Public debt and slavery : the case of Haiti (1760-1915)

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Abstract

Haiti is known today to be one of the poorest country on earth. Yet, it was once considered as the "French Crown Jewel" during the French domination that ended in 1804. Many people have tried to understand the reasons that led to Haiti's decline by looking at economic and cultural factors, internal or external. A possible interpretation of Haiti's downfall is the financial oppression exerted by France which imposed an independence debt to Haiti (to compensate for losses of white settlers), following centuries of slavery. I first reestablish a precise economic history of Haiti using very recent contributions, and compute an unprecedented GDP time-series for Haiti from 1760 to 1915. I conclude that great powers, especially France, had a decisive negative impact on Haiti development through military oppression and financial oppression represented by a very large external public debt (300% of the Haitian GDP in 1825) that went on for more than a century until the second World War. The burden imposed through public debt led to the return of slavery and a very large inflation because of currency turmoil. Our estimations show that in the period preceding the revolution, financial extraction (trade surplus and white settlers consumption) accounted for almost 70% of GDP. After independence, financial extraction (debt repayment or debt accumulation) accounted for more than 5% of GDP, which is about 10 times lower than during the slavery period, but still very large by modern standards. Public debt had a punitive dimension and contributed to the long-lasting instability and poverty of Haïti. But in effect it was also a way for France to extend extraction beyond the slavery regime.

Table des matières

Table des figures

Introduction

The link between public debt, external or domestic, on economic development is not so clear. We could argue that having a large public debt as we observe in many developed countries shows the ability of the state to raise taxes and service there debt on time. In this case, debt-to-GDP ratio could be understood as a proxy for financial development and good management by a state to whom we are not afraid to lend. On the other hand, allowing a large share of the state revenues to service the public debt can be detrimental, especially since the first cuts in the state budget are education and infrastructure expenditures rather than the military ones.

In the case of Haiti, the large external debt that existed was not the result of financial soundness and confidence but rather an attempt by the french government to reestablish its domination through the financial channel in 1825. Haiti had been under french control since 1697 until the war of independence led against Napoleon in 1804. France failed to reinstate their domination over Haiti and ended up asking for a massive financial compensation in 1825 creating a debt that lasted until the second World War. Haiti therefore experienced a century of external (and then domestic) indebtedness that made development complicated. For this reason and other factors, Haiti which had important natural ressources and a strategic geographic situation ended up as one of the poorest country today. The responsibility of the great powers in this process is often regarded with a bias as Haitians tend to blame them for everything that has happened while countries such as France will dilute their liability in more global factors. I attempt here to disentangle the specious arguments from reasonable ones relying on an economic history of Haiti and precise data. The cultural specificity and the non-economic history is also considered as both have an explanatory power over the other.

The existing literature on Haiti focuses rather on the purely historic sides of things rather than the economic analysis. Many Haitians scholars have written history books on Haiti, some trying to explain the current underdevelopment of the country through cultural aspects with uneven success. This approach has been favored by many as the scarcity of data makes it difficult to establish a thorough economic history. Nevertheless a few economic analysis exist such as Victor Bulmer-Thomas book "The Economic History of the Caribbean since the Napoleonic Wars" (2012) or François Blancpain financial history "Un siècle de relations financières entre Haïti et la France (1825-1922)" (2001). These objective and detailed accounts of Haitian History have shed a new light on many issues regarding Haiti, especially the relative importance of the Haitian debt, the effective investment in education and infrastructure during the XIX$^{\text{th}}$ century etc. I use these data sets and a few others to deduce key figures from GDP to financial extraction necessary to understand the economic failure of Haiti. Concerning the period before the independence (mainly the XVIII$^{\text{th}}$ century) I rely on history books and scattered data from multiple sources. The data found is especially reliable in the few years proceeding the revolution from 1780 to 1790.

Overall it is key to understand that the existing literature is very weak except for a few recent contribution, in particular Bulmer-Thomas (2012). When building the GDP time-series, many sources are used to build scattered data then extrapolated. Various historical accounts of that time are used after checking for the coherence the data together in addition to the few existing database. For instance, the Maddison database, which I do not use, starts after the second World War for Haiti and for most of the countries in this region.

I recall the general History of Haiti in Section I, along with a demographic analysis over the XVIIIth and XIXth centuries. In Section II, I focus the analysis on the purely economic data, namely the imports and exports sectors and public finance. In Section III, I combine economic data and legal considerations to argue that slavery went on in Haiti through unusual channels until the American occupation in 1915. I also quantify the financial extraction taking place in Haiti using all the data accumulated in this purpose and conclude on the incidence of the french oppression.

1 Haiti : the path to independence

Before going through the history of Haiti between the end of the XVIth century and the beginning of the first World War, it is worth having in mind that Haiti is today one of the poorest country. In 2016, the Haitian GDP was of 19 billion USD for a population of 10.6 million people (e.g. a GDP per capita of approximately 1,800 USD). Contrary to popular belief, Haiti has not always been part of the low income countries. One of the contribution of this paper is to demonstrate that Haiti was, because of a very lucrative slavery-based system, actually one of the richest country relative to its small population (around 500,000 people) before the french revolution. The downfall of Haiti, which will be discussed further, started with Haiti's independence in 1804 until today.

1.1 The beginning of slavery : history and demographics

Haiti (also know as Hispaniola or Saint-Domingue until 1804), was the first independent country in the Caribbean and the first black country to emancipate from slavery. The occidental part of the island had been under the french crown since 1697 with the Ryswick treaty putting an end to the war between France and Spain. As the most prosperous colony in the Caribbean, France relied much on products from Saint-Domingue such as sugar, coffee, tobacco and indigo for international trade. With very labor-intensive industries, Saint-Domingue population quickly became a majority of slaves and few rich white colons to administer the island. This was not especially planned by the French government which had first tried to attract french workers in Saint-Domingue and encourage population growth through a natality boost. Women to be married were sent there along with workers under the 36 months policy. This policy, created by Jean Talon (mostly famous for the administration of Canada at the end of the XVIIth century on behalf of Colbert), mainly consisted in the french State paying boat tickets for workers in exchange for 3 years of labor in the plantations. At the end of the contract, workers were given a piece of land in Saint-Domingue to encourage their settlement and the development of the french population. The failure of this policy led to a rapid expansion of the slavery business through the triangular trade. At the end of the XVIIth century, slaves started being sold in Saint-Domingue at a slow rate of around 500 slaves per year. The slave population rose from 2000 in 1681 to 12,000 in 1701. Using multiple sources, I have extrapolated a coherent time series for the number of slaves in Saint-Domingue (Figure 2).

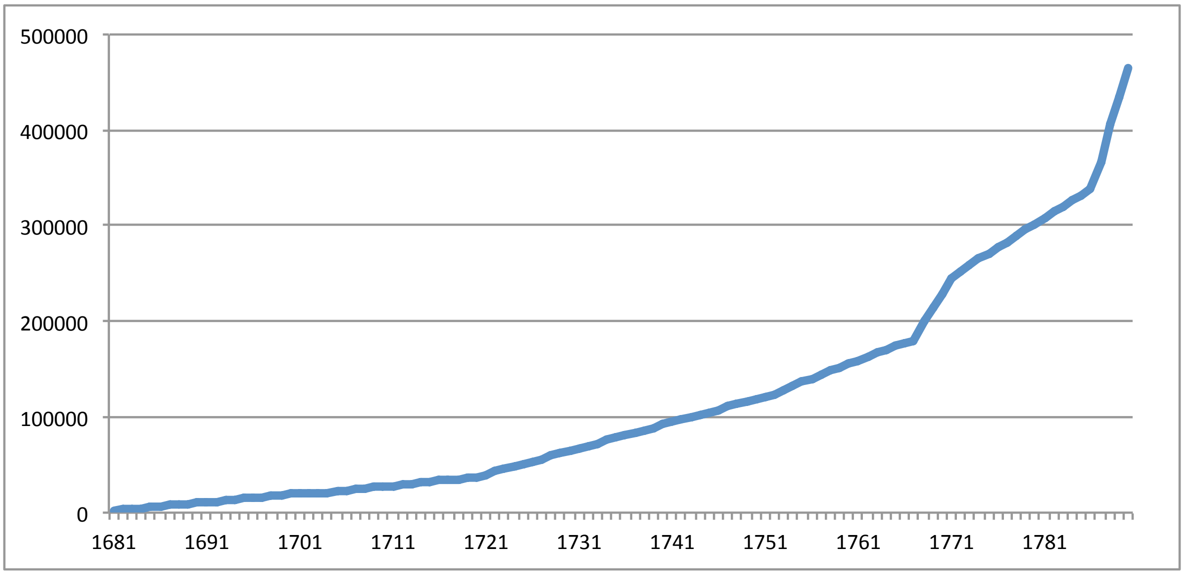

FIGURE 2 – Slave population in Saint-Domingue during the XVIIIth century

The striking fact in the slave population increase is the exponential shape. Due to the limited natality and the very high mortality among slaves, this fast increase in population is due to huge imports of slaves before the revolution. For instance, aroung 13,000 slaves were imported in 1767, 27,000 in 1786 and 40,000 in 1787. By the beginning of the french revolution, 900,000 slaves had been imported and 465,000 were still alive in Saint-Domingue.

At the end of the XVIIth century, the ratio of slaves over white settlers had reached 1.5 with 20,000 slaves for 13,000 white settlers. By the end of the XVIIth century the ratio had increased to 16 slaves per white man. At this time, an important population of mulattos (with both white and black ascendance) had emerged due to multiple factors. The first reason is the shortage of white women that started in 1681 with the first immigration waves. At this time, we can identify 4000 men for 485 women. Many efforts were made to attract women in this new colony, but settlers turned to indian women and then slaves wives (they would exchange sexual favors against their freedom) [1]. Mulattos became a separate social group in which they were ranked according to their "whitness". The inferiority of a mulatto was suppose to be directly measured through

1. Jean Fouchard, Plaisirs de Saint-Domingue. Imprimerie de l'État, 1955

the fraction of black blood in his ascendance. Marrying a black women was still frowned upon at the end of the century but we can still find 300 official marriages by 1770 including the one of the Parisian Léger-Félicité Sonthonax and the ex-slave Eugenie Béjart which will abolish slavery in Saint-Domingue in 1794. The development of the mulatto population will have a decisive influence on the revolution in Saint-Domingue. I use many sources to infer the population size of white men and mulatto during the XVIII$^{\text{th}}$ century with a particular focus on a detailed demographic analysis of Jacques Houdaille based on parish registers. Data is often given as ratios over decades rather than absolute numbers. I find that data sources are quite coherent and as summarized by Figure 3 with a ratio of slaves over white people of 16 by 1790.

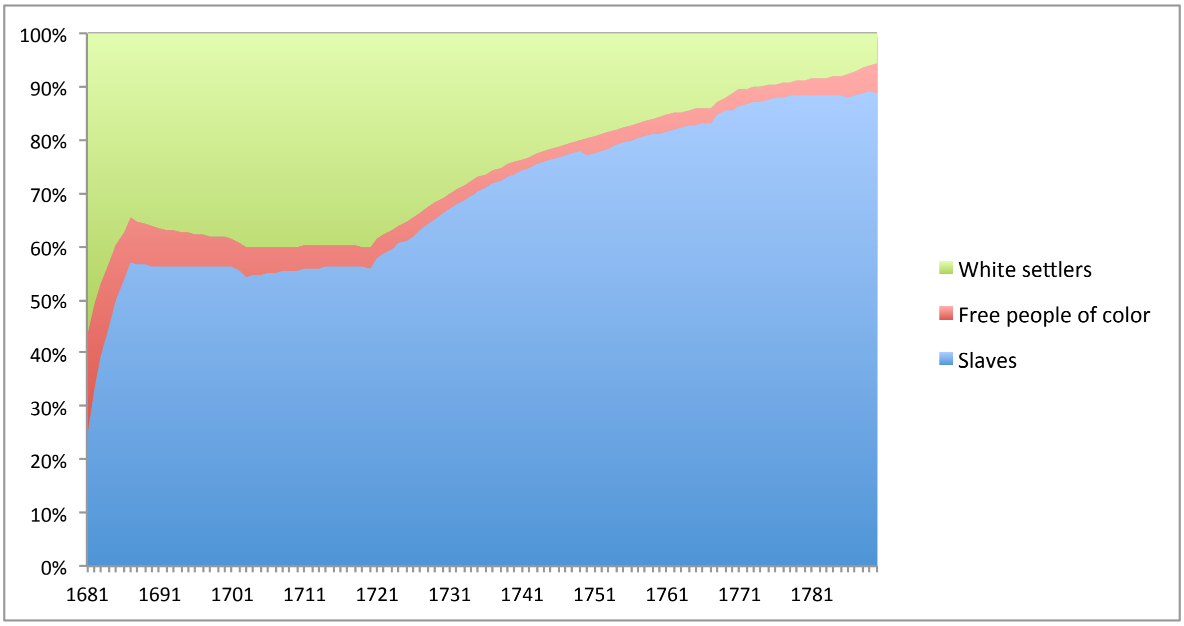

FIGURE 3 – Population mix in Saint-Domingue according the ethnic groups during the XVIII$^{\text{th}}$ century

The number of white people is quite constant during this century, as well as the number of mulattos who were a quite rare phenomenon compared to the increasing number of slaves. At the beginning of the revolution, there were around 465,000 slaves, 30,000 white people and 28,000 mulattos.

A third social group

Mulattos and emancipated slaves became an independent social group, with the right to own land and slaves but with no civil of political rights. The often benefited from a good education financed by the white fathers in France. This hybrid situation gave rise to a population of owners especially since they had an usual taste for saving [2].

2. "La plupart manifeste un goût très élevé de l'épargne et acquiert une situation matérielle des plus enviables. Ils se portaient acquéreurs des plus belles propriétés qui étaient le refuge sûr des affranchis sans foyer et des esclaves en rupture de banc." Jean Fouchard, Les Marrons de la Liberté, 1972, p. 363

By 1789, we estimate that mulattos and emancipated slaves owned one quarter of all property and one third of the slaves. Nevertheless, mulattos were much better treated in the metropole (they even had access to prestigious administrations normally reserved to the noble class) than in Saint-Domingue where keeping a strict separation between white and others was crucial. Many mulattos preferred to stay in France rather than face their native land, and joined the war against their own colonies. This in-between position gave rise to many internal conflict among which the War of knives that opposed black people and mulattos in 1799 (discussed further).

1.2 The life conditions of slaves in Saint-Domingue

Salvery had been reestablished with Colbert's "Code Noir" (Black Code) in 1685 in order to give a juridical status to slaves and supersede the Church condamnation of slavery (which was not so clear as spreading christianism was also one of the main justification for colonizing). This Black Code was intended for french colonies as slavery was not allowed in the metropole [3]. According to the code, a slave became a personal property that could not own anything and had no juridicial status. To understand the way of life bared by slaves, I summarize the main points found in the "Code Noir" leaving out the most technical ones [4] :

— Slaves must be baptized in the Roman Catholi Church (Salves should therefore not work on Sundays and Holidays).

— Married white men having a relationship with a slave loose the ownership of the slave and the eventual children born from this relationship. If the white man is not married, he must marry the slave who becomes free along with the children born from this relationship.

— Salves can only engage in commercial activity with the authorization of their master

— Slaves over ten years old should receive every week two and a half cups of manioc, two pounds of salted beef or three pounds of fish [...]. Slaves under ten years old should receive half of the previous quantities.

— Salves should be fed and given clothes by there masters. They can ask for better treatment in the judicial manner if these obligations are not met.

— Salves can not own anything.

— Except against their masters, slaves have no judicial existence. They can not sue or be witnesses.

3. Since the edict of Louis X in 1315, any slaves reaching french soil became free.
4. Pour consulter une version numérisée : https ://archive.org/stream/lecodenoirouedi00fran#page/n5/mode/2up

— Most felonies and misdemeanors perpetrated by slaves are punished by death.

— Masters can beat their slaves as long as it does not become torture or mutilation. Masters are not allowed to kill their slaves.

— Any master over twenty years old can free a slave without giving a reason.

— Slaves work from sunrise to sunset, except on Sundays and Holidays.

— Salves must have a break in the middle of the day to eat and feed their children.

This unbearable way of life had immediate effect of salves mortality. According to Jean Fouchard, one third of guinean slaves died in the first three years, and you could not expect a slave to work for more than fifteen years [5]. Infant mortality was also very important due to the lack of care and sanitized environment and voluntary abortion. Many mothers would kill their own child rather than raise him to become a slave. Suicides were also often reported especially group suicides carried out by Ibos or Mines. From this situation, maroons movement logically emerged. It could take many forms, from infanticide and suicide to fleeing the property and join other maroons (the Creole langage was first born as a way to communicate secretly between maroons). The first maroons movement took place in the beginning of the 16th century such that in 1792 the north of Saint-Domingue would identify almost two thousand maroons for only 297 legally emancipated slaves [6]. Maroons would hide in the mountains in places difficult to access which later became the mountain names such as "Piton de Nègres", "Piton des Flandes", "Crète à Congo" etc.

Working conditions

The Code Noir is the only document detailing the working conditions of slaves. There is no labor contract between masters and slaves given the ambiguous status of slaves, between objects and humans. We have accumulated many testimonies allowing us to understand the different social groups and the tasks performed by slaves. Also, a few trials held by slaves against their masters (very rare) can help understand the situation in Saint-Domingue. In a sugar plantation, every tasks are taken care of by slaves. We therefore encounter house slaves, slaves working in the fields and slaves working on more technical step of the process. Physical attributes and technical abilities are used to determine the allocation of slaves. A hierarchy between slaves is created to give the impression of progress and achievement.

— House work

Slaves used for house work are typically better dressed, could eat the leftovers of their masters and were not exposed to the difficult work conditions of slaves working in the fields. It was quite common for house slaves to be freed when they retired. Unlike

5. Jean Fouchard, Les marrons de la liberté, p.119
6. Jean Fouchard, Les marrons de la liberté, p.336

slaves from the field, house slaves could be summoned at any time day or night (this is why in some testimonies, we encounter house slaves sleeping in the stairs near the master's bedroom). House salves are also the one mostly sexually used by their masters. The possibility of being freed by having the master's child did not actually encourage them to protest that much.

— Talented slaves

Talented slaves could become craftsman and sell what they made with the master's authorization. Old slaves, unable to perform difficult physical work could be also be affected to this tasks. For instance, many "talented slaves" worked in the wheel business since plantations had a very high consumption of wheels. Women slaves could in the same way become nurses when unable to resume physical work. Every plantation also had one slave taking care of punishments and general monitoring of other slaves.

— Mill and field slaves

This category of slaves regroup the most physically challenged ones. As said in the Code Noir, working hours basically start at sunrise until sunrise. Breaks during the day are often programmed between noon and two in the afternoon. Working in the mill can be summarized in a two step process : the crushing and the boiling of sugar canes. We find many work injuries in the mill due to bodyparts crushed or boiled during accidents (very common for exhausted slaves, sleep deprived and underfed. The Sunday break is often used by slaves to take care of their own gardens necessary to feed themselves. In plantations not respecting this Sunday break, we have testimonies of slaves working on their vegetable garden during the night.

1.3 Abolition of slavery and the Independence war (1789-1804)

Abolition of slavery

Thinkers of the age of enlightenment (siècle des lumières) had questioned the principles behind slavery. Far from being unanimously against slavery, the debate had led to the formation of an abolitionist movement. Some of the intellectuals saw in slavery a negation of basic moral principles and natural rights while others (physiocrats mainly) denounced the economic inefficacy of slavery. It is the case of Adam Smith who famously said that "work done by slaves ... is in the end the dearest of any. A person who can acquire no property, can have no interest but to eat as much, and to labour as little as possible" [7]. He was also against slavery on a moral standpoint but not to vocal about it. For people who believe that you would have to be a visionary to be against slavery at this time, it is worth noticing that slavery was forbidden on french soil since an order of 1315 from Louis X. The abolitionist movement grew within the revolutionary groups that handled the french revolution so that many people being in power by 1790 favored

7. Wealth of Nations, p.387

the end of slavery. The abolition of slavery was finally adopted on Februrary the 4th 1794 during the convention. The governor of Saint-Domingue Sonthonax had himself anticipated on this decision by abolishing slavery in his colony six month before on August 29th 1793.

The Independence war (1792-1804)

While this political war had been taking place in the metropole, a civil war was happening in Saint-Domingue. Salves were actively joining the french revolution, and therefore fighting for their freedom, while settlers fought to keep their privileges and their property. The law voted in Paris to abolish slavery was not respected by slave owners so far from the french government domination. Slaves had to keep fighting after 1794, under their leader Toussaint Louverture. Before Napoleon came to power, slaves had managed to win over the settlers despite the support they had received from the Spanish settlers in Cuba. Toussaint Louverture was named governor of Saint-Domingue by Napoleon Bonaparte. Another war broke out in 1799 called the War of Knives opposing black people and mulattos finally won by the former.

The attempt of Louverture to show Saint-Domingue's independence through a separate constitution triggered a war with Napoleon who intended to reestablish slavery. Despite the capture of Louverture in 1802, the Haitian people finally won in 1803 led by Jean-Jacques Dessalines. The independence was thus proclaimed on January the 1st 1804 by Dessalines, which gave the name of "Haiti" to this newly free country. This act of independence was not recognize by any country at the time, especially France, and led to an intermediate situation that would turn out to be economically unbearable.

Recognition of independence and the indemnity

At the end of Napoleon reign during the first Restauration, in 1814, France tried to reinstate Haiti as a french colony. Of course, Haiti refused any form of dependance to the French crown but suggested through their president Alexandre Pétion that they could pay a "reasonably estimated" indemnity to slave owners [8]. The negotiations were not finished when Louis XVIII died in 1824. At this time, negotiation with France for the recognition of Haiti were carried by President Jean-Pierre Boyer who had been elected a couple years before. In April 1825, Charles X (King of France from 1824 to 1830) sent warships at Port-au-Prince to impose his conditions in an *Ordonnance*. Asking for 150 million francs and a 50% discount on all further trade taxes, this agreement was finally signed by Boyer under military pressure [9] and got it approved by the senate.

8. Haiti having the initiative in the reimbursement process can seem suspicious. It was however confirmed in the few diplomatic letters exchanged on the subject between 1815 and 1825. Understanding the autarkic situation in which Haiti was left after 1804, we can assume they desperately needed to resume commercial relations with other countries, even through the settlement of an indemnity.

9. See Annex A for the *Ordonnance* signed by Charles X

After having made the first payment to France (through a loan made in Parisian banks), the embargo on Haiti ceased and diplomatic relations were resumed with most countries. Unable to make the second payment, President Boyer kept negotiating with France until February the 12^{th} 1838 when another treaty was signed. The independence debt was reduced from 120 to 60 millions francs. The first payment being made through a loan of 30 millions francs, Haiti still had 90 millions francs to pay over 30 years (explicitly until 1867). Wars and economic complications made it impossible to keep their engagement. Haiti stopped paying between 1843 and 1849 and between 1867 and 1870 but ended up paying this independence debt to France by 1883. We will discuss more precisely the repayment of this debt in the next section under the public expenditures focus.

2 Haiti's economic history during the XVIIIth and XIXth centuries

Very few economic history of Haiti have been undertook. The scarcity of the data and the complex political history may have been discouraging factors. Nevertheless, the Haitian history raises a very important question : how could a country so rich and promising at the beginning of the XIXth century fall so far behind by the beginning of the US occupation in 1915 ? Evidently, the question of the aftermath of slavery is crucial. Given the complexity the political and economic history, multiple reasons can be given which all have merit. Because of the lack of data, many people focus on intrinsic reasons such as the alleged laziness of that Haitian people. Far from being satisfactory, we focus here on more reasonable and objective explanations, most of which are consequences from slavery and the oppressive attitude of "developed countries" during the XIXth century. We should point out that this explanation is not so trivial in history as decolonization and independence could be considered as good things economically. For instance, the United States regained trade positions and freed themselves from taxes on exportations and importations detrimental to their development after the war against the United Kingdom.

To identify clear effects on the underdevelopment of Haiti, we first attempt to reconstruct a reliable database regarding the economic fundamentals of Haiti and important metrics such as the exports level, the part of public revenue spent for education etc. The main economic data sources I use are extracted from the pioneer work of Robert I. Rotberg, the more recent work of Victor Bulmer-Thomas (which includes much of Rotberg) and the financial History of Francois Blancpain. For more specific data, I use various contributions of American and Haitian historians.

To illustrate the economic strength or weakness of Haiti, many authors have chosen to compare data among countries in the Caribbean. In general, research does not focus on the reasons behind the wealth of nations but rather a comparative approach to understand the downgrading of Haiti. Here, by computing a GDP time-series, we shed a new light on the understanding of the Haitian history, also using comparative approach but on a much larger scale.

Figure 4 shows an extrapolated estimation of the Haitian population over both centuries. Data during the war (1789-1804) are pure extrapolations. The drop during the war is results from many deaths during this period and the flight of most white settlers. Overall 100,000 people left or die during this period. Data the Haitian population before the independence is summarized in appendix F.

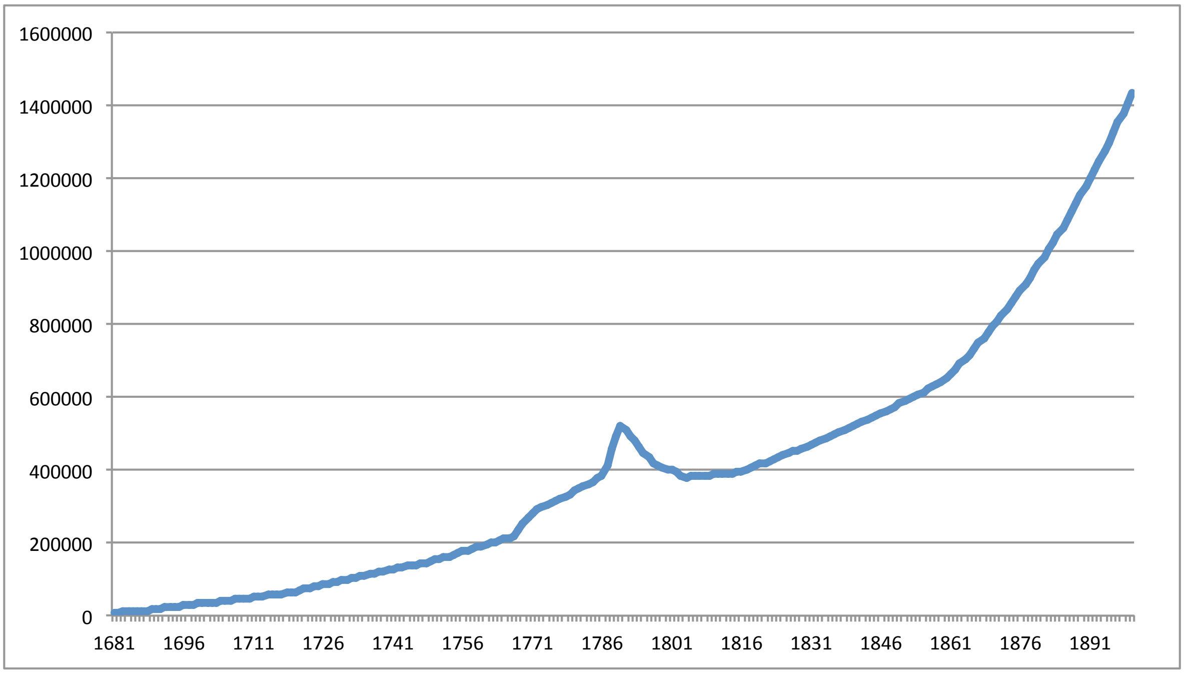

FIGURE 4 – Population in Haiti (1681-1900)

To understand the relative wealth of Haiti, we must focus on the export sector. Indeed, the only source of wealth for Haiti has been a very large commodity export sector, from which derive income for the people and public finance through taxes. Therefore dynamics of the volume and prices of exportations, along with the public external debt faced by Haiti, fully determine the financial capacity of Haiti to develop itself. This economic perspective brings a lot of key elements to the debate around Haiti development issues, and focused rather on external explanations. The relevance of such an analysis is discussed further. We begin by presenting time series for the export sector together with the exchange rate history. We then establish the correspondent public revenue and expenditures in development, military and debt service.

2.1 Economic indicators before the revolution

The scarcity of data before the revolution makes it difficult to extrapolate perfect time series. Data is rather scattered, with different mass metrics for different exports, multiple currencies at hand, and huge increase in population depending on boats arrivals.

In 1753, the wealth of Saint-Domingue was greater than any french colonies. Exports from Saint-Domingue often represented two thirds of France's exterior trade, more than all the english colonies combined. For instance in 1789 Haiti exports were made of (mass unit) [10] :

141,089,831	pounds of sugar
68,151,181	pounds of coffee
6,286,126	pounds of cotton
930,016	pounds of indigo
150,000	pounds of cacao

We estimate that the Saint-Domingue revenues for year 1789 was around 150 millions francs [11]. For year 1788, the total trade volume was estimated at about 214 millions francs (42 millions dollars) with approximately 155 million francs in exports and 55 million francs in imports. Many testimonies give very high numbers of ships leaving Saint-Domingue (4000 probably), around 800 large sugar plantations, 3000 smaller plantations, 700 cotton producers and 3000 small indigo plantations. Products made in Saint-Domingue were not particularly consumed in France, where tropical goods were not very popular, but were important for France to keep a trade surplus. Saint-Domingue was the world main producer of sugar and coffee, sold from Amsterdam to Saint-Petersburg.

By 1750, sophisticated technics regarding agriculture were already used in Saint-Domingue. The technological factor was therefore constant. With the arrival of slaves every year, we can assume the stock of machine grew proportionally, having a production per capita approximatively constant. If we make this kind of assumption, we can infer the order of magnitude for the volumes produced before the revolution.

10. Alain Turnier, *Les Etats-Unis et le marché haitien*, Washington, 1955 p. 25
11. Etienne Charlier, *Aperçu sur la formation historique de la nation haitienne*, Presses Libres, 1954, p.34

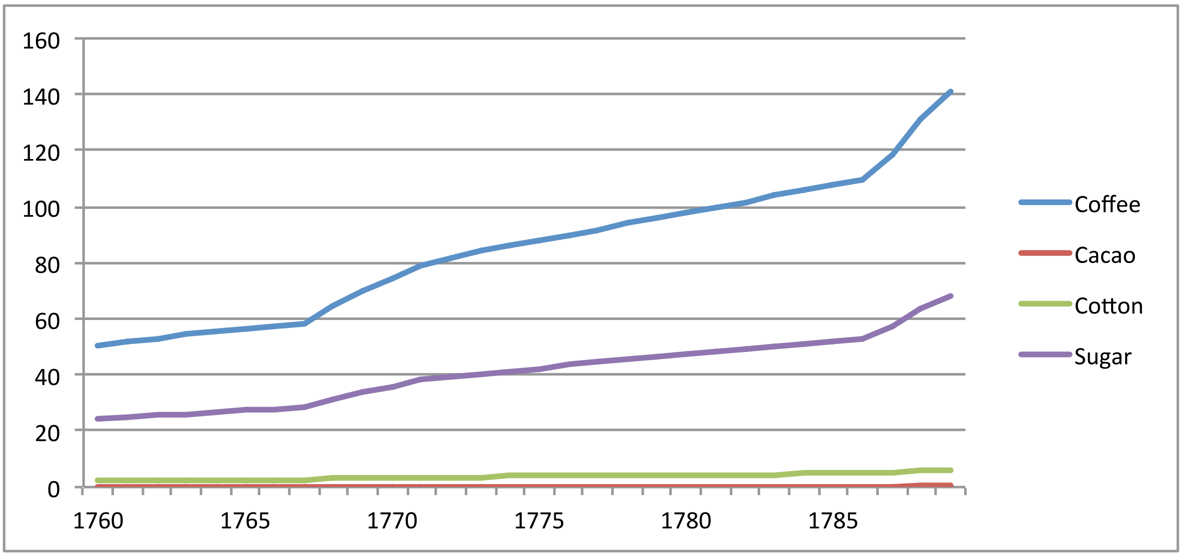

FIGURE 5 – Volume of exports from Saint-Domingue before the revolution in millions of pounds

The preciseness of the exports volumes does not need to be very high as we do not use these figures for our analysis. The order of magnitude is interesting as it puts in perspective the relative power of Haiti in international trade at this time. Further in our research, we use the financial data on exports rather than the volume for which we do not have precise data before 1790.

2.2 The export sector in the XIXth

The local currency in Haiti is called the gourdes. Historically, the french colonies accepted the peso in their colonies since a lot of trade was made with local Spanish colonies. After the independence, Haitians who were calling the peso *gordo* for *big* named their currency gourdes. It was created at par with the dollar as a replacement of the french *livre tournois*. Through many debasement, the gourdes maintained stability until the middle of the XIXth century where inflation could not be controled. After getting rid of the gourdes for a decade, it was reinstates again at par with the dollar. Using multiple coherent sources, we can put together a usable time serie for the exchange rate.

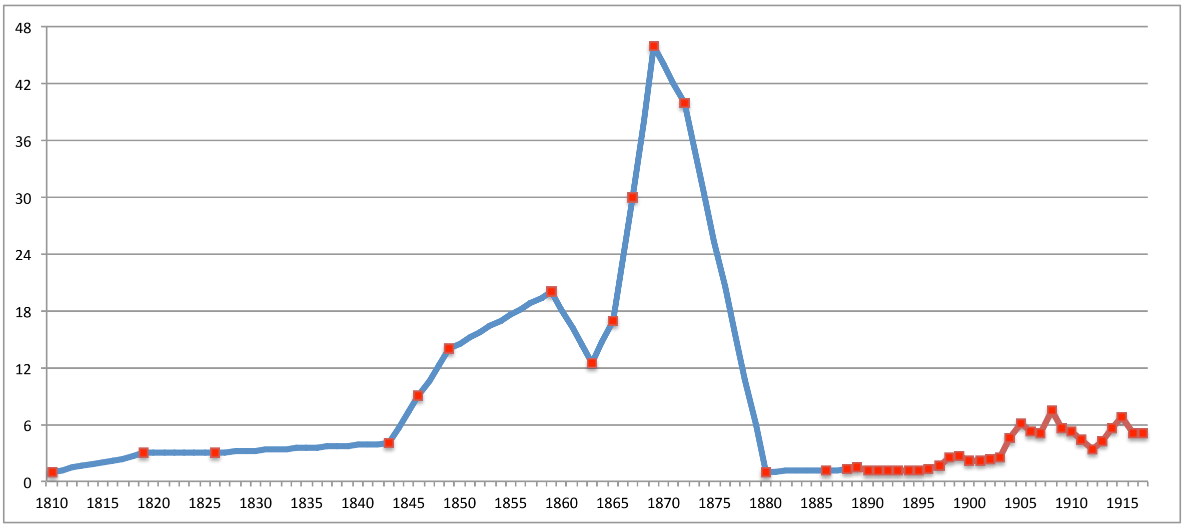

FIGURE 6 – Exchange rate of the Gourdes with the US Dollar during the XIX$^{\text{th}}$

For figures on the export sector, we rely mainly on the detailed dataset provided by Victor Bulmer-Thomas. The relative wealth per capita of Haiti can be measured as the percentage of Haitian exports in the total caribbean exports.

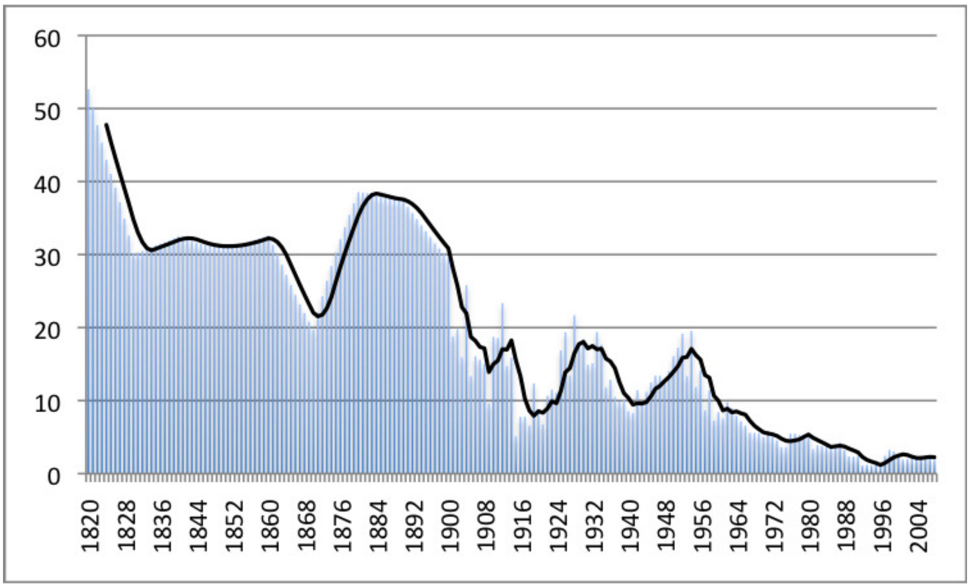

FIGURE 7 – Ratio of Haitian to Caribbean Merchandise Exports (%), 1821-2007

Relying on this measure of Haitian exports, we can conjecture as Bulmer-Thomas that the downfall of Haiti occurs rather around 1890 with the fall in the coffee price. We will discuss further how we can identify precisely the beginning of this downward spiral for Haiti. Independently of the exact date, the question remains : why Haiti could not face this external shock ? What made Haiti so vulnerable to one commodity ?

Exports have always been at the center of Haitian politics. Under Toussaint (before the actual independence of 1804) and afterward, Haitian leaders have tried to promote export growth and maintain its leading position in the Caribbean. The challenging part was to remain a preferred trade partner after the independence (Haiti was the only, and first, independent country of the region) and organize the production without the french institutions. The war for independence evidently left little time to focus on the economic issues, especially in the sugar industry. Before the revolution, in 1789, sugar exports were an essential component of Haitian exports with 95.6 million lbs per year [12] (more than all the British colonies put together). Sugar exports then almost stopped during the war and resumed after the independence with approximately 5.4 million lbs by 1818. During the same period, other export sectors suffered from the war but were apparently much better suited for recovery. For instance, coffee exports went from 76.8 million lbs in 1789 to 26 million lbs in 1818.

2.2.1 Exports in sugar, coffee, logwood, cacao and cotton

Sugar exports collapse

The reason of sugar exports collapse have been recently unveiled by Ada Ferrer (2015) in her joint history of Cuba and Haiti [13]. In 1791, at the beginning of the Haitian revolution, white settlers in Cuba saw the opportunity to shift sugar exports in Cuba which was under the Spanish crown. The fear of the black rebellion contaminated Cuba as many Haitians were sold as slaves in Cuba during this period, spreading stories. In 1793, Spain declared war to France, which eventually reached the Caribbean : the white settlers of Cuba joined the black rebels of Haiti against the french army (this episode is remarkably similar to the French army helping the British colonies in America obtain their independence against the British crown). For military and strategic reasons, white people from Cuba who were to become super-enslavers a few years later formed an alliance with black people fighting for their freedom.

At this time, Spanish officers who fought aside the Haitian revolution were also known to own sugar industries in Cuba. This was particularly true for the General leading the Spanish army, who even became the godfather of Jean-François, a major black leader in the Haitian revolution. Therefore, Cuban industrials started buying sugar production equipment in Haiti (which was very sophisticated compared to most sugar production technics). The intensive production of sugar in Cuba came to the suburbs of Havana between 1793 and 1804. For instance, the number of mechanized windmills rose from 4 in 1793 to 26 in 1804. The population of Havana doubled, and many Haitian slaves were sold to work there. Cuba then became the uncontested leader in sugar exports and the most slave-intensive country in the world, while Haitian sugar exports collapse because of the lack of equipment.

12. Barros, 1984, p.198
13. See Ada Ferrer, Freedom's Mirror : Cuba and Haiti in the Age of Revolutions, 2015

Presidents Geffrard and Salomon (1879-88) tried to return to sugar production and exports by suppressing all taxes on sugar exports but the low investment in capital made it impossible. Only the United-States invasion after the first World War was able to revive the sugar industry for reasons explained further.

Shifting to other commodities

This narrative for sugar exports collapse is complementary to the reasons provided by Bulmer-Thomas. Between Toussaint and Boyer, which covers half of the 19th century, Haiti underwent structural changes in the production sector. The size of landholdings shifted from the large estates in which slaves used to work to small farms with few peasants. This evolution took place after the independence : at first, Christophe favored large-scale lands and made vagrancy a crime in order to insure sufficient labor supply. Sugar exports were therefore able to recover after the war with this system where serfdom had replace slavery and landowners had become Haitian. The State imposed a 25% tax on all productions while half went to the landowner and the remaining quarter to the worker. In 1809, Pétion authorized selling land in small parcels and suppressed the 25% tax (but raised the export taxes). Under Boyer (which came to power in 1818), large-scale lands were again favored in order to satisfy the export growth and the french indemnity which we will discuss in details. Vagrancy laws were reinforced with the Code Rural in 1826, which had the opposite effect : most people had to become peasants on small farms to avoid punishment. Candler (1942) found 46,610 farms in Haiti in 1839. By the middle of the 19th century, lands were to small to support investment in capital needed for sugar production and exports taxes were to high to make profitable (price volatility could also worsen the situation). After this transitory phase, coffee, cotton, cacao and logwood were the only commodities exported by Haiti. As said above, sugar only came back with the United-Stated invasion which invested massively in the necessary technology and allowed large-scale lands to be bought by foreigners.

The rise of the coffee industry

Because of its very high quality, Haitian coffee became very popular in Europe and in the US. Coffee trees would grow on most of the Haitian soil and quickly became the first commodity exported. Technology could not change much the yield of coffee preparation, and exports volume could only grow with labor supply and land supply. Given a large population growth in this period, volume of coffee exports doubled between 1825 and the US occupation in 1915 from around 40 millions lbs to 80 millions lbs.

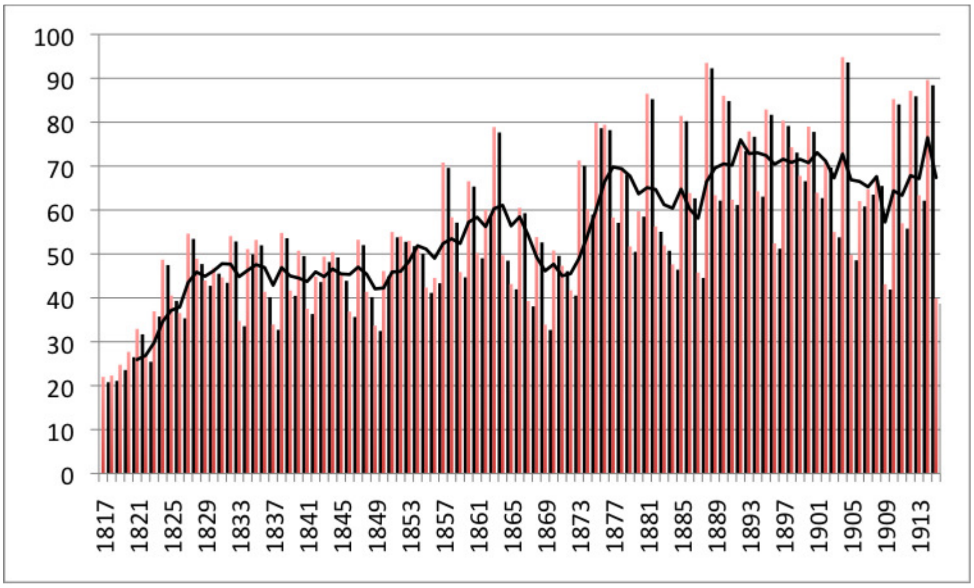

FIGURE 8 – Volume of Haitian Coffee Exports (mn lbs), 1817-1915

As explained by Bulmer-Thomas, the price volatility and the political instability explains most of the volume apparent volatility. For instance, we can clearly identify a drop in exports during the Haitian civil war 1867-1869 (and the American civil war 1861-1865). More generally, growth in exports volume could not match the population growth but managed to increase steadily.

The rise (and fall) of the logwood industry

The logwood production started by the end of the Boyer presidency. Until then, every leader had prohibited this industry in order to insure enough labor supply. Indeed, Boyer had drawn attention to "the pernicious custom which many people have contracted of abandoning work on estates and devoting themselves to cutting wood that does not belong to them" [14].

14. Cited in Bulmer-Thomas (2012) from Nicholls (1974)

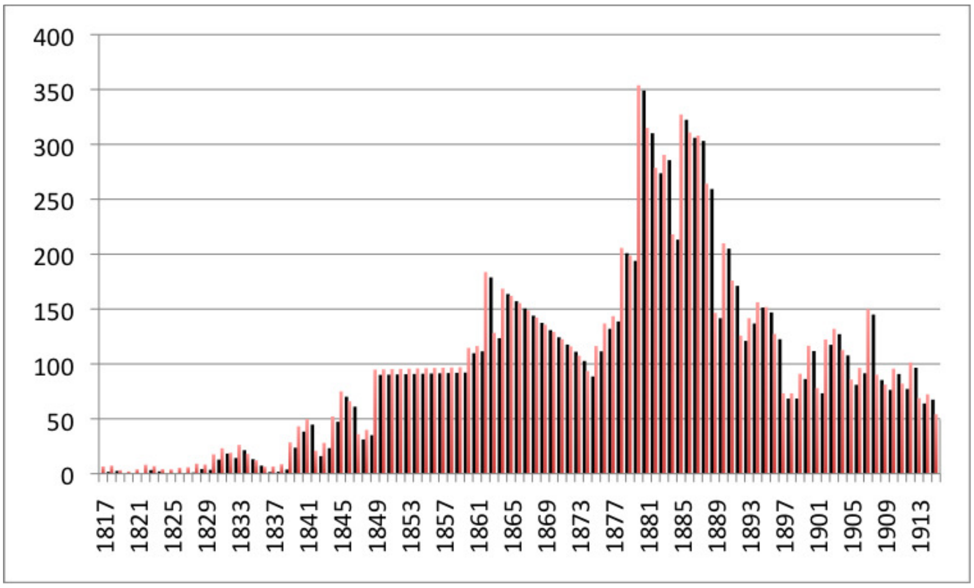

FIGURE 9 – Volume of Haitian Logwood Exports (mn lbs), (3-year average), 1818-1914

Haiti came to dominate the logwood market by representing two-thirds of the market in 1880. After that, deforestation made it impossible to maintain such a trend and logwood exports diminished continuously. Popular for natural dye extraction, logwood then came to compete with the german chemical industry which produced synthetic dyes. For these two reasons, logwood exports became less significant in the 20th century and volume growth did not exceed population growth overall. As the logwood example suggest, draining natural ressources was the only option for Haiti to maintain export growth at an acceptable level.

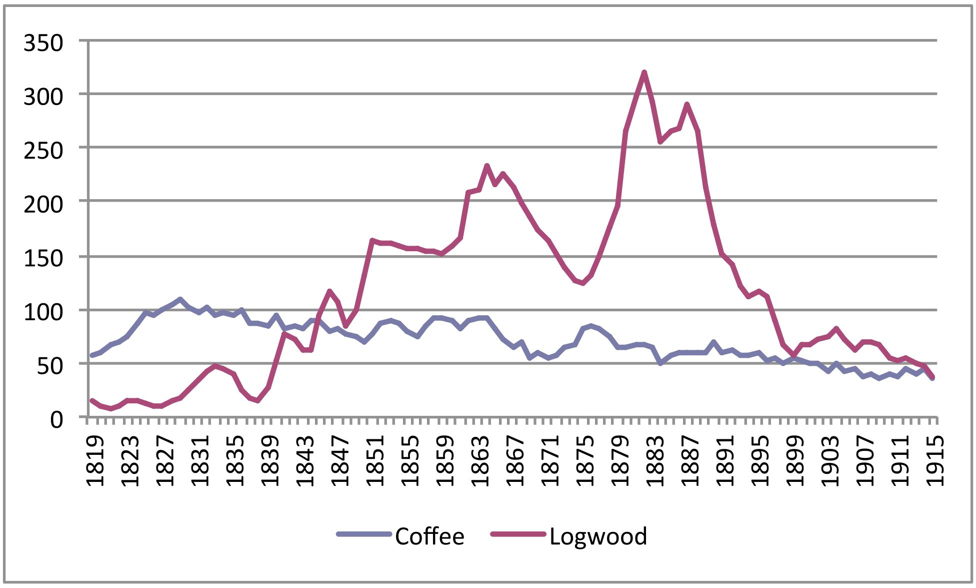

FIGURE 10 – Volume per head (lbs) of Haitian Coffee and Logwood Exports (3-year average), 1818-1914

Cacao and Cotton exports

The main cotton exporter was the United-States which dominated the market on quantity and quality. Because of much higher production costs, Haitian cotton was never able to compete with the cotton produced in the United-States. Only during the US Civil War did the price rise enough to allow Haitian cotton exports to rise as well. Even then, favorable measures were taken by Geffrard to make exports grow. After the US Civil War, the price returned to normal values and exports diminished.

Cacao exports only started to be really significant after 1880. The rise in prices and the Dominican cacao boom allowed for the development of a cacao industry in the small Haitian farms. Because of high taxes and very weak infrastructure (very few railways), the cacao industry never took off like in the Dominican Republic. Nevertheless, as noted by Bulmer-Thomas (2012), value in cacao exports was equal to the value in logwood exports by 1900.

2.2.2 Aggregate exports and imports during the XIXth century

After having understood the dynamics for each commodity, we can derive exports and imports values during the XIXth century.

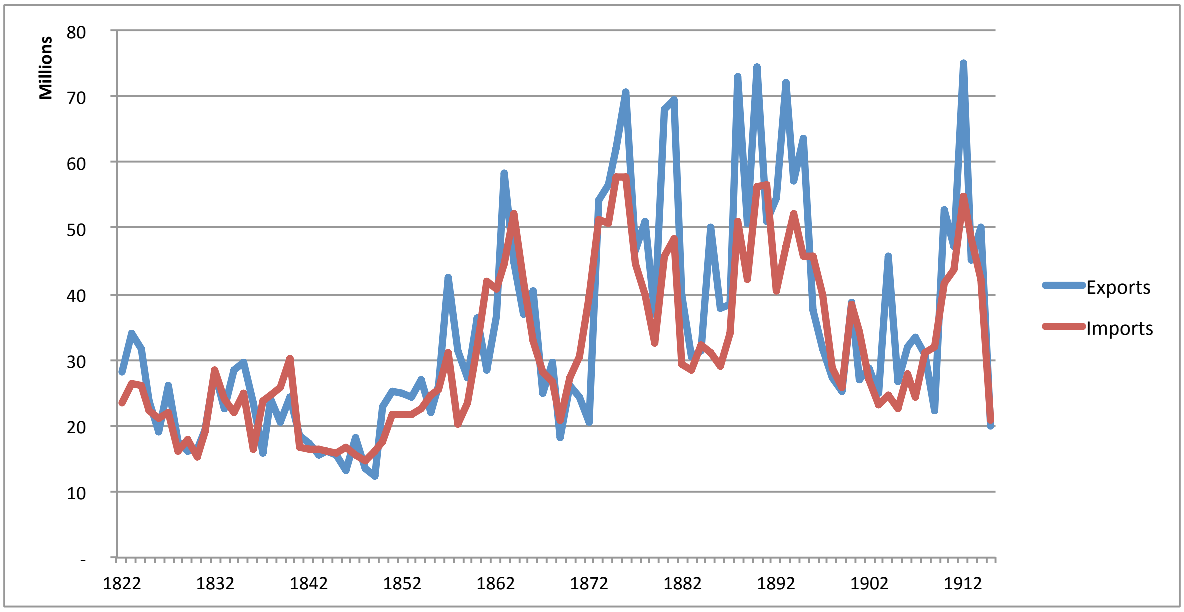

FIGURE 11 – Exports and Imports in million Francs-or of 1825, 1822-1915

As we can see on Figure 11, the volatility on exports and imports is very high. Natural catastrophes, wars, scarcity of ressources contribute to this volatility making it complicated to understand the underlying dynamics. Nevertheless we know that the drop in exports and imports during the 1860's is due to the combination of the civil war in the US (1861-1865) followed by a civil war in Haiti (1867-1869). The very large decrease in 1882-1883 is mainly due to a decrease in both the price and the volume of logwood exports that lasted only two years. During the 1890's, the decrease in exports can be attributed to the worldwide shock on coffee prices triggered by Brazil.

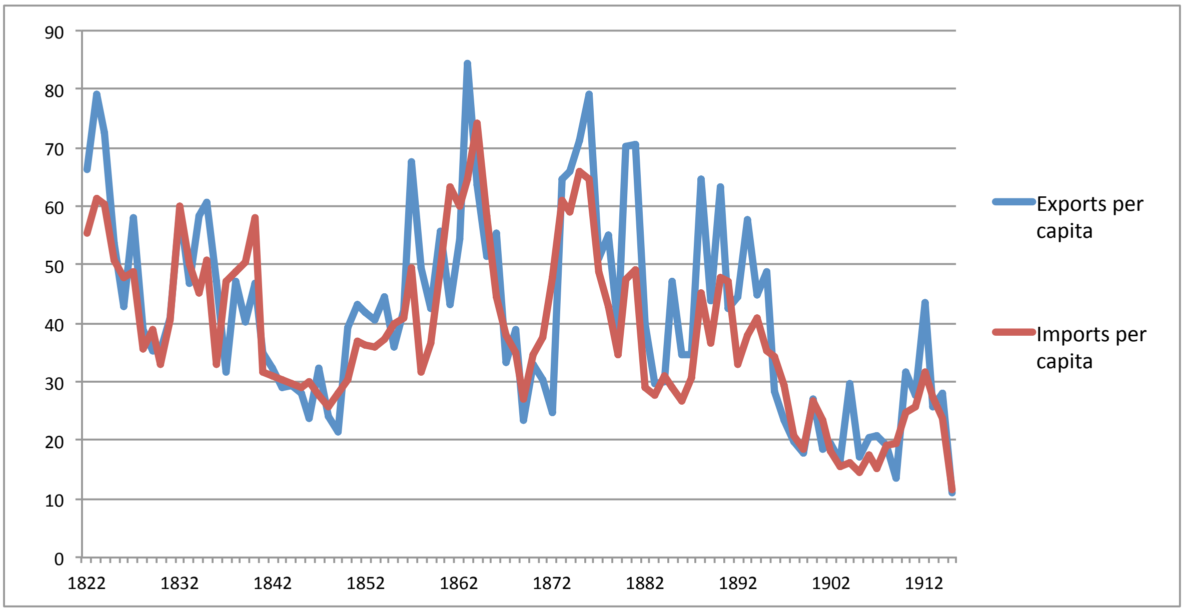

FIGURE 12 – Exports and Imports per capita in Francs-or of 1825, 1822-1915

By using per capita measures for exports and imports as in Figure 12, it becomes clear that the increasing trend seen in Figure 11 does not match population growth. Years following the civil war show that the decrease in per capita exports or imports had slightly begun before the coffee price crisis.

2.3 Public Finance

2.3.1 State Revenues

The main source of revenue for the Haitian state was taxes on the export sector. Internal taxes (on land for example) also contributed to the public revenue. The importance of the export sector to determine public revenue depends whether taxes are levied on national or foreign currency and the ongoing exchange rate. Therefore, to understand the dynamics of public revenues, we need to fully understand the export sector volumes and prices, the specific taxes levied which changed as often as political changes occurred, and the dynamics of the exchange rate. After understanding how public revenues evolved, we will focus on public expenditures.

As the first independent country, Haiti was the only country in the Caribbean to struggle with public finance. Dessalines had introduced a tax on imports of 10% in 1806, maintained by Pétion and raised to 12% in 1819 by Boyer. Only Christophe had suppressed them, therefore relying only on land taxes. By 1827, the whole island applied a 16% tax on imports except for British and French goods which benefited from special treatments. France had managed to impose this low import tax in 1825 at the same time as the independence indemnity was signed. Export duties also existed on many products (they were suspended from 1827 to 1835) and contributed to public revenue. From Benoit (1954), we understand that 52,3% of public revenue came from these two taxes, of which 33.3% from import taxes and 19% from export taxes [15]. The rest came from taxes on land and from renting or selling state properties.

During the 19th century, the gourde (national currency) declined most of time, pushing politicians to continuously innovate to keep public revenues growing in value. After the independence, Haiti used coins that were supposed to be at parity with the US dollar. Lacking metal supply, Pétion debased the coinage which reduced the money value to a 3 to 1 ratio with the US dollar. Facing another shortage of metal, Boyer decided to introduce the first paper money in Haitian history. Lack of confidence in this paper money only aggravated the decline in money value. To preserve public finance, Boyer imposed in 1835 that the import taxes be paid in hard currency while other taxes could be paid in gourdes. This two-currency system went on until 1870, as the gourdes value declined. Import taxes had become the only reliable source of revenue as it was paid in hard currency. Export taxes recovered in 1850 with Soulouque decision to make it payable in kind. In 1860, Geffrard made export taxes payable in hard currency. Land tax was then totally inefficient and was suppressed in 1870 (the exchange rate had reached 4,000 to 1 at the time). Public revenues was therefore completely relying on the import and export taxes, extremely vulnerable to external shocks.

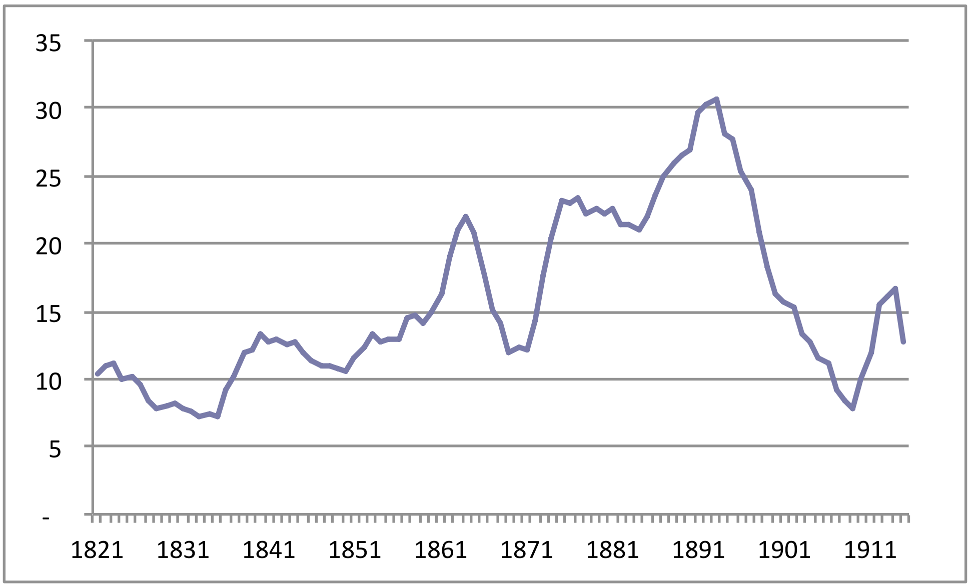

Figure 13 – Public Revenue per Head in Francs-Or 1825, (3-year average), 1820-1914

As expenditures rose (mainly debt service related expenditures and military expenditures), import and export taxes which were the only revenue sources began to rise as

15. Public revenue figures cited in Bulmer-Thomas (2012) p.179

well. For instance, the import tax was increased regularly from the 16% basis fixed by Boyer in 1826 to 26% in 1863 and 36% after the civil war. A 25% surcharge was implemented to compensate the withdrawal of paper money in 1872 and all these surcharges were replace by one comprehensive 50% surcharge in 1876. It decreased to 35% in the 1880s and stayed a this level until the US invasion.

The fall in the coffee price in 1890 was decisive in public revenue downfall. Haiti had come to rely only on export and import tax on few commodities, and was unable to find other sources of revenue.

2.3.2 State expenditures

The public expenditures faced by Haiti in the 19th century are essential to understand how the public debt influenced the Haitian development.

The need for a developed army oriented most of the public expenditures after the independence. The war against France and overall vulnerability of the newly born country made national defense a priority. The military culture was also a way of life and organized most of the Haitian society. For instance, from 1804 to 1915, only two presidents (Michel Orest and Davilmar Theodore) were not general from the military institutions. After the independance, under Dessalines, there were 52 000 men in the army (19% of the population) [16]. In 1837, the public revenues amounted to $2,082,522 while public expenditures reached $2,713,102 of which $1,612,293 for the military (60%). This kind of figures were very common during Boyer with military expenditures representing 50% of total expenditures. The number of men in the army fell sharply to 20,000 under Geffrard in 1860 and 16,000 under Salomon in 1880 [17]. Until the US invasion, military expenditures stabilized around 25% of total expenditures. The fact that the US actually invaded Haiti probably means that military expenditures were justified when facing such hostility. We can dismiss explanation of Haiti downfall being strongly linked to the military culture promoting arbitrary decision and violence as Haiti clearly needed defense until later in the 20th century.

Servicing the public debt only began in 1825 with Charles X *Ordonnance*. To recall the term of the contract signed by Boyer under military pressure : Haiti had to pay 150 million francs [18] payable on 5 years (30 million francs each year for the next 5 years) and a reduction of 50% on all customs duties. Haiti was therefore compelled to honor a huge debt (about 10 times the annual GDP) without the necessary taxes to raise public revenues. The first year, Haiti made a loan of 30 million francs in a Parisian bank which had a 20% commission fee so that 6 million francs had to be paid that year. Unable to raise such amount, Boyer gathered all the coins left in Haiti to honor the commission

16. Dr Franz Douyou, Haiti, de l'indépendance à la dépendance, 2004, p. 59
17. St-John cited in Bulmer-Thomas, 1889, p 310
18. $30 millions given the exchange rate at the time

and had to create paper money the next year [19]. Because of this loan, the Haitian debt is usually referred to as the "Double Debt".

Why 150 million francs ?

The justification given by Charles X in the Ordonnance of 1825 for the indemnity is that french civilians had been expropriated with Haiti's independence. While they attempted to give a detailed explanation for the amount (which seems impossible as one would need an inventory for each french slaveowner and landowner and the exact prices during expropriation), it seems more plausible that the french government chose the maximum amount that they thought Haiti could pay. Bulmer-Thomas gives a possible calculation method : estimation of the annual exports of Haiti was about 30 million francs with approximately 50% costs of production so 15 million francs of profits. If Haiti used all the exports profits to service a standard 10 years long debt, they could in the best case scenario service a 150 million francs debt.

The french government gave the details of their calculation in a table attached to the April 30th law. They are based on the estimated annual revenues of settlers in 1789 :

	48,822,404	francs for sugar
	70,299,731	francs for coffee
	25,542,664	francs for cotton and indigo etc.
Total :	144,664,799	francs
Other :	5,000,000	francs for lands
Total :	150,000,000	francs

The figure of 30 millions francs in exports comes from an estimation made by France in a law of 1826 based on exports of 1823 summarized by the following calculation :

	8.5	million francs with France
	8.4	million francs with England
	13.1	million francs with the United-States
Total :	30.0	millions francs

It is worth noticing that the 50% reduction in customs duties implied in the oder of Charles X would considerably reduce the export profits. Indeed, with an estimated 50% in costs, profits from trade would end up at around 10.7 million francs rather than 15 million francs. From GDP estimates (see section II.4), we can assume that the Haitian

19. Victor Bulmer-Thomas, The Economic History of the Caribbean since the Napoleonic Wars, 2012, p. 182.

GDP was close to 50 million francs-or which would mean that the debt imposed by France represented 300% of GDP.

After the first attempt to service the debt, Boyer refused to pay in 1826 and shortly after suspended the French 50% reduction on all taxes. He tried to negotiate a reduction in the debt value until 1838 and finally obtain a reduction from the remaining 120 million francs to 60 millions francs. The loan made in 1825 bearing a 3% annual interest rate was partially reduced. The annual schedule designed for the future payments was supposedly reasonable, but the exchange rate with the franc deteriorated, making it impossible to service the debt. Future payments were supposed to be organized on a 30 years time period following an increase in payments over time as follow :

for years 1838-1842, 1,500,000 each year :	7,500,000
for years 1843-1847, 1,600,000 each year :	8,000,000
for years 1838-1852, 1,700,000 each year :	8,500,000
for years 1853-1857, 1,800,000 each year :	9,000,000
for years 1858-1862, 2,400,000 each year :	12,000,000
for years 1862-1867, 3,000,000 each year :	15,000,000
Total :	60.000.000

The French government also expected the Haitian government to finish paying the 1825 first payment from which 700,000 francs were missing. For the loan of 1825, Haitian had to pay 1 millions francs per year until they had reimbursed the principal and the accumulated interests (the loan was finally paid by 1851). Negotiating with the holders of the 1825 loan, Beaubrun Ardouin and Séguy Villevaleix obtained that the annual interest rate should be reduced from 6% to 3% and that interest that was not paid between 1829 and 1838 should be erased. This allowed for a reduction of 16 millions francs in the Haitian debt.

Following the earthquake in 1842, a fire consumed Port-au-Prince in January 1843. Finally a rebellion in March 1843 forced President Boyer to go into exile. Payments stopped and Haiti managed to obtain from France a moratorium and the public debt until 1849. Again during the time period 1867-1869, civil war and fires made it impossible for Haiti to make their annual payment [20].The double debt was finally serviced in 1883 with the last payment.

Trying to established the "end" of the double debt is complicated as other loans were made with other countries to service it. Technically the "double debt" was indeed paid for in 1883 but new loans should be seen as part of the same debt. New loans were therefore contracted in 1874, 1875, 1896 and 1910. For each loan, excessive commission and excessive interest rates made it completely impossible to reimburse properly. This era of new loans came at a time when Haiti had managed to pay back most of the "double debt" (there were only 7.7 millions francs left to pay by the end of 1875 - 90% of the debt had already been payed during the last 50 years). The new president Michel

20. Blancpain (2001)

Domingue thought he could end the "double debt" once and for all through an external loan and start investing in his country. The sloan he made was intended for the repayment of the debt, the two month delay on civil servant salaries, the reconstruction of the National Palace burned in 1869, the creation of a National Bank, the construction of railway and bridges to name a few.

The 1874 loan

In September 1874, the total public debt had been considerably reduced to 10 million francs for the external debt and 6 million francs for the internal debt. To service this debt, the Haitian government decided to make a new loan of 10 millions francs with the franch company "Marcuard, André & Co" bearing a 3.5% commission percentage. The loan was backed by profits on coffee exports. Beyond reimbursing the existing debt, the loan was also made to create a bank to promote development through private investment [21]. The french company was taking to much time to issue this new debt and the Haitian parlement decided in February 1875 to cancel the agreement and make a new loan. The day after the vote, Parisian bankers announced that the bonds were to be issued soon, which they did for a total amount of 14,500,000 francs instead of the initial 10 million francs. The french bankers only gave a fraction of this bond issuance to the government.

The 1875 loan

Unhappy with this deal, the Haitian government made a deal with the "Crédit Général" for a loan of 50 million francs to repay the first loan and invest in infrastructure. The "Crédit Général" only managed to gather the nominal amount of 36,500,00 francs which was finally valued at 31,530,470 francs given that bonds of 500 francs sold at 430 francs. According to the deal made, the "Crédit Général" was allowed to keep 130 francs on each bond so that the Haitian government only received 21,800,000 francs. The government used 14,500,000 francs to repay the loan of 1874 and 1,500,000 francs as interest for the first annuity on the second loan. The resulting 5,800,000 francs were distributed to random officials for unknown services so that this 36 million francs loans was completely inefficient. In 1881, the french bankers accepted to reduce this debt from 36 to 21 million francs.

The 1896 loan

In 1895, Ministry of Finance Fouchard authorized a loan of 50 millions francs right before the death of the President Hyppolite. The loan was to be reimbursed in 37 years with annuities of 3.4 millions francs guaranteed by the coffee export tax with a 1.2 dollars for every 100 pounds of coffee. 37 years at the rate meant a total reimbursement of 74.2 millions of francs. The subscription was as usual less that than what was expected and the Haitian State quickly resumed taking loans on the internal market. At

21. The bank could ńăconduire invinciblement au progrès et à la civilisation moderneăż - Dantes Bellegrade, Histoire du peuple Haitien, p.186

least the 1896 loan was mainly used to convert short term debt with very high interest rates to longer term debt usually traded internationally. Indeed, by the end of 1895, the annuity on all debts had reached 1,350,000 dollars whereas after the 1896 loans (with the appropriate conversion rate), the annuity of the outstanding debt was reduced to 638,000 dollars.

The 1910 loan

Facing financial difficulties, Haiti decided to take a 65 million francs loan in 1910 [22]. One of the goals was to have a complete monetary reform by taking away the paper money in Haiti. 10 million francs were dedicated to this task.The loan finally floated around 47 million francs since 500 francs bonds were sold at 361.54 francs. After subtracting the 7,475,000 commission, the loan allowed 40 million francs to be collected. Those funds were used to service part of the internal debt that had began to grow rapidly, and for the paper money reform. By the end of all buy back operations, the governt had less than 1 million francs at its disposal. According to Dr. Frantz Douyou, the bank even sold the 130 000 bonds for 455 francs each instead of 361.54 francs making a total profit of 10.5 million francs. New internal loans were floated in 1912, 1913 and 1914 to meet urgent need and extraordinary expenses [23]. By the time of the US invasion, the total external debt had increased back to 121 million francs. External debt was later consolidated in american hands in 1922.

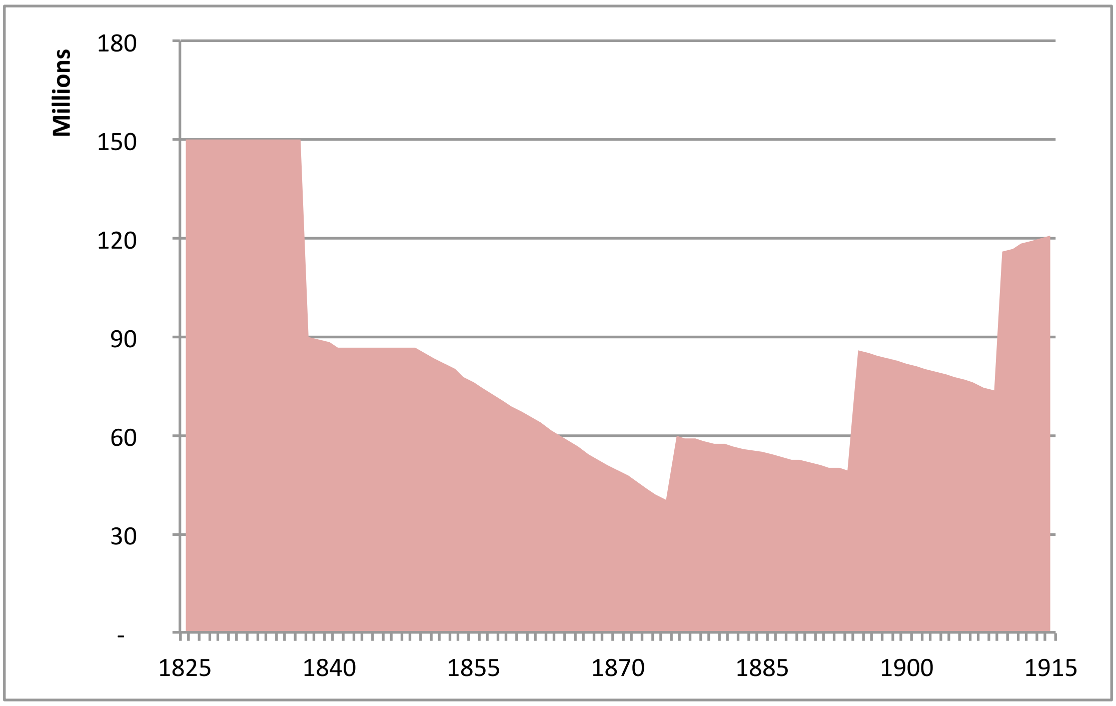

FIGURE 14 – Estimation of the outstanding external debt of Haiti, 1825-1915

22. Joseph Chatelain, La Banque Nationale, son histoire-ses problèmes, 1954, p. 79
23. Mats Lundahl, Peasants and Poverty : a Study of Haiti, 2014, p. 369

Summary of the Haitian loans

Loans	Nominal		Received by the Haitian State		
	Francs	Interest rate	Francs	% of nominal	Real interest rate
1825	30,000,000	6%	24,000,000	80%	7.5%
1875 (1)	36,464,500	8%	21,842,235	59.9%	13,4%
1875 (2)	23,852,910	5%	21,842,235	91.6%	5.5%
1896	50,000,000	6%	38,753,744	77.5%	7.8%
1910	65,000,000	5%	45,700,200	70.3%	7.1%

(1) Before renegotiation
(2) After renegotiation

The first debt contracted by Haiti was indeed forced upon by France, but during the thirty years before the american occupation, external and internal indebtedness was alimented by scandalous loans heavily discounted and distributed through corruption. Although those loans have sound goals such as the repayment of past loans at better rates, the result was a cumulative increase in total indebtedness. Unlike most Latin American countries during this period, Haiti never defaulted on its loans which did not help (a haircut on many loans would have been completely justified). A few moratorium were instigated but the debt was always repaid later.

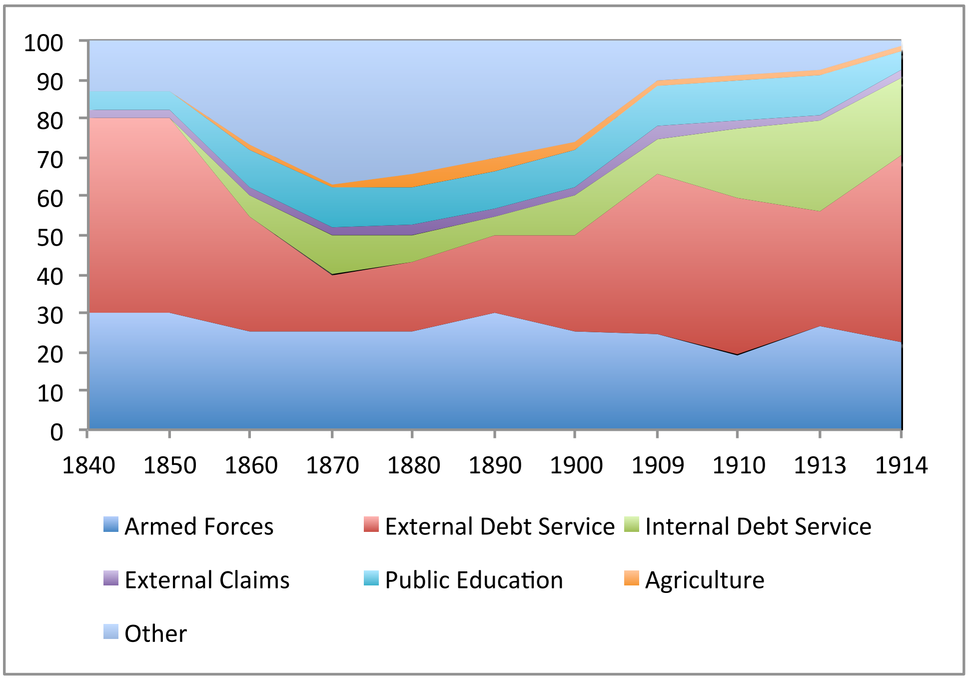

FIGURE 15 – Haitian Public Expenditure by Type as Percentage of Public Revenue, 1840-1914

The internal debt

As show on figure 15, an internal debt appeared in the middle of the 19th century and quickly came to be as expensive as public education. The government would borrow merchants (they could be foreigners but the loan was considered internal), at very expensive rates which could reach 1% per month and required hard currency. Repayment of these loans were not as regular as for the external debt, and internal debt quickly rose before the US invasion. After the civil war of 1867-1869, when the internal debt started to rise, merchants gained influence over the Haitian politics as they were holding large amounts of public debt and even financed some coups d'état [24].

The increase in internal debt service forced the government to consolidate all outstanding loans in 1900 with the creation of the national bank. This consolidation failed so that the government was worse off by the end of the process. It became know as the *consolidation scandal* which president Nord-Alexis had to investigate during his presidency (1902-1907). The result of this investigation was that around $2 million had been stolen. The annual state revenue being approximately $4 to $5 million at this time, this represented a huge loss. By the end of the trial, ten people had been convicted (4 foreigner, french and german, and 6 Haitians). The Banque Nationale d'Haiti, french-owned, nevertheless continued to exist. It would loan very little to the private sector (loans from 200 000 to 400 000 gourdes) and was therefore unable to initiate economic development. The bank could borrow in Europe at interest rate of 4% or 5% and lend in Haiti at 12% to 18%. Profits were made each year and transferred to foreign shareholders [25].

Education

Despite all the expenditures related to military sector and to total debt servicing, Haiti managed to allow some funds to public education. The focus on education began with Christophe after the independence in the north of Haiti (less with Pétion in the South). Under Boyer, the literature often assumes that education spending accounted for around 5% of public revenue. After Boyer and until the US invasion, education fluctuated around 10%, reaching peaks of 12% [26].

This is quite impressive when we recall that leaders like Toussaint and Christophe could not write or read. The constitution of 1806 did not even mention public instruction [27]. Even Pétion who did not contribute much to the financing of public instruction still declared that "Education elevates man's spirit and his dignity" unlike Boyer who declared "creating school is creating Revolution". During his time, people who had acquired some knowledge were afraid of the spreading of enlightenment to the mass. After Boyer, in 1843, a ministry was created only for public education, and in 1874, the new

24. Plummer, 1998
25. The story of the national bank is detailed in Joseph Chatelain, La Banque Nationale, p. 65
26. L.F. Hoffman, Haiti : couleur, croyances, créole, p. 220
27. Jacques Barros, Haiti de 1804 à nos jours, p. 528

constitution mentioned that education is free and compulsory for everyone.

From a political or financial point of view, public education was not neglected by the government (except under Boyer). But in reality, school attendance and the quality of education was not satisfactory. For instance, under Soulouque, the 3 middle schools and 51 primary schools had 9000 children attending classes which represent 2.69% of children. Geffrard managed to have 16000 students in 1866, then 3.7% of children who should have been in schools. Salomon in 1881 had 40 000 students in schools (overestimated according to Barros). This number decreased to 25 000 students under Hippolyte, then 3% of all children. In 1904, at Port-au-Prince, a congress of professors from middle and high schools led by Doctor Audain criticized the content of the programs teached in classes and the overall mediocrity of the education system. By 1906, comparative statistics show that the percentage of schooled children was of 8.83% in Dominican Republic, 21% in Porto Rico and 26.4% in Jamaica. As described by A. Firmin : "L'idéal de nos classes dirigeants paraît être de conserver soigneusement l'ignorance de la masse afin de s'en servir comme un marche-pied et d'en tirer tous les profits, aussi sordides qu'égoïstes" [28].

We understand from schooling statistics and from direct citations that despite an effort to finance public education, it never had the expected effects. Either because politics felt threatened by a potentially educated mass, either because only the elite would send their children to school, the education system failed to prepare Haiti for the 20th century.

2.4 An estimation of the Haitian GDP

To understand the economic history of Haiti and the impact of slavery and financial oppression, GDP measures can be very useful. At this point, we have understood how the Haitian economy functioned before and after the war, what was exported or imported and how much the state managed to tax. The external debt series for Haiti are also quite precise with enough data points along the XIX$^{\text{th}}$ century. Building a reliable GDP database is evidently very useful when comparing countries and trying to understand the dynamics of the Haitian economy. The literature is here non-existant as finding a GDP figure for Haiti seems difficult. For instance, the project carried by Angus Maddison aiming to build a GDP database for all the countries in the world has been quite successful only in very developed countries. Even in France or in the United Kingdom, the Maddison database goes back only to the end of XVIII$^{\text{th}}$ century, when our study begins.

For less developed countries (at the time), each one has its own literature with eventually GDP estimates. For instance, Bulmer-Thomas (1993) gives detailed GDP series for Colombia and Cuba from 1820 onward. These time-series are very useful to compare

28. A. Firmin, Lettre de Saint Thomas

our estimate of the Haitian GDP. For comparison with developed countries (mainly the US and France), we rely on Piketty and Zucman (2014).

To estimate the Haitian GDP, we make several hypothesis and rely on the following method for calculating the GDP : $GDP = C + I + G + X - M$ where C is consumption, I is private investment, G is public spending (without debt payments), X is exports and M is imports. We already have precise data series for the last three items G, X and M. For C and I, we use estimates before and after the war relying on historical accounts.

Estimating consumption and investments

Before the independence war, the Haitian economy fully depends on slavery. From our demographic figures, we know that 90% of the population are slaves, 5% are free people of color and 5% are white settlers for the years 1785-1790. Slaves consumption is constant and explicitly determined by the *Code Noir* (see 3.2) in which masters are mandated to give a specific amount of food and clothing to their slaves. Differences exist between children and adults (children approximately get half of what adults get) but otherwise the law is the same for every slave in every plantation. Masters giving less than prescribed in the *Code Noir* are supposedly severely punished. We can estimate that the average consumption of a slave was around 60 francs-or of 1825 just before the revolution.

At the same time, the national income per capita in France was approximately 150 current old francs (See Piketty-Zucman database) and the national income per adult was about 250 current old-francs. White settlers in Haiti were not especially part of the french aristocracy but owning a plantation made them part on the 10% wealthier. As people in the upper decile earned 60% to 70% of the national income, white settlers probably had a national income per capita of 1500 current old francs. Correcting for the depreciation and assuming that consumption was about 60% of GDP, we can estimate that the consumption of french settlers in Haiti was close to 1000 francs-or of 1825. Given that white settlers only represented 5% of the population, variations in the their consumption have a very little impact on the consumption overall. For free people, accounts of that time suggest their lifestyle was approximately twice as confortable as a slave which would lead to a consumption of approximately 120 francs-or of 1825. Again, this method which seem very crude is rather precise has 90% of the population have a steady and precise consumption. Using this method and the population mix of Figure 3, we can obtain a reliable estimation for C from 1760 to 1790.

Table 1 – Computing consumption in 1790

	% of the population	C (francs-or 1825)	% of C
White settlers	5%	1000	45%
Free people of color	5%	120	5%
Slaves	90%	60	49%

Average Consumption	110

After the war, the Haitian economy changed with the abolition of slavery but kept a similar system. The plantations were reinstated and vagrancy became a crime (see 3.2 with the *Code Rural*). The military sector expanded rapidly to face external threats and a public sector was created (managed by a corrupted government). As often in less developed countries, government jobs were the most lucrative through high salaries and possible corruption. For instance in 1830, about 10% of the population worked in the military or for the government, 40% worked in the new plantations and 50% worked in small farms. The people working in small farms did so to avoid going to prison under vagrancy laws and to survive by producing just enough for themselves. This way, they could avoid the lifestyle of plantations (see 3.2) which was very similar than under slavery and gave up on the better salary offered in the plantations. Their consumption was higher than the slaves in the XVIIIth century and can be estimated at 75 francs-or of 1825 per capita. In the plantations, the system had not changed much compared to the slavery system (in 1830, the *Code Rural* was effective). An amount of food was given to the workers as before in addition to a salary. Both items led to an average consumption of 100 francs-or of 1825. As for the military and the government, their real consumption is difficult to estimate because of corruption. In 1830, for instance, consumption for this social category was approximately twice as big as in the plantations with 200 francs-or of 1825. These estimates change only a little during the XIXth century with a consumption per capita quite constant.

Table 2 – Computing consumption in 1830

	% of the population	C (francs-or 1825)	% of C
Military and government	10%	200	21%
Plantations	40%	100	41%
Small farms	50%	75	38%

Average Consumption	97.5

To estimate investments before the war, we rely on descriptions of plantations and many economic analysis of slavery of that time. Indeed at the end of the XVIII$^{\text{th}}$ century, a debate is going on in Europe and in the newly independent US on the efficiency of slavery versus free work. Many economists such as Adam Smith take position for free work arguing that having a slave is more expensive than paying a salary to a free worker. Some people tried to demonstrate this by decomposing the different costs and investments needed in a plantation under a slavery system. According to many studies like this, we conclude that investment are approximately two thirds of the consumption of slaves [29]. Investment is therefore particularly high before the war in plantations where depreciation is very high and the machines costly.

Haitian GDP series and comparison

Between the beginning of the war and the stabilization of Haiti (1790 to 1820), very little data exist. We can only assume that the drop in Haitian GDP due to the war and the end of the plantations system occurred very fast from 1793 to 1799.

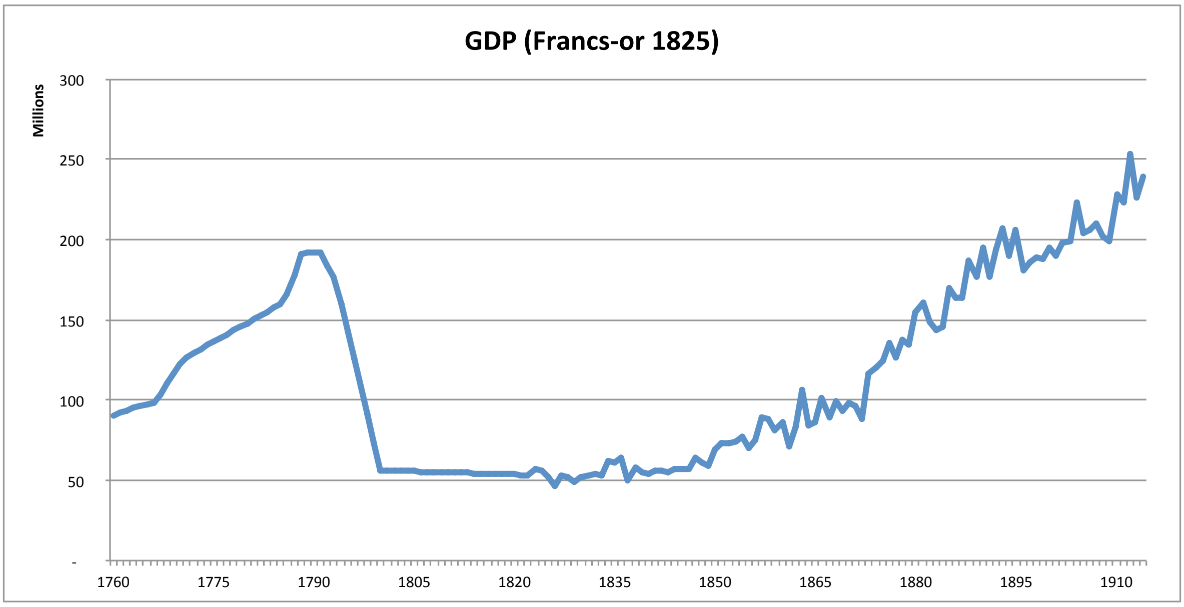

Figure 16 – GDP of Haiti, millions of Francs-or 1825, 1760-1915

We can already see that it took one century for Haiti to reach to production level of 1790 (with a much larger population). The drop in GDP during the end of slavery and the war for independence is mainly due to a complete stop in the export sector at that time that will slowly recover during the XIX$^{\text{th}}$ century. The very rapid growth of GDP between 1760 and 1790 can be explained by the arrival of many slaves at the time (see Figure 2 or appendix F). The population went from 200,000 to 520,000 in 25 years which led to a very large increase in exports and large (but smaller) in imports. In 1790,

29. See *A propos de Saint-Domingue : la monnaie dans l'économie coloniale (1674-1803)*, Robert Richard, 1954

the worth of Saint-Domingue exports was 150 million francs-or while the imports were only a third of that with 50 million francs-or.

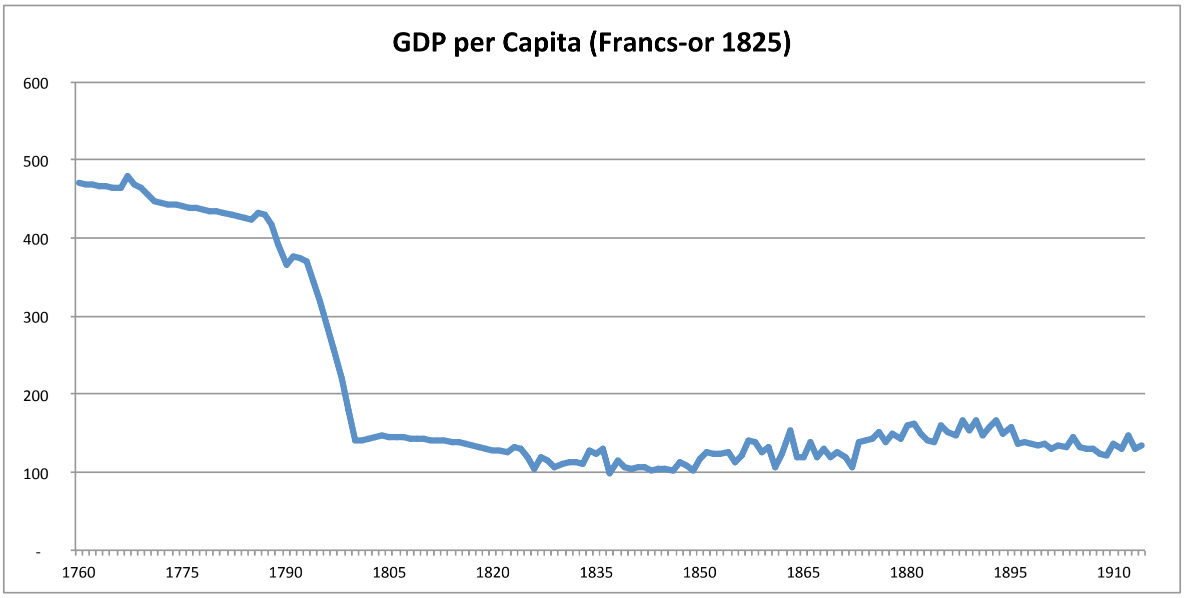

FIGURE 17 – GDP per capita of Haiti, Francs-or 1825, 1760-1915

The GDP per capita graph shows how the rapid increase in GDP during the last part of the XVIIIth century was more than balanced by the increase in population. The small increase in the GDP per capita was more consumption driven than exports driven with exports increasing less than the population. In general, we can see that the Haitian economy had not escaped the malthusian trap as most agrarian economy of that time. Finding an increasing GDP per capita for Haiti after the independence war would have been much more surprising than what we find here.

Volatility in GDP per capita is quite high during the XIXth century because of the volatility of exports and imports which was not the case during the slavery period with a steady export system handled by white settlers. For the period from 1760 to 1790, we observe a decreasing GDP per capita, due to the diminishing returns for every new slave acquisition. Indeed, the massive arrival of new slaves did not exactly translate in a equivalent increase in production leading to small decrease in GDP per capita.

2.5 The fall of Haiti

When and why did Haiti fall behind ?

Looking at Haiti export position, the fall of Haiti occurred rather around 1890 than after its independence. Indeed, export statistics show that Haiti almost managed to keep up with population growth until 1890 as we can see in Figure 17. This *fall* is quite subtle as exports recovered a little by 1913. As we will see in section III, if we correct the GDP curve for the repayment of debts and military expenses, we can see that the decrease in GDP per capita was in fact not so subtle from 1890 onward. This is very surprising as until the contribution of Bulmer-Thomas with the necessary objective data, people assumed that the 19th century had been a long and painful downhill. Here, we deviate from Victor Bulmer-Thomas method who adopted comparative statistics to understand the fall of Haiti. Indeed, according to Bulmer-Thomas (2012), Haiti had managed to stay within the "good" economies in the caribbean until the end of the XIXth century doing better than Jamaica for instance. Comparing to Jamaica should not be the only metric for understanding the success or failure of an economy. Jamaica was an island dominated by slavery under British occupation until 1833. Even after the independence, the war climate against the British crown continued until 1884, with many political upheavals in between. Free men fled sugar plantations and ruined the sugar industry which then concentrated only in Cuba. Managing to stay above Jamaica on an economic standpoint was not so difficult.

Country or Region	Imports per Head ($)	Exports per Head ($)	Revenue per Head ($)	Debt per Head ($)	Railroad Miles per 10,000 people	Telegraph Miles per 10,000 people	Post Offices per 10,000 people	Pop. per Square Mile
Haiti	4,3	4,8	2,3	28,9	0,4	0,7	0,5	152,8
Dominican Republic	8,7	14,8	6,5	20,0	2,2	15,3	1,2	35,9
Caribbean	25,4	29,1	8,1	25,4	8,0	20,5	2,0	25,9
South America	14,3	17,1	7,8	32,7	8,6	40,1	2,1	8,2
Central America	6,0	6,0	3,6	10,4	2,6	19,2	1,9	28,4

FIGURE 18 – Comparative Indicators of Haitian Performance in 1910 - Bulmer-Thomas (2012)

Using Bulmer-Thomas (2012) summarized by Figure 18, we find that in 1910 Haiti had de worse infrastructure in all the Caribbean and the biggest indebtness. Unlike to Bulmer-Thomas, I think that infrastructure and indebtedness, which are pertinent indicators of economic health, are to be understood on long-term scale. As described in the public expenditure inventory, we understand that the extreme indebtedness of Haiti before the US invasion was the consequence of bad loan management by corrupted politicians and the necessity to paid loans resulting from the french indemnity of 1825. Concerning the infrastructure, public expenditure statistics show a lack of investing capacity. Savings were used to pay the existing growing debt. The only productive investment were education and agriculture. As we have seen, education failed because of internal reasons, in particular the very low schooling rate, while agriculture always remained underfunded. It had became an item in the official budget in 1860 but required a lot more investment than observed.

Bulmer-Thomas also underlines the great advance of Haiti on its neighbor the Dominican Republic. This could be a good comparaison point as the Dominican Republic is the oriental part of the island and has known a similar history. The main difference is that the Dominican Republic had to fight its independence war against Spain called the War of Restoration from 1863 to 1865 [30]. In this context, I find it normal for Haiti to perform better than its neighbor. Estimating the fall of Haiti by comparing to the Dominican Republic cannot account for the whole truth. More generally, countries near Haiti and in Latin America were for most of them under slavery domination and cannot be easily compared. Finding when did the Haitian economy started diverging from its potential output is more suited in this case.

In reality, Haiti was already unable to create sustainable growth before 1890. The export statistics on which Bulmer-Thomas relies to show that Haiti felt behind around 1890 depends on the logwood exports between 1850 and 1890. Since logwood was not an organized agriculture but rather a one time extraction of natural ressources which ended logically in deforestation, it could only delay the Haitian downfall. The external shock on the coffee price happening almost at the same time as the end of logwood reserves (around 1890), exports fell sharply. This decrease in exports volume and value is only the consequence of an economy which relied almost exclusively on one volatile commodity, coffee, and the naturel reserve of logwood which was ineluctably going to end. I would argue that the Haitian failure is therefore to be found indeed around 1890, as shown in the GDP figures, but should have been much earlier. Haiti managed to pay back its debt while keeping up with GDP per capita until 1890 only because of the logwood exports which conceal the structural weakness of the Haitian economy.

Comparing the Haitian GDP with other countries

Having built a GDP dataset for Haiti allows for better comparisons with more developed countries from 1760 to the first world war. Indeed, the literature on Haiti (or other colonial economies based on plantations) has not tried to understand quantitatively the ranking on the Haitian economy during it history as the data did not exist. Our estimates for the GDP relies on explicit hypothesis that are subject to small variations but we can be certain that the order of magnitude is correct. The comparison between the Haitian GDP and the GDP of other countries (Figure 19) is both very revealing and confirms the relevance of our calculations.

30. The Dominican Republic had owned its independence in 1821 against Spain before falling under the Haitian domination from 1822 to 1844. To avoid another Haitian invasion, the Dominican Republic reverted to its colonial status.

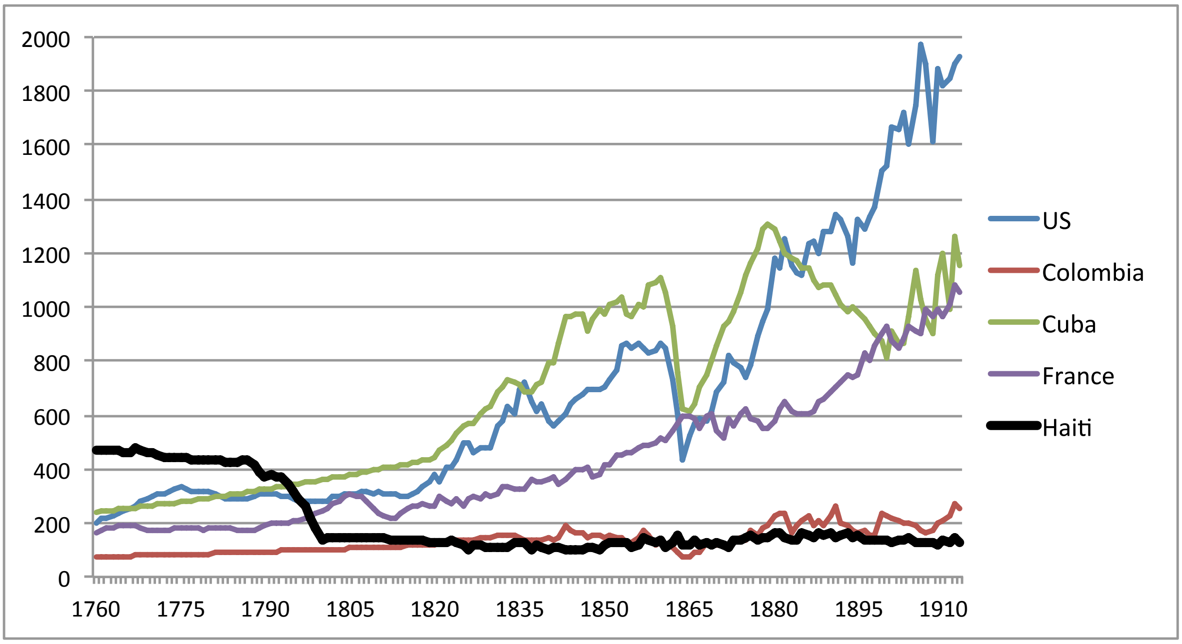

FIGURE 19 – GDP per capita for the US, France, Cuba, Colombia and Haiti in Francs-or 1825 - (1760-1915)

We find that the GDP per capita of Haiti was significantly higher than every other countries before the independence war [31]. Claims that Haiti was the "french crown jewel" are strongly corroborated by this graph, as the GDP per capita was twice as high in Haiti because of the plantation economy. The very high positive trade balance maintained by the plantations for a relatively small population explains this very high number. It is worth recalling that before the revolution, the Haitian population had reached half a million people while mainland France was approaching 30 million inhabitants. Therefore this small island, sixty times less populated than France managed to be among the first exporting countries in the world for many years.

The equivalent for Spain was the close island Cuba which also functioned as a plantation economy with far less success. The shift to the sugar industry at the beginning of the XIXth century at the same time as the independence war in Haiti (see section II.2) did put Cuba on the path of becoming the most productive slave-based economy. The rise of the Cuban GDP per capita, higher than the US for most of the XIXth century, is probably the path that Haiti would have followed if not for the war for independence. The sharp drop of the US GDP per capita during the American Civil War confirms that Cuba was very dependent on sugar exports toward this country. This was also the case for Haiti for which 80% of exports went to the UK or the US in 1822 but shifted back to France along the century. During the American Civil War, exports toward the

31. Data from Bulmer-Thomas (1993) for Colombia and Cuba. Data from Piketty and Zucman (2014) for France and the US. Data for Colombia and Cuba for the XVIIIth century are a mere extension of data from the XIXth century that are represented only for the order of magnitude rather than precise GDP computation.

US was already less than 20% [32].

It is also not very surprising that the Haitian GDP per capita fell near the Colombian level during the war as the two countries has many similarities. Colombia was under Spanish control until the war of independence led by Simon Bolivar that started just after the one in Haiti. The production system of Colombia was also mainly agrarian during the XIX$^{\text{th}}$ century, trying to maintain the production level known under the Spanish domination. The difference in GDP per capita between these agrarian economies and countries experiencing the industrial revolution is striking on Figure 19, with the special case of Cuba which manages to keep up for some time because of slavery.

3 Financial oppression and the return to slavery

3.1 The public debt immediate consequences

The reason why Haiti failed to diversify its sources of revenue comes from internal and external reasons. One of the internal reason is the lack of efficiency in the education system, which consumed an important part of public expenditures with no results. Another internal reason is the violent climate that existed along the 19th century with many changes in political regimes, a trivialization of death and murder, and a long history of coup d'état. This heritage from this military society can even be traced back to foreign countries who threatened Haiti forcing them to create an over-militarized society.

External factors have had a lot of impact on Haiti economic failure. First of all, every internal problems (a distrusting society, a military society, the obstruction obsession for equality [33], the unwillingness to work, racial tensions, the idealogical opposition between an elite and an uneducated mass) can be understood as consequences of foreign domination and slavery. We cannot know precisely how the emancipation from slavery influenced how people felt about work but we can imagine people did not associate freedom to working. This french citation from Willy Apollon illustrates the problem : "Mais les forces d'inertie venues de ce long passé servile ont perverti et ont enlevé tout sentiment de dignité au travail. Le travail ne constitue pas un élément de libération, la relation de travail est fondée sur l'aversion et la répulsion. En fait, le maître est resté un modèle pour l'esclave qui libéré copie donc le maître qu'il a interiorisé. [...] Dans la société saint-dominguoise, le maître, l'homme libre, est celui qui ne travaille pas" [34]. This example of internal problems directly related to external factors shows the responsibility foreign countries have in the failure of Haiti with indirect negative effects.

32. Exports and Imports by countries result from Bulmer-Thomas (2012) data collection. See Appendix B

33. Many Haitian historians find that Haiti refused any form of competition and excellence because of a misunderstood concept of equality.

34. Willy Apollon, Le vaudou, espace pour les voix

A military oppression to enforce contracts from the independence to the US invasion

Haiti was encountered during the 19th century a very hostile attitude of foreign countries on a political and military standpoint. After the independence of 1804, most countries refused to recognize Haiti as an independent country as many of them were participating in slave trade. To please Napoleon, the United States imposed a trade embargo with Haiti in 1806, which did not facilitate the recovery of the Haitian state as the US were a very important trade partner. Trade with France was impossible given the very recent war and Haiti had to survive by other means. After the Napoleonic wars, France showed its will to invade Haiti and restore its position in the Caribbean. The recognition of Haiti by the US only occurred in 1864 [35]. This non-recognition problem opened Haiti to constant military threats and forced Boyer to create one of the most militarized society. Labor supply became scarce and public revenues were not invested in productive ways. Even though France had recognized Haiti's independence in 1825 when signing the *double debt* indemnity, military threats persisted and ended up with the US invasion in 1915. Military forces were also kept to deal with the Dominican Republic under Spanish control or as an independent country. Even Germany tried to force Haitian into repayment for some obscur reasons by bringing a warship in front of Port-au-Prince. The construction of Panama Canal then made Haiti a strategic point in order to control the Caribbean and was once again pressured by different foreign countries (especially the US).

Public debt : a financial oppression hampering development

The end of slavery had been shortly followed by war and military oppression. In order to keep a stream of revenue from the new Saint-Domingue, France had recourse to financial enslavement. France pretended that the indemnity imposed in 1825 had been calculated to reimburse white settlers who had been expropriated. First of all it completely incredible to ask the former slaves to compensate for their freedom. This being said, the indemnity did not actually benefit the former slave owners. As explained by François Blancpain [36] in his detailed history of Haitian finances, there were 25,838 beneficiaries which were supposed to share the 150 million francs debt. This would have meant 580 francs (around $100 depending on the exchange rate) per individual. Payment being spread on long time periods and the number of descendant of slaveowners increasing with time, the benefits were not very important. Blancpain cites the case of Jean-Louis Lonchamp whose family of eleven members received $17 for years 1838-1840 which means $0.51 per year per family member. This extreme example show how this debt was not a game changer for most french slaveowner's families. On the contrary, the debt was a huge burden on the Haitian economy, and was precisely calculated to take no more than what Haiti was supposed to produce. This financial stream started the downward spiral and generated the currency problems (recall that the paper money was created to replace the coins used to repay France).

35. Turnier, 1995
36. Blancpain, Un siècle de relations financières entre Haïti et la France (1825-1922), 2001

After the initial contract signed by Boyer under military pressure, Haiti had to reorganize after the currency crisis that were devaluing the state's revenues, taxes needed to be increased to repay the debt and had a negative impact on exports profitability. The attempt to revive the sugar industry in the 1860s was immediately aborted since taxes made it non-profitable and investment was not possible due to capital scarcity.

This financial stream that was created with the initial debt reduced Haitian public revenue by half during the century. More precisely, the Haitian government dedicated 50% of its public revenue to debt service until 1850 (only external at the time). The percentage then decreased before raising back up to 67,7% for internal and external debt service in 1914 when Haitian financial capacity has been totally drained. This financial situation and France concerns with the First World War gave the US an unique opportunity to invade Haiti which will only reclaim its independence in 1934.

3.2 The return to slavery through public debt

We have seen that the public debt imposed by France in 1825 had many consequences among which the reduction by half of the public revenue and the destruction of the currency system that led to decades of inflation. The unanticipated effect of this was a partial return to partial slavery with new labor laws. After the independence war, the first Presidents tried to rebuild their country starting with the reindustrialization toward the sugar plantations. Large plantations had been broke into small farms designed to insure the survival of its inhabitants. Exports were very low and newly appointed leaders tried desperately to return to the old system that had made Haiti so productive. This wish became the increasingly important as Haitians were unable to restart the old economy. When Boyer signed the indemnity treaty with Charles X, the matter became urgent as Haiti would have to make huge payments over the next 5 years. In 1826, President Boyer created the "Code Rural" [37] designed to force the population back to work.

The Code Rural of 1826

In order to encourage the return to old plantations, President Christophe (1806-1820) had already taken action against vagrancy. It was suppose to insure the necessary labor force for plantations and workshops. Production was shared following a simple rule of one quarter for the labor force, one quarter for the State and one half for the land owner. In this spirit, Boyer reinforced the vagrancy laws in the Code Rural :

— Art. 1 - Agriculture being the principal source of prosperity in a State, shalle be specially preotected and encouraged by the Civil and Military Authorities.

— Art. 3 - It being the duty of every Citizen to aid in sustaining the State, those who are not employed in the following services [...] shall cultivate the soil.

37. https ://archive.org/stream/ruralcodeofhaiti00haitiala#page/n5/mode/2up

— Art. 4 - Citizens whose employment is agriculture shall not be permitted to quit the country to inhabit the towns and villages.

— Art. 6 - Citizens whose employment is agriculture shall not be in enlisted in military except for imminent threats.

— Art 7-9. - The construction of housing is monitored and domains can not be divided.

These first articles show clearly the goals set by the Haitian government. They are closer to serfdom than slavery in there wording but will be quite different in the actual enforcement. The following articles 36, 37, 38 and 39 are almost identical to the ones found in the "Consolidated Slave Law of Jamaica" and recall the situation of slaves before the independence.

— Art. 36 - The proprietor of every plantation shall be compelled to cultivate provisions, fruit trees such as the bread-fruit, sufficiently to provide for the people employed.

— Art. 38 - The labourers attached to any plantations labouring for one quarter of the produce shall have assigned to the them for their personal use, a garden for provisions, which they shall cultivate during their hours and days of rest.

— Art. 45 - Citizens and land owners shall for the security of their common interest enter into a mutual engagement. The engagement with the labourers may be made either collectively or individually.

— Art. 46 - Contracts length shall not me less than 2 years for secondary agriculture and manufacture and 3 years for the rest. Contracts length shall not exceed 9 years.

The garden given to the workers for their own subsistance, cultivated on spare time, is exactly the same dispositions as the ones used in the Code Noir. Articles 45 and 46 show that the serfdom implied is limited to a specific time limit of 9 years which will not be enforced. Vagrancy being a felony, workers must keep working to avoid prison therefore limiting their bargaining power. Unlike slavery, workers are supposed to be paid depending on their status. A difference is made between workers working for half and workers working for a quater.

— Art. 50 - Headmean of parties working for one half the produce shall share in equal portions with the principal proprietor of the plantation all fruits, provisions, vegetables, grain and produce they may raise upon the lan cultivated by halves.

— Art. 51 - Many deductions are made before the split of the production depending on the specificity of the agriculture.

— Art. 52 - Labourers working for one quarter of the revenue raised by themselves shall divide one clea quarter of the produce they may raise.

— Art. 57 - This article explains how profits should be shared among labourers depending on their age and their status.

The previous article seem to be a great improvement on the Code Noir in which not profits were shared with the labourers. To understand the quantity at stake, we should remember that the profits (one half or one quarter of the produce) were split between every labourers according to the article 57. Based on the analysis of an english civil servant's report to the English crown, a labourer paid on the one quarter basis in a sugar plantation (around 300 employees) would make after taxes 4 pounds and 10 shillings annualy (at best). We can recall that in the currency system "Pounds-Shillings-Pennies" used at this time, one Pound is equal to 20 shillings or 240 pennies (before the decimalization of 1971). Therefore 4l. 10s. of 1830 is equal to 220 pounds or 300 euros in 2005. This estimate is based on very the very unlikely assumption that the plantation works perfectly. 200 euros (of 2005) seem more plausible. Recalling that today's lowest GDP per capita is around 500 euros, we can imagine that such salary is almost more symbolic than really valuable, especially since it is paid in kind.

The Code Rural also focuses on the powers given to the Rural Police to enforce the newly voted laws. Art 173 explicitly says that the Police should 1.Repress vagrancy. 2. Maintain order and regular attendance in the fields. 3. Discipline workers in workshops.The sentences faced for vagrancy are particularly detailed in articles 175 to 182. The following article describe the organization of a week working in the fields.

— Art. 183 - Field-labour shall commence on Monday morning, and shall never cease until Friday evening. In special cases, labourers can be expected to work on Saturday.

— Art. 184 - On working days, the ordinary field-labour shall commence at day-dawn ; to continue until mid-day, with the interval of half an hour for breakfast ; which shall be taken on the spot the work is carried on ; after mid-day the field-labour shall commence at two o'clock, and continue until sun-set.

— Art. 189 - Every act of disobedience or insult, on the part of a workman [...] shall be punsihed by imprisonment.

— Art. 190 - Saturdays, Sundays, and holidays, being at the entire disposal of labourers, they shall not be permitted, on working days, to leave their work, to indulge in dancing or feasting, neither by night not by day. Deliquents shall be subject to imprisonment.

Similarities between the working conditions before and after the independence are striking. Daily conditions are exactly the same but with less corporal punishments. The fact that Saturday is not a working day anymore is on the contrary quite impressive.

At the same time in Europe, the law against child labor under 8 years old is not event discussed by politicians. Unfortunately for Haitian workers, working on Saturday is very often the case as land owners have most of the bargaining power. To summarize, after the Code Rural, vagrancy becomes an enforced felony making it mandatory to work often in large plantations for a very small wage and under the same conditions as slavery. This mix between serfdom and slavery is the direct consequence of the indemnity treaty pressuring Haitians into the return to the old economy.

3.3 A continuous exploitation of Haiti ?

To understand the negative shock that was the independence war, we can look at the exports volumes for the main commodities before and after the war.

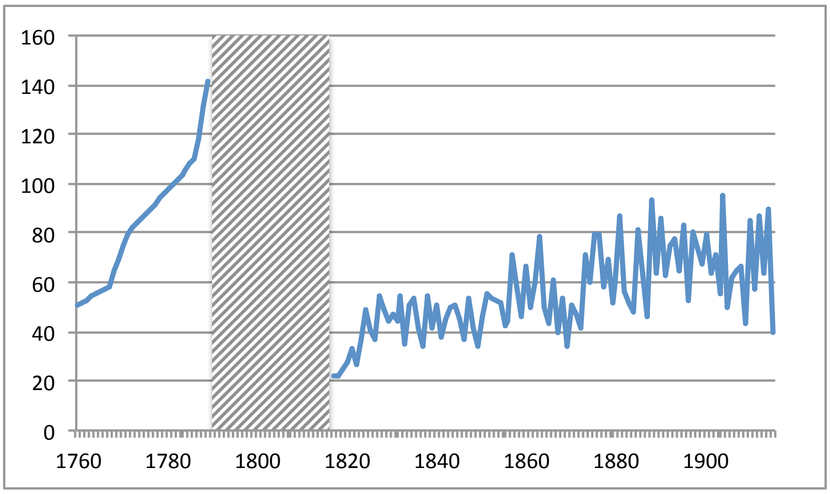

FIGURE 20 – Exports volume of **coffee** before and after the war in millions of pounds

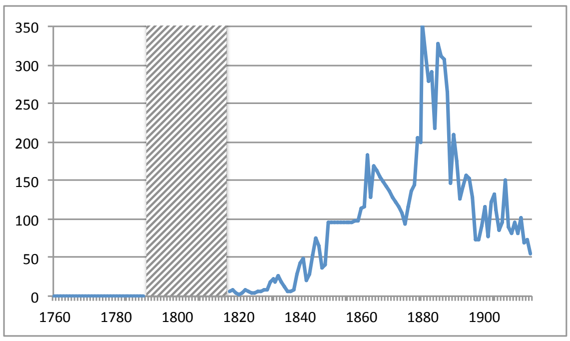

FIGURE 21 – Exports volume of **logwood** before and after the war in millions of pounds

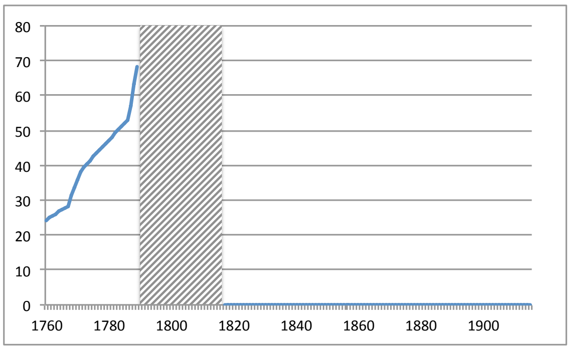

FIGURE 22 – Exports volume of **sugar** before and after the war in millions of pounds

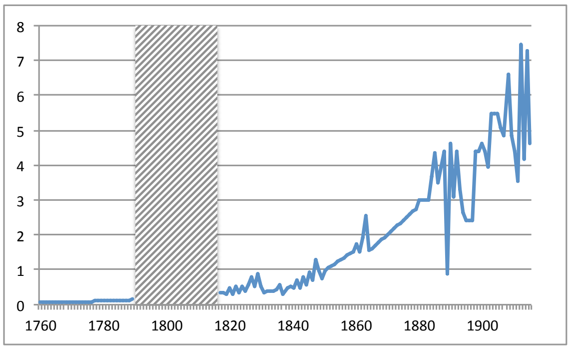

FIGURE 23 – Exports volume of **cacao** before and after the war in millions of pounds

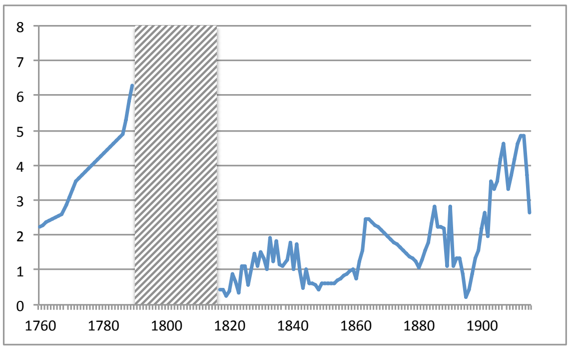

FIGURE 24 – Exports volume of **cotton** before and after the war in millions of pounds

From the exports graphs above, we understand that the Haitian economy never fully recovered from the independence war. The sharp drop in GDP per capita confirms that Haiti only managed to keep up with the population growth.

Trade balance during the XIXth century

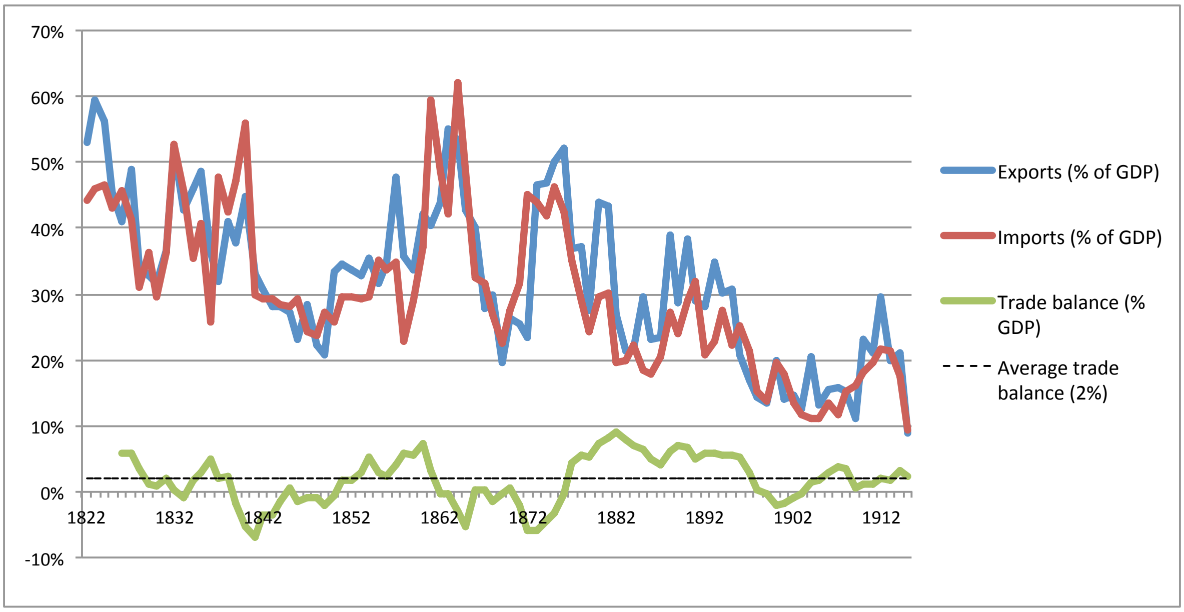

FIGURE 25 – Exports, Imports and Trade Balance as % of GDP (1822-1915)

The trade balance is an essential measure of Haiti's capacity to face their external debt. The Haitian trade balance along the XIXth century is volatile as exports and imports are very volatile. Exports and Imports seem quite correlated making the trade balance less volatile than we could expect with clear excess periods and deficit periods. As said before, it is not surprising that Haiti experienced trade balance deficits around 1840 when Boyer exiled himself and the war for Dominican Republic began (and lasted until 1844). In the 1860's, civil wars in both the US and in Haiti also led to large deficits of around 4% to 6% of GDP. From 1875 to 1900, Haiti managed to maintain a positive trade balance reaching 10% of the GDP for a few years. This is why the extraction measure that we now introduce was particularly high in this period.

Extraction measures

To understand the effect of the public debt and military oppression on Haiti, we can compute the "extraction" as a percentage of the Haitian GDP that benefited to the white settlers before and after the war. A simple way to do that is to look at the trade balance for Haiti during slavery and the debt repayments during the XIX$^{\text{th}}$ century. Before the war, taking into account the consumption of white settlers is also necessary.

Table 3 – Average GDP breakdown before and after the war

	Average 1760-1790	Average 1820-1915
Consumption	25%	88%
Investment	17%	6%
Public spending	1%	5%
Exports	81%	32%
Imports	24%	30%
Trade balance	**56%**	**2%**

We then define the extraction measure as $Extraction = Trade\ balance + Consumption\ of\ the\ white\ settlers$ for the years before the war. The extraction for years after the war is computed using debt repayment toward France (or debt refinancing which only delays the payments). We have smoother extraction than expected from Figure 25 as years with negative trade balance resulted in an increase in internal or external debt. Repayments (or debt increase) were therefore much more steady than suggested by the volatile trade balance. We also add the military expenses (which could be very high) made necessary to defend Haiti against foreign powers such as France.

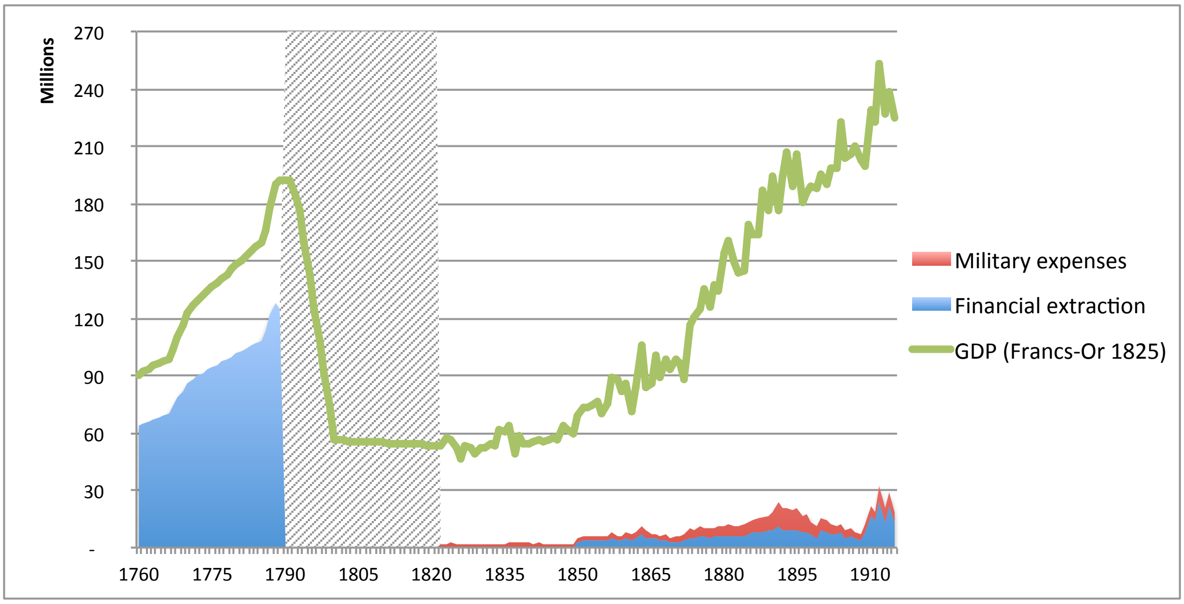

FIGURE 26 – Extraction in millions Francs-or 1825 before and after the war

Avg. Financial extraction (1760-1790)	69%

Avg. Financial extraction (1849-1915)	5%
Avg. Military expenses (1849-1915)	3%

The extraction taking place before the war is significantly greater than after, which is conceivable given the slavery system. Assuming that half of the military expenses (around 1.5% of GDP) resulted from military oppression, Haiti therefore lost 6.5% of GDP each year because of France. This burden is close to one tenth of the extraction taking place before the war under slavery. We cannot say that the extraction was continuous as is became ten times less intense but doing so without engaging in slavery and without settlers is noteworthy. We also understand from Figure 26 that by subtracting the extraction part from the GDP, we can obtain a "reduced GDP" that actually went to Haitians. Also, we can see that the extraction occurring just before the first World War cancels the apparent rise in the Haitian GDP at this time.

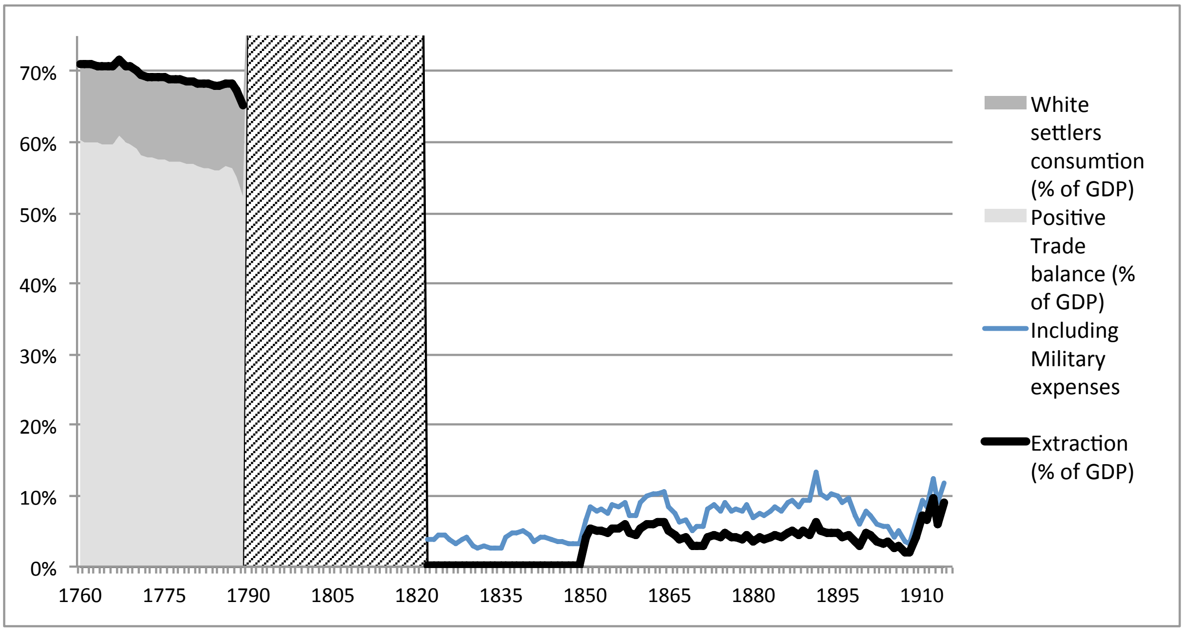

FIGURE 27 – Extraction in millions Francs-or 1825 before and after the war

Before the french revolution, the extraction is the sum of trade surplus and white settlers consumption. From Figure 27, we see that white settlers consumption represented between 10% and 12% of GDP while trade surplus was in average around 57% of GDP. During the same period slaved consumed approximately half of C so slightly more than white settlers with 13%-14% of the GDP.

The financial extraction taking place after the war increased gradually as Haiti started paying back the "doube debt" later than 1825. As we have said before, Boyer managed to renegotiate the debt in 1838 when the first payments occurred. A moratorium was then instated from 1840 to 1849 while Haiti was facing political turmoil leading to Boyer's exil. We could therefore say that actual extraction really started in 1849 as is Figure 26 and therefore compute extraction levels for years 1849 to 1915. It increased steadily until the drop in coffee price when positive trade balance started to decline. At the end of the period, from 1907 to 1915, financial extraction started increasing again mainly through debt increase.

Counting military expenses as unnecessary financial burden for Haiti imposed by foreign powers, total extraction increases a little. We could even conjecture that because the financial extraction increased significantly near 1915, Haiti was not able to maintain a functioning army and was made vulnerable to foreign invasion.

In the second part of the XIX$^{\text{th}}$ century, the french GDP rose from 400 million francs-or to almost a 1 billion francs-or (see Appendix D) which means that the payments (or debt increase) made by Haiti (in average) represented 1% of the french GDP or less. Part of those payments were not actually made and contributed to the increase of the Haitian debt until it was consolidated by the US under the occupation.

Nevertheless Haiti used a significant share of its GDP to repay an unfair debt and protect itself against foreign attacks. During the period starting in 1840 and ending with the first world war, Haiti tried to have a positive trade balance to meet their financial obligations. Haiti partly failed in a sense that they had to restructure their debt a few times and "only" managed to have a average positive trade balance of 2% leading to an increase in the debt stock. Therefore, the financial extraction computed here also contains payments that occurred later during the US domination or even until the second world war.

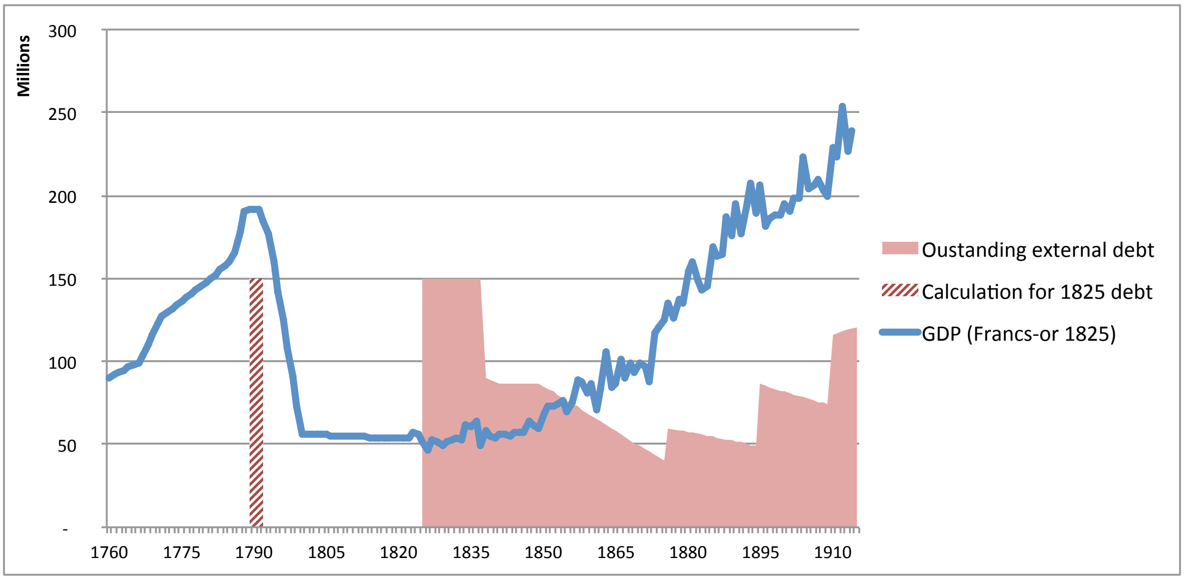

FIGURE 28 – External debt position and GDP in million Francs-or 1825 (1760-1915)

The external debt of Haiti did not explode mainly because of restructuring (Figure 28) and the great effort made by Haitians between 1840 and 1880. They managed to repay a large part of their debt before making several bad loans. We can also see how the debt imposed in 1825 by Charles X was approximately 100% of GDP for french people who had known Saint-Domingue before the war but in fact represented close to 300% of GDP in 1825. This debt was renegotiated in 1838, decreasing from 300% of GDP to 150% of GDP.

	1825	1840	1860 - 1915
Debt-to-GDP ratio	285%	155%	40%

Conclusion

The history of Haiti is punctuated by adversity and failures often imposed by great powers. Slavery, wars, financial oppression and natural catastrophes have marked the country's history for three centuries. I argue that France responsibility through its settlers or bankers is greater than admitted. Not only did slavery damage generations until recently, the financial oppression of the "double debt" was disastrous as it triggered many complications. The end of the gourdes replaced by paper money which led to huge inflation, the return of a form of slavery through the code Rural, the inability to invest in infrastructure which could have diversify the economy before the shock on the coffee price, the inability to spend enough on the army which led to the invasion by the United-States in 1915.

The public debt imposed by France in 1825 was more detrimental by the unexpected consequences (partial return to slavery, currency replacement, inflation) than by the actual repayments of the debt. Payments still burdened the Haitian economy with annual payments or external debt increase which account for a GDP loss of approximately 5% every year during sixty years. The debt went on with the US invasion and finally ended with the second world war. Haiti was then one of the poorest country on earth as it is today. France can not be imputable to everything that happened to Haiti, which had very corrupted politicians in an extremely violent society (and frequent natural catastrophes), but most things can find their roots in slavery or in the large indebtedness of the country. The "double debt" imposed by France was very detrimental to Haiti which had to pay approximately one tenth of the cost of slavery over a century to countries much richer.

We conclude from this research on colonial matters such as this one that future research has first to focus on data collection. The example of Victor Bulmer-Thomas work on Latin America and the Caribbean focusing on data as well as the general history opens the way for new research and new interpretation of complicated subjects. In the special case of Haiti, his work on public revenues, exports and imports was absolutely essential to my research.

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A Ordonnance of Charles X

Texte de l'Ordonnance de 1825

Charles, par la grâce de Dieu, Roi de France et de Navarre, à tous présents et à venir, Salut : Vu les art. 14 et 73 de la Charte,
Voulant pourvoir à ce que réclament l'intérêt du commerce français, les malheurs des anciens colons de Saint-Domingue, et l ?état précaire des habitants actuels de cette île, Nous avons ordonné ce qui suit :

Article 1,

Les ports de la partie française de Saint Domingue seront ouverts au commerce de toutes les nations. Les droits perçus dans ces ports, soit sur les navires, soit sur les marchandises, tant à l'entrée qu ?à la sortie, seront égaux et uniformes pour tous les pavillons, excepté le pavillon français, en faveur duquel ces droits seront réduits de moitié.

Article 2,

Les habitants actuels de la partie française de Saint-Domingue verseront à la Caisse des Dépôts et Consignations de France en cinq termes égaux, d ?année en année, le premier échéant au 1er décembre 1825, la somme de cent cinquante millions de francs, destinée à dédommager les anciens colons qui réclament une indemnité.

Article 3,

Nous concédons, à ces conditions, par la présente ordonnance, aux habitants de la partie française de Saint-Domingue, l'indépendance pleine et entière de leur gouvernement. Et ce sera la présente ordonnance scellée du grand sceau. Donné à Paris, au Château des Tuileries, le 17 avril de l'an de grâce 1825 et de notre règne premier.

Charles

Par le Roi, Le Pair de France, Ministre et Secrétaire d'État de la Marine et des Colonies, Comte de Chabrol

Visa : Le président du Conseil, etc. J. de Villèle
Vu aux sceaux : Le Ministre et Secrétaire d'État, garde des sceaux, Comte de Peyronnet.

B Imports and exports in Haiti by country

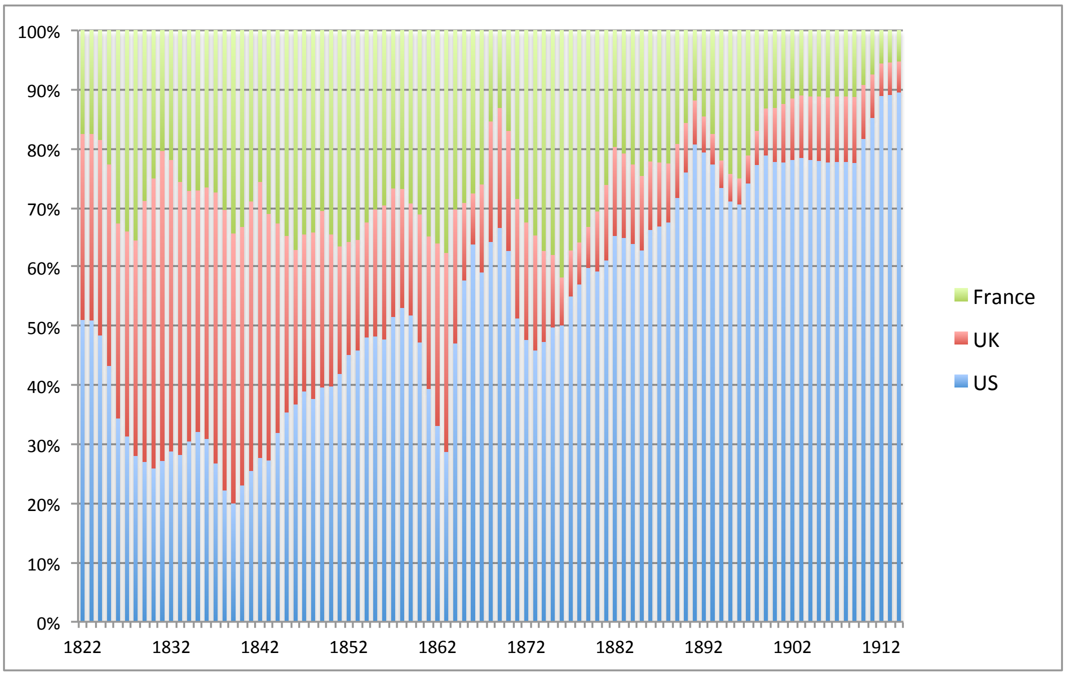

FIGURE 29 – Imports between 1822 and 1915 by country

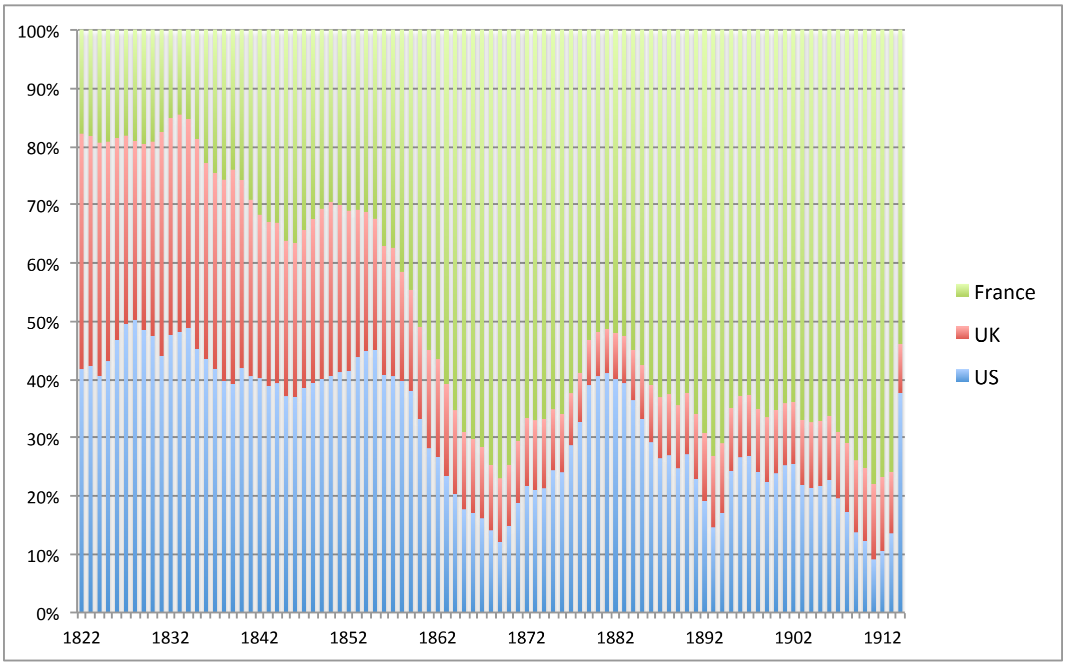

FIGURE 30 – Exports between 1822 and 1915 by country

C Slave trade figures

Many different figures have been given in the past for the size of the slave trade across the atlantic. The most reliable estimations have been given by Hugh Thomas in "The Slave Trade" (1997) where the author uses many documents from insurance companies to harbor registers. Estimating the buyers on one side and the origins on the other side, Hugh Thomas reaches approximately 13 million slaves between 1440 and 1870 split as follows :

Buyers	
Portugal	4,650,000
England	2,600,000
Spain	1,600,000
France	1,250,000
Holland	500,000
Other (Danemark, US...)	4,650,000
Total	11,000,000

Origin	
West Coast (Senegal, Guinea, Sierra Leone)	2,250,000
South-West Coast (Cote d'Ivoire, Ghana)	1,750,000
Slave Coast (Togo, Benin)	2,000,000
Guinea Golf (Nigeria)	2,000,000
Gabon, Congo, Angola	4,000,000
South Coast (Mozambic, Madagascar)	1,000,000
Total	13,000,000

D GDP per capita from 1765 to 1915 (5Y average - 1825 Francs-Or)

	US	Colombia	Cuba	France	Haiti
1765	221.2	75.6	245.4	179.1	467.3
1770	277.4	79.0	259.6	182.4	466.2
1775	317.4	82.1	273.2	174.2	443.6
1780	318.1	85.4	287.5	177.8	436.3
1785	294.4	88.9	302.5	179.1	428.0
1790	296.1	92.4	318.3	180.0	407.2
1795	299.4	96.2	335.0	200.6	356.7
1800	282.0	100.0	352.5	226.8	217.5
1805	297.7	104.1	370.9	283.1	144.5
1810	313.0	108.2	390.4	273.1	143.7
1815	304.3	112.6	410.8	228.9	139.7
1820	339.0	117.1	432.3	263.2	132.4
1825	420.1	131.2	512.5	279.3	126.6
1830	476.7	141.2	600.3	295.0	111.2
1835	613.3	151.8	712.1	324.7	117.4
1840	640.6	137.1	718.5	350.8	110.6
1845	608.7	162.1	911.6	371.6	104.6
1850	692.9	153.6	959.3	395.2	109.0
1855	814.7	139.6	1004.0	448.1	122.5
1860	850.0	144.9	1057.0	493.5	132.1
1865	628.3	94.9	793.8	562.3	124.6
1870	607.7	109.0	750.7	575.4	126.4
1875	770.3	132.1	1007.3	576.7	129.5
1880	959.7	187.2	1251.5	569.3	148.4
1885	1159.2	206.2	1187.3	617.1	149.8
1890	1248.8	208.5	1095.6	642.9	156.4
1895	1284.7	196.8	1003.9	733.1	155.8
1900	1402.6	186.7	894.6	863.9	136.1
1905	1678.5	204.5	948.8	890.0	134.8
1910	1838.3	183.5	1040.8	964.2	128.6
1915	1891.7	249.3	1135.8	1048.6	132.9

Sources : http ://piketty.pse.ens.fr/fr/capitalisback - The Economic History of Latin America since Independence (Victor Bulmer-Thomas) - Author calculations

E GDP of Haiti and extractions from 1765 to 1915 (5Y average - millions of 1825 Francs-Or)

Year	GDP of Haiti	Financial Extraction francs-or	Financial Extraction % of GDP	Military expenses francs-or	Military expenses % of GDP	Extraction as a % of GDP
1765	94.1	59.8	64%	-	-	64%
1770	110.3	66.0	60%	-	-	60%
1775	131.7	76.1	58%	-	-	58%
1780	143.2	81.7	57%	-	-	57%
1785	155.0	87.1	56%	-	-	56%
1790	183.5	99.8	54%	-	-	54%
1795	171.0	-	-	-	-	-
1800	90.8	-	-	-	-	-
1805	55.9	-	-	-	-	-
1810	55.2	-	-	-	-	-
1815	54.5	-	-	-	-	-
1820	53.8	-	-	-	-	-
1825	54.4	0.1	0%	2.1	4%	2%
1830	50.5	0.1	0%	1.7	3%	2%
1835	56.5	0.1	0%	1.4	2%	1%
1840	56.2	0.1	0%	2.4	4%	2%
1845	56.2	0.1	0%	2.0	4%	2%
1850	62.0	0.6	1%	1.9	3%	3%
1855	73.6	3.8	5%	2.2	3%	7%
1860	84.0	4.3	5%	2.6	3%	7%
1865	86.1	5.1	6%	3.4	4%	8%
1870	96.2	3.5	4%	2.5	3%	5%
1875	109.2	4.5	4%	4.2	4%	6%
1880	137.8	5.6	4%	5.2	4%	6%
1885	153.5	6.3	4%	5.6	4%	6%
1890	177.2	8.3	5%	7.8	4%	7%
1895	194.6	9.9	5%	11.0	6%	8%
1900	187.7	7.5	4%	7.5	4%	6%
1905	202.8	7.0	3%	4.7	2%	5%
1910	209.1	7.9	4%	3.8	2%	5%
1915	233.3	17.6	8%	6.0	3%	9%

Total extraction defined as financial extraction plus half of military expenses.

F Population of Haiti from 1685 to 1790 (in thousands)

	Slaves	Free people of color	White settlers	Total
1685	6	1	5	11
1690	10	1	6	18
1695	15	2	10	26
1700	19	2	13	34
1705	22	2	16	41
1710	27	2	20	49
1715	32	2	23	57
1720	36	3	26	65
1725	51	3	29	83
1730	65	3	30	97
1735	78	3	30	111
1740	92	3	30	125
1745	105	3	30	138
1750	119	5	30	154
1755	136	5	30	171
1760	156	6	30	192
1765	174	6	30	211
1770	230	9	30	268
1775	271	9	30	310
1780	302	9	30	341
1785	333	14	30	377
1790	465	28	30	523

Sources : Haiti de l'indépendance à la dépendance (Franz Douyon) - Histoire du peuple Haïtien (Dantes Bellegrade) - Extrapolations made by the author

G Haitian GDP (5Y average, millions of Francs-or 1825) and breakdown among components

Year	GDP	Public spending	Exports	Imports	Consumption	Investments
1765	94.1	1%	81%	22%	24%	16%
1770	110.3	1%	82%	23%	24%	16%
1775	131.7	1%	81%	24%	25%	17%
1780	143.2	1%	81%	25%	26%	17%
1785	155.0	1%	80%	25%	26%	18%
1790	181.5	1%	81%	27%	27%	18%
Average		*1%*	*81%*	*24%*	*25%*	*17%*
1825	54.6	4%	53%	45%	80%	8%
1830	50.5	4%	38%	37%	91%	4%
1835	56.5	3%	45%	42%	88%	5%
1840	56.2	5%	39%	43%	95%	5%
1845	56.2	4%	29%	29%	90%	6%
1850	62.0	3%	27%	26%	88%	8%
1855	73.6	4%	34%	31%	90%	4%
1860	84.0	5%	39%	34%	84%	6%
1865	86.1	6%	48%	50%	91%	6%
1870	96.2	4%	29%	27%	91%	4%
1875	109.2	6%	40%	41%	90%	6%
1880	137.8	5%	40%	32%	80%	7%
1885	153.5	6%	29%	20%	80%	6%
1890	177.2	7%	31%	24%	79%	8%
1895	194.6	8%	31%	25%	78%	8%
1900	187.7	6%	17%	19%	89%	7%
1905	202.8	3%	15%	13%	89%	6%
1910	209.1	3%	16%	15%	92%	4%
1915	233.3	4%	20%	18%	89%	5%
Average		*5%*	*33%*	*30%*	*87%*	*6%*

H Open Letter to President Sarkozy - *August 2010*

The French government has indicated that it is pursuing possible legal action against the Committee for the Reimbursement of the Indemnity Money Extorted from Haiti (CRIME) over a Yes Men–inspired announcement last Bastille Day pledging that France would pay Haiti restitution.

We believe the ideals of equality, fraternity and liberty would be far better served if, instead of pouring public resources into the prosecution of these pranksters, France were to start paying Haiti back for the 90 million gold francs that were extorted following Haitian independence.This "independence debt," which is today valued at well over the 17 billion euros pledged in the fake announcement last July 14, illegitimately forced a people who had won their independence in a successful slave revolt, to pay again for their freedom. Imposed under threat of military invasion and the restoration of slavery by French King Charles X, to compensate former colonial slave-owners for lost "property" (including the slaves who had won their freedom and independence when they defeated Napoleon's armies), this indemnity burdened generations of Haitians with an illegitimate debt, which they were still paying right up until 1947.

France is not the only country that owes a debt to Haiti. After 1947, Haiti incurred debt to commercial banks and international financial institutions under the Duvalier dictatorships, who stole billions from the public treasury. The basic needs and development aspirations of generations of Haitians were sacrificed to pay back these debts. Granting Haiti the status of Highly Indebted Poor Country (HIPC) and canceling part of the current debt only begins to reverse the financial damage done by these recent debts. More recently, in 2000, Inter-American Development Bank loans of $150 million for basic infrastructure were illegally blocked by the US government as a means of political pressure. This also did measurable economic and human damage. Each of these institutions and governments should be responsible for the harm they did to Haiti's society and economy.

In 2003, when the Haitian government demanded repayment of the money France had extorted from Haiti, the French government responded by helping to overthrow that government. Today, the French government responds to the same demand by CRIME by threatening legal action. These are inappropriate responses to a demand that is morally, economically, and legally unassailable. In light of the urgent financial need in the country in the wake of the devastating earthquake of January 12, 2010, we urge you to pay Haiti, the world's first black republic, the restitution it is due.

***

Among the signatories : Naom Chomsky, Alain Badiou, Etienne Balibar, Jacques Ranciere, Daniel Cohn-Bendit, Eva Joly, Eric Fassin, Naomi Klein, Noël Mamère, Louis-George Tin, José Bové, Houria Bouteldja, Cornel West