Identifying regional economic hubs in Africa

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AGADIR	Arab-Mediterranean Free Trade Area
AML-CFT	anti-money laundering and combating the financing of terrorism
BoG	Bank of Ghana
CBK	Central Bank of Kenya
CMA	Common Monetary Area
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECOWAS	Economic Community of West African States
FDI	foreign direct investment
FSP	financial service provider
GDP	gross domestic product
KNBS	Kenya National Bureau of Statistics
IFC	international financial centre
IFFs	illicit financial flows
IMF	International Monetary Fund
OFC	offshore financial centre
PAFTA	PanArab Free Trade Area
RFC	regional financial centre
SADC	Southern African Development Community
SSA	sub-Saharan Africa
tralac	Trade Law Centre
UNCTAD	United Nations Conference on Trade and Development

1. Introduction

Regional economic hubs playing an important role in economic development. Regional economic hubs in Africa serve as important gateways and channels through which trade, development aid, official and private sector capital[1] can flow into integrated countries, otherwise known as their spoke countries. Regional economic hubs typically have more developed financial markets, a more developed logistics network and more favourable or developed regulatory environments than their peers. As a result, these hub countries have the potential to further unlock development in a region.

Hubs able to influence policymaking, regulation and compliance practices. The key role regional economic hubs play in economic development affords them economic and political influence, which can be used to help shape policymaking, regulation and compliance practices in spoke countries. Given this, hub economies are increasingly seen as key focal points for more effective regional initiatives, and the relationships between hub and spoke economies are critical to understand in the context of regional social and economic development and the impact on individual welfare.

Gap remaining in identification and analysis of regional economic hub systems. Despite the importance of hub economies, very little has been published on the identification and analysis of hub systems in sub-Saharan Africa (SSA). To progress research, improve the effectiveness of regional interventions, and to get better perspectives on the expansion prospects and limitations of the economic development of hub economy systems, it becomes necessary to define the types of hub economies in SSA and to identify them through empirical and transparent analysis. This understanding will allow for development initiatives to be designed around the different hub concepts, improving economic inclusion outcomes when compared to isolated and non-iterated initiatives.

Better understanding of concept of regional economic hub. This note forms the second part of a two-note series. The focus here is on exploring the concept of a regional economic hub, exploring how such hubs are formed and outlining the methodology that can be used to identify current and potential future hubs. This can serve as guidance to local and multinational financial service providers (FSPs) and the international development community to consider the different types of hub systems into their strategies and mechanisms that can be used to better predict specific types of growth patterns in different contexts. The first note in this series explores the role that hub economies can play in addressing the interrelated challenges of de-risking and illicit financial flows (IFFs) in Africa.

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1 Official capital flows include official development assistance and aid in the form of grants or loans, while private capital flows consist of bank and trade-related lending, foreign direct investment, portfolio flows and workers' remittances (Mhlanga & Christy, 2006)

The structure of the paper is as follows:

- **Section 2** explores and defines the concept of a regional economic hub, how such hubs are formed and the role they play in economic development and policy-shaping.
- **Section 3** provides a methodology for identifying relevant regional economic hubs in Africa.
- **Section 4** concludes on the key messages from the note.

2. Defining regional economic hubs

To understand the role that regional economic hubs play and how to identify them, it is important to first define what a regional economic hub is and what forms it can take. This understanding will form the basis used to identify relevant hubs in Africa in the proceeding chapters of the note.

What is a regional economic hub?

"Economic hub" as a broad concept. In its broadest sense, an economic hub is a city or country that serves as network aggregation point for a region. According to network theory, network aggregation points represent a confluence of different factors such as trade lines, trade proximity, information and communication infrastructure, financial networks, social networks and logistics infrastructure (Graham, 2015; Bernard & Moxnes, 2017). The combination of these factors makes the hub the "economic heart" of the region. For this note, we are interested in economic hubs that are large enough to have regional influence in terms of development, policymaking and compliance. We define a regional economic hub as "a regional centre that plays a significant role in the economy of the broader region". In the rest of this note, a "hub" country means the major economy influencing regional peers, while a "spoke" country is a regional country being influenced by the hub.

Well-established in economic literature. There exists sound economic literature to explain how economic hubs are formed. Paul Krugman's theory on geography and trade describes how individual producers tend to locate themselves where demand is large or where supply of inputs is particularly convenient (Krugman, 1991). The gravity model of international trade explains how hub countries are important for regional trade, as smaller economies will depend on these large economies for trade activity (Tinbergen, 1962). According to network theory, as hubs develop, they become network aggregation points, which are a confluence of factors such as trade lines, trade proximity, information and communication infrastructure, financial networks, social networks, and logistics infrastructure. This increased connectivity helps to bolster cooperation between countries, which can help to facilitate trade and drive economic growth (Buchan, Fatas and Grimalda,2012). Finally, regional economic integration theory can be used to explain how linkages between an economic hub and its surrounding regions are formed, which in turn plays a role in the level of influence a hub can hold in terms of policy-setting and compliance[2]. For more detail on these economic theories, see Table 4 in the Annexure.

Different types. Different types of hubs can exist within the broad definition of a regional economic hub, namely:

- **Financial hubs** can be understood as a city, region or country where financial service providers (FSPs) are clustered and where a large volume of financial transactions are coordinated and cleared (Cassis and Bussiere, 2005). According to the International Monetary Fund (IMF), these hubs can be classified into three types (IMF,2000): firstly,

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2   Regional influence is important, as it allows a country the ability to shape and put in place economic and political policies in a geographic region, which in turn has implications for the nations situated in the area.

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international financial hubs, which are large, international, full-service centres with advanced settlement and payments systems, such as New York or London; secondly, regional financial hubs, which intermediate funds in and out of their region such as Hong Kong and Singapore; thirdly, offshore finance hubs, which tend to be lightly regulated and provide tax advantages, such as the Cayman Islands.

- **Trade hubs** are defined by the role the hub country plays in facilitating trade in the region. For instance, an export-destination hub refers to a country that is the major export destination for most of the other countries in the region. On the other hand, an import-source hub refers to a country which many other countries rely on as their major source of imports (Huang et al, 2018). A trade hub can also be viewed as an area where some trade logistics take place, such as the beneficiation of goods or where goods are swapped and re-exported, rather than a terminal that simply facilitates the re-exportation of one good – for example a country that just re-exports oil and coal without doing beneficiation.

- **Industry hubs** arise because of a combination of different factors, which include location, access to human capital, natural resource endowments, infrastructure and logistics networks as well as the regulation and policy in place. The mix of these different factors can lead to the development of specialist hubs, such as automotive hubs and technology hubs. For example, Silicon Valley in San Francisco is well known as an international "tech hub", while Stuttgart in Germany is well known as an automotive manufacturing hub.

Some hybrid hubs, some specialist. Some hubs exhibit a mixture of the different characteristics of the above-mentioned financial, trade and industry hubs. These can be referred to as "mixed hubs". For example, Johannesburg is an economic hub in South Africa as well as being a financial hub more specifically. Shanghai can be viewed as a mixed hub due to the level of regional financial and trade activity that takes place there[3]. On the other hand, some hubs are specialist hubs, for example where they have highly advanced financial sectors that facilitate regional financial flows, yet their economies are relatively small compared to others in the region – for example, Mauritius.

What is their role in economic development and policy-setting?

It is clear from the typology above that regional economic hubs can exist in various forms. We now turn our attention to investigating the role they play in economic development and how they can influence policymaking, regulation and compliance practices in spoke countries.

Hubs trade significantly within regional peers. Given that hub countries are generally more developed than the spoke countries within their region, spoke countries tend to conduct much of their trade within the regional hub. Spokes may trade more with hubs due to the need to access trade and economic facilities that otherwise may not be available, e.g. port facilities, which gives them access to global markets. As such, the hubs are important engines for economic growth of spokes. This is more pronounced where regions are more economically integrated, such as within free-trade zones. In addition, increased international trade can generate economic growth by facilitating the diffusion

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3   Shanghai was the world's busiest container port in 2018, handling 42.01 million twenty-foot equivalent units, up from 4.4% in 2017. For more information see: **https://theloadstar.com/shanghai-still-worlds-busiest-container-port-but-singapore-is-climbing-back**. In addition, Shanghai ranked as one of the top five financial centres in the world according to the March 2019 edition of the Global Financial Centres Index. For more information see: **https://www.shine.cn/biz/finance/1903141199/e**

of knowledge and technology from the direct import of high-tech goods (Barro & Sala-i-Martin, 1997; Baldwin et al, 2005; Almeida & Fernandes, 2008).

Facilitating inflows by expanding financial depth. The role of regional hubs to channel capital from developed markets into developing economies is well established in literature (Obstfeld, 2007; Adam et al., 2015). Hubs help to facilitate capital flows by "mobilising foreign direct investment, facilitating private equity funds and intermediating funds from development finance institutions" (Hatayama, 2019). A hub like Mauritius, for example, serves as a gateway for financial flows into SSA because of its favourable business and regulatory environment, which helps to attract capital flows from developed economies. Hubs therefore provide financial depth[4], which allows local companies to benefit from improved access to financial resources and to increase their leverage by having access to a range of financial instruments that would otherwise not have been available to them (Esen and Gokmenoglu, 2016).

Influencing policymaking, regulation and compliance practices. The role that hubs play as mediators of trade and capital flows affords them economic and political strength, which can be used to shape the action of spoke countries. This influence can help to shape policy and regulation within a region, for instance through supervisory colleges where regulators in a hub country and those in its spoke countries jointly regulate and supervise financial institutions that have a regional presence[5]. The role can also be implicit, such as where spokes look to the example set by the hub in developing their regulatory frameworks, or where institutions in the region set their compliance practices based on that of the regional parent company. In this way, regulatory and compliance best practices from a hub spill over into a spoke country. In **Note 1** of this series, we explore how the influence hubs have in their respective regions affects AML-CFT regulation.

Spread of AML-CFT compliance practices. One area of compliance practice that is particularly relevant to this series of notes is anti-money laundering and combatting the financing of terrorism (AML-CFT) practices, as it shapes the de-risking activities of financial institutions, which in turn affect capital flows. When financial institutions from hub countries expand to other countries in the region, these multinational financial institutions either adopt their own group compliance standards in relation to AML-CFT or the host country's standards, whichever is the highest and does not contravene local regulations (stakeholder interviews, 2019). This means that a hub country's AML-CFT practices spread into spoke countries by way of the branches or subsidiaries of regional financial institutions. Such spill-over of AML-CFT best practice also happens when a regional player sets an example that other institutions emulate, or through public–private sector forums in which various actors discuss AML-CFT requirements with local regulators. The implications that this can have for broader development, especially in relation to de-risking and IFFs, are explored in detail in **Note 1** of this series.

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4 Financial depth captures the financial sector relative to the economy. It is the size of banks, other financial institutions, and financial markets in a country, taken together and compared to a measure of economic output.

5 In stakeholder interviews, the example of Kenya was used. If a Kenyan bank licensed by the Central Bank of Kenya (CBK) wants to operate in Tanzania, it must meet the requirements of the Bank of Tanzania, which gives them the licence in Tanzania. However, the Tanzanian licence must be concurrent with the primary regulator, the CBK. This can be challenging if the regulatory requirements in one country are very different from another. To ensure that the bank operates in line with both regulators, supervisors regularly utilise supervisory colleges, which enable supervisors to jointly regulate an FSP that has presence in more than one jurisdiction.

3. Identifying hubs in Africa

Combination of different economic indicators used to identify a hub. Having positioned the concept of regional economic hubs and the roles that hubs can fulfil, we now identify relevant hubs in Africa. The first step in identifying specific hubs on the continent was to identify indicators that, together, would determine whether a country is classified as a hub or not. These are outlined in Table 1 below.

Indicator	Description
Regional GDP country share	Country's percentage share of regional GDP
Ease-of-doing-business Index	Measures of business regulations and their enforcement in a country. A high score indicates that the regulatory environment is conducive to business operation.
Level of regional economic integration	Agreements, transactions and trade flows between groups of countries in a geographic region, to reduce and ultimately remove tariff and non-tariff barriers to the free flow of goods, services, and factors of production between each other.
Percentage share of intra-regional trade	Country's percentage share of regional trade considering its imports and exports
Logistics performance index	Reflects perceptions of a country's logistics based on efficiency of customs clearance process, quality of trade- and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach the consignee within the scheduled time.
Trade as a percentage of GDP	The ratio of exports and imports to GDP. It is an indicator of the relative importance of international trade in the economy of a country.
Share of regional inward FDI stock	Country's percentage share of the stock of regional inward foreign direct investment
Source of FDI for regional peers	Percentage share of outward foreign direct investment that flows to other countries
Stock of immigrants from within Africa	Stock of African migrants in the country

Table 1: List of possible hub indicators

Sources: UNCTAD, World Bank

Using these economic indicators, we conducted a data analysis on nine potential hub countries[6] in the Southern African Development Community (SADC), the East Africa Community (EAC), the Economic Community of West African States (ECOWAS), North Africa and Maghreb regions. The following summarises the main findings of our analysis on the data:

- South Africa, Kenya, Nigeria, and Egypt made up the large contribution to GDP in SADC, the EAC, ECOWAS and North Africa respectively.

- In terms of overall ease of doing business, Mauritius, Rwanda, Ghana and Morocco had the highest scores on the ease-of-doing-business index for their regions.

- South Africa stood out as the country with the highest level of regional economic integration due to the fact that it is part of the Common Monetary Area (CMA)[7], which represents a very high level of integration when compared to a free trade area or customs union, which other countries in our analysis tended to be a part of.

- With regard to making up the largest contribution to intra-regional trade, South Africa, Kenya, Côte d'Ivoire and Morocco were identified as important trade hubs in their regions.

- Overall, South Africa topped the World Bank's Logistics Performance Index in Africa, while Côte d'Ivoire, Rwanda and Egypt outperformed in their respective regions, highlighting a high degree of efficiency when it comes to moving goods across and within their borders.

- Seychelles, Guinea, Rwanda and Tunisia had the highest trade to GDP ratios in their respective regions, highlighting that their economies rely heavily on international trade.

- Data on the total inward FDI stock over the 2010–2018 period showed that South Africa, Tanzania, Nigeria and Egypt had the highest shares of inward FDI stock in their respective regions.

- Mauritius and South Africa channelled USD122 billion and USD13 billion worth of FDI into Africa in 2017, which is more than any other country in the region (Hatayama, 2019).

- South Africa (2.2 million) and Côte d'Ivoire (2.1 million) were the main receiving countries of intra-African international migrants in 2017.

Considering these findings, we developed a checklist that outlines how each of the nine countries scores relative to the hub criteria, which can be found in Table 2.

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6   Côte d'Ivoire, Egypt, Ghana, Kenya, Mauritius, Morocco, Nigeria, Seychelles and South Africa

7   The rand is legal tender in all CMA member states, while other currencies in the region are not legal tender in South Africa.

	South Africa	Mauritius	Seychelles	Kenya	Ghana	Nigeria	Côte d'Ivoire	Morocco	Egypt
Indicators									
Country share of regional GDP	✓✓✓			✓✓✓	✓✓	✓✓✓	✓	✓✓	✓✓✓
Ease of doing business	✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓	✓	✓✓✓	✓✓
Level of regional economic integration	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓✓	✓	✓✓
Share of intra-regional trade	✓✓✓			✓✓✓	✓	✓✓✓	✓✓✓	✓✓✓	✓
Trade logistics performance	✓✓✓	✓✓		✓✓	✓	✓	✓✓	✓✓	✓✓
Trade as a percentage of GDP	✓✓	✓✓✓	✓✓✓	✓	✓✓	✓	✓✓	✓✓✓	✓
Share of regional inward FDI stock	✓✓✓			✓✓✓	✓✓	✓✓✓	✓	✓✓	✓✓✓
Source of FDI for regional peers	✓✓✓	✓✓✓	✓✓✓	✓		✓		✓✓	
Stock of immigrants from within Africa	✓✓✓			✓✓	✓	✓✓✓	✓✓✓		

Table 2: Characteristics of potential hub countries

Note: The number of ticks in the table serve as an indication of the extent to which the country fulfils the characteristic of the indicator, with three ticks being the highest and no ticks indicating it does not fulfil the characteristic.

Figure 1 shows the main hubs in Africa that we have identified in our analysis along with their spokes. These hubs and spokes were identified based on the following findings:

- *South Africa: SSA-wide hub.* South Africa stands out as the sample country that meets most of the hub indicators. This is because of the significant share of regional GDP and intra-regional trade that South Africa commands, its good-quality trade logistics, ability to attract a large share of FDI stock, its deep level of integration and its draw as a destination for immigrants from within Africa. The nation plays an important role in the rest of SSA and is therefore a well-established financial and trade hub in the region.

- *Kenya, Nigeria and Morocco: hubs in their respective regions.* Kenya, Nigeria and Morocco each meets a number of criteria that suggest it serves as a hub in its respective region. Kenya is a regional economic powerhouse in the EAC region. It represents a significant share of intra-regional trade, is deeply integrated into the region, attracts a large share of FDI and is an important destination for migrants. In ECOWAS, Nigeria stands out due to the size of its economy, large share of intra-regional trade, ability to attract FDI and its appeal as a destination for migrants. In North Africa, Morocco's ease of doing business and importance to regional trade sets it up as hub among regional peers.

- *Mauritius and Seychelles: conduits of FDI.* While not seen as economic powerhouses relative to other hubs such as South Africa and Nigeria, Mauritius and the Seychelles act as hubs for the facilitation of financial flows into the rest of Africa (as shown by the arrows in Figure 1). This is largely down to the ease of doing business in these countries, their high level of integration into the region due to their memberships in regional groups such as SADC and Common Market for Eastern and Southern Africa (COMESA) and the way in which their regulatory regimes, including tax regulations, support business operations.
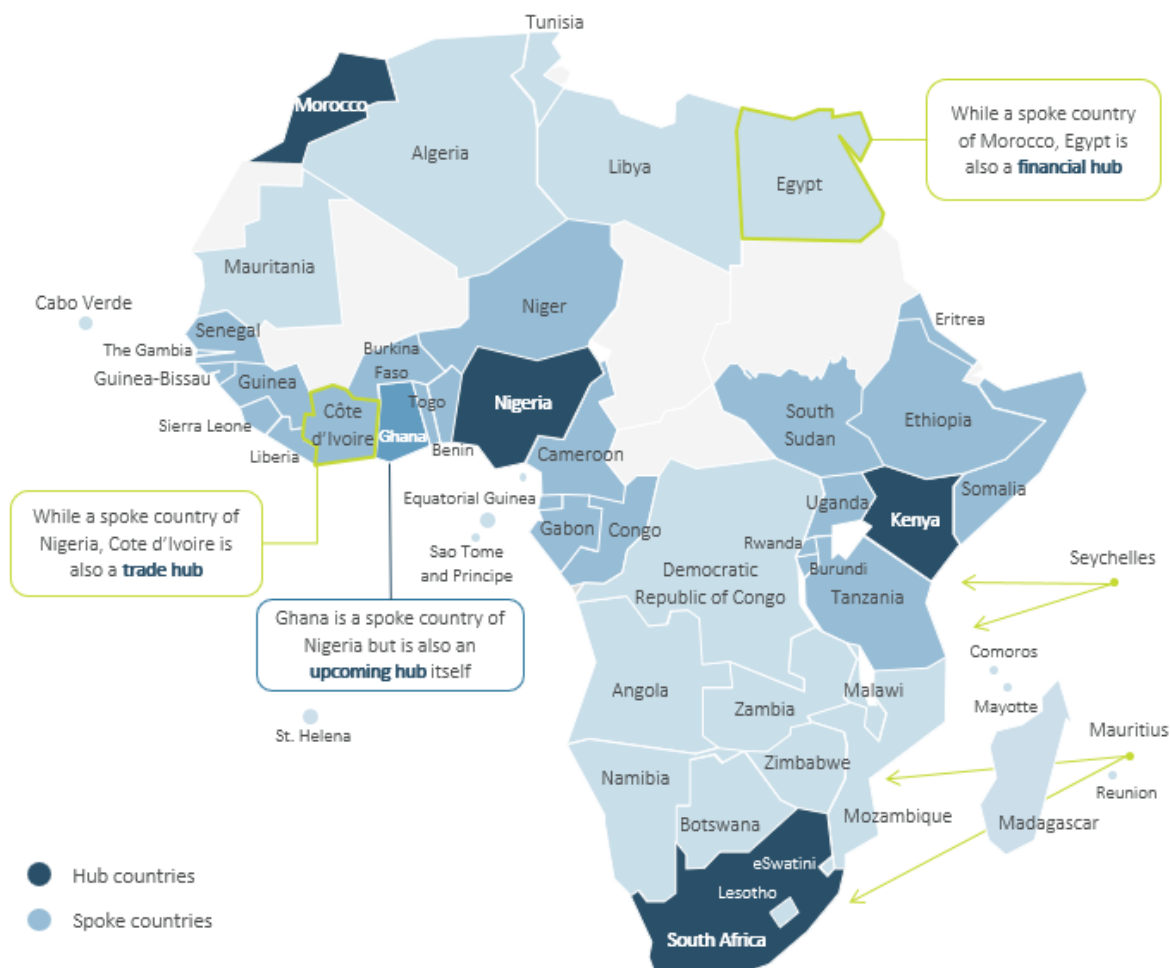

Figure 1: African hubs and their spokes

Note: Dark shaded countries are hubs and lighter shaded countries are spokes

Building onto our analysis, Table 3 below indicates the type of hub each of the countries are as well as the type of impact these countries have. This helps to clearly identify which countries are well established hubs and those that are emerging as certain types of hubs.

Country	Type of hub	impact
Côte d'Ivoire	Trade hub	• Well-connected trade hub due to linkages with its West African peers due to being part of ECOWAS Free Trade Area. Significant levels of ECOWAS trade routed through the country – 78% of intra-Africa exports and 71% of intra-Africa (Tralac,2019) • Important destination for migrants from other ECOWAS states, particularly Burkina Faso (1.4 million in 2019), Mali (520,000 in 2019) and Guinea (166,500) (UN, 2020)
Egypt	Financial hub	• Remains the largest FDI recipient in Africa in 2019, with a stock of USD126.6 billion (UNCTAD,2020) • Important source of FDI flows to North African countries. For instance, 33% of announced greenfield investment in North Africa was sourced from Egypt in 2019 (UNCTAD, 2020) • Growing fintech hub in the region as a result of the creation of regulatory sandbox by the Central Bank of Egypt[8] (CBE,2020)
Ghana	Mixed hub: • Trade hub • Financial hub	• Strong trade linkages due to being part of ECOWAS Free Trade Area. In 2018, 30% of Ghana's intra-Africa exports and 36% of intra-Africa imports were to and from other ECOWAS member states Key destination markets are Burkina Faso, Togo, Nigeria and Nigeria (Tralac, 2019) • Emerging as prime target for FDI in West Africa, with country being the biggest recipient of FDI in West Africa in 2018, with total inflows of about USD3 billion (UNCTAD, 2020) • Emerging as a fintech hub in West Africa with the establishment of a new fintech and innovation office by the Bank of Ghana and new digital financial services policy (BoG, 2020; Buruku, 2020)
Kenya	Mixed hub: • Trade hub • Financial hub • Industry hub	• Strong trade linkages and regional connectivity due to being a member of EAC and COMESA. Uganda is the main destination market for Kenya's intra-Africa exports (29% of Kenya's intra-Africa exports) along with Tanzania (14%), Egypt (9%), Rwanda (8%), Democratic Republic of Congo (7%) and Somalia (7%) (Tralac, 2019) • Contributes significantly FDI in East Africa, with 20% of announced greenfield investment in East Africa being sourced from Kenya in 2019 (UNCTAD, 2020) • Established fintech hub thanks to the high level of mobile money penetration • Strong industrial hub, with manufacturing sector contributing 10% to country's GDP (KNBS, 2020) • Key destination for migrants from other parts of East Africa, particularly from Somalia, Uganda and South Sudan

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8 Fintech start-ups and other businesses developing financial technologies (fintechs) can test their innovative applications in a live environment under the guidance and supervision of the central bank

Mauritius	Financial hub	• Conduit for investment into Africa. Between 2006 and 2020 FDI from Mauritius averaged USD65, of which about USD30 million was channelled to Africa (Bank of Mauritius, n.d.)
Morocco	Mixed hub: • Trade hub • Industry hub	• Trade linkages and regional connectivity due to being a member of PanArab Free Trade Area (PAFTA), and the Arab-Mediterranean Free Trade Area (AGADIR). Twenty-two percent (22%) of its intra-Africa exports are to other African countries that are also members of AGADIR and PAFTA (Tralac, 2019)
Nigeria	Mixed hub: • Trade hub • Financial hub	• Important trade hub due to linkages with its West African peers as a result of its membership in the ECOWAS Free Trade Area. Intra-ECOWAS exports account for about 45% of Nigeria's intra-Africa exports (Tralac, 2019). • Important source of capital flows for regional peers with over 90% of announced greenfield investment in West Africa originating from Nigeria in 2019 (UNCTAD, 2020)
Seychelles	Financial hub	• Seychelles serves as an import channel for capital flows in Africa. For example, in 2019, the country's inward FDI stock totalled USD3 billion (UNCTAD,2020). This capital is often routed through the country into markets in Africa.
South Africa	Mixed hub: • Trade hub • Financial hub • Industry hub	• Significant levels of trade routed through South Africa due to its membership in Southern African Customs Union (SACU) and SADC. For example, close to 26% of exports from South Africa are to the rest of Africa (Tralac,2019) • Influential monetary authority due to being part of Common Monetary Area • Important source of financial flows for the continent. For instance, 23% of announced greenfield investment in Africa was originated from South Africa in 2019 (UNCTAD, 2020). • Key automotive industry hub in Africa exporting to countries in Africa and Europe. The country's vehicle and component production accounted for 30% of South Africa's manufacturing output in 2018 (export.gov, 2019).

Table 3: Findings on types of hubs and their impact

Source: Authors' own

4. Conclusion

Regional economic hubs wielding significant influence and existing in various forms.
This note focused on defining what a regional economic hub is. This term can be used to refer to countries that play a significant role in the economy of the broader region through their influence on trade, capital flows, policymaking and compliance. These hubs also come in different forms, including financial hubs, trade hubs, industrial hubs and mixed hubs.

Economic indicators for identifying regional economic hubs. To identify key regional economic hubs in Africa, a combination of various economic indicators can be utilised. These indicators include: regional GDP country share, level of economic integration, share of intra-regional trade, the performance of their trade logistics, share of regional inward FDI stock, the percentage share of outward FDI that flows to other countries and the stock of migrants found in the country. An analysis of data on these indicators can be used to build up a checklist on how countries score relative to one another. This can be used to access which countries are currently hubs and what type of hubs they are, as well as which countries can be considered as spokes. In addition, this methodology can help to identify which countries have the potential to become hubs or specialised hubs in the future even if they are currently considered spokes.

South Africa fulfilling the most criteria, with Kenya, Nigeria and Morocco close behind.
Employing the methodology above, we found that South Africa stood out as the country that is meeting most of the hub indicators and therefore playing an important role as a hub for countries across Africa. Following behind were Kenya, Nigeria and Morocco, which each meets a number of the criteria, suggesting that they serve as key hubs in their respective regions. In addition, Mauritius and Seychelles were identified as influential hubs when it comes to the facilitation of financial flows into the rest of Africa.

Hubs able to help address financial integrity issues. Working in the hub countries with robust AML-CFT frameworks can help to harmonise or standardise inclusive integrity approaches across a region by leveraging the influence they wield when it comes to policymaking, regulation and compliance practices. This can help to address the interrelated challenges of de-risking and IFFs, which present a significant challenge for countries across Africa, particularly as the COVID-19 pandemic results in tighter financing conditions and reduced risk appetite by banks. **Note 1** of this note series explores these issues in more detail. It looks at how de-risking and IFFs in particular can be curbed through strengthening of hub economies in Africa. The topic of IFF from an financial integrity perspective is also discussed in detail in another study Cenfri published in 2018, which can be found **here**.

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Annexure

Stakeholder consultations

Name	Institution/role
James Edeh	Compliance Officer at Providence Bank Ghana
Jared Osoro	Director of research at Kenya Bankers Association (KBA)
Louis de Koker	Professor of Law at La Trobe University
John Symington	Founder and director at Compliance and Risk Resources
Raymond Paola	South African Reserve Bank (SARB)
Robert Bell	Founder of KlickEx – payments provider
William Artingstall	Director at a multinational bank
William Odoom	Head of Compliance at UBA bank Ghana

Table 4 provides an example of economic literature that can help explain how economic hubs are formed.

Regional economic hubs form through clustering of economic activity.	In Paul Krugman's analysis of the implications of geographical economics on regional development (1991), he explains how individual producers tend to locate themselves where demand is large or where supply of inputs is particularly convenient (Krugman, 1991). Doing so reduces the cost of transport as well as the cost of obtaining inputs for production. Furthermore, locating services nearby to consumers increases the demand for those services. As such, over time, economic hubs tend to form within regions and these hubs serve as key providers of services and goods.
Geographic distance and size can influence how trade hubs are formed.	The gravity model of international trade, which was pioneered by Jan Tinbergen (Tinbergen, 1962), states that bilateral trade between countries is proportional to their respective sizes and inversely proportional to the distance between them. This theory explains how neighbouring countries are likely to trade with each other and how large economies will trade significantly with other economies in the region. In particular, it explains how hub countries are important for regional trade, as smaller economies will depend on these large economies for trade activity.
Network effects further develop the role and importance of regional hubs.	As hubs develop, they become network aggregation points which are a confluence of factors such as trade lines, trade proximity, information and communication infrastructure, financial networks, social networks, and logistics infrastructure. For example, Buchan, Fatas and Grimalda (2012) argue that connectivity has greatly increased the prospects of cooperation between countries, which in turn has facilitated trade and economic growth, while Fleming et al (2007) argue that networks are defining features of "innovative" regions such as silicon valley.
Level of integration can play a role in the influence of hub countries.	The more integrated the hub is with its spoke countries, the more trade and transactions take place. Regional economic integration theory, which is concerned with the removal of all trade impediments between the participating nations and with the establishment of certain elements of cooperation and coordination between them, helps to explain that the influence of a hub can vary depending on the extent to which it is integrated with its peers (El Agraa, 1989). According to Balassa (1994), economic integration can take several forms, representing varying degrees of integration. These are identified as a free trade area, a customs union, a common market, an economic union and complete economic integration. Furthermore, integration theory states that shallow integration is epitomised by the free trade area model and is restricted to economic integration, while deep integration combines economic and political aspects as quoted by Campos et al. (2015). While the degree of influence that a hub has on spoke countries is not necessarily perfectly correlated with its degree of regional integration, the degree of integration has the potential to increase or decrease a hub's influence, depending on the context of each hub.

Table 4: Economic and theoretical basis of hubs

Sources: Balassa (1994), Buchan et al. (2012), Campos et al. (2015), El Agraa (1989) Fleming et al. (2007), Krugman (1991), Tinbergen (1962)