics on the communities performance at various points in time as well as a regression analysis with controls for fixed effects has been produced from the two resulting data sets, measuring interactions between competitiveness and trade volumes both at the aggregated country level as well as per country-by-country trade relationships.

In order to account for omitted variable bias in both dataset, consideration has been given to controls for unobserved variables. Following suggestions by the literature on controls for unobserved effects within panel data (Plümper, Troeger et al. 2005; STATA, 2018), a Hausman-specification test was run to determine whether fixed- or random-effect controls were adequate for the sampled data. Results are reported in the Appendix and suggest that under the present specification individual effects are not adequately modelled by random effects.

Accordingly, a fixed effects model is chosen. Through the model, it is possible to control for unobserved variables at country-level which are impacting the outcome variable and time-invariant, meaning they are not subject to change over the course of the analysis. Furthermore, the unobserved variables which are kept constant under the model are not correlated with other country-specific characteristics. The fulfilment of this conditions has been accounted for by the Hausman-specification test as well.

The set of unobserved variables accounted for in this way covers, according to Torres-Reyna (2007), such characteristics as business practices, the choice for a certain political system and political and business culture (p.9). By controlling for these unobserved variables, the quality of predictions for interactions between independent and dependent variable is improved since country-specific and unobserved characteristics failing under the above-mentioned definition of fixed effects are kept constant at the country-level. In the Words of Stock and Watson (2003), controlling

for fixed effects has the advantage that if it can be assured that "the unobserved variable does not change over time, then any changes in the dependent variable must be due to influences other than these fixed effects".

The adequacy of a fixed effects-model for the research at hand was expected since fixed effects are commonly found within statistical models making use of country data over time. Acemoglu, Johnson et al., for example, employ controls for fixed effects in two large-N studies concerned with identifying the effects country-specific variables on economic performance in a cross-section time series (2001 & 2011). Emran and Shilpi (2010) similarly use fixed effects for improving their estimation results for an import-demand curve for Sri Lanka and India while Foroutan and Pritchett (1993) employ them in their gravity model of trade for Southern Africa.

The regression equation 5.1 for the effect of GIC scores on trade volumes is an analysis on the basis of aggregated regional exports, the added values for all regional exports reported by each country for each year, resulting in 156 data points. As stated above, the Hausman-specification test called for a fixed effects model in the analysis of interactions between GCI scores and trade volumes under these specification which was incorporate in the regression equation as

$$ValRegEx_{it} = \alpha_i + \beta GIC_{it} + \gamma_{it} + v_{it} \tag{5.1}$$

Where *ValRegEx* is the operationalised form of trade volumes, the value of exports reported by a country *i* for a given year *t*, α_i denotes controls for fixed effects as unobserved and time-invariant variables displayed at country-level for each unit of analysis. $\beta\ GIC_{it}$ is the influence of Global Competitiveness in a specific year and time and γ_{it} is a control for possibly confounding country-characteristics in a given year and v_t is the error term.

For the second data set, reported trade flows have been disaggregated, matching each country with each of its trade partners as reported by the exporting country for each year under investigation, resulting in 1286 observations. The allowed the regression model and the set of observed controls to expand accordingly an to cover not only variables specific to the exporting nation - but importer-related variables as well. The reason for this disaggregation lay with expanding the available data points and cover both country-specific characteristics for both countries in a trade relationship to improve the significance of obtained results.

This new data set is analysed according to the following regression equation

$$ValRegEx_{it-pt} = \alpha_i + \beta_1 GIC_{it} + \beta_2 GIC_{pt} + \gamma_{it} + v_{it-pt} \tag{5.2}$$

Value of exported goods are tracked from country i to the importing country p and the effect of competitiveness is tracked for both. Additionally, control variables are matched as per values for both countries.

In addition, the interactions between country-specific variables and a nation's GIC Score will be assessed by

$$GIC_{it} = \alpha_0 + \beta_v + \gamma_{it} + v_{it} \qquad (5.3)$$

with β_v denoting the variables identified by the WEF as being crucial for computing the GIC for developing nations, namely infrastructure, GDP per capita, education and health variables.

Chapter 6

Analysis

6.1 Descriptive Statistics

6.1.1 Trade Volumes

Notwithstanding the great internal differences between SADC's countries outlined in the previous Chapter, the zone has been frequently cited as among the most successful Communities in Africa when it comes to intra-regional trade volumes. (United Nation, African Union, 2010; United Nations Economic Commission for Africa, 2016; World Bank, 2012; African Capacity Building Foundation, 2008). Figure 6.1 shows that the zone was able to nearly triple its relative value of regionally trade goods, compared to their world exports, from 6% in 2003 to more almost 16% percent in 2016. The full establishment of a Free Trade Zone, agreed upon in 2008 and fully operational[1] in 2010 seems to have had a positive effect on trade volumes post 2008. The sudden slump in 2014 is not due to SADC-nations trading less with each other but reported trade volumes with the rest of the world increasing sharply for this year.

FIGURE 6.1: SADC's aggregated value of intra- regional exports as percentage of total export value between 2003-2016
Source: ComTrade data, own computation

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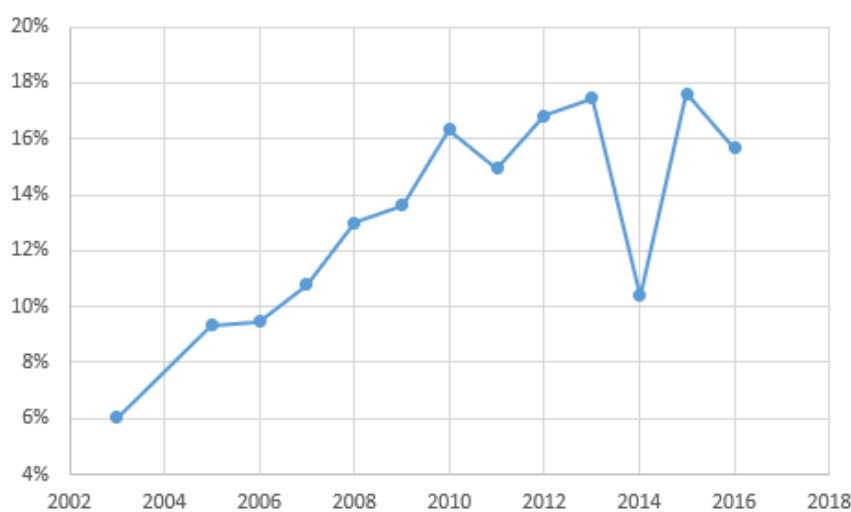
[1] That is, without country-specific exemption for certain commodities from being tariff-free

The gains in regional trade volumes are, however, not equally distributed between SADC's members. A disaggregation by countries under investigation displays a large variety, both in terms of fluctuation for regional trade volumes and even the sign of the effect over time.

Figure 6.2 illustrates this by listing countries and the development of their regional trade shares as a part of total exports over the investigation period.

FIGURE 6.2: Tabular overview of percentage share of regional exports
for investigated countries, 2005-2016
Data Source: ComTrade, own computation
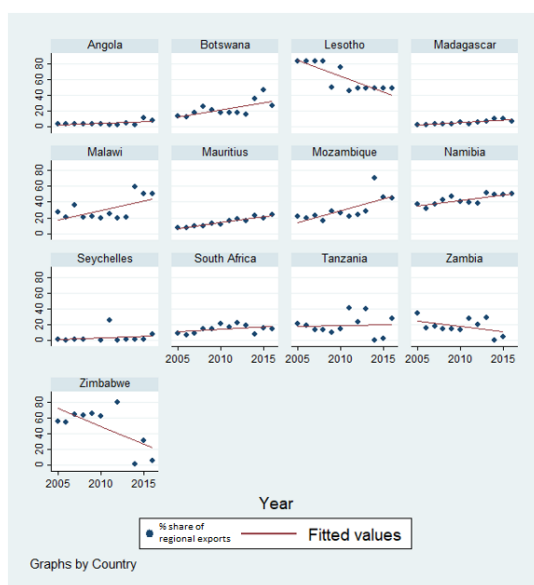
Overall, most countries display a slow but steady upward trend in their regional trading, with Botswana, Malawi and Mozambique having the strongest growth in relative terms, with each country approximately doubling their intra-regional trade volumes between 2005 and 2016, with most gains taking place in the years 2014, 2015 and 2016. Other countries, however, most notably Lesotho and Zimbabwe, experienced a significant decline in their regional trade shares.

Since the variable "value of regional export relative to global exports" is the quotient of a division, regional exports divided by all country exports, declining or increasing values can be the result of changes in both the numerator as well as the denominator. Therefore, it is worth considering whether gains in regional trade shares are merely a result of reduced global exports or indeed due to a relative increase of regional trade.

Figure 6.3 presents an overview of the total value of regional exports – South Africa is listed separately since the country's aggregated export values are several factors large than for all other SADC-countries which warrants a separate scaling. Except for Malawi and Lesotho, most gains in relative regional trade value are in line with total value growth of regional exports.

FIGURE 6.3: Total value (US$) of regional exports for countries under
investigation, 2005-2016
Data Source: ComTrade, own computation
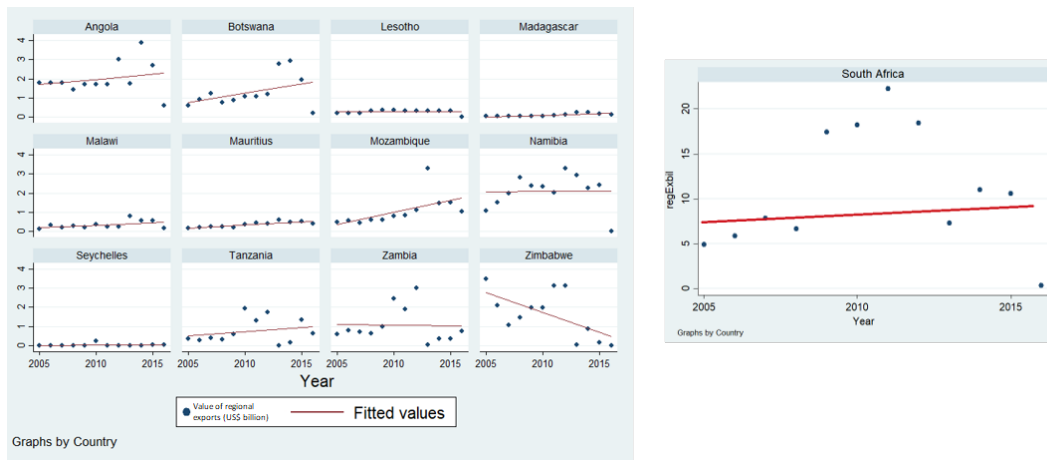
6.1.2 Competitiveness Index Scores

In terms of their country-specific competitiveness levels as measured by the Global
Competitiveness Index, SADC-countries can be roughly sorted into baskets of high-
and low-performers. As discussed in the Research Design, SADC is at the same time
home to the most competitive nations in Africa as well as to some of the world's least
competitive countries. Score levels over time have remain fairly consistent within
country-groups with only some countries displaying higher levels of fluctuation in
scores values.

Figure 6.4 outlines this statement by listing diverging trends in index-score levels
over time over all countries and years under investigation.

FIGURE 6.4: GCI-scores for SADC economies between 2003-2016
Source: World Economic Forum, Global Competitiveness Reports
2003-2016
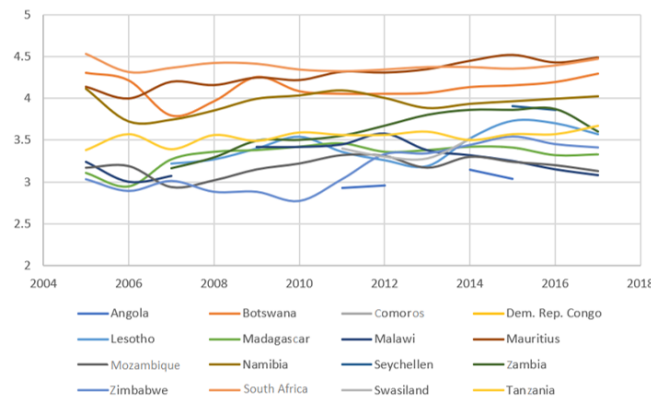
South Africa has been leading the group and indeed all of Africa in terms of score levels for most of the last decade and only recently had to pass the title of Africa's most competitive nation – according to the GCI – to Mauritius. Together with Botswana and Namibia, these countries possess a clear edge over other SADC-nations such as Mozambique, Malawi and the DRC which are separated by an almost 1.5 score difference from the top group. This group of countries continuously find themselves among the least 10-30% competitive nations according to the global ranking.

Overall, most countries display a limited amount of fluctuation in their score values. South Africa and Tanzania for example merely show a respective delta of 0.22 and 0.29 score points between their highest and lowest annual score within the time period under investigation. The most dynamic curve can be observed for Zimbabwe, with a 0.77 score difference between the nation's lowest value of 2.77 in 2009 and their highest recorded score, 3.54, in 2014. This difference did not, however, correspond to a strong change in the countries relative rank with regard to competitiveness in the world economy. In 2009, Zimbabwe took the last but one place worldwide within the Index, ranking at 132 - being only undercut by Burundi – and against a worldwide score range from 2.58-5.60. In 2014, Zimbabwe came in at place 124 in a list of 144 countries with worldwide score ranging from 5.7 to 2.79.

This observation suggests that positive changes to a country's competitiveness score relative to the rest of the world is difficult, with large total gains in score not immediately associated with a a stronger position in the world economy. At the same time, nations with the leading score levels in SADC, South Africa, Mauritius, Botswana and Namibia, continuously rank among the best 30% of all countries worldwide.

FIGURE 6.5: Average GCI-scores of 13 SADC-nations, 2003-2016
Source: World Economic Forum, Global Competitiveness Reports 2003-2016
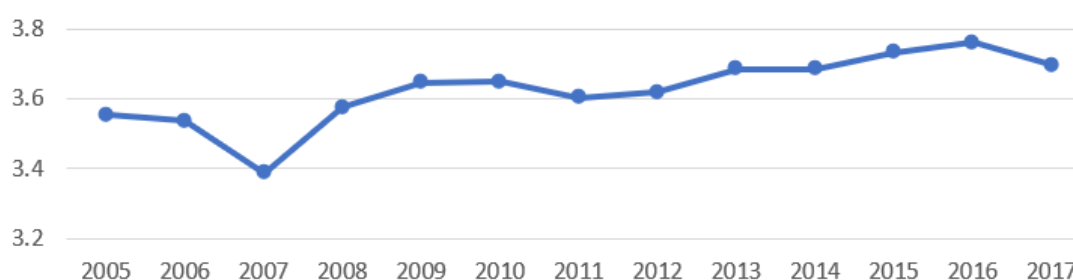
In terms of general trends displayed across countries regarding their Competitiveness score we see a modest increase in competitiveness across the board for SADC, exemplified Figure 6.5 which details the development of GCI-averages for the 13 SADC states under investigation between 2005. The total range of fluctuations spans 0.3 score points, with a low point in 2007-2008 and high point in 2016-2017.

6.1.3 Graphical Interactions between Trade Volumes and Competitiveness

A first look at the relationship of Competitiveness and regional trade volumes yields an interesting result. Figure 6.6 shows the interactions between the total value of regional exports and GCI score values as part of a simple scatter plot for the year 2016.

FIGURE 6.6: Value of regional Exports (billion US$) against GCI-score levels
Source: World Economic Forum, ComTrade
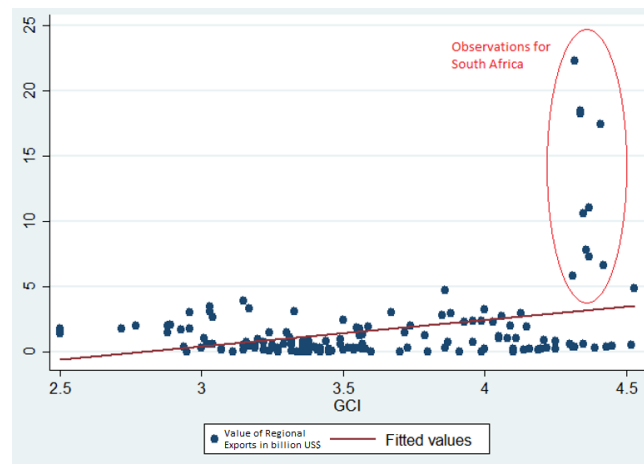
At first, the relationship seems as expected. Countries with higher competitiveness values appear to be able to realize higher values in intra-regional trading. This trend, however, is only accounted for by the performance of South Africa in the data set. The ten highest trade values are generated by this single country and if we exclude South Africa from the equation, we are left with an inverted relationship as illustrated by Figure 6.7.

FIGURE 6.7: Value of regional Exports (billion US$) against GCI-score levels - excluding observations for South Africa
Source: World Economic Forum, ComTrade
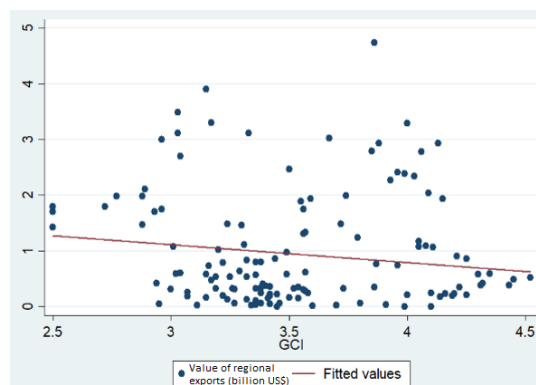
If all observations related to South Africa's trade and Competitiveness-values are purged from the data, we are now looking at a downward slop for regional trade values for increasing GCI, a finding also robust when relative regional trade shares instead of total values of regional exports is used. Mainly responsible for this relationship are the observations for Mauritius, a country which both displays high competitiveness scores, while having reporting consistently low regional exports compared to its global export share. While Mauritius influence is significant, the downward slop persists even if the observations for the island are excluded. The author at first considered the possibility that regional exports are crowded out by global exports once countries become more competitive and are better able to compete on the world market. This would call for an extension of the causal channel, suggested in Chapter 4: Consumers in an importing nation are not the only ones looking for the best price, and thus the most competitive exporter, but industries in exporting nations are similarly on the lookout for the best price that is to be had for their product. Thus, once they are able to produce on par with more and more nations on the globe, they gradually turn their attention to trading with nations that sport higher income levels than their neighbours in order to increase their profit. While appealing, this explanation is unfortunately not covered by the data, as the downward slope of the line of best fit also persists when comparing the total value of global exports with Competitiveness levels of the exporting countries.

As will be seen in the subsequent section, the regression analysis on the aggregated exports per country and year returns only insignificant results for the interaction between the value of regional exports and Competitiveness scores, signifying that the challenge to the main hypothesis (H1) persists statistically. As observations from the scatter plot are largely not confirmed by the results from a regression analysis of the second data set – country-by-country reports for exports – as well, the line of best fit in Figure 6.7 is already an important observation when considering the role of competitiveness for regional trade volumes.

6.1.4 Regression Analysis

Dataset 1: Effect of country-specific macro-data on regional trade

If regional exports are aggregated on a yearly level for each of SADC's economies with no regard for matching trade on a country-by-country basis, an approach that results in a total of 156 observations, the regression analysis on the data set suggest only limited interactions between Competitiveness Scores and regional trade volumes over the time period under investigation. Regression Table 1 details results for analysing the effect of country-specific variables, most important Competitiveness for regional trade volumes in million US$.

TABLE 6.1: Regression Table 1 - Effect of country-variables on Trade volumes

Variables	(1) Exports***	(2) Exports***	(3) Exports***	(4) Exports***
GCI	475.769	-264.830	-916.353	-1605.947
	(919.319)	(1077.005)	(977.651)	(-1103.779)
GDP per capita			0.414**	0.442**
			(0.170)	(0.213)
landldummy			-2143.727	
			(1954.856)	
islanddummy			-4668.769**	
			(2339.61)	
ftdummy			586.579	672.473
			(439.562)	(465.810)
Oil price			10.226	9.901
			(7.716)	(7.810)
Constant	60.073	2856.129	4169.978	4726.288
	(3452.506)	(3966.623)	(3678.679)	(1954.078)
Observations	140	140	140	140
R-squared	0.1	0.08	0.22	0.00
Country FE	NO	YES	NO	YES

Standard errors in parentheses
** $p < 0.05$ *$p < 0.01$
*** in million US$

While the sign for the interaction between GCI and regional trade volumes is as expected, the interaction is not significant enough to reject our null hypothesis, which presumes that there is no causal interaction between both variables. Furthermore, the presumed sign of the effect is inverted once fixed effects at country level are controlled for. The other results produced by the same analysis for other variables suggest, however, that these findings are likely due to the limited number of accessible observations resulting from the restriction imposed by the availability of consistent Global Competitiveness Index scores - something that has already been identified as problematic in the previous chapter.

The main reason to concluded that missing significance levels are a results of methodological, not conceptual, constraints lies with the low significance levels of the landlocked- and Free Trade-dummy which, although signed correctly in their interaction as theorised, are considered unrelated to regional trade volumes in this model. This finding is, however, inconsistent both with common theoretical assumptions as well as with a number of other studies which affirm the significance of these variables for regional trade (see for example Foroutan & Pritchett, 1993 or Acemoglu, Robinson et al., 2001).

On the other hand, the effect of GDP-per-capita in the importing nation has a significant effect on a country regional trade volume with each increase by 1 US$ in per capita-income at country level being associated with a potential expansion of regional trade volumes by more than 400,000 US$ for each given year. This denotes three things: First, the result is robust with assumption following from investigations of trade flows by Gravity Models of Trade and suggests that all policy choices which are aimed at increasing per capita-income levels can be expected to also positively effect regional trade volume (Foroutan & Pritchett, 1993, p. 3).

Second, the effect reaffirms the influence of strong regional economies for relatively high levels of intra-regional trade within SADC. Since GDP-per-capita is found to have a significant effect on trade volumes and divergence in income levels is high within the Community (see Table 5.1 on page 36), while other indicators fail to predict interactions with trade volumes consistently, explanations of the relative success of SADC in terms of regional trade as exemplified by Figure 6.1 should always make reference to the role of strong regional economies such as South Africa and Mauritius.

Third, the role of GDP-per-capita suggests that, overall, regional trade volumes are also strongly dependent on cyclical effects experienced by the regional- and world economy. The effect of this finding on overall trade volumes should not be overstated, however, once the low R-squared values are accounted for under controls for fixed effects at country-level.

The role of resources, namely Oil, copper and gold, trace through interactions of the market prices for these commodities with volumes of regional trade are signed correctly but not significant if considered jointly for all countries. This is relatively unsurprising: Resources are a very important part of export portfolios of African countries (Reid, 2010) but at the same time, the importance of each individual natural resource varies from country to country, with South Africa depending strongly on platinum and coal exports,while Mozambique's current account depends crucially on global copper prices and Angola being largely focused on oil (ComTrade, 2018). No single resource has a consistent effect for the entire SADC zone, making accounting for resource prices overall difficult as well as resulting in the low significance of associated variables.

Determinants of GCI-scores at Country-level

As discussed in during the operationalisation of competitiveness for this work, the World Economic Forum considers institution in line with common conceptualisations of good governance as among the most important determinants of competitiveness levels for factor-driven economies. This relationship holds true when analysing the interactions between country macro-data as the independent- and Competitiveness scores at the country level as the dependent variable.

To test this assumptions with regard to the role of good governance for the competitiveness score of a country and assess whether these institutions, through competitiveness have further interactions with regional trade volumes, both a regression and graphical interactions between institutions and competitiveness scores are included below.

Data for governance indicators was derived from the Polity IV Project (Polity IV Project, 2018) which reports the constraints which the executive branch within a country faces on a chart from 1, lowest amount of restraints, to 7, highest restraint on executive action. The distribution of GCI scores and associated levels of executive constraints at country levels are depicted by Figure 6.8 on the next page.

FIGURE 6.8: Constraints on Executive at Country-level per GCI-score
level for 2005 observations
Source: Polity IV Project, 2018; GCR 2005
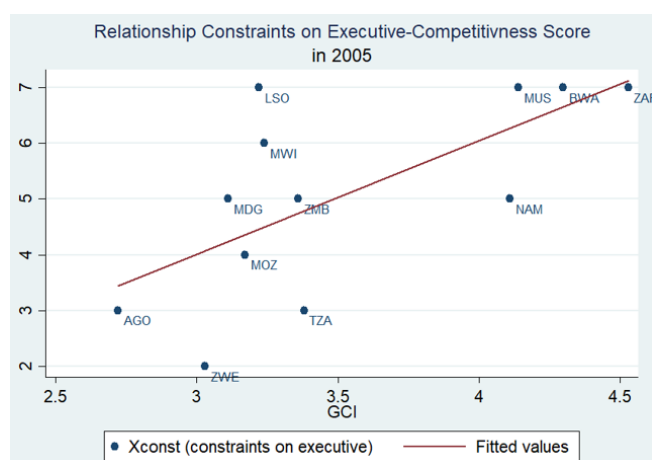
The distribution of competitiveness scores within the SADC-area in relation to a score for constraints on the executive branch as reported by the Polity IV Project suggests a positive interaction between both variables. The line of best fit signifies that the distribution of institutional characteristics, here focused on preserving property rights, relates to the GCI scores a country obtains with higher institutional safeguards against expropriation in place often corresponding with higher competitiveness scores.

The positive interaction between governance indicators and scores obtained in the Global Competitiveness Report is strongly present in the regression analysis as well, if Competitiveness scores as set as the dependent variable.

TABLE 6.2: Regression Table 2 - Effect of governance-indicators on
Competitiveness Scores

Variables	(1) GCI	(2) GCI
Ibr_Governance	0.027**	0.022**
	(0.003)	(0.007)
Xconstraint	0.075	0.104**
	(0.029)	(0.034)
Constant	1.579**	1.726**
	(0.232)	(0.396)
Observations	156	156
R-squared	0.758	0.731
Country FE	NO	YES

Standard errors in parentheses
** $p < 0.05$ * $p < 0.1$

Table 6.2 shows that both higher scores obtained in the Ibrahimi Index of African Governance and for constraints faced by the executive as reported by the Polity IV Project are positively associated with GCI scores. The high values for R-squares (.731) reported suggest that both variables are providing a rather good coverage of

the institutional component used to compute the Competitiveness Index scores at country level. Noteworthy is the substantial coefficient assigned to interactions between constraints on the executive and GCI levels, representing a potential increase in competitiveness scores of more than .1 for each increase in the independent variable. This is a strong sign that the protection of property rights - which is, according to Acemoglu, Robinson et al. (2001), one of the main effects of strong constraints for the executive - is highly relevant for the development of a beneficial business environment within a nation.

The interactions between institutional characteristics commonly associated within good governance reaffirm the assessment that institutional environment matter for economic development [2]; furthermore, if considering the subsequent results, we can assume that these variables - through their influence for a nation's competitiveness, also have a tenable effect on country-specific potentials to successfully expand its international trading. The effects of institutions for economic growth and development are reaffirming results obtained by Acemoglu, Robinson et al. (2001) and strengthen contemporary development initiatives which aim to increase economic capacities on the African continent by promoting good governance (The African Capacity Building Foundation, 2008; Reid, 2010). The results presented signify that developing countries might improve their position in globalised macroeconomic indicator sets by promoting reforms of their political system.

Table 6.3 expands these encouraging observation from the realm of governance to country-specific income- and education levels as well as Human Development Scores.

TABLE 6.3: Regression Table 3 - Country-level determinants of GCI

Variables	(1) GCI	(2) GCI
HDI	0.049**	0.048**
	(0.008)	(0.013)
GDP per capita	0.000**	0.000**
	(0.000)	(0.000)
% of pop. with prim. educ.	0.855*	0.623
	(0.447)	(0.474)
Life expectancy at birth	-0.136*	-0.125
	-0.007	-0.011
Constant	1.073**	1.235**
	(0.420)	(0.455)
Observations	116	116
R-squared	0.764	0.752
Country FE	NO	YES

Standard errors in parentheses
** $p < 0.05$ * $p < 0.1$

The regression shows that most factors are correctly signed and significant in their interactions with competitiveness scores, with levels of Human Development

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[2] Reference must again be made to Acemoglu, Robinson et al. and their seminal work: The Colonial Origins of Comparative Development (2001)

having by far the most comprehensive influence of competitiveness levels. Each increase in Human Development by one point on the scale from 0-100 is expected to increase competitiveness score level by roughly 0.05. Considering the low fluctuation of score levels over time, as shown by Figure 6.4, this should be seen as a huge gain for any country in the region.

Furthermore, the influence of competitiveness all but marginalises the effect of GDP-per-Capita influence on GCI. The effect of per capita income should, according to theory, be positive as well as significant since countries with higher income should also posses the more productive economy, which should - if considerations for reversed causality are discarded - also denote higher Competitiveness scores. The low coefficient for GDP signifies that important indicators for high Competitiveness levels for SADC-countries should be expected to be found in the institutional realm - both in terms of good governance-indicators as well as with consideration for factors of human development such as education. Indeed, the percentage of population which has at least attended institutions of primary education is also of limited significance for competitiveness levels. Health, aggregated and measured as the overall life expectancy at birth, should - according to the research design, also effect Competitiveness scores positively. The regression reports insignificant as well as negatively signed results, however. This find is puzzling at first, but may be reconciled if considering the healthcare challenges faced by one of the most competitive nations in the area, South Africa. South Africa is particularly effected by the auto-immune disease HIV/AIDS, with up to 20% of the nation's population considered infected (World Bank, 2018). The disease greatly depresses average life expectancy, which is only around 55 years on average for South Africa during the time period under investigation, for the country despite solid HDI-values in other areas.

Overall, however, the regression results for good governance indicators as well as for the role of Human Development and education are in line with conceptualisation by the World Economic Forum. Competitiveness scores for SADC-countries are, according to the presented observations strongly dependent on institutional characteristics and countries looking to increase their scores in the Global Competitiveness Index should start by pursuing policy choices which would see constraints on the executive branch of government increased as well as boost educational and health care spending to induce growth in Human Development. The high R-squared results of .75 for Regression for Regression 3 and .73 for Regression 2 suggest that these factors should be predominantly considered and are, as shown by the marginal effect of GDP-per-capita in Regression 3, far more important than boosts to national income in the short term.

Dataset 2: Effects of country-specific macro-data on regional trade

In a second step, the regression analysis was expanded to encompass all country-interactions recorded by ComTrade between 2005 and 2016. Compared to the 156

data points the aggregated sample employed in the previous subchapter, this approach yielded 1287 unique interactions over the time frame under investigation and enable the research to consider both exporter- as well as importer-specific country-variables. Table 6.4 gives an overview of results if the regression used for Table 6.1 is applied to this new data set to assess the interactions between country specific variables and trade volumes.

TABLE 6.4: Regression Table 4 - Country-specific determinants of regional trade

Variables	(1) Exports***	(2) Exports***	(3) Exports***	(4) Exports***
GCI	63.306**	40.599	25.189	13.670
	(26.824)	(27.630)	(27.610)	28.227
GDP per capita (Ex.)			0.0325**	0.031**
			(0.004)	(0.004)
GDP per capita (Imp.)			-9.617	0.000
			(13.530)	(0.001)
landldummy			-331.637**	
			(101.170)	
islanddummy			-529.840**	
			(115.171)	
Constant	-47.662	20.767	257.128**	25.687
	(109.442)	(102.867)	(126.550)	(106.211)
Observations	1242	1242	1172	1172
R-squared	0.059	0.058	0.13	0.02
Country FE	NO	YES	NO	YES

Standard errors in parentheses
** $p < 0.05$ * $p < 0.1$

*** in million US$

According to the assumption about the role of limited data as a reason for poor significance presented in the discussion of results for Table 6.1 we would assume that significance levels improve across the board if more observations are recorded. This is largely the case, as the significance of results improved for some of the variables.

If tracked for country pairs, the regression analysis does still not find, however, strong evidence for a positive role of competitiveness score levels on the side of the exporting country once fixed effects and GDP-per-capita are controlled for. The role of GDP per capita as a proxy for economic development has, as in the analysis of the previous data set, a significant positive effect for both the exporting and importing nation, which again affirms that under the chosen model regional African trade is strongly conditioned on the influence on economies with high levels of income, an assumption that is in line with gravity model explanations of trade (Foroutan & Pritchett, 1993).

The interactions of dummy variables with trade volumes are still signed correctly and results are significant enough to reject the null hypothesis. We can therefore concluded that both island- as well as landlocked status are having a tenable negative effect on regional trade.

Controls

Expanding on observations presented in Table 6.1 and 6.3, Table 6.5 reports result for the interactions between competitiveness and trade volumes if we control for the influence of each co-founder outlined in Chapter 5.

If the influence of Human Development in the exporting nation (1), infrastructure score levels of the exporter (2), GDP-per-capita in the exporting economy (3) and the net inflow of Foreign Direct Investment into the exporting economy is accounted for, the importance of competitiveness as an explanation for regional trade flow is further reduced.

TABLE 6.5: Regression Table 5 - Controls for HDI (1), GDP-per-capita (Ex.) (2), Infrastructure (Ex.) (3) and %-FDI inflow (4)

Variables	No controls Exports***	(1) Exports***	(2) Exports***	(3) Exports***	(4) Exports***
GCI	40.599	39.4	6.566	40.158	36.506
	(27.630)	(28.026)	(27.570)	(27.653)	(28.023)
Constant	20.767	36.161	24.898	-40.514	32.304
	(102.867)	(105.929)	(100.875)	(100.875)	(103.713)
Observations	1242	1172	1242	1242	1242
R-squared	0.06	0.05	0.03	0.06	0.04
Country FE	YES	YES	YES	YES	YES

Standard errors in parentheses
** $p < 0.05$ * $p < 0.1$

*** in million US$

The results reaffirm that competitiveness by itself is not a causal determinant of regional trade volumes if we account for three out of four defined confounders.

The insignificant nature of findings for competitiveness scores remains persistent when joined regressed on trade volumes with HDI and Infrastructure score. However, both variables barely change the results of the coefficient for competitiveness when controlled for meaning that while HDI and infrastructure both have an strong affect on competitiveness scores as shown by the previous regression in Table 6.3, their overall effect in confounding causal interaction between competitiveness and trade volumes would have been very limited - if significance levels would allow us to presume the existence of such a causal interaction.

The strong mediating effect of per-capita income in the exporting nation is again reaffirmed and has depressed the coefficient for competitiveness significantly. Within the regression equation, GDP exerts statistically significant influence on regional trade volumes inline with estimates obtain in Table 6.1. This is further proof that the effectiveness of Regional Economic Communities should depend more on the existence of strong regional economies then on the presences of highly competitive ones in the Community.

Accounting for in- and outflows of FDI, operationalised as the sum of in- versus outflows as percentage to a country's total GDP, actually increases the influence of competitiveness and produces significant results in the interaction between dependent and main independent variable. This is a surprising interaction, as we would

expect the the influence of competitiveness on trade volume to be reduced if another variable, strongly considered to be also positively associated with regional trade volumes. If controls for the rate of inflations - which have been included, as explained in the previous Chapter, to account for inflation of reported trade values due to an expanding money stock- in the exporting countries are dropped, the interaction vanished and instead controls for FDI inflows show that the variable has a strong effect on the coefficient for competitiveness, suggesting that the confounding influence of FDI was present as expected in the theoretical part of this paper.

Effects of the SADC Free Trade Area

If interaction before and after the introduction of a Free Trade Zone are taken into account, interactions as detailed in Table 6.6 present themselves. The time frame of analysis has been divided into two time sets, 2005-2009 and 2010-2016 and correspond to the years before and after a Free Trade Zone was fully developed in the area[3]. Interesting to note is the marked difference in the influence of GCI scores for the exporter under the influence of a Free Trade Area. The variable is only of significance if such an area is in place and its coefficient is stronger than in the general country-model in Table 6.1 during the time period associated with a Free Trade Area. This would suggest that the general hypothesis, whereas countries could profit exponentially from free trade agreements in terms of their exported values if their industries are competitive enough, has some merit if we disaggregate the time frame under investigation.

TABLE 6.6: Regression Table 6 - Interactions between country specific variables and regional trade divided by time periods

	2005-2009			2010-2016		
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Exports***	Exports***	Exports***	Exports***	Exports***	Exports***
GCI	-22.942	-18.566	-15.512	85.997*	97.965*	58.673
	(38.659)	(27.483)	(28.703)	(47.531)	(53.313)	(56.313)
GDP per capita (Ex.)		0.126	0.124		0.037**	0.036**
		(0.007)	(0.008)		(0.007)	(0.008)
GDP per capita (Imp.)		0.004*	0.005**		0.000	-2.110
		(0.002)	(0.002)		(0.002)	(22.579)
HDI		-123.492**	-119.815**		-10.006	-12.670
		(30.726)	(30.635)		(25.703)	(25.764)
landldummy		-134.844**			-362.845**	
		(53.122)			(110.154)	
islanddummy		-238.345**			-605.844**	
		(59.033)			(126.637)	
Infrastructure		39.750	262.213**		-28.213	-39.715
		(35.432)	(89.354)		(39.100)	(45.187)
Constant		36.161*	-569.122**		70.535	-19.749
		(105.929)	(294.037)		(234.678)	(262.187)
Observations	594	534	534	638	638	638
R-squared	0.04	0.14	0.05	0.04	0.15	0.02
Country FE	YES	NO	YES	YES	NO	YES

Standard errors in parentheses
** p < 0.05 *p < 0.1
*** in million US$

The effect of the export's GDP-per-capita levels as described above is also present in this regression model, albeit only with a free trade area in place, suggesting, that countries with strong per-capita income should see their regional trade volumes more strongly increased than the smaller economies in the region.

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[3] The Free Trade Zone was agreed upon in 2008 but negotiations on tariff exemptions only concluded in 2010

The negative effect of the landlocked- and island-dummy is significant at the .05-level for both periods and has a large negative interaction with regional trade. The negative interaction, as already shown in the analysis of the aggregated time frame in Table 6.4, is again larger for the island dummy than for landlocked countries. Interestingly, the adverse effect size gets larger under the Free Trade agreement for both countries - nearly tripling the value of the coefficient in both cases.

It has often been argued, for example by Ben Barka (2012) and the United Nations Economic Commission for Africa (2016), that the adverse effects Africa's geography has had one many countries, their opportunities for trade being blocked by either being landlocked or an island, could be overcome by establishing free trade areas. The underlying assumption was that landlocked countries or countries without decent opportunities for shipping goods could make use of infrastructure in other nations to facilitate their own trade. Fawole (2005) was critical of this notion and argued that countries where often protective of capacity at port facilities and would push for policy barring foreign exporters from using these facilities for free.

Since total value of regional trade, not regional trade shares as a percentage of global trade acts as the dependent variable in this case, these results might be interpreted as proof that the positive role of Free Trade Zones for landlocked and island-locked nations has been greatly overstated and might actually work in reverse. A possible explanation would be, that countries which a not handicapped by their geography found it even easier to engage with trade among each other and could make full usage of price effects from eliminated tariffs to claim further market shares for imported goods in other nations. On the other hand, countries which are disadvantaged by their geography would still have to sell their products at a premium due to more demanding transportation channels. In the absence of tariffs, these "logistic premiums" would then acutally increase the price-delta between landlocked- and islandlocked countries and other exporters, crowding the form out of the market on a price-basis.

6.2 Summary

Graphical and statistical interactions between country-specific indicators, Competitiveness scores and the value of regional trade volumes yielded three main results. If these are ordered according to the significance for the current debate on intra-regional trade, with the most significant finding being reported last, we can answer the postulated hypothesis from Chapter 4 in the following order.

First, GCI scores depend, as conceptualised by the World Economic Forum and tested in this research, critically on non-economic characteristic of African nations. The analysis suggests that the most important determinants of Competitivness score values are the presence of good governance indicators as well as high levels of Human Development. The interactions between these variables and competitiveness

are both strong and highly relevant for overall scores after consideration for the high R-squared values. This confirms H3 as formulated in Chapter 4.

Second, H2 presumed that competitiveness was a factor in determining regional trade volumes regardless if a Free Trade Zone was present or not due to the theorised relationship between competitiveness, price levels and demands for imports in a region. This assumption did not hold. As Table 6.6 showed, the effects of competitiveness strongly depended on the presence of a Free Trade Zone to statistically significant and correctly signed in their interaction with trade volumes. This suggests that part of the causal channel, especially with regard to the opportunities to compete with global exporters for import-shares with partner-countries within a region opened to already competitive countries in an economic community and stimulated by further downward pressure on prices for exported commodities after the elimination of tariffs, might have been theorised correctly.

Lastly, and addressing the main hypothesis 1, no direct significant effect of competitiveness on regional trade volumes was found by the analysis. While the effect of competitiveness on trade volumes was robust against controls for Human Development, Infrastructure and - to the most part FDI inflow-, GDP-per-capita was frequently more significant as an indicator for the effect of country-specific economic performance on regional trade volumes.

This reaffirms the importance of income levels by country for regional trade volumes as commonly depicted by Gravity Models. The results call into question the direction of the causal relationship between economic performance and competitiveness brought forward by the World Economic Forum.

The organisation argued that increasing competitiveness was a way for countries to boost their economic development, since higher competitiveness would result in higher productivity which, in turn, would stimulate exports. Critics of the GCI have argued that this assumption might encourage developing countries to comply with policies in line with boosting its GCI scores without considering the usefulness of these innovations for their current development stage. The effect of GDP-per-capita as presented here suggests that these countries might indeed be better off by concentrating on boosting their overall income levels and not focus merely on GCI scores if they wanted to grow their regional exports. Higher income could then, in turn, be used to increase educational and healthcare spending, through Human Development, would over time also effect competitiveness scores.

Chapter 7

Conclusion

The main motive of this paper was to investigated what role country-specific variables play for intra-regional trade within the Southern African Development Community.

Under the research question "Does country-specific competitiveness affect regional trade volumes within SADC?" a strong focus was placed on the role of competitiveness as reported by the World Economic Forum's Global Competitiveness Index.

A major strength of the approach presented here was the conceptualisation of the dependent and independent variable, trade volumes and competitiveness, as the basis for this study. A thorough discussion on both the Competitiveness Index as well as methods to expand on limited trade volumes reported to ComTrade was provided, which transcends previous literature.

The investigation into regional trade flows by employing competitiveness as a proxy for national productivity and subsequent price levels of exports forms a creative and novel approach to conducting research in regional trade relationships and expands the use of the Competitiveness Index beyond previous research designs.

The elaborate channel, with two unobserved mediators between independent and dependent variable, might, at the same time, have been a weakness, as the channel became difficult to incorporate fully into the analysis.

The regression analysis found that the main hypothesis of this paper, presuming a causal interaction between competitiveness scores and trade volumes within the Southern African Development Community, had to be rejected. Positive and statistically significant effects of the independent on the dependent variable as theorised in the conceptualisation of the research were only present if control variables and fixed effects were discounted. Therefore, based on the design employed by this research, it can be concluded that country-specific competitiveness as measured by the Global Competitiveness Index does not effect regional trade volumes within SADC in a statistically significant way. This finding is robust for both the time period predating as well as following the establishment of a Free Trade Zone, once accounting for all adequate controls.

The reasons for the absence of significant effects might lie with the largely unobserved interactions between competitiveness and productivity levels as well as with

competitiveness and market prices of exported commodities. Suggestions of how to amend the study in order to better account for both factors are presented at the end of the Chapter.

On the other hand, the research was able to reaffirmed the importance of per-capita income levels in individual economies as important determinants of trade volumes on the regional level. The effect furthermore strongly influenced the coefficient for interactions between competitiveness and trade volumes. If controlling for GDP-per-capita when regressing the effect of competitiveness on trade volumes, the results suggest that even if statistically significant interactions could be found for the interaction between main dependent and independent variable by alternation the research design, effects of competitiveness on trade volumes would mainly be running through a country's level of income.

While the World Economic Forum affirms that the Global Competitiveness Index depends critically on institutional characteristics, the research proved this relationship in a systematic way. Testing interactions of specific indicators with overall competitiveness scores has not been conducted systematically in the academic assessment of the Index and the findings are therefore an important information for policy makers, interested in improving score values in African countries.

As a set of recommendations, the paper would accordingly affirm that countries eager to grow their regional trade volumes should discard policy reforms aimed at increasing their competitiveness as conceptualised by the World Economic Forum. Instead, policies directly targeted at increasing national income growth should take priority for developing countries eager to increase their regional trade volumes. If, however, nation's are interested in increasing their competitiveness score values, the best policy choices would be represented by measures strengthening ownership protection and indicators of good governance.

7.1   Future Research

Considering the limited data availability for this study, both in terms of ComTrade sets as well as with regard to Competitiveness scores at the present date, a revaluation of the study's finding for the same set of countries in the coming years and with more data available could be interesting as well.

A number of extensions to the design presented would also be useful to increase the scope of obtained information. First, following the suggestions discussed in the theoretical part of this paper, gathering sector or at least commodity specific data, thereby disaggregating the variable "Trade Volume", as done by Stirböck (2006) would provide a more nuance understanding of effects on individuals value chains and factor inputs. Furthermore, computing price elasticities for the exported commodities in the importing countries are likely increase the understanding to which degree the theoretical channel, whether competitiveness works through price effects

in domestic vs. foreign production, holds true. Furthermore, this approach would be suitable to investigate the role of primary resources in regional trading.

The extensive reliance on African economies on the export of primary resources such as oil, copper or platinum might offer an alternative explanation for low trade volumes between African countries. The presumed rational here would be that exports of primary exports are mainly being exported to industrialised countries without large raw material reserves while African countries, who often possess relatively large reserves, often more than domestic industries require, would therefore not be interested in importing said materials from other African economies.

Exports and imports classifications according to their nature as a commodity are already obtainable via ComTrade, whereas reporting on price is not as easily to find for many SADC countries over sufficient time periods to warrant good results.

Another interesting approach would be combining variable choices from this paper, especially competitiveness measures, with designs of Gravity Models. Since these designs already trace regional trade shares, an integration of Competitiveness scores should not present a major problem. Such a design could also further investigate the interactions between causality flows between competitiveness scores and national income levels.

Beyond the realm of trade theory, more work on the validity and methodological soundness of measures of competitiveness would be desirable. In a time of excess information, decision-makers turning to readily obtainable indices such as the Global Competitiveness Index should be aware of associated potentials – but also all limitations with the presented results. The Global Competitiveness incorporates a broad set of tacit assumptions which, if proven wrong, quickly erode the quality of the index.

In terms of descriptive data, the SADC community seems to be on a good way when it comes to increasing regional trade volumes, with major gains having been made in the last decade. A close interdisciplinary study of the zones as a whole, of which interactions between competitiveness and trade form a small part, has the potential to yield valuable insights into who Africa might be able to leverage its long dormant potential for growth and provide a better livelihood to all of the continents citizens in the future.

Appendix A

Appendix

FIGURE A.1: Weight of individual indicators under different levels of economic development for computation of the GCI score
Source: World Economic Forum, GCR 2016, p.39f.

Weight (%) within immediate parent category

BASIC REQUIREMENTS 20–60%

1st pillar: Institutions..25%
A. Public institutions..75%

1. Property rights...20%
 1.01 Property rights
 1.02 Intellectual property protection$^{1/2}$

2. Ethics and corruption 20%
 1.03 Diversion of public funds
 1.04 Public trust in politicians
 1.05 Irregular payments and bribes

3. Undue influence...20%
 1.06 Judicial independence
 1.07 Favoritism in decisions of government officials

4. Public-sector performance 20%
 1.08 Wastefulness of government spending
 1.09 Burden of government regulation
 1.10 Efficiency of legal framework in settling disputes
 1.11 Efficiency of legal framework in challenging regulations
 1.12 Transparency of government policymaking

5. Security..20%
 1.13 Business costs of terrorism
 1.14 Business costs of crime and violence
 1.15 Organized crime
 1.16 Reliability of police services

B. Private institutions 25%

1. Corporate ethics 50%
 1.17 Ethical behavior of firms

2. Accountability 50%
 1.18 Strength of auditing and reporting standards
 1.19 Efficacy of corporate boards
 1.20 Protection of minority shareholders' interests
 1.21 Strength of investor protection*

2nd pillar: Infrastructure...25%

A. Transport infrastructure...50%
 2.01 Quality of overall infrastructure
 2.02 Quality of roads
 2.03 Quality of railroad infrastructure^l
 2.04 Quality of port infrastructure
 2.05 Quality of air transport infrastructure
 2.06 Available airline seat kilometers*

B. Electricity and telephony infrastructure 50%
 2.07 Quality of electricity supply
 2.08 Mobile telephone subscriptions*$^{1/2}$
 2.09 Fixed telephone lines*$^{1/2}$

3rd pillar: Macroeconomic environment 25%
 3.01 Government budget balance*
 3.02 Gross national savings*
 3.03 Inflation*^{l}
 3.04 Government debt*
 3.05 Country credit rating*

4th pillar: Health and primary education.......................25%
A. Health 50%
 4.01 Business impact of malaria^k
 4.02 Malaria incidence*^{k}
 4.03 Business impact of tuberculosis^k
 4.04 Tuberculosis incidence*^{k}
 4.05 Business impact of HIV/AIDS^k
 4.06 HIV prevalence*^{k}
 4.07 Infant mortality*
 4.08 Life expectancy*

B. Primary education 50%
 4.09 Quality of primary education
 4.10 Primary education enrollment rate*

EFFICIENCY ENHANCERS 35–50%

5th pillar: Higher education and training...................17%
A. Quantity of education 33%
 5.01 Secondary education enrollment rate*
 5.02 Tertiary education enrollment rate*

B. Quality of education 33%
 5.03 Quality of the educational system
 5.04 Quality of math and science education
 5.05 Quality of management schools
 5.06 Internet access in schools

C. On-the-job training 33%
 5.07 Local availability of specialized research and training services
 5.08 Extent of staff training

6th pillar: Goods market efficiency 17%
A. Competition 67%

1. Domestic competition ....variable^l
 6.01 Intensity of local competition
 6.02 Extent of market dominance
 6.03 Effectiveness of anti-monopoly policy
 6.04 Effect of taxation on incentives to invest
 6.05 Total tax rate*
 6.06 Number of procedures required to start a business*^{m}
 6.07 Time required to start a business*^{m}
 6.08 Agricultural policy costs

2. Foreign competition variable^l
 6.09 Prevalence of trade barriers
 6.10 Trade tariffs*
 6.11 Prevalence of foreign ownership
 6.12 Business impact of rules on FDI
 6.13 Burden of customs procedures
 6.14 Imports as a percentage of GDP*^{n}

B. Quality of demand conditions 33%
 6.15 Degree of customer orientation
 6.16 Buyer sophistication

7th pillar: Labor market efficiency 17%
A. Flexibility 50%
 7.01 Cooperation in labor-employer relations
 7.02 Flexibility of wage determination
 7.03 Hiring and firing practices
 7.04 Redundancy costs*
 7.05 Effect of taxation on incentives to work

B. Efficient use of talent 50%
 7.06 Pay and productivity
 7.07 Reliance on professional management^h

 7.08 Country capacity to retain talent
 7.09 Country capacity to attract talent
 7.10 Female participation in labor force*

8th pillar: Financial market development....................17%
A. Efficiency 50%
 8.01 Availability of financial services
 8.02 Affordability of financial services
 8.03 Financing through local equity market
 8.04 Ease of access to loans
 8.05 Venture capital availability

B. Trustworthiness and confidence 50%
 8.06 Soundness of banks
 8.07 Regulation of securities exchanges
 8.08 Legal rights index*

9th pillar: Technological readiness 17%
A. Technological adoption 50%
 9.01 Availability of latest technologies
 9.02 Firm-level technology absorption
 9.03 FDI and technology transfer

B. ICT use 50%
 9.04 Internet users*
 9.05 Broadband Internet subscriptions*
 9.06 Internet bandwidth*
 9.07 Mobile broadband subscriptions*
 2.08 Mobile telephone subscriptions*$^{1/2}$
 2.09 Fixed telephone lines*$^{1/2}$

10th pillar: Market size..17%
A. Domestic market size 75%
 10.01 Domestic market size index*^{o}

B. Foreign market size 25%
 10.02 Foreign market size index*^{p}

INNOVATION AND SOPHISTICATION FACTORS.........5–30%

11th pillar: Business sophistication 50%
 11.01 Local supplier quantity
 11.02 Local supplier quality
 11.03 State of cluster development
 11.04 Nature of competitive advantage
 11.05 Value chain breadth
 11.06 Control of international distribution
 11.07 Production process sophistication
 11.08 Extent of marketing
 11.09 Willingness to delegate authority
 7.07 Reliance on professional management^h

12th pillar: R&D Innovation..50%
 12.01 Capacity for innovation
 12.02 Quality of scientific research institutions
 12.03 Company spending on R&D
 12.04 University-industry collaboration in R&D
 12.05 Government procurement of advanced technology products
 12.06 Availability of scientists and engineers
 12.07 PCT patent applications*
 1.02 Intellectual property protection$^{1/2}$

FIGURE A.2: GCI-Subindex weights and associated income thesholds
for stages of economic development
Source: World Economic Forum, GCR 2016, p.38

	STAGE OF DEVELOPMENT				
	Stage 1: Factor-driven	Transition from stage 1 to stage 2	Stage 2: Efficiency-driven	Transition from stage 2 to stage 3	Stage 3: Innovation-driven
GDP per capita (US$) thresholds*	<2,000	2,000–2,999	3,000–8,999	9,000–17,000	>17,000
Weight for basic requirements	60%	40–60%	40%	20–40%	20%
Weight for efficiency enhancers	35%	35–50%	50%	50%	50%
Weight for innovation and sophistication factors	5%	5–10%	10%	10–30%	30%

Note: See individual country/economy profiles for the exact applied weights.
* For economies with a high dependency on mineral resources, GDP per capita is not the sole criterion for the determination of the stage of development. See text for details.

FIGURE A.3: Result of the Hausman-specification test for dataset 1;
interactions between main dependent and independent variable

```
. xtreg regEx GCI gdpcap HDI, re

Random-effects GLS regression                   Number of obs      =        130
Group variable: countrynum                      Number of groups   =         13

R-sq:                                           Obs per group:
    within  = 0.1160                                          min =          5
    between = 0.0103                                          avg =       10.0
    overall = 0.0144                                          max =         11

                                                Wald chi2(3)       =       9.14
corr(u_i, X)    = 0 (assumed)                   Prob > chi2        =     0.0275
```

regEx	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
GCI	-1.04e+09	1.25e+09	-0.83	0.405	-3.49e+09	1.41e+09
gdpcap	376977.8	220365.5	1.71	0.087	-54930.61	808886.2
HDI	5.63e+09	8.82e+09	0.64	0.523	-1.17e+10	2.29e+10
_cons	9.74e+08	3.98e+09	0.24	0.807	-6.83e+09	8.78e+09
sigma_u	2.790e+09					
sigma_e	1.901e+09					
rho	.68288399	(fraction of variance due to u_i)				

```
.
. hausman fixed
```

	—— Coefficients ——			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	.	Difference	S.E.
GCI	-2.09e+09	-1.04e+09	-1.05e+09	3.96e+08
gdpcap	543095	376977.8	166117.2	100968.2
HDI	1.44e+10	5.63e+09	8.72e+09	3.28e+09

```
                b = consistent under Ho and Ha; obtained from xtreg
        B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

            chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                    =         12.18
            Prob>chi2 =      0.0023
```

FIGURE A.4: Result of the Hausman-specification test for dataset 2; interactions between main dependent and independent variable

```
. xtreg regEx GCI gdpcap HDI, re

Random-effects GLS regression                  Number of obs     =        130
Group variable: countrynum                     Number of groups  =         13

R-sq:                                          Obs per group:
    within  = 0.1160                                       min =          5
    between = 0.0103                                       avg =       10.0
    overall = 0.0144                                       max =         11

                                               Wald chi2(3)      =       9.14
corr(u_i, X)   = 0 (assumed)                   Prob > chi2       =     0.0275
```

regEx	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
GCI	-1.04e+09	1.25e+09	-0.83	0.405	-3.49e+09	1.41e+09
gdpcap	376977.8	220365.5	1.71	0.087	-54930.61	808886.2
HDI	5.63e+09	8.82e+09	0.64	0.523	-1.17e+10	2.29e+10
_cons	9.74e+08	3.98e+09	0.24	0.807	-6.83e+09	8.78e+09

sigma_u	2.790e+09					
sigma_e	1.901e+09					
rho	.68288399	(fraction of variance due to u_i)				

```
.
. hausman fixed
```

	—— Coefficients ——			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	.	Difference	S.E.
GCI	-2.09e+09	-1.04e+09	-1.05e+09	3.96e+08
gdpcap	543095	376977.8	166117.2	100968.2
HDI	1.44e+10	5.63e+09	8.72e+09	3.28e+09

```
                    b = consistent under Ho and Ha; obtained from xtreg
        B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

              chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                      =        12.18
            Prob>chi2 =       0.0023
```

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