

## **Ports and their influence on the Economic Structure in Northwestern Africa: Development or Economic Growth? (1880-1939)**

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### **Abstract**

The current structure of transport infrastructures in northwest Africa preserves the path designed during the colonial occupation. Ports and railways were deployed in order to serve the colonial administration encouraging the growth of the cash-crop sectors (commodities) and the increased military and political control over these regions. This papers deals with the evolution of the West African Atlantic maritime facade on Morocco, Senegambia, Cape Verde and the Canary Islands from a comparative scope. We use the port traffics figures and the trade statistics to analyze the port concentration processes, the evolution of transport infrastructures and the expansion of the external trade. This paper offers an approximation on the configuration of the regional transport network during the colonial age (path-creation) and how it influenced the long-term economic development (path-dependence).

**Keywords:** Port networks, path-dependence, Northwest Africa, Colonialism

**JEL Codes:** L1, L9, N7, R4

### **1. Introduction.**

During the first globalization, in the eve of the imperialist expansion, the northwestern African economies experienced a significant growth supported on the development of the external trade. In this process, the investment on transport infrastructures was decisive. These ports must act as key tools for the economic development in these countries but the colonial extractive institutions obstructed this process.

Our paper deals with the idea that port services and infrastructures are essentials for the welfare of modern societies. Ports are an important part of the capital of a country and they articulate the functioning of the economy. So, it is important to make great investments to improve and maintain these infrastructures which could encourage the economic growth following the Simon Kuznetz parameters. In addition, optimal

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governance structures are required to increase port competitiveness from other ports. Empirical evidence shows that inclusive institutions facilitated the development of infrastructures and trade, benefiting most of the society (North, 1981). Despite these questions, Hoyle and Pinders (1992) claimed that there are ports which did not generate further economic impact on their hinterlands in a way where the local people welfare increased. Is this the case of the West African ports we propose in this paper?

Port infrastructures facilitate the exchanges among economic agents and they connected the inland territories with international forelands. In addition, ports were *natural monopolies* which promotes path-dependency processes, but they promote too the development of the productive sectors and elevate the aggregated demand and offer by the cheapening of cargo through the configuration of scale economies. The technological improvements on the transport (terrestrial and maritime) and telecommunication sectors during the first wave of globalization encouraged the introduction of peripheral territories (Global South) into the international economic dynamics (Suárez Bosa, 2014; Williams and Armstrong, 2012). These regions were specialist on the massive mineral and cash-crop productions (commodities) following ricardian parameters.

The academic literature has confirmed that there are little doubts that ports and railways were one of the key elements which transformed the regional economic structure under the colonial regime (Lakroum et al., 1992; Thomas, 1957). In the case of ports, they functioned as spearheads of the colonization and they join the regional productive structure with the international markets as has been noted by professor Olukoju (2004, p.4). They were dynamic centers where local-expatriate stakeholders, public powers, workers and external-international conditions interacted (Hoyle and Pinder, 1992). Hence, ports and their cities –or hinterlands- focused the investments of the colonial administration. These cities were the center of the colonial administration model, mainly on the French case. Great port-cities such as Dakar, Casablanca or Algiers were the axis of the French colonial empire in Africa and their ports led the regional commercial activity. This institutional model created new ports for the colonial economy that could be identified with the *anyport* model proposed by Brian Hoyle (1968). However, we found that the economic growth associated with the expansion of the external trade in these territories was not linked to development processes following some indicators we will propose later, following the figures given by Prados de la Escosura (2012). Hence, the colonial institutional model must be analyzed in order to

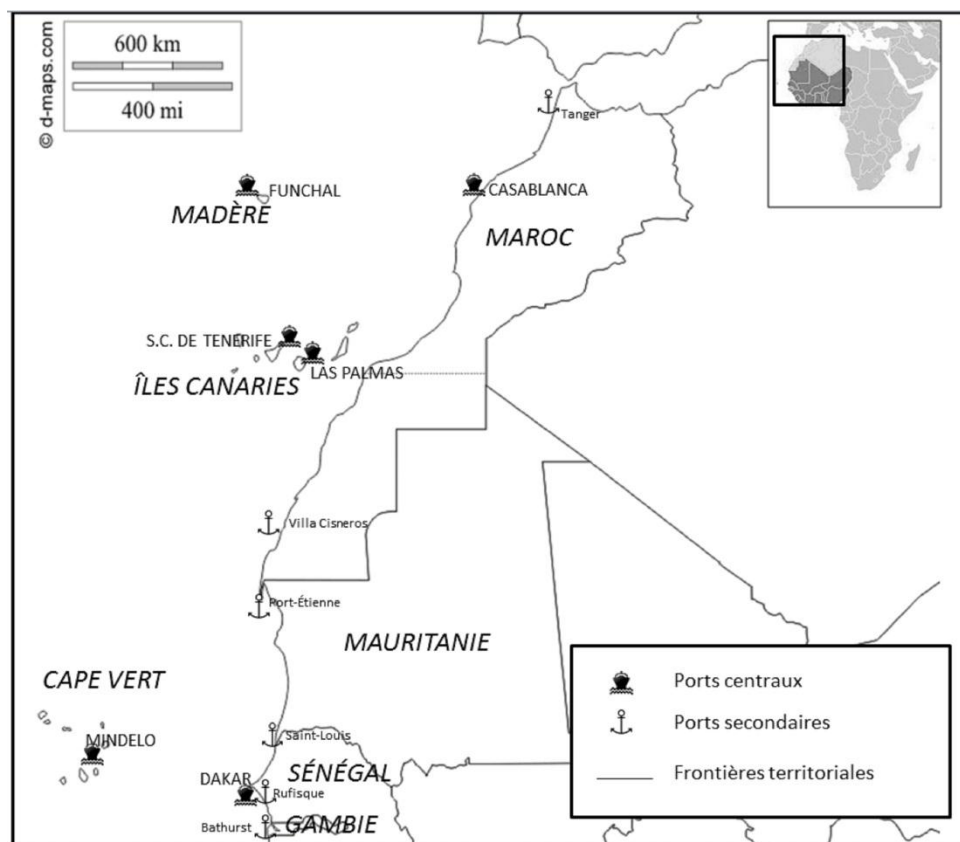
explore the way how seaports contributed on this process. Hence, it reveals the functioning of an extractive and extroverted economic model where seaports were the main arteries (Acemoglu, Johnson and Robinson, 2001; Austin, 2008). We will propose indicators which could be implemented to evaluate the influence of seaports on the regional economies in the long term. So, our hypothesis set that this infrastructural model have encouraged the extroversion of the regional economy and the long-term economic inequality following the path-dependence theories (Lagerholm and Malmberg, 2009; Martin and Sunley, 2006).

Since the last decades of the nineteenth century, the Colonial phenomenon modified the regional institutional environment and it deeply influenced the socio-economic structure. Different scholars recently remarked the direct connections among the colonial institutional environment and the development of an extroverted regional transport system (Debie, 2010; Castillo Hidalgo, 2015; Mohamed-Chérif and Ducruet, 2011). The regional specialization on cheap bulk exports since the second half of the nineteenth century was consolidated through the different waves of colonization. In the case of the Canaries and the Cape Verde, the island ports which were not included under colonial rule, they played an important role as coaling stations which articulated the regional maritime trade (Suárez Bosa, 2004).

In this paper, we analyze the functioning and evolution of the northwestern African port network between 1880 and 1939 where the colonial institutional structures were set and encouraged. We will study the main regional ports from Morocco, the Canary Islands (under Spanish rule), Senegal –French West Africa (FWA) - and Cape Verde (Figure 1). We use the term “maritime façade” from Ducruet and Zaidi (2012) in order to show the relatively continuity of political control under French rule, with the exception of the Portuguese and Spanish islands. Our approach deals with the comparative analysis of these maritime regions and their development phases (Wilmsmeier and Notteboom, 2011) regarding the path-creation processes which survived until today (Mohamed-Chérif and Ducruet, 2015). We study a period characterized by the consolidation of an institutional extractive model which was supported on transport infrastructures which favored the expansion of the cash-crop and mining sectors. It encouraged dependence process on macroeconomic trade terms (Mbodji, 1980) but with a non-neglected proportion of individual economic selection (Austin, 2015). Our approach aims to incorporate a methodological proposal about port development and regional economic growth in historical perspective following the

thesis proposed by Chaves, Engerman and Robinson (2015). Moreover we explore the regional port activity using a range of port indicators such as overall throughput, movement of vessels or port specialization (nature of exports). We attempt to feature the functioning of the regional port network, the establishment of regional hierarchies and their different evolutionary phases. In addition, we expose the technical innovation trajectories in each port and we try to define the way how these changes impacted on their activity, modifying the whole of the network under *autopoietic* parameters (Wilmsmeier, Monios and Pérez-Salas, 2014).

**Figure 1.** The Northwest African Port network.



**Source:** d-maps.com. Modifications made by the authors.

Most of the academic tradition has been focused on the role of Northwest African ports as dynamic nodes for the regional economies (Peterec, 1967; Thomas, 1957; Vigairié, 1979). For his part, Bruno Marnot (2011) has explored the French port reform and its application along the Empire but in this study, there is not individual analysis of ports. This question has been recently reviewed by Marnot and Castillo (2014) where they analyzed the introduction of the metropolitan port reform in Senegal.

Another recent works have paid more attention from a comparative scope on the role of the Northwest African seaports (Cabrera Armas, 2014; Castillo and Maziane, 2014; SuárezBosa, 2013). In any case, some of the pioneer works are precious in figures and qualitative sources about the regional economic, entrepreneurial and social structure (Billiard, 1930; Celce, 1952; Gauthronet, 1913; L'AOF, 1918; Laye, 1951). On the contrary, on maritime movements, port modernization and analyses of commercial traffics, the investigations are in a primary stage. It is clear for the long-term approaches. In the last decades, the regional studies have been encouraged due to the apparition of great hub ports in Africa (seaports-inland transport corridors) which continued an historical path of development (Debrie, 2012; Lombard and Ninot, 2010; Mohamed-Chérif and Ducruet, 2015).

In this kind of studies, we must note the interconnectivity among ports which is an element recently developed by Mohamed-Chérif and Ducruet (2015) for the Maghreb port system in the long run. They used figures and data from *Lloyd* which permitted them to elaborate a first approach to evaluate the intensity of the regional inter-port traffic since 1890. In this stage of our research, we do not dispose of this kind of sources, but we have designed a research plan where we will incorporate figures from the British shipping agency. Nonetheless, shipping lines such as Chargeurs Réunis, Paquet, Cyprien Fabre or Elder Dempster articulated the regional network and we began to elaborate an individual database for each port where each vessel calling port is included. This approach offers accurate information about the maritime trade networks, especially in the cases where the reports include qualitative information about the cargo and routes. Finally, comparing each individual port with respect to the whole, we could create a regional database which could be most accurate and complete than *Lloyd* figures for these early periods.

The primary sources for port indicators are dispersed and hardly uniformed. For some cases most deeply studied such as Dakar, Casablanca or the Canary ports, we have complete figures about maritime traffics and other economic indicators such as the census of port companies, living cost or daily wages. Sources come from the French statistical services (*Rapports Annuels des colonies, Annales Statistiques*, see references.) and the British Diplomatic and Consular Reports (DCR) which include vast qualitative and quantitative information until the eve of the Great War. Other contemporary sources like books or journals have permitted the expansion of the database. However, we must remark that some figures for minor ports are yet absolutely

insufficient. The collection of these sources and its analysis is one of the main goals of the actual research project (under evaluation of the Spanish Government) led by the *Research Group on South Atlantic Maritime History* where we will elaborate an Atlantic seaport database for the both coasts of the Global South.

This paper is divided as follows. The first part after this introduction analyzes the main features of the regional transport system, its evolution and modernization. In the second section, we will study the maritime traffics by region, highlighting the features and evolution of the main ports. Hence, we will expose the way how seaports interacted with the regional economy through their participation on the external trade and their cooperation with inland transport system. So, this analysis will include an analysis on port commercial specialization for each one from a comparative scope. The third section offers a discussion about the influence of ports on the regional-urban economy. We propose a theoretical discussion about the linkages among the economic growth and the role played by seaports (Jerven et al., 2012; Prados de la Escosura, 2012). Port indicators that will be exposed present an important growth which was related to the commercial expansion, but the GDP per head stagnated or felt in real terms during this period. Finally, some conclusions and prospective reflections are proposed.

## **2. Ports and maritime economies: the gates of the imperial expansion**

Despite some critical conjunctures, the northwestern African regions which have been analyzed had a sustained and progressive growth of their external trade between 1880 and 1939, both in volume and value terms. This event is tied to the development of infrastructures and the consolidation of the cash-crop and mining sectors which encouraged the external trade. To reach it, the colonial administrators introduced institutional features like the “colonial pact” that restricted the trade liberty among the colonies and third countries. The colonial exclusivity encouraged the metropolitan industrial sectors by the protection of strategic commodities such as oil products like groundnuts (*arachides*) in the case of Senegal or mining raw sources like phosphates in Morocco, Algeria or Tunisia. Hence, a range of institutions and infrastructures must collaborate to organize the colonial economic structure where local populations were pushed to integrate or voluntarily collaborated in order to obtain surpluses (Austin, 2015, pp.303-304).

However, we found differences in the regions analyzed from an institutional point of view. These institutions modified the socio-economic structure and they influenced the long-term economic development. It must be distinguished the differences existing among the French colonies like Senegal from the French Protectorates of Morocco, where local political institutions and elites preserved their influence and relatively political-cultural power. We also include the island ports of the Canary and Cape Verde regions. Both archipelagos were rivals and competed to attract international traffics from the mid-nineteenth century (Suárez Bosa and Cabrera Armas, 2012). These ports were specialist on stop-over maritime services (fueling, water and provisions, insurances, ship repairs –mainly Las Palmas) used by the main shipping lines which operated in the South Atlantic commercial routes. Cape Verdean and Canary ports were rivals and not complementary ports so they aimed to offer competitive services and prices. In this struggle, the liberal-oriented institutional environment of the Canary Islands was decisive to attract foreign capital and shipping lines. The colonial institutional regime of the Cape Verde archipelago obstructed the port development and the islands “lost the opportunity” to compete against the Canary ports first and Dakar later for international maritime traffics (Prata, 2014).

Nevertheless, a key feature is commonly accepted in all the cited cases: the existence of extractive institutions which hampered the economic development in the long run. In the case of the FWA, the analysis of colonial political institutions and the establishment of extractive institutions like the *Sociétés Indigènes de Prévoyance* (Mbodji, 1980) encouraged the external dependence which was supported by the regional governments. It is admitted that the first political treaties signed during the 1850s and 1860s opened the path of political submission of the African elites in Senegal (Barrows, 1976). It was the beginning of a history of counterbalance of powers among colonial administrators and resilient elites which slowly introduced into the colonial institutions. It was the case of the Moroccan elites (*Ayaches*) which were collaborators of the French administrators under the Protectorate.

As Pffermann (1967) notes, other kind of political elites, not linked to wealth status emerged and they were the key for the independence processes. In any case, these extractive institutions created a network of transport infrastructures that must serve to control the territory (in military terms) but whose main goal was the articulation of the export sectors and the expansion and openness of emergent markets (Hopkins, 1973). So, the first aim of the regional transport network was to connect the producer regions

(mining or agricultural) with the metropolitan markets through the great seaports where the main colonial institutions were settled. It was an extroverted economic model that has been defined and described by Mohamed-Chérif and Ducruet (2011) for the Maghreb colonies. Thus, as has been noted before, this process required a deeply program of port reform introduced by the colonial institutions since the last third of the nineteenth century.

Another common feature is the extreme concentration degree of port activity. This was the consequence on the one hand of natural handicaps in the Atlantic Coast which hindered the existence of natural harbors along the maritime façade: sandy bottoms, violent winds and tides, nature of the Atlantic trade, etc. On the other hand, the absence of developed internal markets oriented to the commodities trade until the last third of the nineteenth century did not required modern ports equipped with advanced infrastructures (Castillo and Marnot, 2014, p.350). The main reforms in the French colonial port system were located in the context of the great metropolitan port reform (1871-1921) as a consequence of shipping revolution in a global scale (Williams and Armstrong, 2012, p.49). The increased interaction between different transport systems (mainly railways) were key elements of this technical, economic and institutional revolution tied to the advances of the industrial revolution.

In the French case, the colonial administration developed a program of massive investment on transport infrastructures, where ports and railways absorbed the lion share. The Government of Senegal and later the AOF Government selected Dakar as the focus of the French action in West Africa, bearing in mind its geographical position and its strategic location in the South-Atlantic maritime routes. In French Morocco, the port of Casablanca was the main tool used by the Protectorate since 1912. This port was built from the ancient harbor of Dar-el-Baida that was an Ancient Regime port whose infrastructures were underdeveloped. After the First World War, Casablanca was transformed in the heart of the Moroccan economy and it absorbed the most of the country port throughput. In the case of Dakar, it profited from the optimal conditions of the Bay that was a refuge scale for vessels and sails which trade in the old slavery port of Gorée. Despite these factors, we could consider both ports as “new ports” following the anyport model proposed by Brian Hoyle (1968) in Eastern Africa. As modern infrastructures, Dakar and Casablanca were at the top of the regional port hierarchy. The minor ports were displaced to marginal positions and this process was encouraged across the decades. Castillo (2015a) has recently demonstrated how the Senegalese port



hierarchy moved from a relatively dispersed model towards a macrocephaly port system that represented the expansion of the colonial economic structure and the economic extroversion. This trend is similar to French Morocco before the construction of the port of Casablanca. On other neighboring regions such as Algeria or Tunisia, the existence of several developed ports (i.e.: Oran and Algiers in Algeria) limited the port concentration, bearing in mind that the figures are shown in throughput not in value. The value of cargo by ports is one of the key elements we are investigating in order to associate it with the overall throughput as we will expose later.

As a consequence, the concentration port index (CPI) in the analyzed cases shows how the main ports absorbed the most of cargo throughput, revealing economic clustering processes in their port-cities (Tables 1 and 2). Over the time, this trend became more evident and old ports were locked and virtually disappeared. As we will expose later, it was the cases of Saint-Louis, Gorée and Rufisque which suffered lock-in processes in the way they cannot compete with Dakar in terms of infrastructures, efficiency or connectivity (Castillo, 2015). One of the main elements which sealed their fate was the absence of economic expectations for the entrepreneurial community that encouraged the self-reinforcement effects: if possible investors believe that a port will dominate in the future, then, this port becomes more attractive in the present (Dobusch and Kapeller, 2013, pp.298-300).

### *2.1. Analysis of the Moroccan port system: the predominance of Casablanca.*

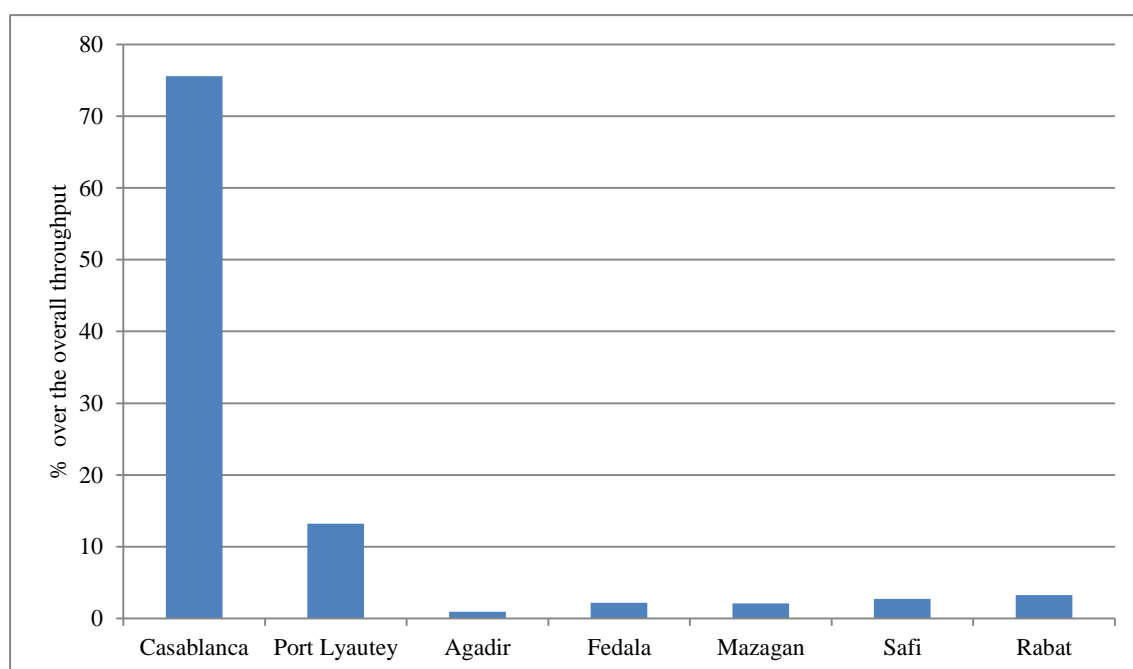
The great advances and modernization of the Moroccan port system could be identified with the establishment of the French Protectorate in 1912. The important investments made by the French administration on transport infrastructures encouraged the Moroccan external trade. As we will expose later for Senegal, the French chose a regional port model based on a hierarchical port which must absorb the lion share of the investments and the whole of the maritime trade. French authorities led by the General Resident, Marshall H. Lyautey, built a “national port” which was in the middle of the former political centers of Fes and Marrakesh. Hence, it was a political choice but economic too because this port must serve to evacuate the cash-crop and mining productions of the mid-Morocco.

Until this moment, the Moroccan port network was dispersed and coastal traffics were intense among ports. Port centralization (and concentration) in Casablanca after the First World War, generated a passionate discussion among administrators, scientific,

local rulers and intellectuals. It was a: “a real battle broke out with the selection of the Great Port; each group argued that they represented the general interests...Mazagan, Fedala, Rabat, the mouth of the Sebou...each maritime region offered their advantages to erect a safe port” (Celerier, 1934). However, the French administrators remarked the importance of the consolidation of scale economies in a solely port which concentrated the most of the commercial throughput. On the contrary, Eyquem, a contemporary observer argued observed that in Morocco it was necessary to create a range of coastal ports tied to the producer regions due to the high cost of transport, mainly on cheap commodities (grains, minerals, cork, etc.). He claimed for a multiport system which must be developed according to the financial possibilities of each region (Eyquem, 1933, p.482).

On the other hand, the discovering of phosphates in Louis Gentil (Youssoufia) encouraged the maritime activity in Safi which was progressively transformed in the great mining port of Southern Morocco in the second half of the 1930 decade. This event transformed the ports and its infrastructures where phosphates terminals were built in 1937. This port exported a quarter of the Moroccan phosphate production in average during this decade as Cherfaoui and Doghmi noted (2005, p.171-193). Another ports like Fedala (located at 25 kilometers from Casablanca) shared important maritime functions for the Moroccan port system. From 1924, it imported oil products that encouraged the regional productive sectors. Hence, it is clear that the Moroccan port system was structured around the predominance of Casablanca that was the regional *carrefour* for the French Morocco. Otherwise, the growth of Casablanca from 1921 is explained by the massive export of phosphates that were converted in the main commodity of the whole country in this decade. By 1925 the Moroccan port had overcome Dakar on commercial throughput, reaching two millions tons in 1929 where more than eighty per cent were phosphates from the Khourigba region (Suárez and Maziane, 2014, p.81) (see appendix 1). At the eve of the Second World War, this port absorbed around 4/5 parts of the Moroccan maritime throughput in terms of volume and value (Figure 2).

**Figure 2.** Port concentration in Morocco in 1931 (percent over total throughput)



**Sources:** "Diplomatic and consular reports. Morocco: Casablanca" (1899-1913), Castillo and Maziane (2014); Bulletin Économique du Maroc; Eyquem (1933); Cherfaoui and Doghmi (2005). Compiled by the authors.

## 2.2. The Senegalese port system: the gates for the FWA.

The port clustering processes in Dakar (since 1930) are the outputs of a clearly oriented imperial policy developed by the French Empire where the key feature is the saving of public expenditures (Suárez Bosa and Maziane, 2014, p.72). The investment made by the colonial institutions must be focused and concentrated in a few of strategic points which must articulate the regional economy (Table 1).

**Table 1.** Port throughput (tons) in Dakar and CPI in Senegal (1908-1938)

Year	Dakar <sup>c</sup>	Sen. (0.0)
1908	395.695	0.68
1910	400.663	0.57
1914	533.104	0.66
1920	802.421	0.77
1925	747.159	0.63
1929	1.041.573	0.67
1935	1.286.941	-
1938	2.390.238	0.70

**Note:** <sup>a</sup> 1913; <sup>b</sup> 1911; <sup>c</sup> Figures for 1938 represents the whole of the FWA; <sup>d</sup> 1928

**Sources:** For the maritime regions: *Annuaire Statistique* (several years). For Senegal: L'AOF (1927, p.13). For Dakar: Castillo Hidalgo and Marnot (2014, p.361); Bourrières (1949), ANS2G56-93; ANS, ANS 00477; Thomas (1957); Peterec (1967). For Rufisque and Saint-Louis: *Tableaux Coloniaux de Population, commerce et navigation*; Le Gouvernement de l'AOF (1932) ; ANOM, TP 363/8. Compiled by the authors.

The several waves of colonization and the nature of maritime traffics in the Atlantic façade marked the technical development and port modernization in Senegal. Growth of maritime trade in the late nineteenth century increased the importance of ports and their role in the colonial economy. However, the rhythms of investment and modernization are linked to the stages of imperial expansion. In the case of Senegal, the early occupation of the Cape Verde peninsula (1857) was the beginning of the inland expansion. Before that, the European presence in the region was severely limited to Saint-Louis and Goree (despite other individual expatriate settlers such as missionaries or traders).

Between 1857 and 1880 were settled the basis of the extractive economic structure in the region through the expansion of groundnuts on the Senegal's Valley, the Cayor region, the Casamance and the Sine-Saloum. So, the economic revolution caused by the cash-crop culture in the *pays de l'arachide* was a consequence of the colonial regime that encouraged this activity among the local peasants (Austin, 2015). However, the importance of groundnuts for the Senegalese economy was higher and predominant after the construction of the railway basis in the 1880 decade (Dakar-Saint-Louis railway). This basic infrastructure pushed the regional cash-crop sector, expanding the size of groundnut production along the rails, mainly in the Thiès region, near to Dakar. Thus, the next stage was the improvement on port infrastructures in order to promote the expansion of the external trade, benefiting the configuration of scale economies at

ports. But until this period of important changes, how the Senegalese port system functioned?

This port system was characterized by its scarce development and its limited maritime activity that was a consequence of the absence of optimal port infrastructures for the steam shipping lines. The great old ports of Saint-Louis and Gorée were inadequate for the demands of the economy and the shipping lines and they were progressively abandoned. A process of port lock-in that was encouraged after the construction of the Atlantic railway that connected Dakar with Saint-Louis. The old political center that articulated the northern-Senegal (including Mauritania) and the Senegal Valley trade lose their urban and economic importance. Thus, the economic power began to be displaced to the Cape Verde peninsula, where the colonial administration was designed the future of the region (Bigon, 2014; Charpy 2007). The first steps on this process could be identified with the expansion of port activity in Rufisque, a neighboring *ville-portuaire* located at fourteen kilometers from Dakar. Figures of maritime activity in Rufisque must be investigated due to its importance as the main export port (of cash-crop productions) for the colony until the decade of 1930. Its commercial functions elevated the importance of the old harbor that exported the groundnut production of the southern Senegal and the neighbor producer regions thanks to the railway line. The way how Dakar absorbed Rufisque and its economic wealth disappeared respecting Dakar it's a research topic that must be studied.

So, if Rufisque was the main export center for Senegal until the 1930s, what was the role played by Dakar in this scheme of colonial extraction? Dakar was the capital of the French empire in West Africa. An *anyport-city*, following the concept of Brian Hoyle (1968) destined to concentrate the economic, political and military power for the FWA. Under port function terms, Dakar was the main coaling station for the colony and it absorbed the most of imports for the FWA federation. After 1898, Dakar incorporates important military functions through the construction of the Arsenal for the French Navy that was the most important military base in the region. However, the development of the port infrastructures came in the first decade of the twentieth century, when the great commercial port was designed. Between 1904 and 1910, the port was enlarged and improved, and it attracted an increasing entrepreneurial community which was related to the maritime-trade sectors. It was an economic clustering process that transformed the urban economy and increased the urban relevance of Dakar (Bigon, 2014; Castillo Hidalgo, 2014; Debrie 2007; Diouf, 2011; Seck, 1970).

On comparative terms, by 1910 the port of Dakar was prepared to struggle the regional maritime hierarchy led by the Cape Verde and Canary ports. This hierarchy was mainly based on the consolidation of port services like coaling for the international shipping lines (SuárezBosa and Cabrera Armas, 2012). However, the port of Mindelo was affected by the lack of investments that caused an important regression of its competitiveness respecting Dakar and the Canary ports (Prata, 2014; Suárez Bosa, 2013). Nevertheless, the colonial institutional environment limited the growth expectations at Dakar. It was decisive on the configuration of return freights for the coaling shipping companies –mainly British- due to the restrictive norms applied in Senegal and the FWA.

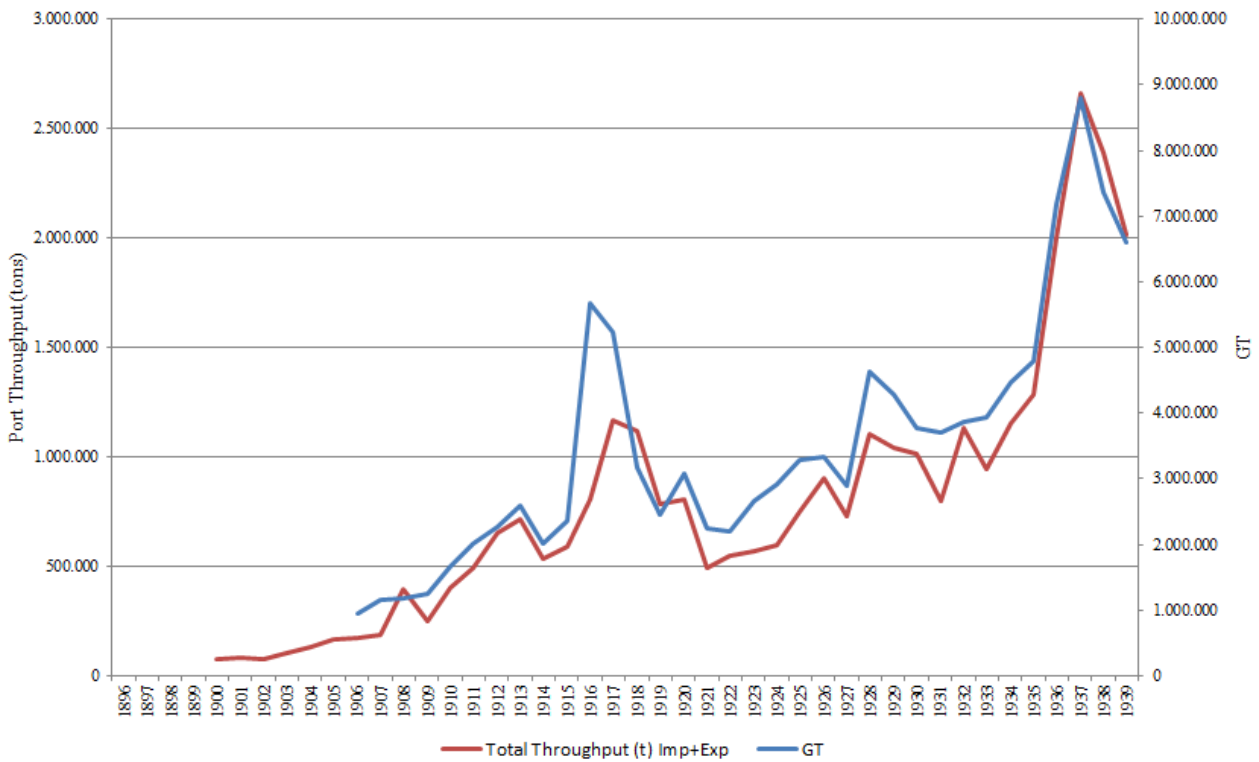
Although these movements were more evident in the decade of 1930, the colonial administration has advanced in this topic before the Great War (Coquery-Vidrovitch, 1979). In 1910, the French engineer Albert Dubarry elaborated a report ordered by the FWA Government where he concluded that the existence of alternative ports in Senegal was absolutely negative for the economic development of the colony. They argued that the capital of the FWA must articulate the whole of the regional transport system<sup>2</sup>. Hence, we must evaluate the savings generated by these choices on the regional economy. The colonial port system was characterized by the macrocephaly and port concentration with limited regional economic integration. It was a topic encouraged by the geographical restrictions of the older ports that lose their economic importance. So, the increasing urban and commercial functions were accompanied by an impressive demographic growth that generates gentrification and social troubles. These are research questions that we will propose later in the discussion section.

The figure 3 shows the commercial throughput in Dakar between 1896 and 1939. Both represented a sustained growth during this period with some peaks related to internal or external conjunctures. This main event was tied to the Great War, when Dakar was transformed as the leading regional port, especially on the coaling services. As a consequence of the war, the West African Archipelagos were isolated and the regional maritime traffics were deeply disrupted. In 1917, the *Entente* Admiralties selected Dakar as the coaling station and naval base for both navies. The Senegalese port was concentrated in the supply of coal for the allied convoys using British vessels of the main shipping lines like Elder Dempster (Castillo Hidalgo, 2015b).

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<sup>2</sup> Report of Albert Dubarry, First Class Engineer of the Colonies, ANOM, 14MIOM/1455, 1911.

**Figure 3.** Port activity in Dakar (1896-1939)



**Source:** Castillo Hidalgo and Marnot, 2014, p.361

However, despite this port concentration promoted by the imperial powers, the regional port-subsystems in West Africa retained until the decade of 1930 features of relative complementarity among the main “central” and secondary ports. It is clear for Senegal. Some minor ports such as Kaolack, Bathurst (Senegambia) or Ziguinchor were active trade centers which articulate the flux of regional commodities: groundnuts, gum, wax, palm kernels, etc. These ports were connected by sailing or little steam vessels with Dakar and Rufisque (L’Afrique Occidentale Française, 1927, p.13). As in the case of lighterage shipping studied by professor Olukoju for Nigeria (2002), it would be too a research question for the Senegalese maritime history: Who were the companies which developed this kind of services? What was the role and contribution of the African entrepreneurship –if existed- in this activity?

### 2.3. The West African Archipelagos cases: the Canaries and Cape Verde.

Common features for both archipelagos were their limited dimension and their low availability of natural resources. So, their economic development was tied to the international conjuncture and the institutional regime. Elements such as the free-port

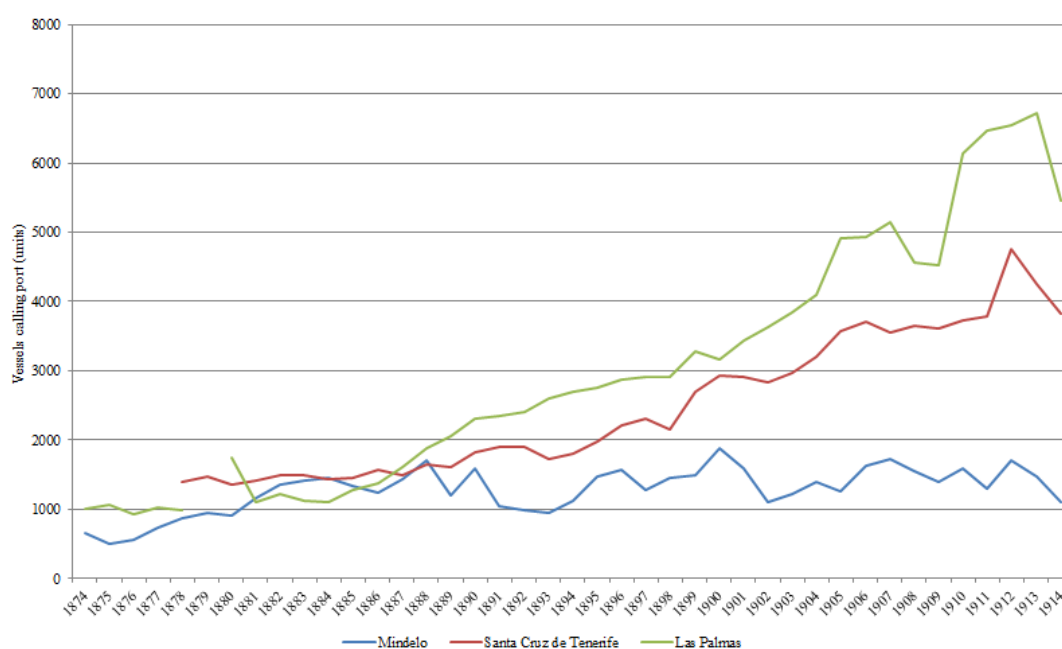
regime adopted in the Canary Islands since 1852 marked the evolution of the island economy and its port competitiveness over other neighbor ports. Hence, institutional features are most important for their economies than the location rent where Cape Verde was superior to the Spanish archipelago. Other aspect like the resilience of slaving forms of labor in Cape Verde until the mid-nineteenth century exerted an important influence on the local economic structure. However, both archipelagos benefited from the opportunities to settlement of enterprises in the early 1850 decade (Puig Raposo, 2004). These companies tied to port activities led the expansion of the economy, bearing in mind that their influence on the regional economy was higher in the Canary Island than Cape Verde. In the ports of Las Palmas and Santa Cruz de Tenerife were settled in the last third of the nineteenth century a range of foreign companies which developed the maritime sectors and other economic activities related to trade, services, insurances and financial sectors. Hence, the canary ports overcame the Cape Verdean ports thanks to the consolidation of external economies towards the waterfront which attracted investments and maritime traffics (Figure 4).

Nevertheless, two phases could be traced to define the inter-port rivalries between both archipelagos. The first stage is related to the predominance of Praia and Mindelo from 1850 to 1880. The second one included the rising of the Canary ports and the entry of new competitors like Dakar from 1880 to the eve of the Great War. Both periods were characterized by the consolidation of corporate strategies made by the port companies to monopolize the coal market in the main ports. Despite that, during the first stage the market share for Mindelo reached an average of 86.6 percent over the 13.4 percent of the Canary coaling supplies (Suárez Bosa and Cabrera Armas, 2012). In the eve of the scramble of the continent, the Spanish government implemented a national port reform that must transform the old-fashioned port infrastructures benefiting the island ports. So, the port modernization in the Canary ports was aggregated to the liberal environment that benefited the expansion of external trade and the settlement of foreign investors where the British were predominant. On the contrary, the Portuguese did not improve the port infrastructures and maintained a protectionist colonial regime that obstructed the port development and the expansion of related sectors (Prata, 2014). As we expose before, the Great War marked a new episode of regional port competition between the Canary ports –mainly Las Palmas- with Dakar, displacing Mindelo from the struggle for maritime traffics. However, the figures for Las Palmas show an important growth on traffics between 1880 and 1939; excepting some



critical conjunctures that benefiting Dakar as it was noted above (Figure 3). Their optimal technical conditions, the development of the cash-crop sectors (fresh fruits and vegetables), the existence of a favorable institutional environment, their location rent and the institutional limitations supported their leadership on port traffics in the long run.

**Figure 4.** Vessels calling port (units) in Mindelo, Santa Cruz de Tenerife and Las Palmas (1874-1914)



Source: Suárez Bosa and Cabrera Armas, 2012.

On the contrary, the ports of the Canary Islands enjoyed a free-port system from 1852 that encouraged its external trade through the export of fresh vegetables which were traded for coal and other imports. However, this question focuses the discussion on liberal institutional environments and economic success. In the Canary Islands, the expansion of cash-crop productions (tomatoes, bananas and other fresh vegetables) deepened the external dependence of the islands that has been a continuous feature of the regional economy in the long term. Notwithstanding, this institutional model was absolutely successful for the port development and it consolidated their predominant position in the regional port network in historical perspective (Suárez Bosa, 2004).

Briefly, the port system analyzed was generally featured by concentration and hierarchies. The great investments made by the colonial administrators on port

infrastructures had as main –and solely- objective the growth of the external trade of the colony that was supported on cash-crop and mining sectors.

If figures of port throughput (or other port statistics) are contrasted with the external trade figures, the final output is an important and sustained advance in terms of overall value where imports dominated the statistics, causing a structural unbalance of trade balance. Hence, if the port activity increased; if the volume and value of trade increased too during this period, why the economic approach from Prados de la Escosura (2012) indicates a relative stagnation or drop on the income distribution? Does the port economy generate economic improvements which benefited the local populations? What has been the role played by the colonial institutions in this process? Is it possible to evaluate or make an approach on the influence of port activity on the regional economy?

#### **4. Discussion.**

Evaluation the evolution of GDP of the regions analyzed, we aim to propose some methodological approaches to consider on the influence of ports in the regional economies. We consider that some elements of the Chaves, Engerman and Robinson theoretical approach (2015, pp.355-360) could be applied to colonial ports in West Africa. We would consider factors such as urban GDP, public investments (Frankema and Waijenburg, 2014), consumption of public services, capital investments and traditional consumption. Despite other factors, we consider that investments on infrastructures benefited the economic growth of the regions analyzed (Table 3) but we must regard the Institutional context we exposed before. The Canary Islands economy grew between 1860 and 1930 in the same way that its maritime sectors were expanded. In Morocco, the great expansion is tied to the first decades of the Protectorate but its economy then declined before the 1930s decade. Nevertheless, the evolution in Senegal is extremely negative and its growth rates are scarce or negative during this period. However, its external trade rose in terms of volume and value (we must note that the export value of Senegalese commodities stagnated and fell after the Great War).

**Table 2.** GDP rates of growth in percent by periods (1860-1940)

<b>GDP Growth in percent (1860-1940)</b>			
<b>Year</b>	<b>Canary Islands</b>	<b>Morocco</b>	<b>Senegal</b>
1860-1900	28,33	9,06	2,01
1900-1930	34,69	28,14	-8,46
1930-1940	-2,83	0,09	1,84

**Note:** Figures for Morocco and Senegal: 1870, 1929 and 1938

**Sources:** Carreras, Prados de la Escosura and Roses, 2005, p.1372; Prados de La Escosura, 2012, p.22.

These figures must be compiled and analyzed from the different archival sources like the statistical reports, annual economic reports or the regional budgets. These figures could be contrasted with maritime indicators for each port like the commercial throughput. For an accurate analysis, figures must include the value of handled cargo (i.e.: the individual value for ton) and its contribution on the external trade of the colony by port. To complete the analysis, we propose the next socio-economic indicators which could be interesting for the investigation aims: a) creation and destruction of port companies (through the archives of the Chambers of Commerce) as Suárez, Jiménez and Castillo (2011) made for the port of Las Palmas in the first half of the twentieth century. Seck (1970) explored this topic for Dakar but not in the long run as we propose. The repercussion of the port activity on the configuration of port communities are a key element to keep in mind; b) Demographic movements tied to the port-commercial evolution; c) Rent transference through public investments in basic urban infrastructures; d) Wage evolution and urban living cost.

Hence, this kind of analysis for each West African port-city could aggregate some empirical observations about the regional economic growth and how the extractive colonial institutions impacted on them. An analysis that will put the focus on the “invisible” economic sector that was absolutely decisive on the configuration of the global economy (Herlaftis, Tenold and Valdaliso, 2012, p.265).

## **Final remarks**

The path of port infrastructures development and its relation with the inland transport facilities shows common features despite the different waves of colonization. Ports and railways designed by the colonial administrators encouraged the external trade expansion generating port concentration processes. This scheme prevailed after the political independences (Debie, 2010) generating path-creation processes which has been explored in this paper. This regional port network was based on strong port-city hierarchies without a clear perspective of regional land-country integration (Mohamed-Chérif and Ducruet, 2011, 2015). So, ports and railways are representatives of the imperial expansion the continent and these infrastructures exerted a further influence on the regional long-term economic development. Thus, it would be interesting to extend the period researched after the Second World War decades in order to evaluate the consolidation of path-dependence events on port economics from a widely historical perspective (Noteboom, De Langen and Jacobs, 2013). Hence, these approaches could give some explanations on the current development challenges in West Africa and the influence of transport infrastructures in this topic.

In this paper, we have remarked the important growth of commercial and port activity in this region from the last third of the nineteenth century. Following the analysis and figures proposed by Prados de La Escosura (2012), there is no evident connection between economic growth and income distribution. Its paper explores the GDP per head evolution in the long run, where the external trade is the key element. There are little doubts that his outputs have revealed a process of economic extraction tied to the colonial institutional regime (Acemoglu, Johnson and Robinson, 2001). Szereszewski (1965) was one of the pioneers in analyzing these topics for West Africa using elements such as the internal purchasing power. According to Chaves, Engerman and Robinson (2015) we propose some research questions tied to the existent linkages between port activity and regional economic growth during the colonial period. Did colonial ports generate processes of regional-urban economic growth which benefited them in the long run compared to other regions? The scholar tradition on port economic impact noted the difficulties to assign accurate figures or indicators which explained how the maritime activity influenced the local economies (Verbeke and Debisschop, 1996). This handicap increased in long-term historical approaches.

Finally, as we have noted before, it is necessary to develop microeconomic analysis on West African ports in order to size their influence on the urban-regional

economic development. If the linkages between limited economic growth and external trade are clear in the cases analyzed, the great challenge is to analyze how this process expands to the whole of the economy. This kind of studies could aggregate further outputs on the functioning of the extractive colonial models and the way how they obstructed the economic development in the long run. Furthermore, they will offer deeply approaches on the configuration of maritime economies in the West African cities and how they were related to the inland-rural regions in socio-economic terms.

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### Appendix 1. Moroccan Throughput (in tons) by port and CPI by port (1912-1931)

Year	Ports														TOTAL
	Casablanca	%	Port Lyautey	%	Agadir	%	Fedala	%	Mazagan	%	Safi	%	Rabat	%	
1912	228.000	57,69							55.609	14,07	90.614	22,93	20.976	5,31	395.199
1913	270.000	58,48	5.898	1,28					61.208	13,26	57.136	12,37	67.484	14,62	461.726
1914	203.000	61,80	19.719	6,00			1.826	0,56	29.549	9,00	26.221	7,98	48.177	14,67	328.492
1915	235.800	57,04	26.844	6,49			8.043	1,95	40.070	9,69	60.732	14,69	41.910	10,14	413.399
1916	254.800	54,14	21.370	4,54			2.772	0,59	81.149	17,24	74.100	15,75	36.407	7,74	470.598
1917	252.400	50,71	33.274	6,69			7.176	1,44	66.595	13,38	97.280	19,54	41.003	8,24	497.728
1918	237.100	55,62	51.698	12,13			17.747	4,16	43.116	10,11	45.936	10,78	30.712	7,20	426.309
1919	325.800	56,90	69.968	12,22			11.759	2,05	58.566	10,23	74.867	13,08	31.582	5,52	572.542
1920	432.400	54,69	92.678	11,72			55.484	7,02	76.393	9,66	85.008	10,75	48.644	6,15	790.607
1921	461.600	48,83	160.264	16,95			31.837	3,37	100.283	10,61	144.620	15,30	46.646	4,93	945.250
1922	584.700	59,41	146.909	14,93			17.839	1,81	84.172	8,55	92.560	9,40	58.064	5,90	984.244
1923	679.600	68,94	123.254	12,50			26.944	2,73	62.552	6,35	52.825	5,36	40.607	4,12	985.782
1924	1.029.300	72,11	156.825	10,99			15.846	1,11	83.625	5,86	90.536	6,34	51.207	3,59	1.427.339
1925	1.438.500	77,21	204.557	10,98	2.539	0,14	39.585	2,12	60.546	3,25	73.196	3,93	44.279	2,38	1.863.202
1926	1.636.900	82,49	191.878	9,67	2.454	0,12	30.948	1,56	43.575	2,20	38.624	1,95	40.031	2,02	1.984.410
1927	2.219.900	85,08	191.000	7,32	12.044	0,46	32.314	1,24	48.265	1,85	48.629	1,86	57.099	2,19	2.609.251
1928	2.596.000	81,51	216.219	6,79	17.930	0,56	47.094	1,48	90.810	2,85	138.805	4,36	77.854	2,44	3.184.712
1929	3.047.000	82,41	276.600	7,48	38.545	1,04	50.000	1,35	85.960	2,32	104.180	2,82	95.200	2,57	3.697.485
1930	2.976.600	85,36	265.030	7,60	32.800	0,94	58.000	1,66	41.400	1,19	27.400	0,79	86.000	2,47	3.487.230
1931	2.188.900	75,57	382.912	13,22	27.230	0,94	63.300	2,19	61.000	2,11	78.777	2,72	94.496	3,26	2.896.615

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