Post-colonial Trends of Income Inequality: Evidence from the Overseas Departments of France^{*}

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Abstract

Most ex-colonies have gained their independence during the decolonization wave in the last century. Recent research on the colonial legacy in terms of inequality has thus mostly focused on these independent states, overlooking the few territories which were assimilated by their ex-colonizers. This paper analyzes the post-colonial inequality in four such territories- La Réunion, Guadeloupe, Martinique and Guyane. Despite the explicit aim of decolonization as being a rupture with their unequal colonial past, these territories have witnessed ongoing protests and riots due to the perceived high level of socioeconomic disparities. Drawing on a new income tax dataset put together in this paper, I study the evolution of income inequality in the four oldest French colonies, now overseas departments of France, since their decolonization in 1946 until recent years. The results of the top 1% income shares reveal an inverted-U shaped curve of inequality since decolonization. Despite the rapid decline in the level of inequality and the general catch-up of the overseas departments, the top 10% income share remained consistently higher than in the metropolis. Going further, I investigate the hidden underlying cleavage, the metropolitan-native divide. Matching fiscal data of 2014 to the corresponding population census, I show that controlling for observable characteristics, there is a "metropolitan income premium in the overseas departments. Metropolitans also tend to be over-represented at the top of the labour income distribution.

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1. Introduction

The prevailing socioeconomic disparities in the French overseas departments are widely acknowledged in the local political and public sphere. For the most part of the local population, this situation represents a failure to reach one of, if not the main goal of departmentalisation in 1946 which consisted in marking a rupture with the highly unequal colonial setting that had lasted for more than three centuries. The continued perception of the extreme level of inequality has resulted in recurrent occurrences of protests, strikes and riots¹ in these territories. However, despite the pressing issues, there has sparsely been an in-depth long-run economic analysis to examine this assertion.

The existing sparse literature gives a glimpse of the prevailing situation. Bernier and Maurin (2013) rank French departments according to their level of inequality in 2011 as measured by the Gini Index². They find that La Réunion notoriously ranks first as the most unequal French department (0,53), overtaking Paris (0,50), followed by Martinique (0,47), compared to an average Gini index of 0,31 in metropolitan France. In the same line, Jonzo (2009) finds persisting high level of inequality in La Reunion from 2001 to 2006. Existing works point towards the prevalence of high levels of inequality by providing a snapshot of the situation. In this respect, this paper is the first to provide a comprehensive analysis of inequality in the overseas departments over the long-run. It addresses the following previously unanswered questions: first, whether the situation we currently witness is an amelioration or a deterioration since the departmentalisation in 1946 and second, how the overseas departments have fared when compared to the metropolis.

The shortcomings in this literature can be traced back to a series of valid reasons: the remoteness of these territories, the absence of good local facilities and the late establishment of administrative bodies among other factors explain the paucity of data until recently. In fact, so far, analysis on inequality in the overseas departments have primarily relied on survey data that are only systematically available as from the 1990s³. This has largely restricted the period coverage of previous analyses-confining them to cross-sectional or short-period

¹Some of the major riots/protests in the overseas departments: Violent riot in 1959 Martinique leading to anti-colonial protests against oppression; Riot in Guadeloupe in 1967 which erupted due to racism, leading to workers protests demanding improved economic conditions; Riot in 1996 in Guyane which started with demands for the local education system; Riots in La Reunion in 2005 and 2012 and general strike in the Antilles in 2009 against the high cost of living and the unacceptable low standard of living

²Varies between 0 (highly equal) and 1 (highly unequal)

 $^{^{3}}$ While they are available in metropolitan France since the 1960s, they are only recently fully extended to the overseas departments

analyses. Moreover, the lack of coordination among local statistical bodies and so the lack of comparable data meant that these departments have hardly been analysed together or at best, merely artificially juxtaposed. These factors combined have considerably impeded the existing post-colonial studies in these territories. In the light of the gap in the literature, this paper aims to shed light on the evolution of income inequality in these territories by:

- i) analysing inequality by breaking down the post-colonial era into different periods;
- ii) performing a comparative analysis among the overseas departments; and
- iii) comparing these territories with the metropolis.

In order to do so, I build a dataset from income tax tabulations at the departmental-level covering the period from the 1950s until 2014⁴. This novel dataset allows for an estimation of the evolution of income inequality in the four oldest French colonies, now overseas departments of France; La Réunion, Guadeloupe, Martinique and Guyane since their decolonisation in the mid 20th century until recent years. The contribution of this paper to this literature is two-fold. First, the data collection is in itself a major contribution to the current state of knowledge on these territories.

Secondly, most of the existing literature on the evolution of inequality in France have been conducted at the national level (Piketty, 2001; Garbinti et al, 2018). My work is among the first paper to take an interest at a regional-level analysis. It is also the first paper to conduct a long-run analysis of inequality in the overseas departments of France as well as provide a coherent comparative study, both between these four departments and in comparison with the French national level. My contribution to the literature on inequality in France is even more policy relevant following the political recognition of the situation and the recent enactment of the bill on "Real equality for overseas department⁵ in the French parliament as will be explored in Section 2.

Section 3 details the data and methodology employed in this paper. Using a Generalised Pareto interpolation technique and following the methodology used in Garbinti et al (2018), this paper finds that the inequality trends follows an inverted-U shaped curve over the period as presented in section 4. The overseas departments witnessed top 1% income shares as high as 27% in the 1960s and top 10% shares which hovered around 75%, three decades after decolonisation. Interestingly, while the top 10% income share is still consistently higher in the overseas departments compared to the metropolis, the top 1% income shares stabilises

⁴See Appendix B for details of period coverage

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at the same level as the metropolis in the recent period. Despite disparities in the levels across these four overseas territories, there has been a general downward trend in their levels of income inequality until the mid-1980s, followed by a relative stabilisation thereafter. It is worth noting that there are differences in the realities behind the umbrella term "overseas departments".

I attempt to provide evidences for the potential underlying mechanisms behind the observed inequality trends in these territories in section 5. These results tend to confirm the widespread perception of disparity in these territories and can thus contribute to a more informed debate on the issue. The high levels of inequality in the overseas departments is even more problematic given the post-colonial context and the known ethnic divides. Unveiling another layer of complexity, I explore, in section 6 the underlying metropolitan-native divide of income distribution in these territories, followed by a conclusion in section 7.

2. Background

The overseas departments, once known as the "four old colonies" of France, were among the first colonial possessions of the French empire in the 17th century⁶ and share a long common history with France. These ex-colonies present interesting characteristics owing to their peculiar colonial and post-colonial history. They have mostly been populated by colonial settlement, slaves and indentured labourers, the few native population, if any, having been decimated. Two major turning points in the history of these territories are as follows: first, the abolition of slavery in 1848 through which the population were granted the French citizenship; and second, a century later, with the transformation of these colonies into French departments. This process of decolonisation by assimilation to the French Republic in 1946⁷ occurred after three centuries of colonial domination and at a time of great uncertainty of the subsequent path of the French empire in Africa.

Despite being grouped under the umbrella term of "four old colonies" and the overseas departments of France in the post-colonial period, they hide different realities. These differences have their roots in the colonial era- while the Antilles and La Réunion, to a lesser extent, were used for slave trade and plantations, Guyane was initially a prison, later famous for gold exploitation and the French space centre in the post-colonial period.

These territories also differ in their population compositions. To begin with, they have different evolutions of the share of white settlers- In 1848, at the time of the abolition of slavery, Guyane counted 6% of its entire population as white while the Antilles had a share of the white population of 10% and La Réunion had an even greater share of 20% (See Appendix A). The Antilles and La Réunion share the demographic feature of a binary white-black population until 1848, thereafter witnessing an influx of Indian and Chinese populations (few in the Antilles and more important in La Réunion). Guyane on the other hand has always been a marked by a high influx of population from poorer neighbouring countries- in search for better economic conditions.

Despite some differences, these territories were rightly grouped together given their undeniable similitudes and their perpetuated special political and juridical status within the colonial empire. There has been a general consensus of the shared French identity in these four colonies due to historical, geographical and ethnographical reasons. Historically, these

⁶Even before some metropolitan territories such as Nice, Savoy and Corsica

⁷Loi no 46-451 du 19 mars 1946 also known as the "loi de departementalisation"

four old colonies have been part of the first wave of french colonialisation and represented the highly valued remnants of that period. With the decree of 1823 and 1825 (until 1854 in Guyane), the same legislative system were established in all four colonies. Geographically, these territories have constituted the administrative size of a metropolitan department⁸. Moreover, these colonies were highly dependent on the metropolis, gradually forging them into similar metropolitan administrative areas. From an ethnographic point of view, these territories did not possess any or significant autochthone population and in the post-slavery period, the coloured population were subject to the same political and judiciary rules as the local white population.

On the political aspect, these colonies had parliamentary representation in Paris as early as 1789, all be it with periods of interruption under the different subsequent regimes. The Constitution of 1795⁹ further integrated these four colonies¹⁰ into the French Republic, subjecting them to the French constitutional law and dividing them into administrative departments. In addition, unlike the other French colonies, the population of the four old colonies¹¹ were granted full-fledged French citizens and granted universal suffrage as from 1848. All these factors combined hints towards the unique status within the French empire. They have for long been considered as having a somewhat higher status than the other colonies without having a full French status.

Despite the fact that these colonies stood out from the other possessions of the French empire, there was undeniable differences on the socio-economic front between the them and the metropolis. At the turn of the 20th century, these four territories were marked with deep social divides on various lines. As a result of the colonial heritage, a segregation between the white economic elite¹² and the African and Asian descendants existed in la Réunion and the Antilles. Guyane, on the other hand, faced a different challenge in terms of its border disputes, mass migration inflows and dismal inequality. In this sense, the departmentalisation law and the underlying assimilation process was sought to increased legal, social and economic equality within these territories as well as with their metropolitan counterparts.

⁸Guyane has a large territory but most economic activities were concentrated in Cayenne and is thus comparable to the other three colonies.

 $^{^{9}}$ Article 6 and 7

 $^{^{10}}$ and few others-Saint-Domingue, Sainte-Lucie et Tabago, lle-de-France et French Indian colonies, See https://www.conseil-constitutionnel.fr/les-constitutions-dans-l-histoire/constitution-du-5-fructidor-an-iii

¹¹Irrespective of their origins. There is no difference between the "colonial citizens and the metropolitan citizens unlike the system of indigenats in the other colonies

¹²commonly known as the Békés in the Antilles

The immediate post-colonial period witnessed a generally alarming socio-economic situation in the overseas departments. Marked by high illiteracy rates, low sanitation level, low life expectancy and the decline of the sugar industry, these newly-turned departments were in no way comparable to the metropolis. In the face of this alarming reality, the French government undertook a step-by-step action plan to gradually tackle the problems at hand. These consisted of the setting up of post-colonial institutions to tackle the most pressing issues- initially for health and sanitary issues, social and eventually the economic aspect. At the same time, these territories witness massive job creation of public jobs. The extension of social benefits in these precarious contexts led to high pressure on public finances and thus, continued dependence on the metropolis. The acute lack of a local productive sector has further exacerbated the situation in terms of the saturated labour market.

3. Data & Methodology

3.1. Data

In order to establish the long-term evolution of income inequality in the overseas departments, this paper gathers annual income tax data published by the tax administration. Despite some caveats of tax data¹³, it constitutes a valuable source of data for the analysis of income inequality in the DOM, the only other potential source of data being the household budget surveys which face major limitations in that respects. In general, survey data is known to suffer from issues at the upper end of the distribution which takes the form of top coding or under-reporting. In addition, the period coverage of surveys in the DOM is significantly shorter and at a lower frequency¹⁴ compared to the annual records of tax data which are available since the onset of the imposition of income tax in the mid-20th century.

Given the above-mentioned advantages of fiscal data, this paper construct a novel dataset of income tax data in the overseas department to build a historical series of inequality, contributing to the general pool of data available for the overseas departments. The collected income tax data consist of tabulated tax data at the departmental level over the period of 1950 to 2014, with few intermittent periods. These data contain information about the number of tax filers and the total income in the different brackets of income¹⁵. These income tax data have been collected from different sources and can be categorised accordingly in three periods:

i) 1950 - 1985: Annuaire Statistique of the Overseas Departments and INSEE

ii) 1986 - 1998: Etats 1921- Centre des Archives Economiques et Financières (CAEF)

iii) 2000 - 2014: Direction Générale des Finances Publiques (DGFiP)

Starting from the most recent period (2000 - 2014), income tax data is obtained from the online resources of the Direction Générale des Finances Publiques (DGFiP) for the four departments¹⁶. Data for the period 1986 - 1998 for all four territories are obtained in the form of paper-based tables annually published in a pamphlet format. Known as the "Etats 1921", it was originally published for internal use by the Ministry of Finance¹⁷. For the

¹³For instance, issues of tax avoidance and evasion or the focus on pre-tax and transfer income inequality which does not take into account the redistributive efforts of public policies, especially in the DOM.

¹⁴The Enquête Budget de Famille only starts in 1995 and are available every five years

¹⁵There has been noticeable changes in terms of the number of thresholds reported over time. The aim for this frequent update of the number of threshold is normally to provide more detail at the upper end of the distribution as taxpayers report increasingly higher taxable income.

¹⁶As of this date, data for 2004-2014 can be retrieved online from www.impots.gouv.fr

¹⁷These data do not violate any statistical confidentiality rule as it includes a large number of taxpayers.

preceding period, the income tax data is gathered from the various Annuaire Statistiques of La Réunion, Guadeloupe, Martinique and Guyane, published by INSEE over the period 1950 - 1974.¹⁸. Between 1972 - 1985 and 1988, partial tax data for La Réunion is retrieved from a retrospective compilation of statistical data from an INSEE publications. Unfortunately, the data reported are not as detailed as the previously-mentioned sources as they were only for expository purposes. The publication only reported the number of taxable taxpayers per income brackets with no information about the corresponding incomes in the brackets. The corrections made to these partial data in order to estimate the income distribution is laid down in Appendix B.

The availability of data for the different departments are more or less sparse and do not cover the entirety of the period for all departments. A summary of the availability of the data over the whole period is presented in Figure B.1 in Appendix B. As far as possible, the latest available tabulations are used in this paper to account for most corrections made to the tax data¹⁹. The comparability of the publications across time is generally consistent, except for changes in income definition used over the years, which is described in Appendix D.

Moreover, as explained in more details in Appendix C- Control Total for Population, the unit of analysis in the tabulation tax data is the tax unit. While it is conceptually close to a household unit, which the preferred unit of analysis in economic surveys, tax units refer to a person or group of persons that fills a unique tax form. Hence, the definition of household does not align perfectly on tax units, for instance, in a case whereby a cohabiting unmarried couple would constitute a single household but two tax units. As is done in this literature and for the sake of consistency over time, a tax unit is estimated as an adult above 20 years of age or a married couple (see Appendix C).

Apart from income tax data, this analysis also relies on population and income data. Demographic data are primarily obtained from population censuses over the whole period²⁰. Departmental-level income estimates are primarily obtained from national accounts compiled by INSEE. This covers the entire period for La Réunion and unfortunately exists only

These data concern groups of more than 11 persons.

 $^{^{18}\}mathrm{The}$ latest year corresponding to income perceived in 1972

¹⁹The tax administration normally publishes income tax data on income perceived in year n in both the following year at 31/12/(n+1) and the year after- 31/12/n+2. The latter is in principle the most up-to-date data as it takes into account tax audits, tax reliefs and changes in family status which occurs in the year after the imposition.

 $^{^{20}{\}rm The}$ population census are available for the following years: 1954, 1961, 1967, 1974, 1982, 1990, 1999, 2009 and 2014.

as from the 1970s for Guadeloupe, Martinique and Guyane. For the previous period, the national income series are estimated based on some assumptions (for more detail see Appendix D).

3.2. Methodology

Following the work of Piketty (2001) and Garbinti et al $(2018)^{21}$, this paper establishes a thorough study of top incomes at the overseas departmental-level which is comparable to the former. Given the truncated nature of the tabulated tax data, a generalised non-parametric Pareto interpolation technique Blanchet et al. (2017) is applied to the data.

In France, prior to 1985, only tax units subject to taxation were subject to income tax declarations. While it becomes mandatory as from the mid-1980s to fill in a tax form, it is only gradually applied in the overseas departments. Over time, a greater proportion of tax units is captured in the tax data, as seen in Figure 1. Hence, in order to estimate the whole income distribution, there is a need to estimate the total number of tax units and their corresponding income over the whole period, had every tax unit been required to fill in a tax form. These components, commonly known as control total for population and income, are detailed in this section.

Population Estimates

In the French fiscal system, individuals can choose to declare their income separately from their parents' declarations as from the age of 18 and a separate declaration becomes mandatory as from 21 years of age²². While single individuals fill independent declarations, married or PACSed²³ couples are required to jointly fill a tax form. Hence, a close estimate of the total number of tax unit would be the sum of single individuals and the number of married (or PACSed) couples²⁴. Given the flexibility on the initial age of fiscal declarations

 $^{^{21}}$ Refer to the Appendices of GGP2018 for a detailed explanation of the estimations and corrections made.

 $^{^{22}25}$ years of age for students

 $^{^{23}\}mathrm{A}$ civil solidarity pact- a contractual form of civil union

²⁴Note that this only gives an approximate estimation of the total number of tax units since there may be cases of young students above 20 years of age attached to their parental tax unit or in cases of a marriage (or divorce) during the year would entail three declarations in total- two separate declarations for the income received before the marriage (or after divorce) and one declaration for the couple thereafter (before the divorce). However, despite not being a perfect estimate, it provides a precise enough estimate. A discussion on the choice of the age of the adult population and a detailed explanation of the steps in the estimation of is made in (Appendix C).

and to be consistent with the literature, adult population is defined in this paper as individuals above 20 years of age. The long-run trends of adult population and total estimated tax units are presented in Appendix C.



Fig. 1. Proportion of tax declarations

Income Estimates

Similarly, there is a need to estimate the total fiscal income which would have been reported if all the tax units were required to fill a tax form. In order to obtain a coherent series over the long-run, I adopt the external control approach which consist in correcting the national income accounts for non-household income and other non-relevant incomes to obtain the total taxable income. The relationship between the national income and the taxable income is shown in table 1. Fiscal income may hence diverge from national income due to production taxes and the part of income not subject to taxation and thus not declared in the tax data. The latter may include imputed rent (rental income from owner-occupied housing), employers and employees social security contribution, tax-exempt life insurance income and other tax-exempt income, for instance interest paid to deposits and savings accounts and non-taxable transfer payments. On the capital front, fiscal income also excludes corporate retained earnings and corporate taxes.

Table 1: Relationship between National income and Taxable income

Balance of Primary Income
(-) Non-household incomes
Household sector total income
(-) Items not included in the tax base
Household Gross income
(-) Non-declared income
(-) Non-filers
Declared taxable income of filers

I first build a long-run series of national income at the overseas departmental level since the mid-20th century until recent years. Calibrating on the relationship between the national income and taxable income at the national French level, I then estimate taxable income at the DOM-level over the whole period (See details in Appendix D). While this process allows me to obtain an estimate of taxable income, the definition of income of interest is the fiscal income. The latter refers to the income reported in the tax declarations before any adjustments. Fiscal income is preferred as taxable income is sensitive to changes in the tax administration and changes in deductions schemes over time, potentially leading to biased estimates of trends. The main deductions in the French tax laws, which is corrected for are:

i) A 10% lump-sum deduction for professional expenses of wage earners, currently capped at 12 183 \in per member of the tax unit.

ii) An additional 20% deduction for wage income (up to a ceiling) which has been repealed in 2006.

Apart from the corrections made for these deductions, the series also take into account the capital gains based on Garbinti et al $(2018)^{25}$. Finally, the estimated average fiscal income in France and the overseas departments are presented in Figure 2.

 $^{^{25}}$ See Appendix D for the trend of the taxable income based on the estimation described in the previous section and fiscal income based on the above-mentioned corrections. There is a clear jump in taxable income in 2006 due to the repeal of the 20% deductions for wage income.



Fig. 2. Average Fiscal Income

The overseas departments are approximately 40% poorer than France at the begining of the period. While France experiences rapid growth during the "Trente Glorieuses"²⁶, the overseas departments grow at a lower pace, Guyane faring the worst²⁷. This enlarges the gap between the overseas departments and France to around 50-70%. Partly due to a stagnation of the French economy and partly to the increased pace of growth in the overseas territories as from the 90s, there has been a convergence, with the gap stabilising at around 30% (around 10 000 €per tax units in actual terms) in the recent years.

²⁶The 30-year period of post-war boom.

²⁷Guyane's economy was very much fragile and dependent on the development of the Spatial Centre and the mass migration flows in the neighbouring countries (INSEE, 2017).

4. Results

4.1. Top Income Thresholds

Figure 3 and 4 depicts the minimum income required to be part of the top 10%, top 1% and top 0.1% of the distribution respectively. While there has been a moderate convergence in average fiscal income between the metropolis and its ex-colonies, there is a narrower gap in income at the top of the distribution.



Fig. 3. Threshold income of top 10%

The top 10% income threshold in the overseas departments have consistently been lower than the level in France. Despite the fact that the mid-1980s correspond to the period with the largest difference in average income between France and the overseas departments, the gap for the same years at the top of the distribution are narrower. This has further reduced over the years, especially so for Guyane and the Antilles. In fact, in absolute terms the 7 $000 \in -16\ 000 \in \text{gap}$ in the mid-1980s has narrowed down to $6\ 000 \in -10\ 000 \in \text{today}$. This translates to a relative gap in top 10% income of 15-30% in the mid-1980s to 9-15% today.



Fig. 4. Threshold income of top 1% and top 0.1%

The gap between them is narrower at the very top of the distribution (4). The top 1% threshold of La Réunion was even above the one of France from the 60s to the 80s. The top 0.1% threshold shows a slightly different trend, with almost no gap until the mid-1980s and a widening of the difference thereafter, but the thresholds remain fairly close to the level of France. Altogether, figure 2 to 4 suggest that while the income at the top of the distribution in the overseas departments has remained close to the level in France throughout the period, the middle of the distribution has only moderately gained since the 1950s.

4.2. Top Income Shares

This section presents the results of the estimation of the top income shares²⁸ using the generalised Pareto method. Overall, the top income shares series spans over a 60-years period from the 1950s to 2014. This paper exploits tabulated tax data which initially captured only the top part of the distribution. So, estimates for the very top of the distribution (top 1, 0.1 and 0.01%) are available since the 1950s while the top 10% income share can be only be precisely estimated as from the mid-1980s. The tabulations in the recent decade allows for an estimation of the bottom 50% share, except for Guyane. In terms of data availability, the beginning of the period until 1986 is intermittently covered in the different departments, La

 $^{^{28}}$ In order to understand the following series, one needs to grasp the concept of top income shares. As an illustration, in a perfectly egalitarian economy, the top 10% of the distribution would own 10% of total income. Similarly, the top 1% would own 1% of total income. If the share of the top 10% is estimated to be 20%, then the top 10% own twice the income they should have owned under a perfectly egalitarian economy.

Réunion having the most complete data²⁹. An almost uninterrupted series is established for all four overseas departments from the mid-1980s up to 2014. The results for the overseas territories are put in perspective by comparing them to the French series by Garbinti et al (2018).

Top 1%

Figure 5 shows the top 1% income shares in the overseas departments³⁰ in comparison to France.



Fig. 5. Top 1% Income shares

Three main elements can be observed from figure 5. First, the top 1% income shares in the overseas departments follows an inverted U-shaped curve over the period³¹. There

²⁹See Appendix B for details about data coverage

 $^{^{30}{\}rm Since}$ the 1950s for La Réunion and the Antilles with a gap in the data from 1960-85 in the latter territories and as from the late 1980s in Guyane.

 $^{^{31}\}mathrm{Based}$ on the partial data for the Antilles and on the series of La Réunion which provides the most complete picture.

is an initial upward trend until the 1960s, peaking at $25\%^{32}$. Thereafter, there is an initial moderate decline until 1980 and a more rapid decline as from the 80s. Second, despite initial differences in the top 1% shares in the overseas departments and France, there is a converging trend. In fact, the top 1% stabilises at around 10% in the overseas departments as well as at the national level in the recent years. Third, there is a difference in the initial level of inequality between La Réunion and the Antilles, until the 1990s.



Top 0.1% and Top 0.01%

Fig. 6. Top 0.1% and top 0.01% income shares

Figure 6 shows the evolution in the income concentration at the very top of the distribution, namely the top 0.1% and the top 0.01% in the overseas departments and France. The shares are relatively higher in La Réunion compared to the other overseas territories and France in the 1960s. Top 0.1% (0.01%) stands at around 8% (1.7%), and reduces significantly to approximately 3% (0.8%) in the mid-1980s with a continued declining trend thereafter until the 2000s. Post 2000, the top 0.1 and 0.01% income shares of all four overseas departments hovered around the level of France.

Top 10%

When analysing the top 10% income shares since the mid-1980s, we observe that, similar to the results at the very top of the distribution, the shares are higher in the overseas departments compared to France, especially so for La Réunion. The top 10% is around 60% in La Réunion compared to 49 - 55\% in the Antilles and Guyane. These levels of inequality

 $^{^{32}}$ France's had a similar level of top 1% income share in the inter-war period at 23%

are among the most extreme levels witnessed in the world. They are comparable to the Middle-Eastern regions and South Africa which have top 10% shares (Alvaredo et al, 2018; Alvaredo and Atkinson, 2010). This period of high inequality in the overseas departments is followed by a general declining trend since the 1980s. As from the mid-1990s, there is a mild decrease and an eventual stabilisation as from the beginning of the 21st century.



Fig. 7. Top 10% income shares

The main difference with the top 1% income shares is that the top 10% income shares are consistently higher in the overseas departments compared to France, despite the significant declining trend in the former. In the late 2000s, the top 10% share is around 35% in France compared to around 39-44% in the overseas departments. This tends to go in line with INSEE analysis which concludes based on survey data that the overseas departments are the most unequal departments of France. Taken together, figure 5 and figure 7 imply that the higher level of inequality in the overseas departments compared to France is driven by the bottom 9% of the top 10% income group³³. This group has a higher share of income

 $^{^{33}\}mathrm{Often}$ denoted as the P90-P99

in the overseas departments than in France. Similar to the top 1%, the levels of inequality are different between the four territories. Among the four, La Réunion seems to have the highest top 10% shares, followed by Guyane and the Antilles respectively.

Bottom 50%

This section lays down an estimate of the bottom 50% income share in La Réunion and the Antilles as from 2000^{34} .



Fig. 8. Bottom 50% Income shares

It can be seen that in general, the share accruing to the bottom 50% is around 8-11% compared to 18% at the national level. The share of income held by the bottom 50% in the overseas departments appears to be very low. This might explain the high financial dependence on close and extended family in these territories (?). Statistics also show a high dependence on social transfers in these territories. Another possibility is the prevalence of an informal sector that is not captured in the data. However, all these factors hints towards

 $^{^{34}}$ Estimates prior to 2000 and for Guyane are less precise since the tabulation tax data does not allow to directly observe the bottom of the distribution and such estimation would require further assumptions.

the extremely precarious life of the bottom of the distribution and should not be the solution sought in face of an unequal society.

5. Discussion

The main elements observed in Figure 5 to 8 are three-fold:

i) An inverted U-shaped curve of income inequality in the overseas departments³⁵ since departmentalisation;

ii) Differences among the overseas departments; and

iii) Top 10% at a higher level in the overseas departments compared to metropolitan France.

First, we can clearly divide the inequality trends in three main periods: An increasing trend in inequality since departmentalisation until the 1960s, followed by a declining trend from the 1960s to the 2000s (with a sharper decline from the 1960s - 1990s and milder from the 1990s-2000s) and a stabilisation of inequality thereafter.

1946 to 1960s: WWII has had devastating effect on the local colonial economy due to the sudden detachment from the metropolis³⁶ leading to a period of severe blockage and thus a food crisis. In 1946, these territories were not only burdened by their colonial heritage but also by the impact of the war on the local economy. While the law of departmentalisation was voted in 1946, there has been no sharp break between the colonial and post-colonial period. Scholars consider the immediate post-departmentalisation period until the mid-1960s as a period of status quo in these new departments (Drozin, 2001). Thus, the starting points of the top income series³⁷ of the overseas departments provide a fair insight into the degree of inequality at the end of the colonial period.

The first decade after departmentalisation marked the post-war recovery of the sugar production in the overseas departments (See Appendix E.1). At the same time there was also the setting up of the public sector in the overseas departments. Given the high level of illiteracy rate among the native population, the French government implemented incentives in the form of public sector premium³⁸ to attract metropolitans in these new departments. These premiums (also known as "high cost of living premium) which still exist today, stands at 40% of the metropolitan salary in the Antilles and Guyane and at 53% in La Reunion. Thus these territories have received a massive influx of metropolitans over that period, taking up

 $^{^{35}}$ Based on the top 1% income shares in La Réunion as the most complete data series exists for La Réunion. Few data points can be observed in the mid-50s for the Antilles and a full series as from 1986 in the Antilles and Guyane.

 $^{^{36}\}mathrm{France}$ being under the German occupation

 $^{^{37}\}mathrm{The}$ analysis for this period relies only on the series estimated for the top 1% and top 0.1% income shares

 $^{^{38}}$ Initially granted only to metropolitans and it was extended to natives in 1953

public service positions. Given the poor local economic situation, this has very likely been an important part of the explanation of the increase in the level of inequality during that period.

1960s to 2000s: Sugar production in the Antilles begun to decay as from the mid-1960s and around the 80s in La Reunion. At the same time, in an attempt to remedy for the highly unequal land ownership inherited from the colonial rule, the government undertook various land reforms in these territories³⁹ aiming to redistribute large landholdings among a greater number of planters. In La Reunion for instance, SAFER⁴⁰, put in place in 1966⁴¹ redistributed 24000 hectares of land since its creation, representing 40% of the agricultural land in that period.

This period was also marked by an institutional effort to encourage migration towards the metropolis in a bid to tackle the exploding population in the overseas departments. Put in place in 1963, the BUMIDOM⁴² played both a direct role⁴³, through financial and other support, and an indirect role through encouragement and promises of better economic prospects, in the population outflow to the mainland. Unfortunately restricted by the lack of data, it is not possible to observe the characteristics of the individuals who have migrated but anecdotal evidences tend to suggest that they belonged mostly to families at the bottom end of the income distribution.

The phase starting in the early 1980s, marked an intensified effort of the government to tackle the persistent levels of inequality. To begin with, there has been the decentralisation of power from the central government to the regional-level in 1982. This led to a gradual catch-up of the social benefits to the metropolitan-level. It took the form of the extension of the (until then restrictive) family allocations and minimum old-age pensions to a larger share of the population. This period has also seen an alignment of benefits to the metropolitan level- the Revenu Minimum d'Insertion (RMI) in 1989, unemployment insurance in 1991, family allocations in 1993, the alignment of the minimum wage in 1996, as seen in Figure 2 and the facility for youth employment in 1997 among others. This social benefit alignment process to the metropolitan level was more or less completed by the beginning of the 21st

³⁹Except for Guyane

⁴⁰Société d'Aménagement Foncier et d'Etablissement Rural

 $^{^{41}\}mathrm{Following}$ the loi du 2 aot 1961, SAFER's main function included buying land to resell in smaller sizes to planters

 $^{^{42}}$ Bureau pour le développement des migrations dans les départements d'outre-mer replaced by the Agence nationale pour l'insertion et la protection des travailleurs d'outre-mer (ANT) in 1981

 $^{^{43}}$ Around 85000 individuals in total migrated through this institution from the Antilles and La Reunion representing around 5% of their total population in that period

century. A major part of the effort to reduce social and economic inequality in this period were achieved through redistributive policies. Since this paper focusses on fiscal income⁴⁴, we only observe the effect of leveling up of specific policies such as the minimum wage and familly allowances which were paid as part of the labour income until 1986.

2000 to 2014: With the completion of the catch-up period with the metropolis in the 2000s, there was less space for comparably compelling policies in the following decades. This is reflected in the relative stabilisation in the evolution of inequality in all four overseas departments as from the 2000s. The trends top 1% income shares in the overseas departments have converged to the level of the metropolitan, while the top 10% shares remained consistently higher than that of the metropolis.

It is also worth noting that despite the common inequality trends observed in the overseas departments, La Réunion experiences a much higher level of inequality at the beginning of the period compared to the Antilles. This can perhaps be traced back to their different colonial past and persisting differences between them. For instance, the level of education, proxied by the illiteracy rate, in these territories from 1954 - 1967 gives an insight into the differences inherited from the colonial period (See Table E.1).

A large part of the explanation for the higher level of inequality in the overseas departments compared to metropolitan France can be attributed to the higher level of labour income inequality. In the post-departmentalisation period, the economies of the overseas departments have undergone sharp transitions from agrarian-based economies to a servicesector dominated economy, as can be seen in Figure E.6. As a result, there has been a massive loss of unskilled jobs in the agricultural sector accompanied by a growing demand for skilled labour in the tertiary sector. This had led to a polarisation of the local labour market with on one hand the highly qualified and better-paid public servants than in the metropolis, and on the other hand, a large segment of precarious unemployed or low-income earners paid a minimum wage that is lower than in the metropolis.

As a case in point, figure E.3 to E.5 depict the wage density distribution in La Reunion in 1988. A large share of workers were paid around the minimum wage, especially so in the private sector while the wage distribution in the public sector was highly left-skewed (far above the minimum wage). In fact, according to INSEE La Reunion, the ratio between the minimum wage and the minimum public servant wage was around 0.40 in the 1980s and has increased to 0.50 in the 1990s, compared to 0.94 in the metropolis. Hence, while the

⁴⁴pre-tax and transfer income

alignment of the minimum wage to the metropolitan level has undeniably played a role in pushing upwards a segment of the population, there still exist a gap in the discrepancy between the private and public sector wages in the overseas departments compared to France⁴⁵.

These post-colonial trends and level of inequality in the overseas departments reflect, at least partly, the underlying racial divide. While there are many anecdotal evidences of the deep divide along ethnic lines, the strict "colour-blind" approach adopted by the French government does not allow for any statistical distinctions between the different groups of population. This has restricted potential research on the ethnic aspect of inequality in the ex-French colonies. Over and above the purely colonial ethnic divide, the overseas departments have also witnessed a fraction between its native population⁴⁶ and the metropolitans⁴⁷. In the next section, I analyse the widely claimed metropolitan-native divide in the overseas departments.

 $^{^{45}}$ The ratio between the average annual wage of the private sector to the public sector in 2010 was 0,71 in La Reunion compared to 0,98 in metropolitan France

 $^{^{46}\}mathrm{A}$ minority of the native population are of white descents. A very rough estimate of the white descendants from the colonial period would be approximately 10-20% of the native population.

⁴⁷Population born in the metropolis

6. Metropolitan-Native Divide

Given the qualification requirements, public sector employment has for long penalised the native unemployed who were mostly under-qualified or unqualified in favour of metropolitans. In fact, the share of metropolitans in the overseas departments, the vast majority occupying high-ranks civil service jobs, went from around 1% in 1954 to 10% in recent years. While the contemporary racial aspect of inequality in the overseas might largely be the logical result of the assimilation of these territories into the French Republic and thus the territorial continuity⁴⁸, it has serious implications in a post-colonial setting. This situation further exacerbates the widespread unfair sentiment of inequality experienced by the native population.

Using administrative fiscal data for the year 2014 for a sample of the population matched with the population census⁴⁹, I analyse labour income inequality in the overseas departments. Table F.1 shows the descriptive statistics for adult population⁵⁰ metropolitans and the native population. It can be seen that the metropolitan population is more educated, tend to be more active and employed and earn a higher labour income than the native population on average. This is not very surprising given the very likely positive selection in the migration flow from the metropolis to the overseas departments. However, I aim to investigate the existence or nonexistence of a wage gap between metropolitans and the native population in the overseas departments, controlling for observable characteristics. The model to be estimated is as follows:

$LabourIncome_{i} = \alpha + \beta Metro_{i} + \gamma Education_{i} + \rho Emp_{i} + \delta Controls_{i} + \epsilon_{i}$

where Metro is a dummy for the origins of the person being either native or metropolitan⁵¹. Education refers to the level of education attained by an individual and Emp refers to the employment category as defined by the French Nomenclature⁵². Control variables include age, age squared, gender, matrimonial status, a full-time dummy, the type of contract and departmental fixed effects.

⁴⁸For instance, most public sector jobs are contested in a national competition and would, even if distributed randomly, lead to the assignment of more metropolitans to the positions in the overseas departments than the native population, due to their relative sizes in the total population.

⁴⁹Using the Echantillon Demographic Permanent (EDP)

 $^{^{50}}$ The sample has been restricted to the population above 25 years so as to observe adult individuals who declare their income.

 $^{^{51}\}mathrm{Foreigners}$ are excluded from this analysis, being a small minority in the population

 $^{^{52}{\}rm Socio-Professional}$ Category (PCS) in 42 positions including the distinction between unemployed and inactive individuals

Origin (Base: Native)	
Metropolitan	3882.2^{***}
	(282.1)
Gender	-3546.4***
(Base: Male)	(207.9)
Education Level	
(Base: No or low educ)	
High School	5083.2^{***}
	(238.1)
Undergraduate	9642.6***
	(401.1)
Masters or PhD	13477.6^{***}
	(420.0)
N	19 048
Adj R-squared	0,55
Controls	Yes

Dependent Variable: Total Income

Standard Errors in parentheses

* p<0.05, ** p<0.01, *** p<0.001

 Table 2: Regression Result

Table 2 shows the result of the regression of total labour income on the origin, controlling for a set of observable characteristics. The results shows that there exist an important gender gap in the overseas departments. As expected, there is a positive return to education. The main coefficient of interest, *Origin*, shows that controlling for the detailed profession category among others, metropolitans earn a higher annual income of around $3,882 \in$ compared to the native population on average, controlling for a set of observable characteristics. These results hints towards a native-metropolitan divide which might play a role in exacerbating the already tensed post-colonial society.

I further estimate the level of labour income inequality in each of these territories in 2014. Table 3 Panel A shows the actual top labour income shares. La Réunion is the most unequal department in terms of Labour income with a top 10% labour income of almost 37% and a top 1% of almost 8%. The labour market inequality seem to be very similar in the Antilles and relatively lower to the other departments. Given the existence of a "metropolitan premium" in the overseas department, I estimate a counterfactual level of labour income inequality under the scenario of no income gap between the native and metropolitans. I impute a naïve counterfactual incomes for metropolitans based on their observed characteristics and

the corresponding income of native. Panel B shows the estimated level of top income shares under such conditions. Top 10% labour income share share reduce by around 2-3 percentage points in La Réunion and the Antilles and By much more in Guyane. This naïve exercise allows us to get a glimpse of the extent to which labour income inequality is driven by this divide.

Table 0.	тор царос	ii iiicoiiic	51141 C5
Panel A	Top 10%	Top 1%	Top 0.1%
Guadeloupe	33.9%	7.2%	1.4%
Martinique	33.2%	7.2%	1.4%
Guyane	34.4%	7.0%	1.1%
La Réunion	36.9%	7.9%	1.6%
Panel B	Top 10%	Top 1%	Top 0.1%
Guadeloupe	30.6%	5.6%	1.0%
Martinique	30.0%	5.4%	0.9%
Guyane	27.6%	4.5%	0.5%
La Réunion	34.0%	6.9%	1.2%

 Table 3: Top Labour Income shares

Figure 9 shows the population composition in the whole of the labour income distribution, in the top 10% group as well as in the top 1% group. While the metropolitan population accounts for around 10-15% of the total population, they account for 25-45% of the top 10% income group and 35-60% of the top 1% income group.



Fig. 9. Share of population in the different labour income groups

7. Conclusion

This paper explores the post-colonial evolution of inequality in the four oldest colonies of France, which became part of the same country in 1946. Despite being widely acknowledged that these departments experience higher levels of inequality, no in-depth analysis has been devoted to this. In this paper, I fill this gap in the literature by estimating a consistent long-run series of income inequality in the four overseas departments of France. Building a novel dataset based on fiscal data at the departmental-level, I am able to estimate the income distribution in these territories since their departmentalisation in 1946 until 2014. Results show that these territories have undergone various changes, leading to an initial increase in the top income shares until the 1960s, followed by a steep decline in inequality thereafter. While the top 1% income shares in these territories has stabilised at the national level since the beginning of the 21st century, the top 10% has remained consistently higher.

I then discuss some of the potential factors contributing to the level of inequality observed in these departments. The results provide suggestive evidences that the various policies put in place in the 20th century have been successful in reducing the extreme levels of inequality, though the gap between these departments and the metropolis has not completely disappeared. The difference in the level of inequality in the overseas departments compared to the metropolis might be explain by the larger gap in wages in the public compared to the private sector in the overseas departments. Civil servant wage premium coupled with employment in private sector distributed mostly around the minimum wage have led to a polarised labour market and thus labour income inequalities.

In the second part of the paper, I investigate the known metropolitan-native divide in the overseas departments. Using administrative fiscal data matched with the population census in 2014, I estimate the "metropolitan premium" in the overseas departments. Controlling for observable characteristics, the results suggest that metropolitans do earn a higher income than the native population. This adds a layer of complexity to the concern of the high level of inequality observed. It is even more relevant for the social cohesion given their long colonial history. This paper contributes to an informed debate on the issue in the overseas departments.

References

- Alvaredo, F., Bergeron, A., Cassan, G. (2017). Income concentration in British India, 18851946. Journal of Development Economics
- Alvaredo, F., Assouad, L., Piketty, T. (2017). Measuring Inequality in the Middle East 1990-2016: The World's Most Unequal Region?.
- Alvaredo F., Cogneau D., and Piketty T., (forthcoming) Income Inequality under Colonial Rule. Evidence from French Algeria, Cameroon, Indochina and Tunisia, 1920-1960., Working Paper.
- Alvaredo, F., Atkinson, A. (2010). Colonial Rule, Apartheid and Natural Resources: Top Incomes in South Africa, 1903-2007.
- Angeles, L. (2007). Income inequality and colonialism. European Economic Review, 51(5), 1155-1176.
- Atkinson, A. B.; Piketty, T. and Saez, E (2011) "Top Incomes in the Long Run of History", Journal of Economic Literature, 49(3), 3-71.
- Atkinson, A. B. (2014). The colonial legacy: Income inequality in former British African colonies (No. 2014/045). WIDER Working Paper
- Baranger (2017), Laccs aux droits des étrangers en Guyane, état des lieux des parcours, des réglementations et dispositifs, études Perspectives, Coll. Intégration et accs aux droits, Centre de ressources de la Politique de la Ville - Guyane, 138p.
- Besson, D. (1997). 25 ans de comptes économiques des départements d'outre-mer 1970-1994 (Vol. 153). Insee.
- Blanchet T., J. Fournier, T. Piketty, (2017) Generalized Pareto curves: Theory and application using income and inheritance tabulations for France and the US, WID.world Working Paper.
- Blérald, A. P. (1986). Histoire économique de la Guadeloupe et de la Martinique: du XVIIe siècle à nos jours. Karthala Éditions.
- Coder, Y., Duplouy, B., Fabre, E. (2016) La départementalisation de La Réunion. 1946-2016: 70 ans de mutations économiques.

- Drozin G., (2001). Les politiques sociales en matière d'action sociale à la Réunion depuis 1946 : un survol historique, Communication aux Journées partenariales de l'action sociale, Institut Régional de Travail Social de la Réunion, Saint-Benoît, 34 p.
- Bertrand Garbinti, Jonathan Goupille-Lebret, Thomas Piketty, (2018) Income inequality in France, 1900-2014: Evidence from Distributional National Accounts (DINA), Journal of Public Economics
- Jonzo A.-M., (2009) Niveaux de vie 2001-2006: les inégalités saccentuent. Économie de La Réunion N134: pg610
- Maurin and Bernier (2013), Des départements d'outre-mer marqués par les difficultés sociales et les inégalités, Compas Etudes n 9, Octobre
- Piketty, T. (2001). Les hauts revenus en France au XXème siècle. Grasset.
- Frankema, E. (2010). The colonial roots of land inequality: geography, factor endowments, or institutions?. The Economic History Review, 63(2), 418-451.
- INSEE (2017). L'impacte du spatial sur l'économie de la Guyane

Appendices

Appendix A. Demographics

As seen in Figure A.6 to A.9, slaves constituted around 60-80% of the population, the rest being white population in the mid-18th century. By 1842, the white population constituted only around 6-10% of the population in the Antilles and Guyane compared to around 20% of the population in La Réunion.



Fig. A.1. Historical timeline

The growing share of freed coloured population together with the emancipation slavery in neighbouring British colonies has led to mounting pressures on the local colonial forces to give in to the abolition of slavery in the four "old colonies". In 1848, the ex-slaves in these colonies were all emancipated and acceded a pseudo-citizenship status. The constant need for cheap labour led to the immigration of Africans and Indians on these territories. It is only a century later, in 1946 that these territories were fully transformed into French departments. This rather rare form of decolonisation process was thought in a logic of institutional, judicial and cultural assimilation. Three centuries of colonial domination was deemed ample to instill French values in the population.





Fig. A.2. La Réunion



Fig. A.3. Guadeloupe





Fig. A.4. Martinique



Fig. A.5. Guyane



The post-colonial composition of the population is shown in Figure A.6 to Figure A.9

Fig. A.6. La Réunion- Composition of the population



Fig. A.7. Guadeloupe- Composition of the population



Fig. A.8. Martinique- Composition of the population



Fig. A.9. Guyane- Composition of the population



Appendix B. Income Tax Data

Fig. B.1. Availability of Tax Data

Appendix C. Control Total for Population

In order to estimate the distribution of income, there is a need to estimate the total tax units that should have been observed in the income tax data, had every tax unit been required to fill a tax form. It should be noted that a person living in France can detach from his/her parents' tax unit and thus declare his/her income separately as from the age of 18. However, it is not mandatory to do so until the age of 21, with the exception of 24 years old for unmarried students or in a liberal profession. In addition, married people (including PACSed couples) are required to fill a unique tax declaration. Given this setting, the control total for population (TU_{it}) is estimated as the number of adult population (A_{it}) deducting the number of married couple (M_{it}) in order to avoid double counting married couple.

$$TU_{it} = A_{it} - M_{it} \tag{1}$$

These data are obtained from the Population Census in the overseas departments for the following years of census: 1954, 1961, 1967, 1974, 1982, 1990, 1999, 2009 and 2014. It is linearly interpolated for the years for which we don't have these information. The age threshold at which we define the adult population can be set in different ways, namely at 18, 19 or 20 years old. In this paper, the definition of adult population is taken as the population above 20 years, as is widely done in this literature, for two main reasons:

i) given that the estimate of control population based on the definition of adult population above 20 years seem to provide a good enough approximation of the total number of tax declarations (See figure C.6);

ii) given that the population census reports, which dates back to the 1950s, report population by pre-defined age groups. The age group are typically as follows: 15 - 19 years old, 20 - 24 years old and so on. Hence, a threshold of 18 or 19 years would require further hypotheses on the distribution of the population within the age group 15 - 19 years to estimate the adult population of interest. Hence, to have the most consistent method in estimating the control population, 20 years old is the threshold taken for defining adult population.

Similarly, the number of married couples is estimated from the population census data by taking the average number of married individuals divided by 2. While this is not a perfect count of the number of joint fillings, it should nevertheless give a more or less precise estimate of the latter.



Fig. C.1. Number of taxable tax units in the overseas departments

Figure C.1 and C.2 show the number of taxable tax units since the 1950s and the number non-taxable tax units since the mid-1980s respectively. There is a clear upward trend in both the number of taxable and non-taxable units since the beginning of the period with a slight downward turn at the end of the period for the number of taxables. Figure C.3 shows the total number of declarations to the tax office and the total estimated tax units (using equation 1 over the years in La Réunion. We observe a very small number of declarations in the years prior to 1986. Thereafter, with the requirement for non-taxables to declare their income, there is a steady rise in the total number of declarations reaching the number of estimated tax units in the early 2000s. Given this trend, we make the hypothesis that we start to observe all the tax units in the income tax data as from the year 2003. The total number of tax units estimated from the definition above is presented in figure C.4.



Fig. C.2. Number of non-taxable tax units in the overseas departments



Fig. C.3. Total number of declarations and total estimated tax units in La Réunion



Fig. C.4. Total taxable tax units in the overseas departments

In order to get a better understanding of the evolution of declarations over time, the proportion of declarations (P) is estimated. P is simply the number of declarations (D) divided by the total number of tax units (Tot):

$$P_{it} = \frac{D_{it}}{Tot_{it}} \tag{2}$$

The numerator in equation 2 refers to the total number of tax units reported by the tax authorities for an overseas department i at time t, while the denominator is our estimate of tax units obtained from equation 1. We observe a general increase in the proportion of declarations from the mid-20th century until recent years, partly due to the non-declaration of non-taxable tax units at the beginning of the period. As from the mid-80s, both taxable and non-taxable tax units are required to declare their income and we observe a steady increase in the proportion of declaration from the mid-1980s until the early 2000s and a stabilisation thereafter. This suggest that as from the beginning of the 21st century, we observe more or less everyone in the tax data. In effect, we should be observing a proportion of declaration of 100% in the recent years.



Fig. C.5. Proportion of tax declaration for the overseas departments



Tax Units subject to Declaration (Different definitions of adult population)

Fig. C.6. Tax units subject to tax declarations the overseas departments from 1986 to 2014

Figure C.6 shows a the trend in the proportion of declaration from the year 1986 in all four overseas departments. The following are estimated based on the three alternative adult population: above 18 years old, above 19 years old and above 20 years. Note that the estimates before 1990 with the alternative definition of above 18 and 19 years old are not presented here as censuses before 1990 do not provide the population by age but rather age groups (e.g 15 to 19 years old) as explained above and would require further hypotheses to estimate the population of interest. We notice that irrespective of the definition used, there seems to be a stabilisation in the proportion of declaration as from the early 2000s. During that period, approximately 100% proportion of declaration, depending on the definition chosen, is reached in La Réunion, Martinique and Guadeloupe, while Guyane reaches a maximum of 90% during that period.

La Réunion, Guadeloupe and Martinique depict more or less similar situations as far

as the proportion of income tax declarations are concerned. However, the case of Guyane seems to be a very peculiar one, as seen in figure C.6. There is a steady increase in the proportion of declaration reaching around 90% at its peak at the beginning of the 2000s and there seems to be a slight decline thereafter. We argue that we never reach 100% declaration in Guyane due to the nature of the data used in the construction of the control population (the denominator of equation 2). Population census normally documents the population living in the territory at the time of the census, without differentiating between legal and illegal residents. Guyane has had a long history of illegal migration, mostly from poorer neighbouring countries. However, since there are no estimate of the share of the population within the French Guyanese territory that is illegal, there is a need to make some hypotheses.

As seen in figure A.9, 30% on the population in 2014 are foreigners, mostly from Suriname, Brazil and Haiti. Only a minority of asylum seekers are granted this status, accounting for 2.3% of applicants in 2009 (Baranger, 2017). Hence, the non-negligible share of the illegal population in Guyane is part of the reason for the overestimation of the number of tax units as that population is counted in the population census but do not declare their income to the tax authorities. Moreover, the increasing and stabilising trend observed in figure C.6, similar to the other departments suggests that there is an increase in the number of tax units detected by the tax office reaching almost full declaration as from the early 2000s. This could mean that the remaining 10% that we do not observe in the recent period in Guyane are either illegal immigrants⁵³ (captured in the census) or population living in remote areas of Guyane (not captured by the tax office). While we cannot entirely discard the latter, the former seems to be a more important share in the Guyane context.

Hence, the evolution in the proportion of declarations over time tends to confirm our hypotheses that:

i) The definition of adult population with a threshold of 20 years of age does a fair job in estimating the total number of tax units

ii) We observe all the tax units as from 2003

Given these estimates of the control population, we then need to estimate the associated control income. The step-by-step methodology employed to estimate this control income is laid down in the next section.

⁵³The Interior Ministry estimates the number of people in irregular situation to be between 30000 to 60000 persons. "Les étrangers en France", Rapport du Comité interministériel de contrôle de l'immigration, April 2014.

Appendix D. Control Total for Income

To estimate the share of income that accrues to the top groups, there is a need to estimate the total income that would have been declared had all the tax units been required to declare their income. In other words, there is a need to estimate the income accruing to the tax units who did not declare their income and hence who are not counted in the tax data. As explained in Section 3.2, there exists different methods used in the literature to construct a control total for income. In this paper, a national income approach is adopted. This implies that the total taxable income is estimated by deducting all non-taxable income and irrelevant factors (such as depreciation) from the national income or GDP of the territory.

The estimates of GDP for the overseas departments are obtained from INSEE publications. More specifically, GDP of La Réunion is obtained from INSEE-La Réunion for the period 1950 - 2014, while these estimates are obtained from publications (See Besson (1997) and INSEE website) for the other overseas departments, covering the period 1970 - 2014. In order to have an uninterrupted series from the 1950s to 2014 for Guadeloupe, Martinique and Guyane, a relationship between the different GDP per adult population is observed during the period 1970 (1975 in the case of Guyane) to 1990 as shown in figure D.1.



Fig. D.1. GDP per adult

As far as the former two departments are concerned, it seems reasonable to assume that the GDP per adult population has been the same as La Réunion for the whole period. This assumption does not hold for Guyane, we assume a constant ratio⁵⁴ between the GDP per adult for La Réunion and that of Guyane throughout the period of 1954-1975. However, in order to estimate the non-taxable income as explained above, we also need a detailed breakdown of the national accounts. Since these are not available at the level of the overseas departments, we will rely on the taxable income series observed at the French national level to estimate its equivalent in the overseas departments.

Estimation of Taxable Income

First we establish the ratio R between average taxable income per tax unit in France, T(tu) and GDP per adult population at the national level, GDP(a) for the period 1950 - 2014 as follows (where i = France):

$$R_i = \frac{T(tu)_i}{GDP(a)_i} \tag{3}$$

From the previous section, based on the control total for population and the trends in the proportion of tax units subject to declaration, we make assumption that everyone fills a tax form as from 2003. As a result, we can also assume that we observe the totality of the taxable income in the tax data as from the year 2003. Based on this logic, we can thus observe the ratio between taxable income per tax unit and GDP per adult population for the overseas departments for the period 2003- 2014, using equation 4, where i = La Réunion, Guadeloupe, Martinique and Guyane. These estimations are presented in figure D.2.

 $^{^{54}}$ An average over the period.



Ratio of Taxable Income per Tax Unit to GDP per adult population

Fig. D.2. Ratio of Taxable Income per Tax Unit to GDP per adult population in France and the overseas departments

We can observe in figure D.2 that on average there seems to be a approximately parallel trend between R_{fr} and the ratio for the overseas department. Note that there is a break in the series for Guadeloupe in 2007 due to the detachment of the two islands: Saint-Martin and Saint-Berthélémy. If we look at the pre-2007 and post-2007 trends separately, it is reasonable to say that they closely relate to the trend in the ratio for France. There are exceptions for some years in Guyane and Martinique but on average, it seems to fit relatively well. Based on this scenario, we assume a constant relationship between the two ratios for each overseas department, estimated as the average of the coefficient α_i over the period 2003 - 2014.⁵⁵

$$\overline{\alpha_i} = \frac{\sum_{t=2003}^{2014} \frac{R_{fr,t}}{R_{i,t}}}{n}$$
(4)

 $^{^{55}}$ Note that for the case of Guadeloupe, we only take into account the period (t) 2003 - 2006 and for the case of Guyane, the year 2011 is excluded.

i = La Réunion, Guadeloupe, Martinique and Guyane; t= 2003 - 2014 for La Réunion, Martinique and Guyane (excluding 2011) and t=2003-2006 for Guadeloupe and n = number of years.

Given α_i , we can estimate the ratio between average taxable income and GDP per adult for the period 1950 - 2002 for the overseas department based on the series of France, as follows:

$$R_{i,t} = \alpha_i \times R_{fr,t} \tag{5}$$

The estimation of this ratio for the entire period is presented in figure D.3.



Fig. D.3. Taxable Income per tax units to GDP per adult

Having estimated this ratio, an uninterrupted series for total taxable income, and hence control total for income can be computed for the whole period. The total taxable income and the average taxable income per tax units for the overseas departments are presented in figure D.4.



Fig. D.4. Total taxable income and Average Taxable income

Estimation of Fiscal Income

As explained in section 3.2, the income reported by the tax authorities are taxable incomewhich is fiscal income deducting allowances. As the rules for allowances changes over time, we would like to look at fiscal income instead. In order to go from taxable income to fiscal income, various corrections have to be made to the series. The corrections made here follow the ones in Garbinti et al (2018). For a more detailed explanation of these corrections please refer to DINA Appendix D.2 of that paper and Piketty (2001). We apply the same correction factors as used in the series for France. These include an upgrade rate due to previous-yeartax deductions and other types of deductions such as the lump sum deductions for wage earners. In 2006, the 20% deductions for additional professional expenses was repealed and is accounted for in the corrections factors. Similarly, we assume the same aggregate taxable income to fiscal income ratio as in Garbinti et al (2018).

Appendix E. Economic Situation

1. Sugar production



Fig. E.1. Sugar production in La Réunion (1935 - 1973)

Source: INSEE

2. Minimum Wage



Source: INSEE. Note: The overseas departments are in blue and metropolitan France in red

3. Wage density distribution in the public and private sector in La Réunion in 1988



Fig. E.3. Overall wage distribution in La Réunion



Fig. E.4. Private sector wage distribution in La Réunion





Fig. E.5. Public sector wage in La Réunion

4. Share of sectors in Active Employment (La Réunion)



Fig. E.6. Share of sectors in Active Employment in La Réunion 1954 - 2014

Share of Sectors in Active Employment (La Réunion)

Source: INSEE

5. Illiteracy rate

Table E.1: Initeracy R	tates in t	ne overse	eas depart	ment
	1954	1961	1967	
La Réunion	$60,\!6\%$	49,4%	39,0%	

Table E.1: Illiteracy Rates in the overseas departments

Source:	Population	Census

25,5% 15,2%

Guadeloupe 34,5% 22,1% 15,4%

Martinique

Appendix F. Native-Metropolitan Divide

18	able F.I: I	Descriptive Statist	ICS	
	Native	Metropolitan	Foreigners	Total
Department				
Guadeloupe	81%	12%	7%	100%
Martinique	84%	12%	4%	100%
Guyane	42%	19%	39%	100%
La Réunion	79%	16%	5%	100%
Age	53	46	48	52
Sex (% Female)	55%	51%	57%	54%
Matrimonial				
Status				
Single	46%	43%	49%	46%
Married	41%	49%	44%	42%
Divorced	7%	2%	3%	6%
Widowed	6%	6%	4%	6%
Education Level				
No or low education	36%	9%	46%	33%
High School	49%	43%	36%	47%
Undergraduate	7%	18%	6%	9%
Masters or PhD	8%	30%	12%	11%
Labour Market Status				
Active	39%	23%	31%	37%
Inactive	61%	77%	69%	63%

Table F.1: Descriptive Statistics

	Native	Metropolitan	Foreigners	Total
Employment				
Status				
Obs	9836	2172	1092	13100
Unemployed	29%	16%	40%	28%
Employed	71%	84%	60%	72%
Sector of				
employment				
Public	86%	68%	84%	83%
Private	8%	19%	6%	10%
Self-employed	6%	13%	10%	7%
Professional				
Status				
Family Help	0%	0%	1%	0%
Independent	11%	14%	19%	12%
Employer	5%	8%	10%	5%
Manual worker	8%	3%	10%	7%
High-Skilled	7%	3%	7%	7%
Office, commercial, restaurant	37%	20%	29%	33%
Public Servant Category C/D	9%	4%	4%	8%
Administration or commercial agent	2%	3%	2%	3%
Technician (Non-executive)	4%	7%	2%	5%
Public Servant Category B	6%	9%	4%	6%
Engineer. Executive	3%	10%	4%	4%
Public Servant	8%	19%	8%	10%
Category A	- / 0	- / 0	- / 0	5,0
Average Labour	14234	27735	12564	15994
Income				
Total No of obs	16049	2894	1673	20616
%	78%	14%	8%	100%

Table F.2: Regr		
	Model 1	Model 2
Origin		
Baseline: Native		
Metropolitan	4013.7^{***}	911.6
	(312.0)	(958.6)
Origin*EmpCat		
Metro*Inactive		Base: Inactive
Metro*Unemployed		809.8
		(1262.6)
Metro*Retired		5247.2^{***}
		(1217.7)
Metro*Self-emp		14269.4***
-		(1306.7)
Metro*Private		4152.6***
		(1115.0)
Metro*Public		4032.5***
		(1206.7)
		()
Age	756***	735.6***
5	(42.19)	(43.3)
Female	-4751***	-3968.7***
	(244.0)	(224.7)
Matrimonial Status	()	()
Baseline: Sinale		
Married	2734 8***	2238 8***
Mained	(239.5)	(252.3)
Widow	$3941\ 5^{***}$	3807 0***
WINOW	(526.3)	(540.9)
Divorced	3005 6***	2126 2***
Divolced	(458.2)	(3136.2)
Education Loval	(400.2)	(0100.2)
Baseline: No or low education		
High School	1185 7***	5958 0***
ingn ochoor	(975.4)	(901 A)
Undergraduate	(210.4) 0700 0***	(201.4) 19796 9***
Undergraduate	9190.9	12(30.3)
Magters on DLD	(430.8 <i>)</i> 12050 5***	(437.0) 20042 c***
masters or PnD	13930.5***	20042.0^{-10}
	(45.07)	(449.8)
Ν	17866	17866
R-squared	$0,\!42$	0.4
Controls: Profession	Yes	No
EmpCat	No	Yes
Department FE	Yes	Yes

Table F.2: Regression results

t statistics in parentheses * p<0.05, ** p<0.01, *** p<0.001