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

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World Inequality Lab

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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 territories which have been assimilated by their ex-colonizers. This paper analyzes the post-colonial inequality in four such territories- La Réunion, Guadeloupe, Martinique and Guyane. 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 a rapid decline of inequality since decolonization and stabilisation in the recent decade. Despite 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 underlying cleavage: the metropolitan-native divide. Matching recent fiscal data to the corresponding population census, I show that public-sector employment and metropolitans are over-represented at the top of the distribution and that there exist a "metropolitan income premium" in the overseas departments, even after controlling for observable characteristics.

Keywords: Inequality, France, Post-Colonial

JEL classification: D63, H20, N30

1. Introduction

The colonial origins of inequality is well-established in the literature. This is unsurprising as colonies, especially slave ones, have been established on extremely unequal foundations. The existing literature has substantially broadened our understanding of the potential underlying factors explaining persisting inequality in independent states. However, the situation of territories which have gone through a less common path of decolonisation- by assimilation to the metropolis, remain largely unaddressed by the literature. This paper attempts to fill this gap by investigating the post-colonial levels of inequality in four such territories- La Réunion, Guadeloupe, Martinique and Guyane, attached to France in 1946 after three centuries of colonisation by the latter. This paper also uncovers peculiar factors pertaining to the fact of being assimilated by their ex-colonisers.

The existing literature comprises of cross-country analyses that look at the economic, political and institutional settings inherited from the colonial period to explain the persisting inequality observed after independence (Nunn, 2008; Engerman & Sokoloff , 2002, 2005). Angeles (2007) finds that independence in "settler colonies"[1] did not mark the end of the income concentration in the hands of the white-descendants minority. In the same line, Engerman & Sokoloff (2005) identify the colonial population composition as a major factor in the setting up and persistence of more or less unequal institutions, even after independence.

A second strand of the literature has focused more on country-specific post-colonial levels and trends of income inequality and no single pattern can be discerned[2]. Most of the literature on Africa[3] and Latin America[4] shows a declining income concentration leading up to independence followed by a rapid increase immediately after[5]. On the other hand, countries like Mauritius, Singapore and India witnessed the opposing trends before and after independence[6]. Post-colonial South Africa provides a stark case of ethnic segregation and the ensuing rapidly increasing inequality trends (Alvaredo and Atkinson, 2010). The four territories studied in this paper provides a different case altogether as detailed in Section 2. Amid a general wave of decolonisation through independence, the political status of these territories changed from the "old" four colonies of France to its "overseas departments" in

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[1]Countries are identified as settler colonies if European settlers made up between 10 to 30% of the colonial population

[2]See the research at the World Inequality Lab

[3]Atkinson et al. (2011), Atkinson (2014), Alvaredo et al (forthcoming)

[4]Williamson (2010); Williamson (2015))

[5]Post-colonial data is not available in some of these countries.

[6]Atkinson (2010); Atkinson (2011); (Banerjee & Piketty, 2005)

1

1946, with an explicit agenda of bringing more equality within the territories as well as with the metropolis. These territories thus represent peculiar post-colonial contexts as they all share a past marred by slavery, a colonial population composition that corresponds to the "settler colonies" category which would imply high levels of inequality (Angeles, 2007), but at the same time retained a ruling metropolis as a counter-balance to the power of the local white settler elite. All these factors combined make predictions about the expected post-colonial inequality situation, based on the existing literature, quite unclear. The present paper thus contributes by shedding light on the evolution of income inequality in peculiar post-colonial settings that remained attached to their ex-colonizers.

Almost 75 years after their formal decolonisation, the overseas departments of France remain outliers on all socio-economic aspects. Extremely high levels of unemployment and poverty rates have led many to argue that departmentalisation has failed to reach one of, if not its main goal. However, the current state of the literature around this question is too limited to have an informed debate. Bernier and Maurin (2013) ranks La Réunion (with a Gini of 0,53), Paris (0,5) and Martinique (0,47) as the most unequal departments of France, compared to an average Gini index of 0,31 in metropolitan France. INSEE publications also point towards the prevalence of high levels of inequality in the recent decades (Michel et al, 2010). These few studies give a snapshot of the current situation in these territories, without providing an in-depth analysis of the transformation from the colonial period and the past remnants today.

The lack of studies on this topic simply results from an acute lack of data on these territories. So far, analyses on inequality in the overseas departments have primarily relied on survey data that are only systematically available as from the mid-1990s[7]. These have largely restricted the coverage period of previous studies, confining them to cross-sectional or recent period analyses. In addition, the lack of coordination among local statistical bodies and thus the lack of comparable data, meant that these departments have hardly been analysed together. I thus contribute by building a novel dataset based on income tax tabulations at the overseas departmental-level since the 1950s until 2014[8].

This paper is divided into two parts. In the first part of the paper, I estimate the historical evolution of income inequality in the four overseas departments since their depart-

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[7]While they are available in metropolitan France since the 1960s, they are only recently fully extended to the overseas departments

[8]See Appendix B for details of period coverage

2

mentalisation. I combine fiscal data with population censuses and income data, applying the Generalised Pareto Interpolation technique (Blanchet et al., 2017) and following the corrections made in Piketty (2001), as detailed in Section 3. The analysis in this part is at the tax-unit level using a fiscal income definition. Departing from the national-level focus in Garbinti et al (2018), I conduct the first regional-level analysis, and more so for the overseas departments. I thus provide inequality series that are comparable among the four territories and with the national-level estimates.

In section 4, I find that, despite an increasing trend of inequality in the immediate post-colonial period, the overseas departments witness a spectacular decline in their levels of inequality since the 1960s. The top 1% income shares was as high as 25% of total income in the 1960s and declined to a level comparable to that of the metropolis at 10% in recent years. Similarly, top 10% shares decreased from around 60% in the mid-1980s to 40% today. This decline in the level of inequality in the overseas departments can be attributed to general economic factors, mainly the decay of the sugar industry, as well as institutional settings, such as the setting up of the public sector, regulated migration and the minimum wage, put in place by the French government to address pressing issues.

However, despite a complete convergence in the top 1% income shares to the national-level, the top 10% income shares in the overseas departments have stabilised at a higher level than the french-level in the last decade. This resonates with the continued perception of high levels of inequality as signalled by the recurrent protests, strikes and riots[9] in these territories. The disparity between the overseas departments and France lies largely in labour market differences. Some evidences suggests an evident polarisation of the labour market between a low-paid private sector and highly paid public sector.

The second part of the paper aims to shed light on the puzzle of the persistently higher level of inequality driven by the bottom 9% of the top 10% income group. I exploit individual-level fiscal data matched with the population census in section 6, focussing on labour income inequality. The results show two peculiar elements in the overseas departments. First, there is an overly important public sector compared to France. This is coupled with an underlying ethnic component of inequality in these territories. I provide suggestive evidences of

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[9]Some 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

the existence of a "metropolitan premium" in the overseas departments. I argue that these factors emanate from the peculiar post-colonial setting of being attached to a metropolis.

These results tend to justify, at least partly, the frustration felt due to the continued prevalence of disparity when compared to the metropolis. It is even more salient in the overseas departments due to the added post-colonial complexity of the presence of metropolitans at the top of the distribution, to the already existing ethnic frictions inherited from the colonial period. In section 7, I conclude that this paper contributes towards the post-colonial literature by shedding light on under-studied settings. It also contributes to a more informed debate on the issue of inequality in France and its overseas departments. It has substantial policy-relevance given the renewed political will to tackle inequality in the overseas departments as seen by the recent enactment of the bill on "Real equality for overseas department"[10]. It can also feed the debate on quotas and positive discrimination in favour of the natives in public employment in the overseas departments.

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 century[11] 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 native population, if any, having been decimated. There have been two major turning points in the history of these territories: 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 1946[12] occurred after three centuries of colonial domination and at a time of great uncertainty of the subsequent path of the French empire in Africa.

Politically, these colonies had parliamentary representation in Paris as early as 1789[13], all

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[10]Loi n° 2017-256 passed on the 28th February 2017 on Egalité réelle des outre-mers

[11]Even before some metropolitan territories such as Nice, Savoy and Corsica

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

[13]The Constitution of 1795[14] further integrated these four colonies and few others-Saint-Domingue, Sainte-Lucie et Tabago, Ile-de-France and French Indian colonies into the French Republic, subjecting them to the French constitutional law and dividing them into administrative departments. See https://www.conseil-constitutionnel.fr/les-constitutions-dans-l-histoire/constitution-du-5-fructidor-an-iii

be it with periods of interruption under the different subsequent regimes. In addition, quite remarkably different from other French colonies, the population of the four old colonies[15] were granted full-fledged French citizens and granted universal suffrage as from 1848. All these factors combined gave these territories a unique status within the French empire.

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 are rooted 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 had different shares of white settlers- In 1848, at the time of the abolition of slavery, Guyane counted 6% of white in its population while the Antilles had a share of 10% and an even greater share of 20% in La Réunion (See Appendix A). Demographically, the Antilles and La Réunion shared the common 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 has always been a marked by a high influx of population from poorer neighbouring countries- in search of better economic conditions.

When compared to the metropolis, there have been undeniable differences on the socio-economic front. At the turn of the 20th century, these four territories were marked with deep social divides on various lines. As part of the colonial heritage, the segregation between the white economic elite[16] and the African and Asian descendants persisted in la Réunion and the Antilles. Guyane, on the other hand, faced the challenge of its border disputes, mass migration inflows and dismal inequality. In view of this situation, the law of departmentalisation and the underlying assimilation process, brought forward by local intellectuals, was sought to bring increased legal, social and economic equality within these territories as well as with their metropolitan counterparts.

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 far from the realities of metropolitan departments. In the face of this alarming reality, as

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

[16]commonly known as the Békés in the Antilles

from the 1960s, 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 health and sanitary issues, followed by the social and eventually the economic aspect.

Being attached to the metropolis led to two main peculiarities in the post-colonial context. First, in the absence of the development of a local productive sector, the french government largely invested in the labour market to absorb the large share of unemployed working age population. These territories thus witnessed massive job creation in the public sector, remunerated with a wage premium[17]. Second, being fully integrated in France entailed a free movement of population between the metropolis and the overseas departments. This has led to waves of out-migration from the overseas departments towards the metropolis and more importantly, significant inflow of metropolitans, mostly in the top occupations in these territories.

3. Data & Methodology

3.1. Data

In order to establish the long-term evolution of income inequality in the overseas departments, this paper gathers and exploits annual income tax data published by the French tax administration. Despite some caveats of tax data[18], it constitutes a valuable source of data for the analysis of income inequality, especially in the DOM, since the only other potential source of data is the household budget surveys which face major limitations in many 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 frequency[19] compared to the annual tax data which are available since its onset in the mid-20th century.

This paper construct a novel historical dataset of income tax data in the overseas department thus contributing to the general pool of data available for these territories. It takes the form of tabulated tax data at the departmental level from the 1950s to 2014 intermittently. These data contain information about the number of tax filers and the total income in the

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[17]relative to the metropolis pay

[18]For 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.

[19]The Enquête Budget de Famille only starts in 1995 and are available every five years

different brackets of income[20]. These income tax data have been collected from different sources and can be categorised accordingly in three periods:

i) 1950s - 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 departments[21]. 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 Finance[22]. For the 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.[23]. 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 published 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 additional 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. As far as possible, the latest available tabulations are used in this paper to account for most updated corrections made to the tax data[24]. 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.

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[20]There 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.

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

[22]These data do not violate any statistical confidentiality rule as it includes a large number of taxpayers. These data concern groups of more than 11 persons.

[23]The latest year corresponding to income perceived in 1972

[24]The 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.

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 is 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 the 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 period[25]. 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 as from the 1970s for Guadeloupe, Martinique and Guyane. For the previous period, the national income series are estimated based on the known series of La Réunion and some assumptions (see Appendix D).

3.2. Methodology

Following the work of Piketty (2001) and Garbinti et al (2018)[26], 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 total 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.

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[25]The population census are available for the following years: 1954, 1961, 1967, 1974, 1982, 1990, 1999, 2009 and 2014.

[26]Refer to the Appendices of GGP2018 for a detailed explanation of the estimations and corrections made.

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 became mandatory as from 21 years of age[27]. While single individuals fill independent declarations, married or PACSed[28] 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) couples[29]. Given the flexibility on the initial age of fiscal declarations 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.

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[27]25 years of age for students

[28]A civil solidarity pact- a contractual form of civil union

[29]Note 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).
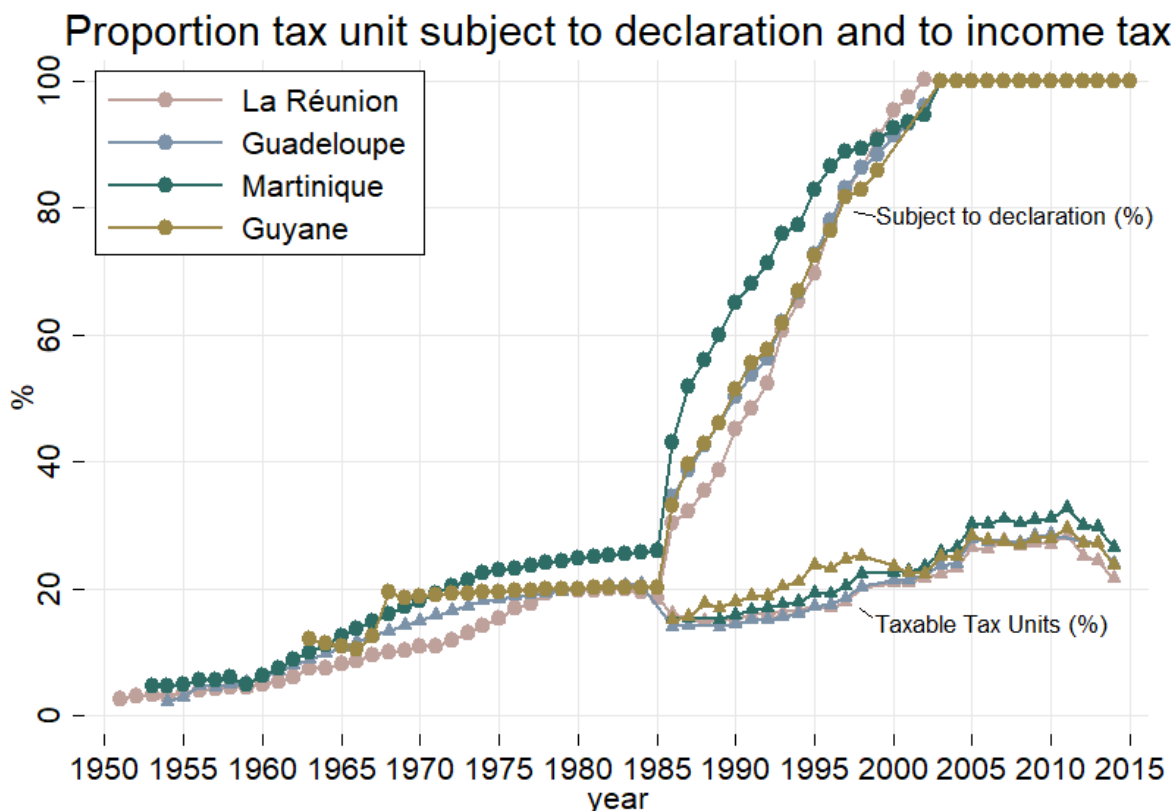
Fig. 1. Proportion of tax declarations

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[30].

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[30]It 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. Thus corrections for the following deductions allowed for in the French tax laws are made to the taxable income series in order to estimate fiscal income:

i) A 10% lump-sum deduction for professional expenses of wage earners, currently capped at 12 183 € 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). The resulting estimated average fiscal income in France and the overseas departments are presented in Figure 2[31].

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[31]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.

4. Results

4.1. Average Fiscal Income

The overseas departments were approximately 40% poorer than France at the beginning of the period. While France experienced rapid growth during the "Trente Glorieuses"[32], the overseas departments grew at a lower pace, Guyane faring the worst[33]. This has widened the gap between the overseas departments and France to around 50-70% in the 1980s. Partly due to a stabilisation of average fiscal income in France and partly to the increased pace of growth in the overseas territories as from the 90s, there has been a slight convergence, with the gap stabilising at around 30% (around 10 000 € per year difference per tax units in actual terms) in the recent years.

Average Fiscal Income refers to Fiscal Income per Tax Units. See Garbinti et al, (2018) for France series
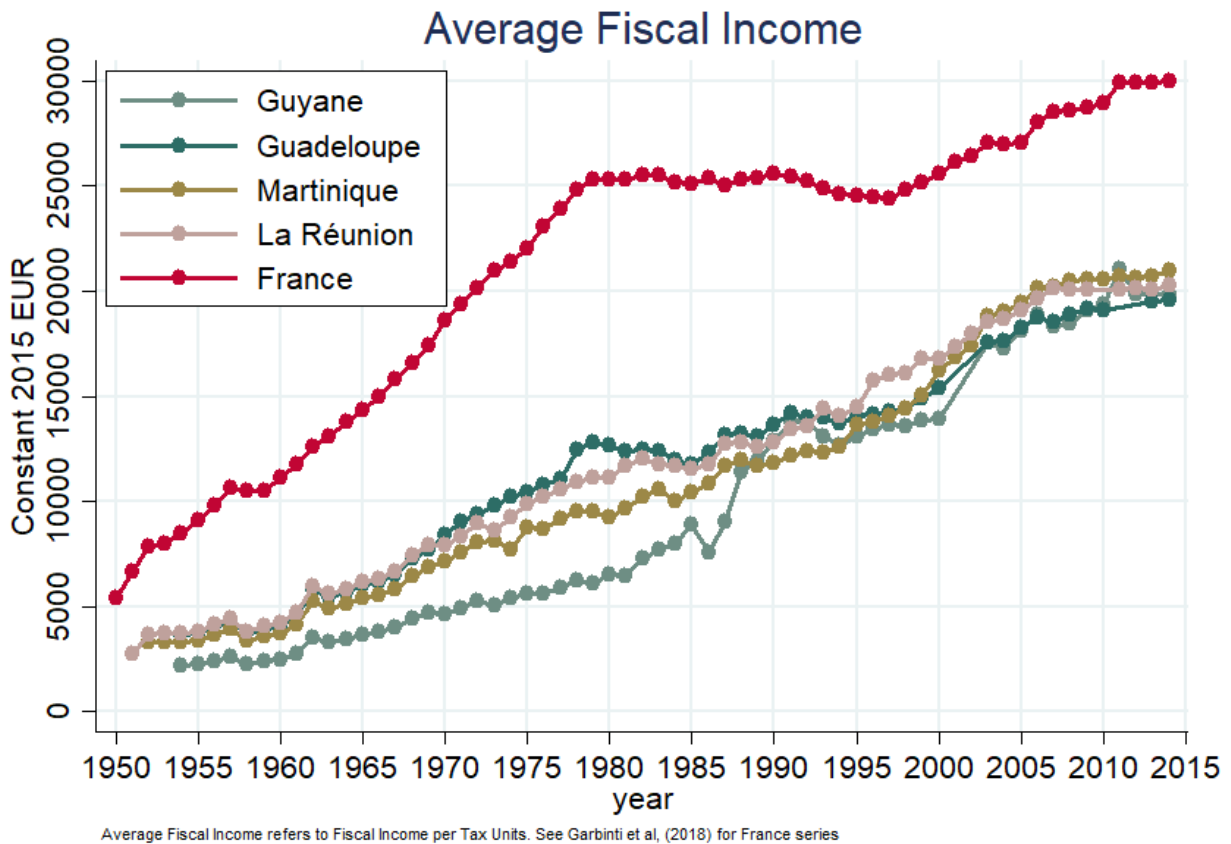
Fig. 2. Average Fiscal Income

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[32]The 30-year period of post-war boom.
[33]Guyane'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).

4.2. 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. It is clear that the gap in the top income thresholds between the overseas departments and the metropolis are smaller than the one observed for the average fiscal income.
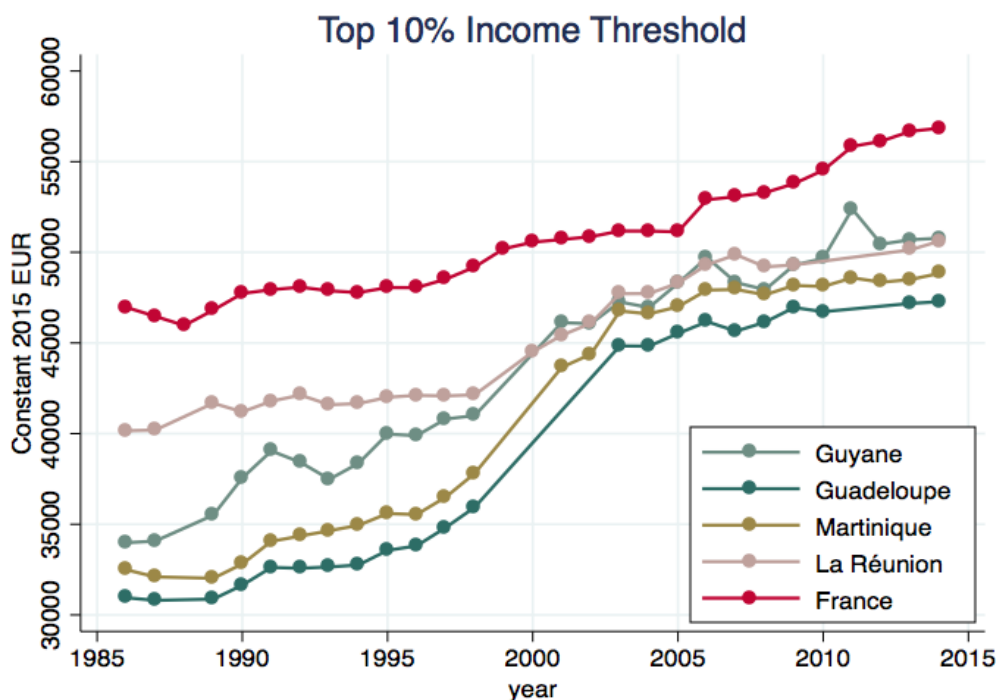

Fig. 3. Threshold income of top 10%

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 15 - 35%. This has further reduced over the years, especially so in Guyane and the Antilles. In fact, in absolute terms, the 7 000 € - 16 000 € gap in the mid-1980s has narrowed down to 6 000 € - 10 000 € today. This translates to a relative gap in top 10% income of 15-30% in the mid-1980s to 10.5-17.5% today. This gap is 2 to 3 times smaller than the gap in the average fiscal income.

The gap is even narrower at the very top of the distribution, especially for La Réunion (Figure 4). 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
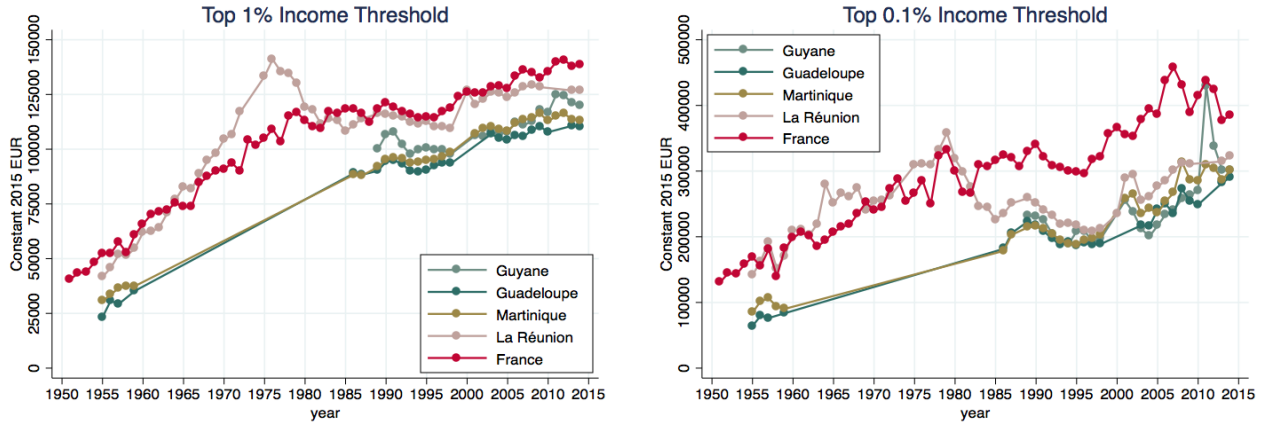
Fig. 4. Threshold income of top 1% and top 0.1%

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.

4.3. Top Income Shares

This section presents the results of the estimation of the top income shares[34] using the generalised Pareto method. Overall, the top income shares series spans over a 60-years period from the 1950s to 2014. Given the nature of tabulated tax data, 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 Réunion having the most complete data[35]. 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).

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[34]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.

[35]See Appendix B for details about data coverage

Top 1% Income Shares

Figure 5 shows the top 1% income shares in the overseas departments[36] in comparison to France. Three main elements can be observed from figure 5. First, the top 1% income shares
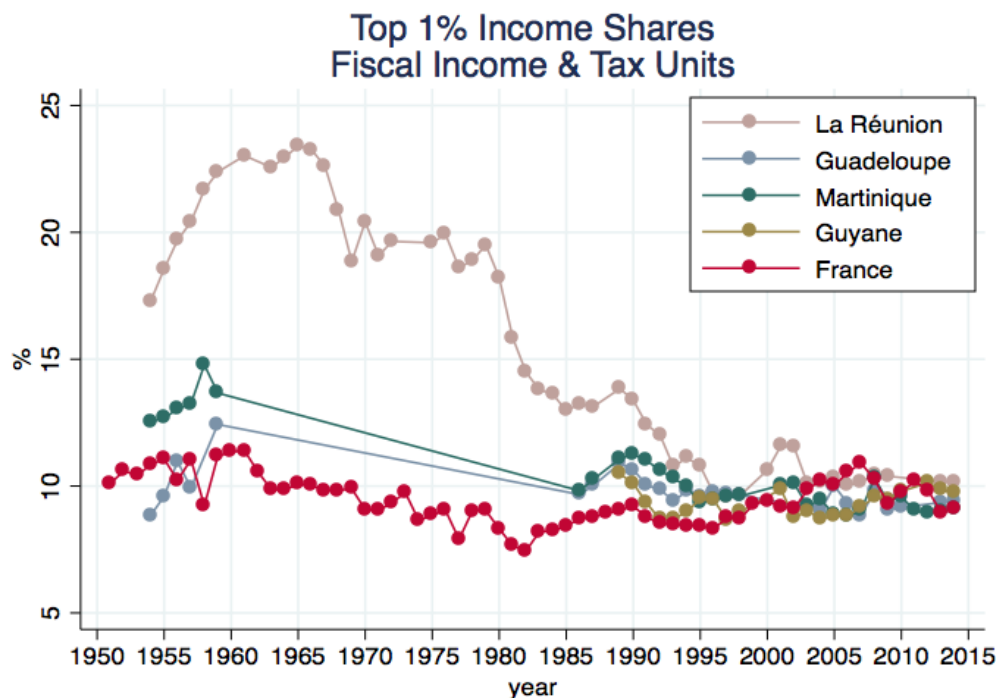

Fig. 5. Top 1% Income shares

in the overseas departments increases up to the 1960s, followed by a drastic decline and stabilisation as from the 2000s[37]. There is an initial upward trend until the 1960s, peaking at 25%[38]. This extreme level of inequality is comparable to highly segregated societies such as Algeria under the French colonial rule Alvaredo et al (forthcoming) or South Africa in the post-apartheid period Alvaredo and Atkinson (2010). Thereafter, there has been an initial moderate decline until 1980 and a more rapid decline as from the 80s. Second, there are differences in the initial level of inequality between La Réunion and the Antilles, until the 1990s. Third, despite initial differences in the top 1% shares in the overseas departments and France, there has been a converging trend. In fact, the top 1% has stabilised at around 10% in the overseas departments reaching the national level in the recent years.

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[36]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.

[37]Based on the partial data for the Antilles and on the series of La Réunion which provides the most complete picture.

[38]France's had a similar level of top 1% income share in the inter-war period at 23%

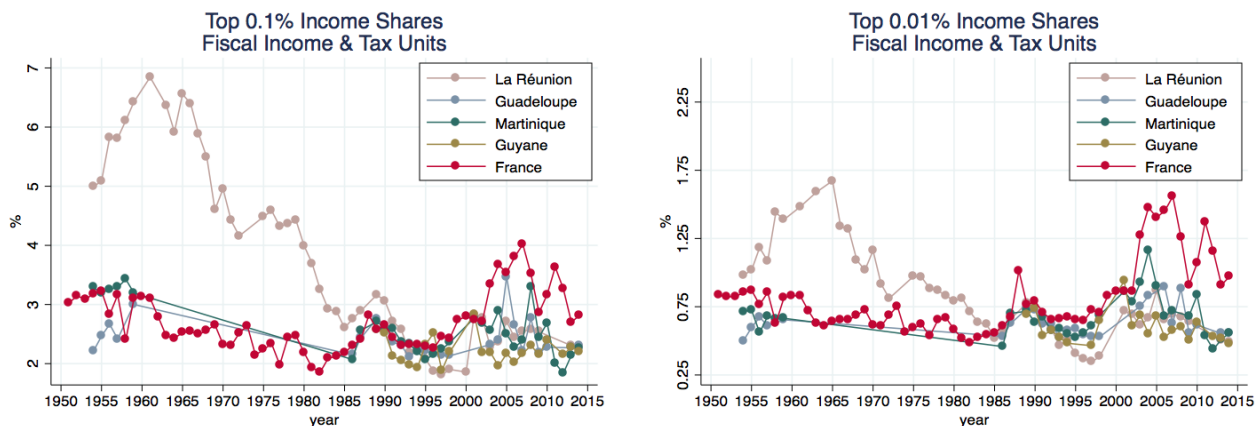*Top 0.1% and Top 0.01% Income Shares*

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-the top 0.1% and the top 0.01% in the overseas departments and France. The shares were strikingly higher in La Réunion compared to the other overseas territories and France in the 1960s. Top 0.1% (0.01%) was at around 8% (1.7%), and reduced 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.

However, despite the complete convergence in the very top income shares to the metropolitan level as seen in figure 5 and 6, top 10% shares remained higher than in the metropolis, as seen in the next section.

Top 10% Income Shares

The top 10% income shares followed a similar evolution as the top of distribution since the mid-1980s. The top 10% income shares were significantly higher in the overseas departments compared to France in the 1980s. This is especially the case in La Réunion where top 10% income share is above 60% and between 48 - 55% in the Antilles and Guyane. These levels of inequality are among the most extreme levels witnessed in the world. They are comparable to the Middle-Eastern regions in recent years and South Africa under apartheid and thereafter (Alvaredo et al, 2018; Alvaredo and Atkinson, 2010). Similar to the top 1%, the levels of inequality are different between the four territories, La Réunion being the

most unequal, followed by Guyane and the Antilles respectively. This period of high inequality in the overseas departments is followed by a general declining trend. As from the mid-1990s, there is a milder decrease and an eventual stabilisation at the turn of the century.
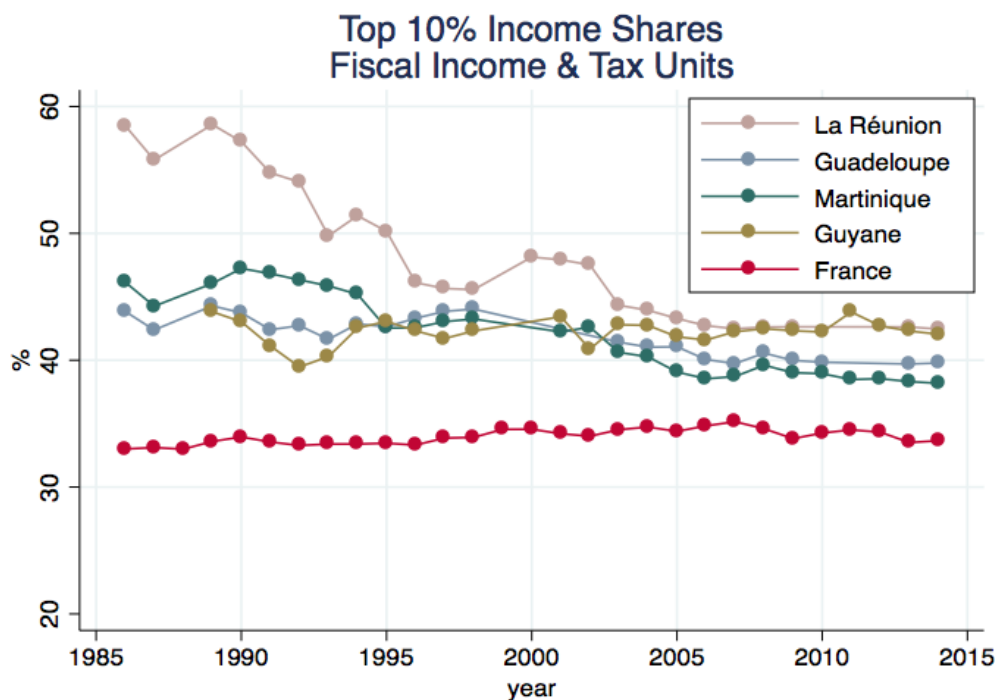

Fig. 7. Top 10% income shares

In contrast to the top 1% income shares, the top 10% income shares remain consistently higher in the overseas departments compared to France, despite the significant declining trend. In the late 2000s, the top 10% share is around 33% in France compared to around 39-44% in the overseas departments, thus up to a 10% point difference. This goes in line with INSEE analysis which concludes, based on survey data, that the overseas departments are one of 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 group[39]. In other words, this group has a higher share of income in the overseas departments than in France.

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[39]Often denoted as the P90-P99

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Bottom 50% Income Shares

This section lays down an estimate of the bottom 50% income share in La Réunion and the Antilles as from 2000[40]. In general, the share accruing to the bottom 50% is around 8-11% compared to 18% at the national level. Again, it is comparable to very unequal countries, namely the U.S and the Middle East in recent years. This is in line with the extreme level of poverty in these territories. Since this paper looks at the pre-tax and transfer fiscal income, by definition, it does not include the informal sector and transfers from the government.
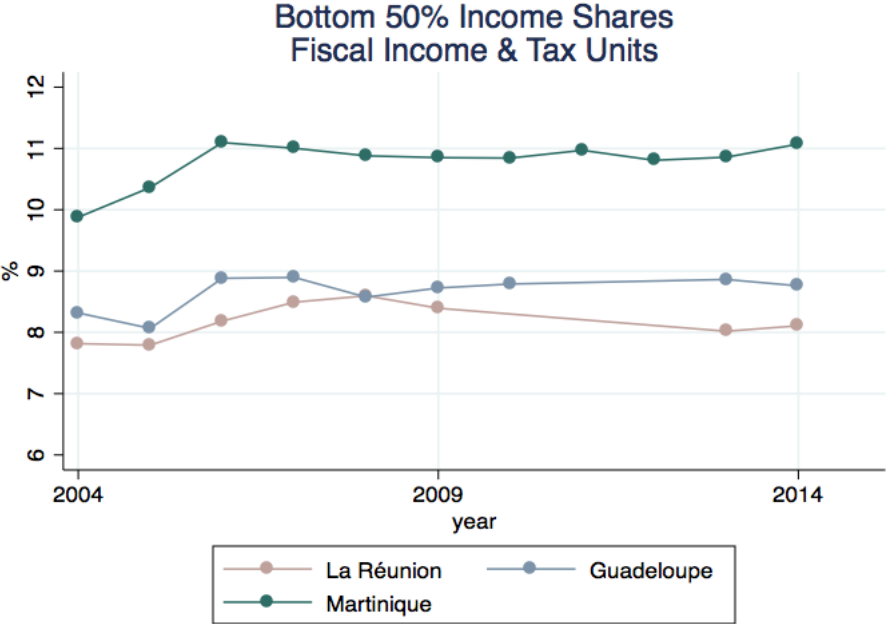

Fig. 8. Bottom 50% Income shares

The overseas departments are today, highly dependent on transfers from the metropolis and have among the highest number of public transfer dependencies per capita. Households in these territories also tend to live in communities and have a high financial dependence on close and extended family (Breton et al , 2009). While all these factors might correct the extremely low share of income accruing to the bottom 50% group, these reflect, at most, very precarious situations and should not be sought as the long-run sustainable solution in face of an unequal society.

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[40]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.

5. Discussion

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

i) A rapid decline, followed by a stabilisation of income inequality in the overseas departments[41] since departmentalisation;

ii) Top 10% at a higher level in the overseas departments compared to metropolitan France; and

iii) Differences between the overseas departments

In terms of the evolution of the inequality trends, first, 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. These evolution are partly mechanical results of economic changes and can partly be attributed to institutional changes reflecting the french political will to correct the situation in these territories.

1946 to 1960s: The local colonial economies were largely affected by the second world war due to the sudden detachment from the metropolis[42] leading to a period of severe blockage and a food crisis. Thus, 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 in reality. Scholars consider the immediate post-departmentalisation period until the mid-1960s as a period of status quo in these new french departments (Drozin, 2001). Thus, the starting points of the top income series of the overseas departments provide a fair insight into the degree of inequality at the end of the colonial period[43].

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 premium to attract skilled metropolitans in these new depart-

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[41]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.

[42]France being under the German occupation

[43]The analysis for this period relies on the series estimated for the top 1% and top 0.1% income shares

ments [44]. 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 public service positions. Given the poor local economic situation, the highly paid public sector has likely played a role in the level of inequality observed 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 territories (except for Guyane), aiming to redistribute large landholdings among a greater number of planters. In La Reunion for instance, SAFER[45], put in place in 1966[46], 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 demographic situation in the overseas departments and the need for labour in the metropolis. Put in place in 1963 until 1981, the BUMIDOM[47] played both a direct role[48], through financial and other support, and an indirect role through encouragement and promises of better economic prospects, in the population outflow to the mainland. Migrants from these territories were highly positively selected along the education line (Haddad , 2018).

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,

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[44]Initially granted only to metropolitans and it was extended to natives in 1953

[45]Société d'Aménagement Foncier et d'Etablissement Rural

[46]Following the loi du 2 août 1961, SAFER's main function included buying land to resell in smaller sizes to planters

[47]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

[48]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

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 century. It is interesting to note that the setting up and implementation of a minimum wage is a post-colonial context that is particular to these contexts due to their attachment to a developed nation.

A major part of the effort to reduce social and economic inequality in this period were achieved through redistributive policies[49]. Despite the importance of transfers, focusing on the pre-tax and transfer income allows us to grasp the precarious situation of the overseas population and the need to tackle the issue at its roots.

2000 to 2014: With the completion of the catch-up of the public policies 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 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 service-sector 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 marked polarisation of the local labour market with on one hand the highly qualified and better-paid public servants than

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[49]Since this paper focuses on fiscal income[50], we only observe the effect of levelling up of specific policies such as the minimum wage and family allowances which were paid as part of the labour income until 1986.

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 in the private sector was paid around the minimum wage, especially so in the private sector while the wage distribution in the public sector was far above the minimum wage. In fact, according to INSEE, the ratio between the minimum wage and the minimum public servant wage was around 0.40 in the 1980s and has increased to only 0.50 in the 1990s, compared to 0.94 in the metropolis. Hence, while the 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 France[51].

These post-colonial trends and evidences points towards some underlying divides that are very particular to assimilated ex-colonies. In the next section, I shed some light on two such factors: first, the public-private sector polarisation and second a metropolitan-native population divide. I show how these explain part of the inequality patterns that is observed in these territories and discuss their implications in a post-colonial context.

6. Underlying Divides

Being attached to the metropolis has led to various specificities in the overseas departments. First, in the face of the declining employment due to the rapid decay of the agricultural sector, the French government devoted financial resources to expand the public sector in these territories. Given the initial lack of qualified labour in the overseas departments, the government also put in place a special wage premium regime in these territories to attract an educated population from the metropolis to fill in these positions. This privileged pay for public civil servants in the overseas department remains in place today[52]. Over time, with the inability of the private sector to take off and the absence of any local productive sector, the public sector accounted for a significant share of total employment and total income paid in these territories. Given the existence of the wage-premium specific to the public sector,

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[51]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

[52]Discussions challenging the need of the maintenance of the public wage premiums have been met with fierce opposition. Today, neither cost of living differences and even less the qualification differences between the metropolitan and native population can fully give ground to a wage premium to a small group of civil servants in the overseas departments.

it became a highly-paid sector, in comparison to the private sector and self-employment.

Another related factor that is a direct consequence of being attached to France is the indiscriminate application of the indivisibility principle of the French republic and "territorial continuity". While it is deemed as a way to fully integrate the overseas department to the metropolis, it has some unintended consequences that have serious implication, especially in a post-colonial context. One of the aspects of it is the "permanent" public servant positions[53] that are attributed based on a national-level examination and a system of points. Given that the share of the overseas population represents only a tiny minority of the total population, metropolitans are often nominated in high-responsibility positions in the overseas departments. The post-colonial metropolitan-native divide has added to an already complicated long existing ethnic rift between the white slave-owners descendants and the rest of the population in these territories.

This section attempts to establish the over-importance of the public sector in these territories compared to the metropolis. Further, uncovering a sensitive issue for the overseas departments that has largely remained unaddressed, I investigate the existence of privileged metropolitan population in these territories.

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 metropolitan population 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 the political will for territorial continuity[54], it has serious implications in a post-colonial setting given the widespread unfair sentiment of inequality experienced by the native population.

This analysis relates to a large literature on the economics of discrimination beginning with the work of Becker (1957). The economic literature on discrimination has most commonly studied wage differentials among different groups of individuals to study the gap in economic outcomes based on gender and race for instance. It is interesting as a first analysis to observe the raw gap between two groups, before controlling for individual charac-

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[53]Corresponding to the "titulaires" in France

[54]For 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 French population.

teristics as deep-rooted level of discrimination leads to differential access to education, jobs and positions. Unequal opportunities themselves contribute to the resulting wage differential observed in the labour market, which is likely to be the case in the overseas departments.

Using administrative fiscal data for the year 2014 for a sample of the population matched with the population census[55], I analyse the distribution of income in the overseas departments along different lines, namely by origin and sector of employment among other factors. First, I present a descriptive analysis and an estimation of the actual level of labour income inequality in the overseas department. I then investigate the existence of and estimate the "metropolitan premium" and finally, estimate counterfactual scenarios and the corresponding levels of inequality.

Descriptive Analysis

Public-private polarisation

The following statistics pertains to the working-age population. Two main interesting stylised facts that comes up in this graphical analysis are the origins dimension and the public-private sector aspect. Figure 9 depicts the share of metropolitans in total population in each decile of labour income. While metropolitans represent around 10% of the total population, their share by deciles increases significantly higher up the distribution. In fact, they represent between 25 to 35% in the top decile in the Antilles and up to around 50% in La Réunion and Guyane. The massive concentration of metropolitans at the top of the distribution in La Réunion is striking. This tend to confirm the widespread sentiment of an over-representation of metropolitans at the top of the income distribution in the overseas departments.

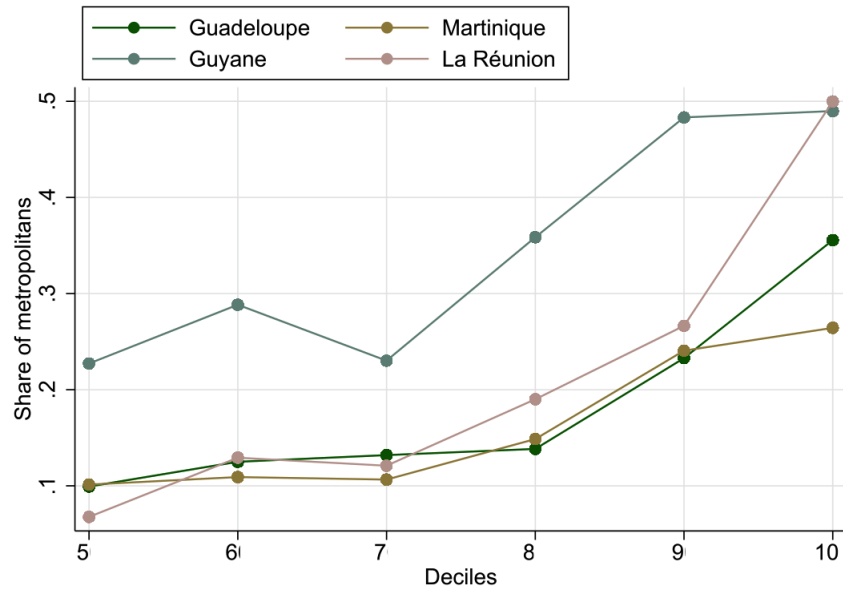[55]Using the Echantillon Demographic Permanent (EDP)

Fig. 9. Share of metropolitans in each decile of labour income

Knowing that metropolitans are more likely to occupy higher-ranks permanent positions in the public sector, it is interesting to have a look at the weight of the public sector in the overseas departments. Figure 10 shows the estimated share of different sectors of employment in each decile of labour income, restricting the sample to employed individuals. While in France, the private sector plays the major role in employment in each decile (stable at around 70% of total employment), the corresponding share in the overseas departments fluctuates across the different deciles. The public sector plays an increasingly important role higher up the distribution in all four departments, at around 50-60% for the top 20% labour income earners. The massive role of the public sector in employment is an interesting peculiarity of the overseas departments as laid down in section 5.
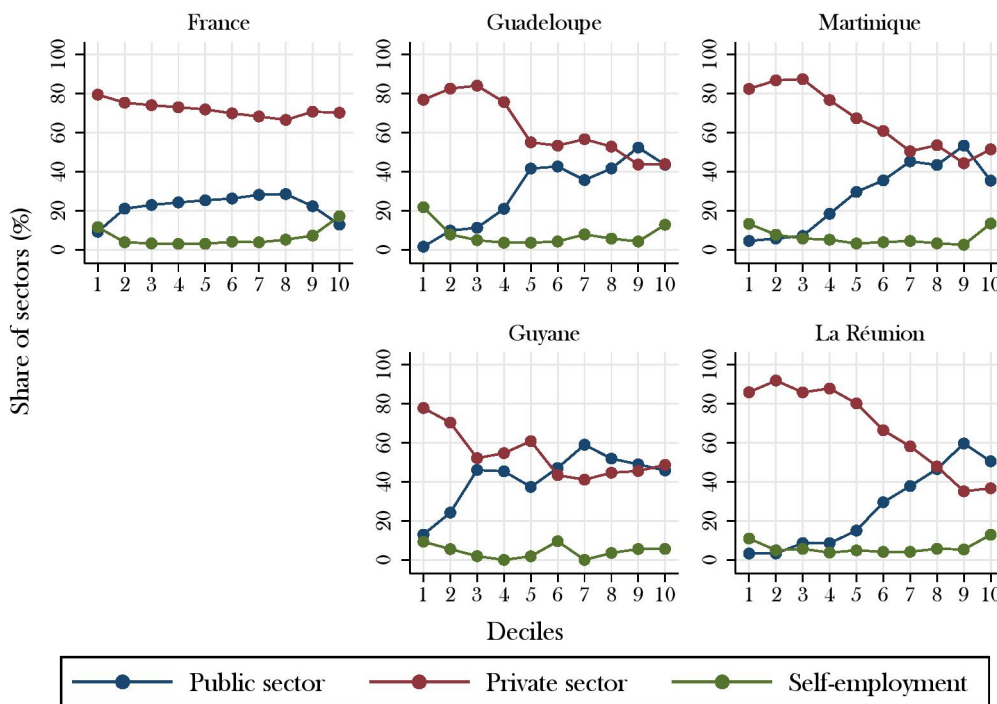
Fig. 10. Share of different sectors in each decile of labour income

The first row of figure 11 presents the average labour income by sector in each decile of income. There seems to be almost no difference between the overseas departments and France in the private sector, at least in the top 50% of the distribution. This is however not the case in the public sector. The average public sector income is systematically higher in the overseas departments than in metropolitan France. This might seem surprising at first but is in line with the fact that public servants in permanent positions enjoy a wage premium in the overseas departments as laid down in section 5. In fact, La Réunion has the highest public sector average income, in line with the higher premium paid out in that department. This is further confirmed with the next two rows, with the distinction between short-term and permanent contracts. The higher average income in the overseas department is entirely driven by the differential income earned with a permanent contract in the public sector which is eligible for the premium, unlike those under a short-term contract.
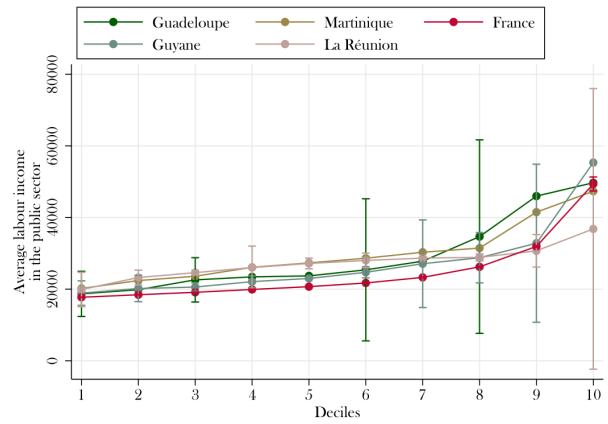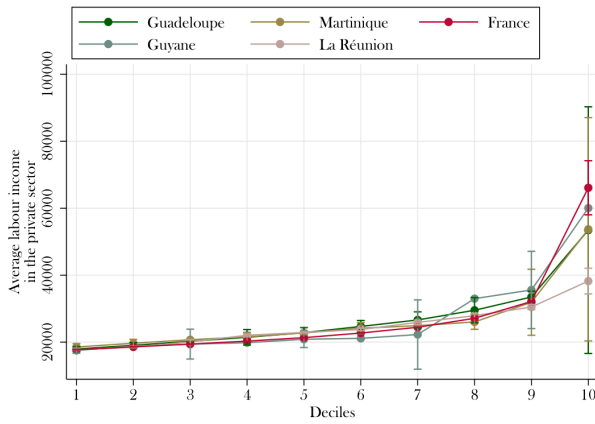
Private sector

Public sector

Overall
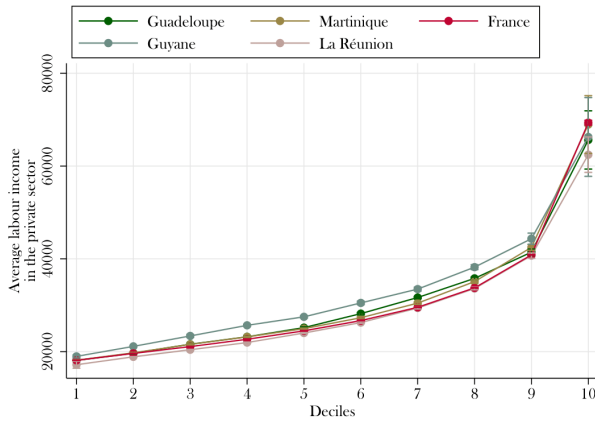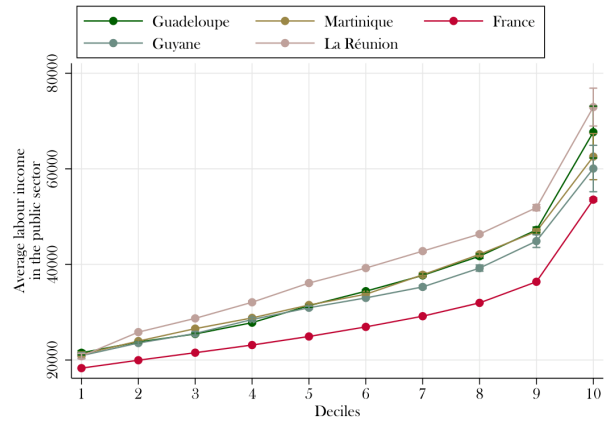
Short-term contract

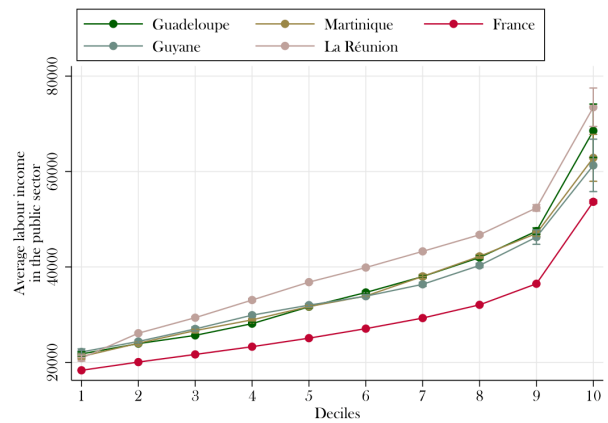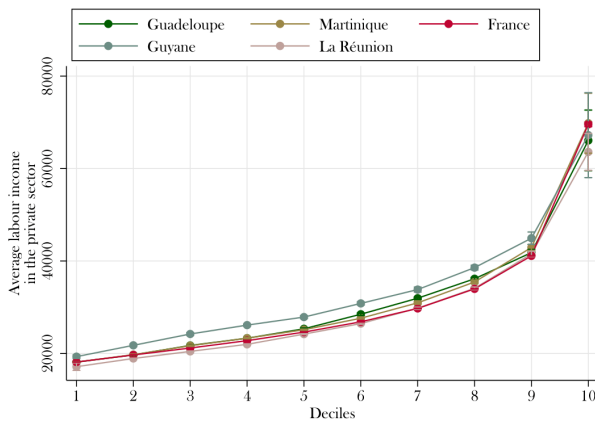

Permanent contract

Fig. 11. Average labour income by decile in the public and private sector

Regression Analysis

This section looks at the existence and extent of the metropolitan-native divide in the overseas departments. Table F.1 shows the descriptive statistics for adult[56] metropolitans and the native population. 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. In the following analysis, I investigate this wage gap, controlling for observable characteristics. The model estimated is as follows:

$$Y_i = \alpha + \beta Metropolitan_i + \theta \text{Education}_i \ \gamma \text{Employment}_i + \delta Controls_i + \rho_d + \epsilon_i$$

Y refers to different definitions of annual labour income. *Metropolitan* is a dummy which refers to the birth place of the each person. Individuals are categorised as being either native of DOM or from the metropolis, based on their place of birth[57]. *Employment* refers to labour market characteristics of the individual. Depending on the specifications, these are dummies for being active, being employed, working full-time dummy, public sector employment, self-employment and type of contract (permanent or not). *Education* variable refers to the number of years of schooling and *Controls* include demographic characteristics such as age, gender and the matrimonial status (dummy for being married or not). All the specifications include the departmental fixed effects, ρ.

Different income definitions are used and sample restrictions are applied depending on the specification at hand. Table F.2 to F.5 in Appendix F shows the regression results on a more or less restricted sample (whole population, active population or only employed population) and other income definitions (salary only or including unemployment benefits or including retirement pensions). The dependent variable in the main analysis (table 2) refers to the annual salary and income from self-employment (including unemployment benefits) of the working age population[58].

In order to grasp the full extent of the potential "discrimination" towards the native population, I estimate the above equation without any controls (Model 1), including demographic controls in Model 2 and controlling for number of years of education in Model 3.

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[56]The sample has been restricted to the population above 25 years so as to observe adult individuals who declare their income.

[57]Children of parents born in overseas departments are counted as metropolitans. Foreigners are excluded from this analysis being a small minority in the population

[58]Between 25 and 65 years old.

This approach is in line with the branch of the economic discrimination literature which supports the idea that unequal opportunities on the labour market are in themselves forms of discrimination. I further control for labour market characteristics to understand whether these income differentials are still statistically significant.

The first two columns of Table 2 shows that there is an important income gap between the natives and the metropolitans. The origin dummy in itself accounts for around 9% of the variations in annual labour income. Controlling for age, gender and matrimonial status, this "metropolitan premium" amounts to an average annual labour income of 12972 €. It decreases to 6764€ when controlling for the number of years of schooling, with an adjusted R^2 that more than doubles to 30%. This suggests that the level of education helps explaining a large share of the initial differences observed between the two groups of the population, since metropolitans are positively self-selected into the overseas departments.

Table 2: Annual labour income Regression
Dependent Variable: Annual salary and self-employment earnings
(inc. unemployment benefits)

	1	2	3	4	5	6	7	8
Metropolitan	14297.7***	12972.2***	6764.6***	7041.4***	6057.3***	5509.4***	5164.7***	5170.1***
	(448.8)	(445.7)	(417.5)	(390.1)	(345.5)	(316.2)	(314.2)	(313.6)
School Years			2093.3***	1764.3***	1274.7***	986.4***	947.7***	943.1***
			(38.84)	(37.11)	(33.87)	(31.52)	(31.50)	(31.45)
Active				14120.0***	2744.5***	2568.9***	2110.3***	1984.2***
				(332.0)	(351.8)	(321.7)	(322.9)	(322.9)
Employed					18098.2***	5485.5***	4170.4***	2471.7***
					(308.1)	(380.5)	(387.3)	(461.0)
Full-time						18338.6***	18719.2***	17272.9***
						(371.8)	(372.5)	(428.9)
Public Sector							2268.4***	2433.3***
							(282.8)	(283.4)
Self-employment							9407.9***	11979.5***
							(679.9)	(777.9)
Permanent								3363.0***
								(497.2)
Constant	13999.6***	22968.8***	-12141.6***	-27293.4***	-18151.1***	-14445.8***	-13590.5***	-13156.7***
	(340.6)	(921.5)	(1054.9)	(1048.1)	(940.2)	(863.1)	(860.7)	(861.5)
Observations	12438	12438	12438	12438	12438	12438	12438	12438
Adj R2	0.0854	0.132	0.296	0.386	0.519	0.598	0.605	0.606
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dept FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard Errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001. The sample of 12 438 observations include all working-age population (between 25 - 65 years of age).

Model 4 to 8 progressively includes labour market characteristics. β remains statistically significant even after controlling for all observable characteristics. The final model is able to

explain 60% of the variations in annual labour income in the overseas departments and the "metropolitan premium", controlling for a set of observable characteristics, is around 5170€ per year. Overall, the results suggests that there exist an important gap in the overseas departments. As expected, there is a positive return to education. These results thus provides evidence of a native-metropolitan divide which might play a role in exacerbating the already tensed post-colonial society.

Counterfactual Inequality Estimations

Given the existence of a "metropolitan premium" in the overseas department, it would be interesting to understand its role in the overall level of inequality observed. I first estimate the level of labour income inequality in each of these territories and France in 2014. Table 3 shows the actual top labour income shares. As expected from the results in the previous sections, La Réunion is the most unequal department in terms of Labour income with a top 10% labour income of 38% and a top 1% of 7%. We again observe that the top 10% income shares in the overseas departments are higher than the French level while there does not seem to be much of a difference in the top 1% income shares (except perhaps for Guyane).

Table 3: Top labour income shares

Actual Situation:	Top 10%	Top 1%
France	26%	6%
Guadeloupe	36.0%	7.2%
Martinique	34.9%	6.7%
Guyane	28.3%	5.0%
La Réunion	38.2%	7.2%

In order to get a rough idea of the part played by the metropolitan-native divide, I estimate counterfactual levels of labour income inequality under two naïve scenarios[59]. In the first scenario, I take the extreme setting of a total absence of metropolitans in the overseas departments. This would of course imply other consequences on the distribution of income, for instance if their positions were to be taken over by natives, that is put aside for the sake of simplicity. Table 4 shows the result obtained from this simple exercise. In the "absence" of metropolitans, labour income inequality would have reduced in the Antilles and La Réunion while slightly increasing in Guyane. The latter might be explained by the fact

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[59]It should be kept in mind that this exercise is done for the sake of getting an idea and is in reality an over-simplification of the potential outcomes that these two scenarios would imply

that metropolitans are present in all the deciles of income in Guyane and not only the top as seen in Figure 9. Thus, taking out all metropolitans from the Guyanese income distribution might lead to an increasing effect if there exist a larger disparity among the natives. A back-of-the-envelope calculation would suggest that 4-12% of the difference in the actual level of inequality between the overseas departments[60] and France could be attributed to metropolitans.

Table 4: Top Labour Income Shares
Counterfactual I: No Metropolitans

	Top 10%	Top 1%
Guadeloupe	34.8%	5.9%
Martinique	34.5%	6.2%
Guyane	29.0%	4.9%
La Reunion	37.2%	6.3%

The second scenario consists of making the assumption that there is no income gap between the native and metropolitans. I impute a naïve counterfactual income for metropolitans based on the corresponding income of native who have similar characteristics[61]. Panel B shows the resulting estimated level of top income shares. Under such a scenario, the top 10% labour income shares would reduce by around 2-3 percentage points in the overseas departments. Similar to before, a quick calculation suggests that 20 to 30% of the difference in labour income inequality between France and the overseas departments[62] could be attributed to the "metropolitan premium".

Table 5: Top Labour Income Shares
Counterfactual II: No Metropolitan Premium

	Top 10%	Top 1%
Guadeloupe	33.0%	5.3%
Martinique	33.0%	6.0%
Guyane	25.5%	4.1%
La Reunion	34.7%	5.4%

These naïve exercises have allowed us to get a glimpse of the extent to which labour

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[60]Excluding Guyane

[61]This exercise does not take into account the idiosyncratic features of the income variable.

[62]Excluding Guyane

income inequality is driven by the presence of metropolitans and the metropolitan-native divide. These results combined calls for some policy intervention to further reduce the levels of inequality. For instance, it could translate in terms of quota for the native population in the public sector and raises questions about the fairness of the public sector premium paid to civil servants in the overseas departments, knowing that the high permanent positions are most likely to be occupied by metropolitans. Further analysis needs to be done to draw any solid conclusion in that direction.

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 the widely acknowledged fact 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 low employment and low wages in the 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 further investigate the labour income inequalities and particularly, the metropolitan-native divide in the overseas departments. Using recent administrative fiscal data matched with the population census, I build the premise for the existence of a "metropolitan premium" in the overseas departments. Indeed, the results

suggest that metropolitans do earn a higher income than the native population, even after controlling for a set of observable characteristics. 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. Hence, this paper not only contributes to the scarce related economic literature, but also provides materials for a more informed debate on the issue in the overseas departments.

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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.
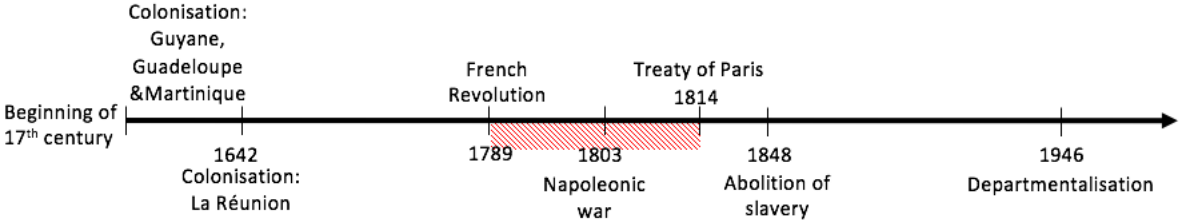
Fig. A.1. Historical timeline

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.
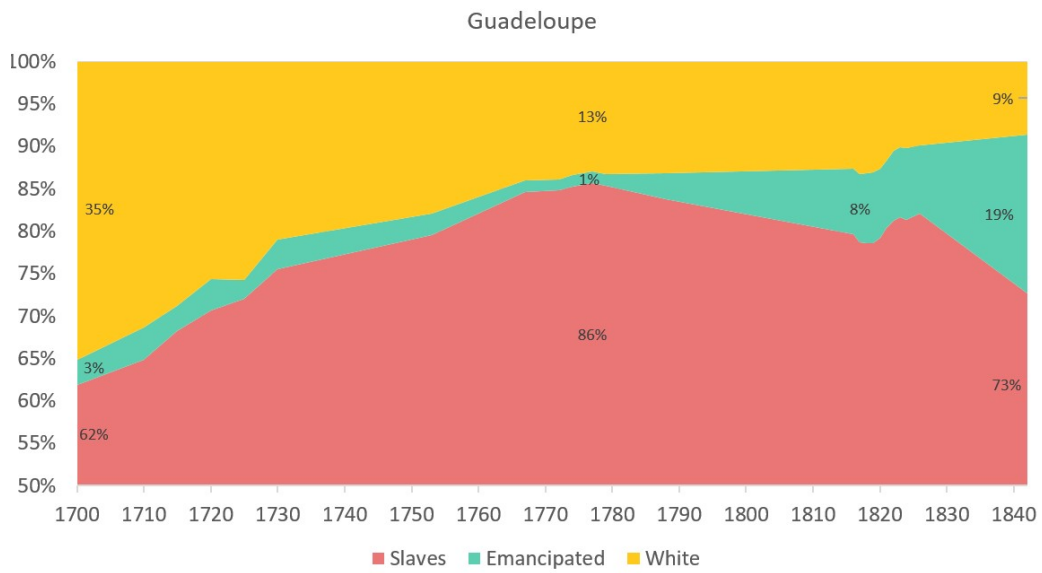
La Réunion
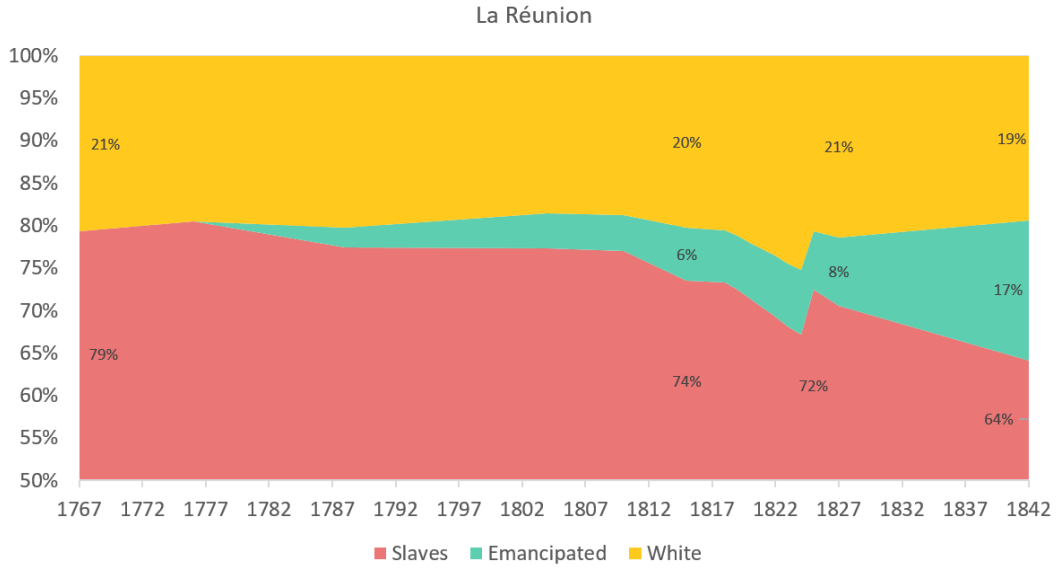
Fig. A.2. La Réunion
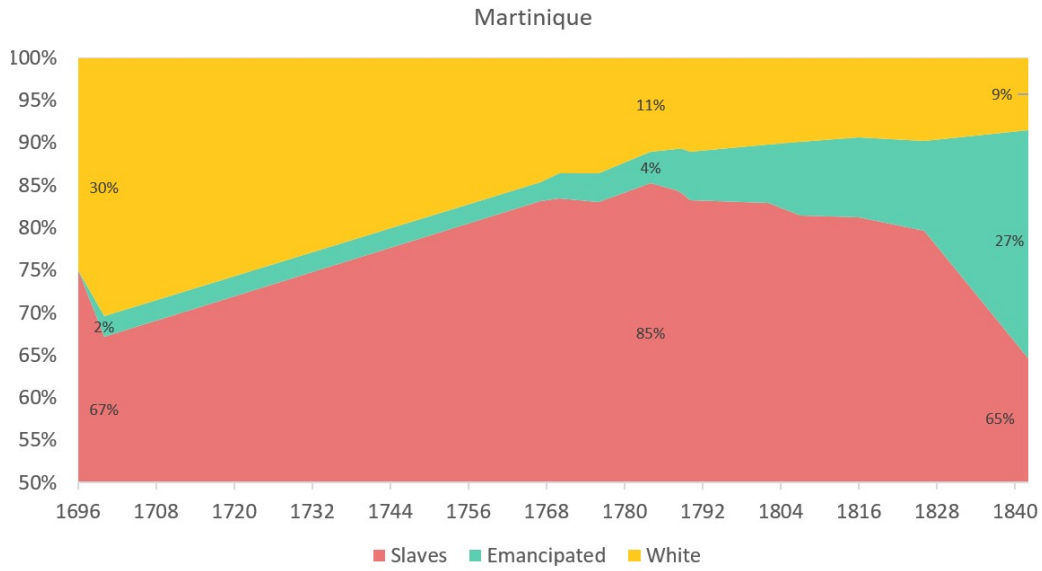
Guadeloupe

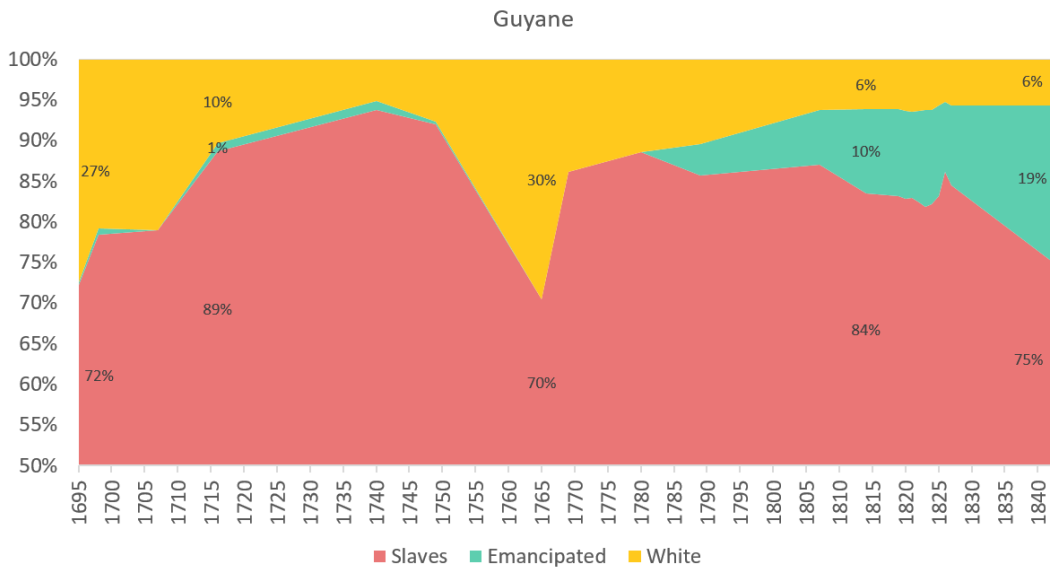Fig. A.3. Guadeloupe

Fig. A.4. Martinique

Fig. A.5. Guyane

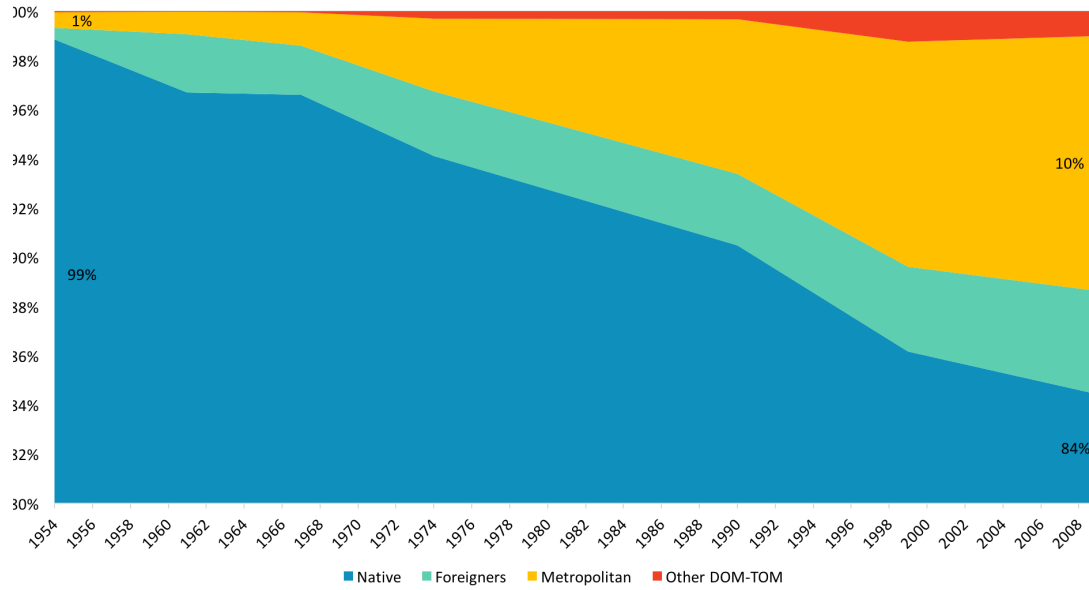The post-colonial composition of the population is shown in Figure A.6 to Figure A.9

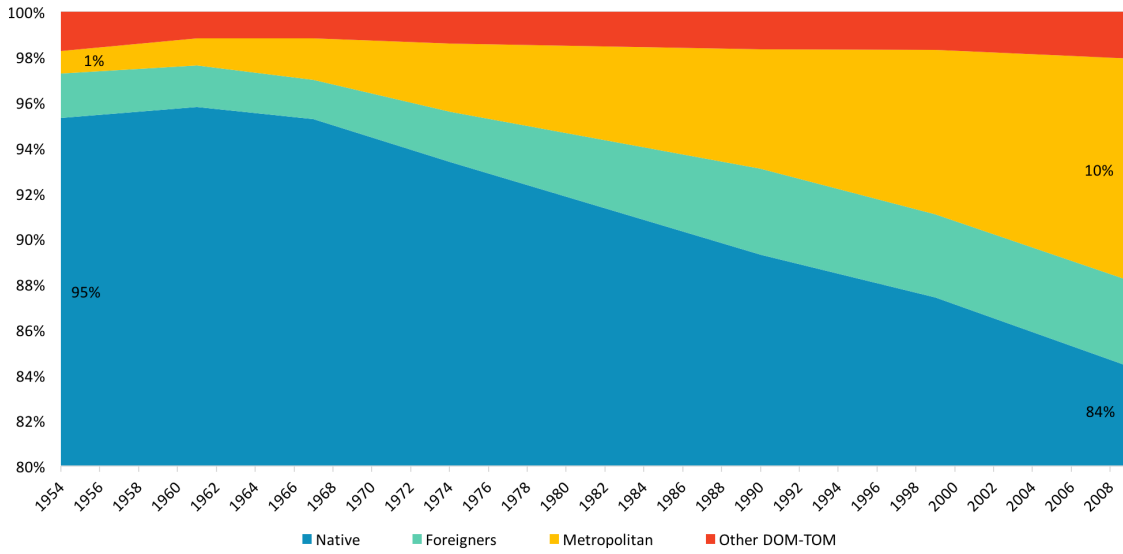Fig. A.6. La Réunion- Composition of the population

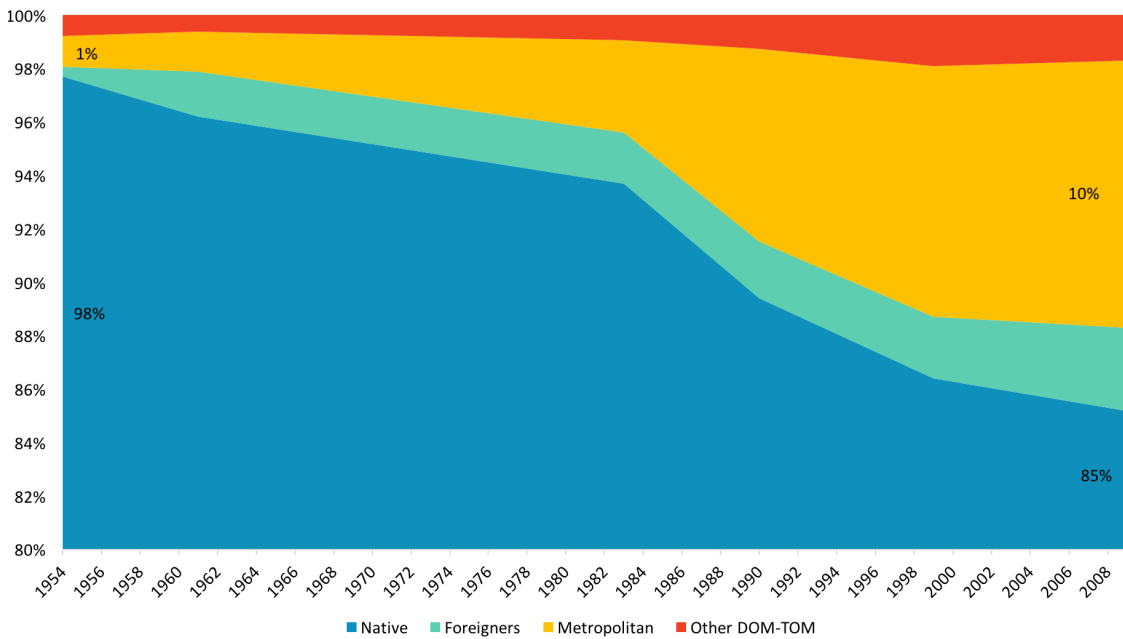Fig. A.7. Guadeloupe- Composition of the population
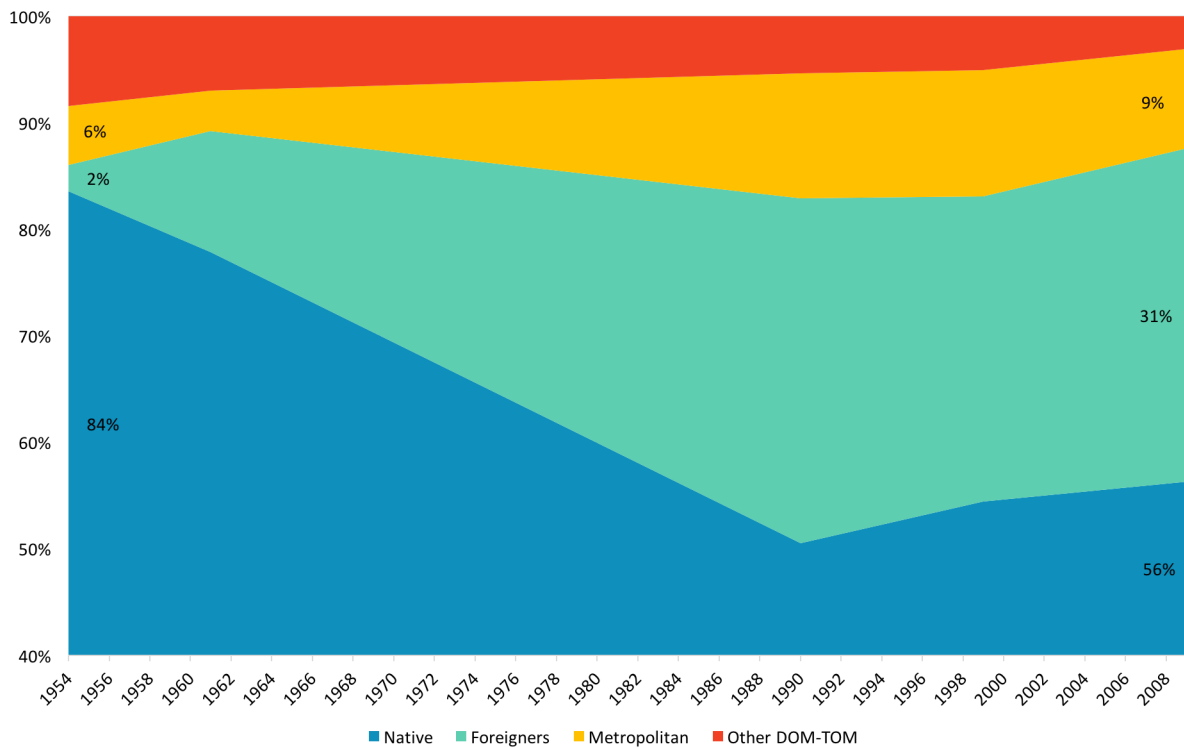

Fig. A.8. Martinique- Composition of the population

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

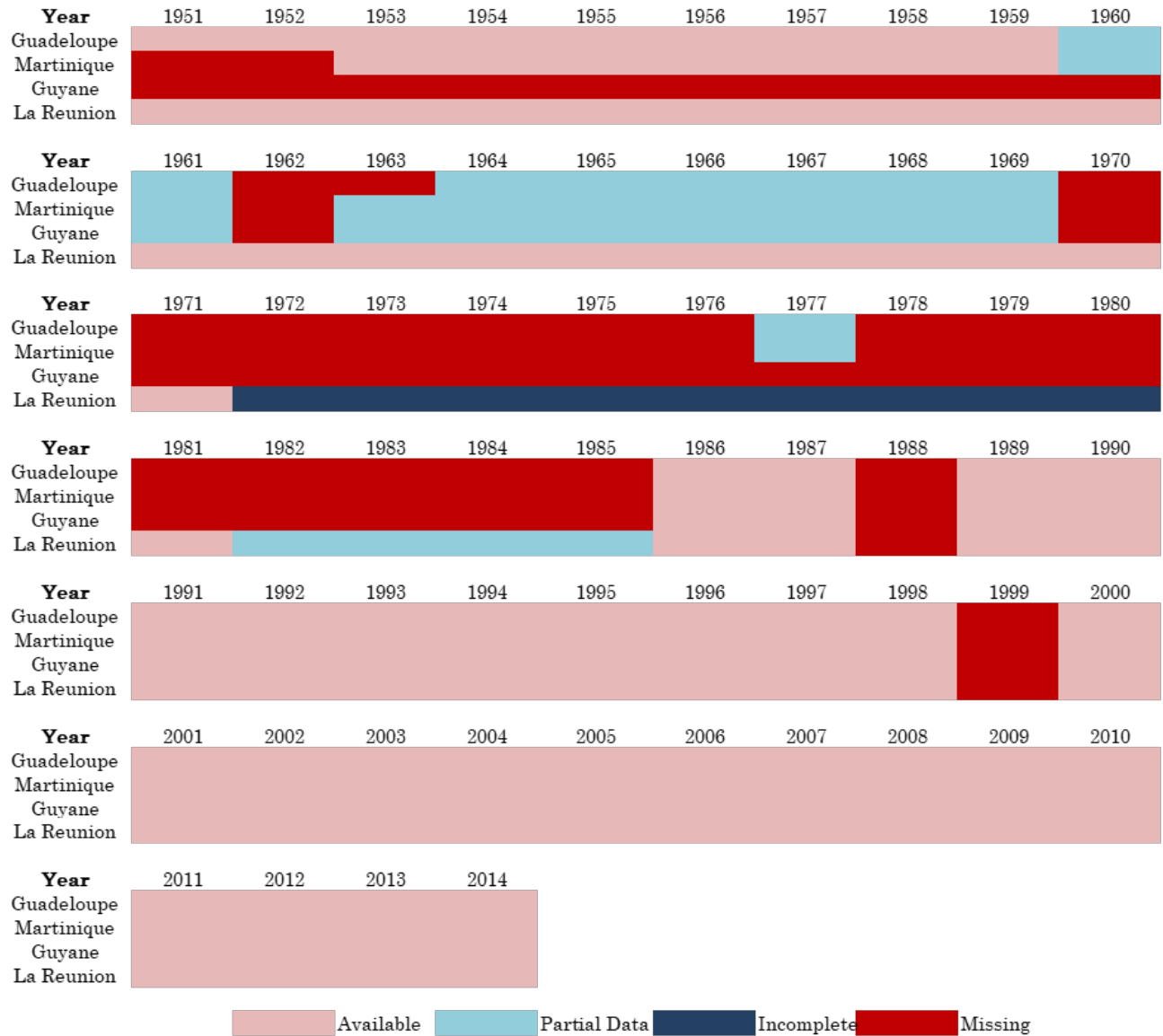# Appendix B.   Income Tax Data

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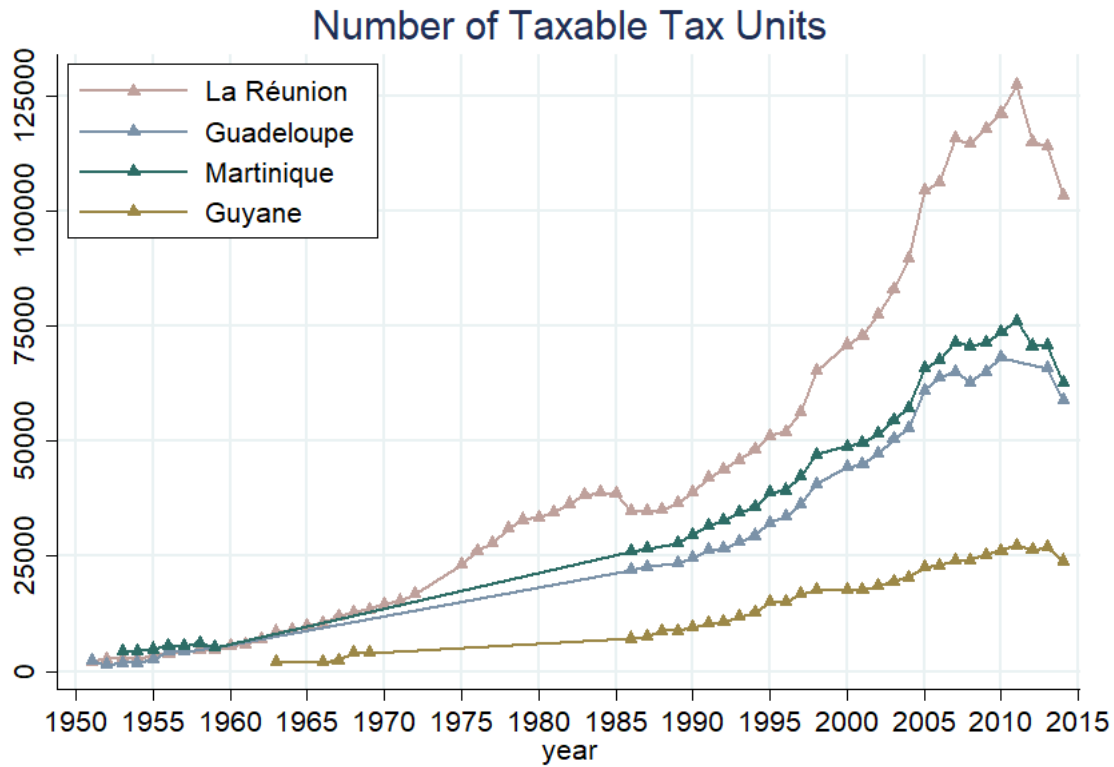
Fig. C.1. Number of taxable tax units in the overseas departments

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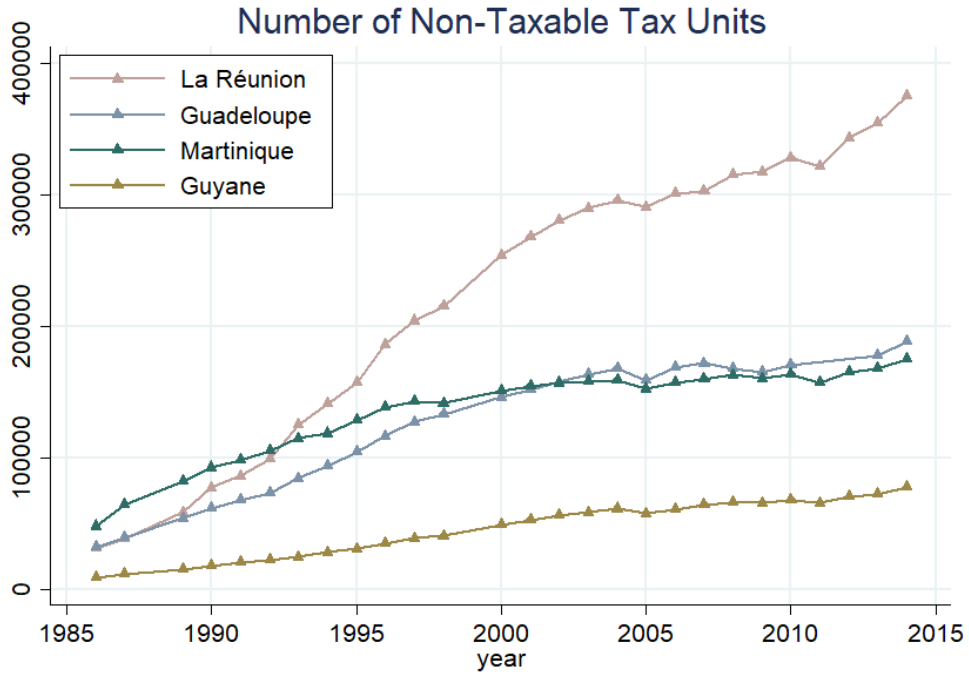
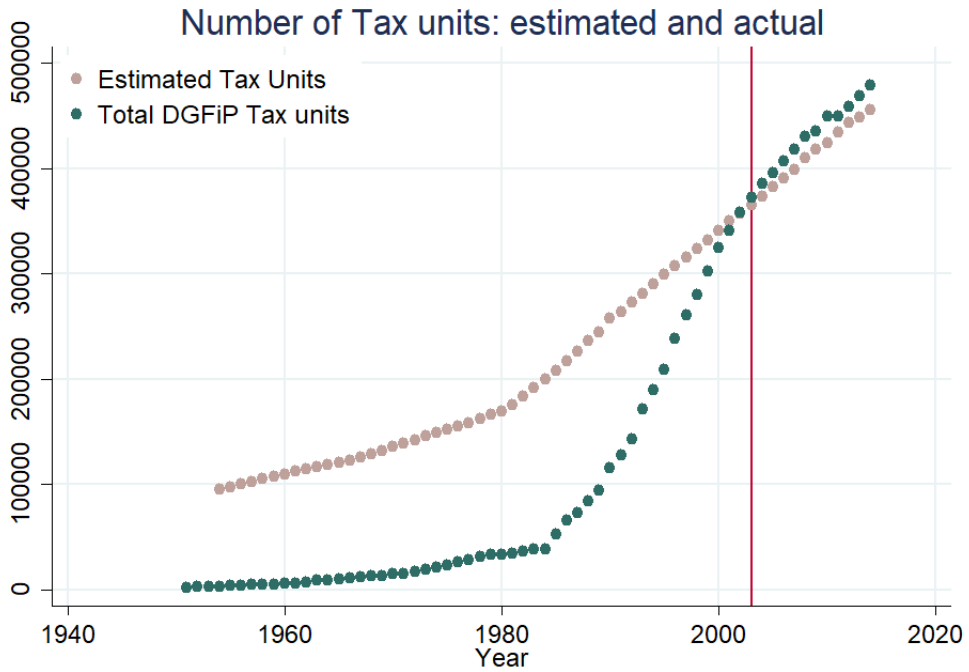Fig. C.2. Number of non-taxable tax units in the overseas departments

Fig. C.3. Total number of declarations and total estimated tax units in La Réunion
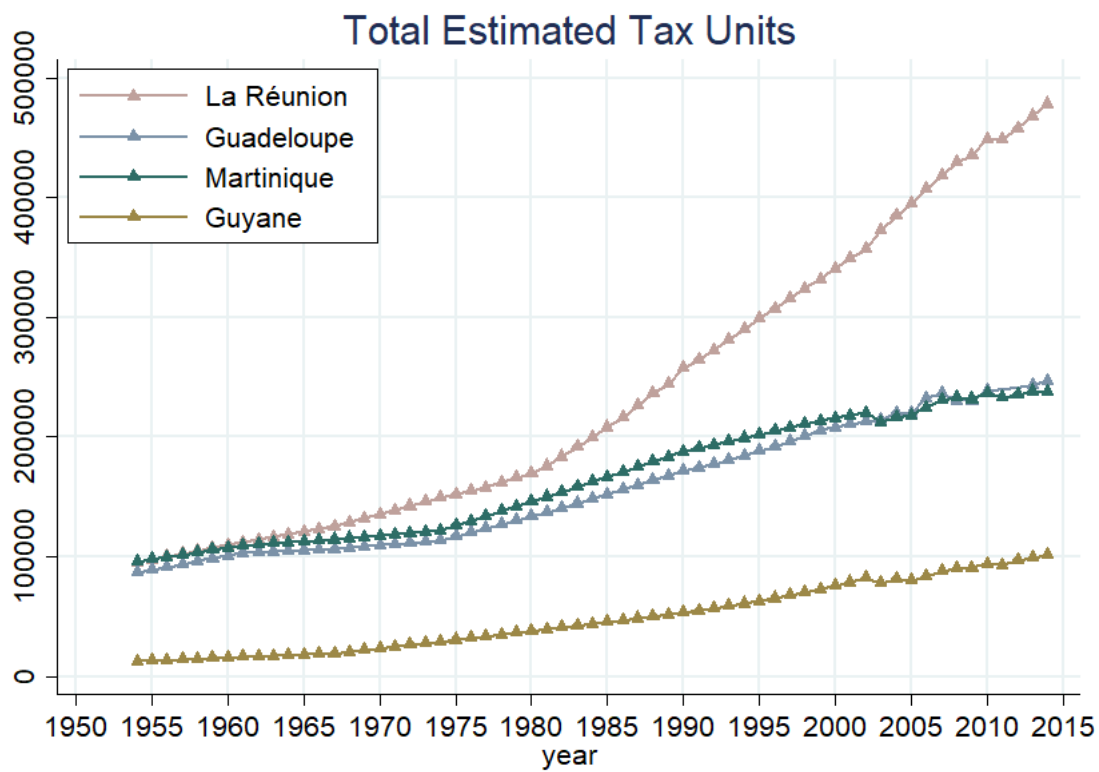
Fig. C.4. Total taxable tax units in the overseas departments

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-20$^{\text{th}}$ 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 21$^{\text{st}}$ 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.
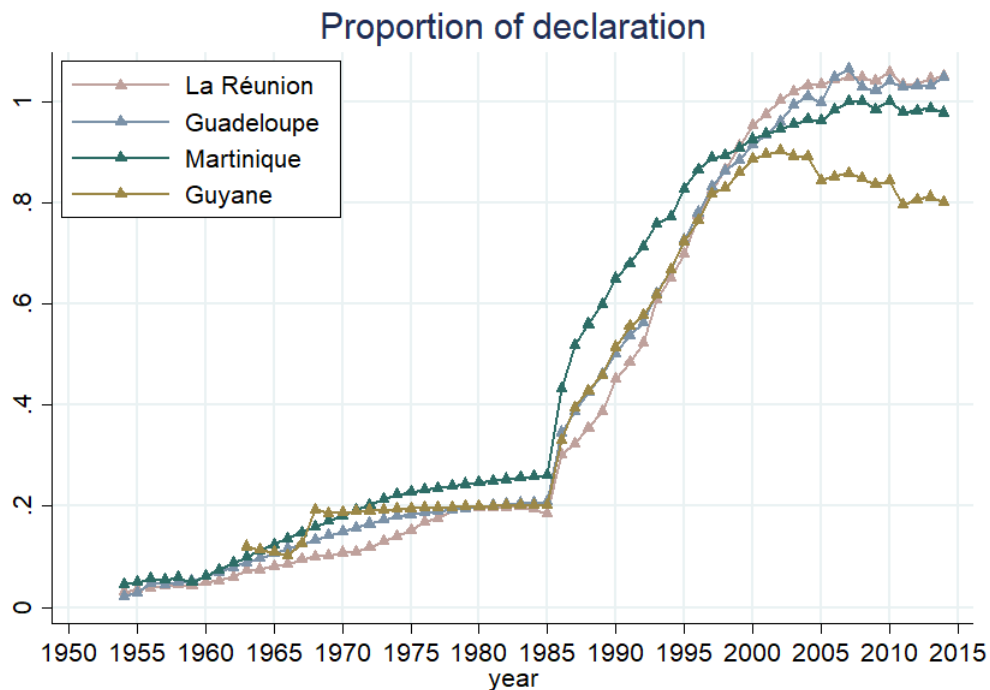

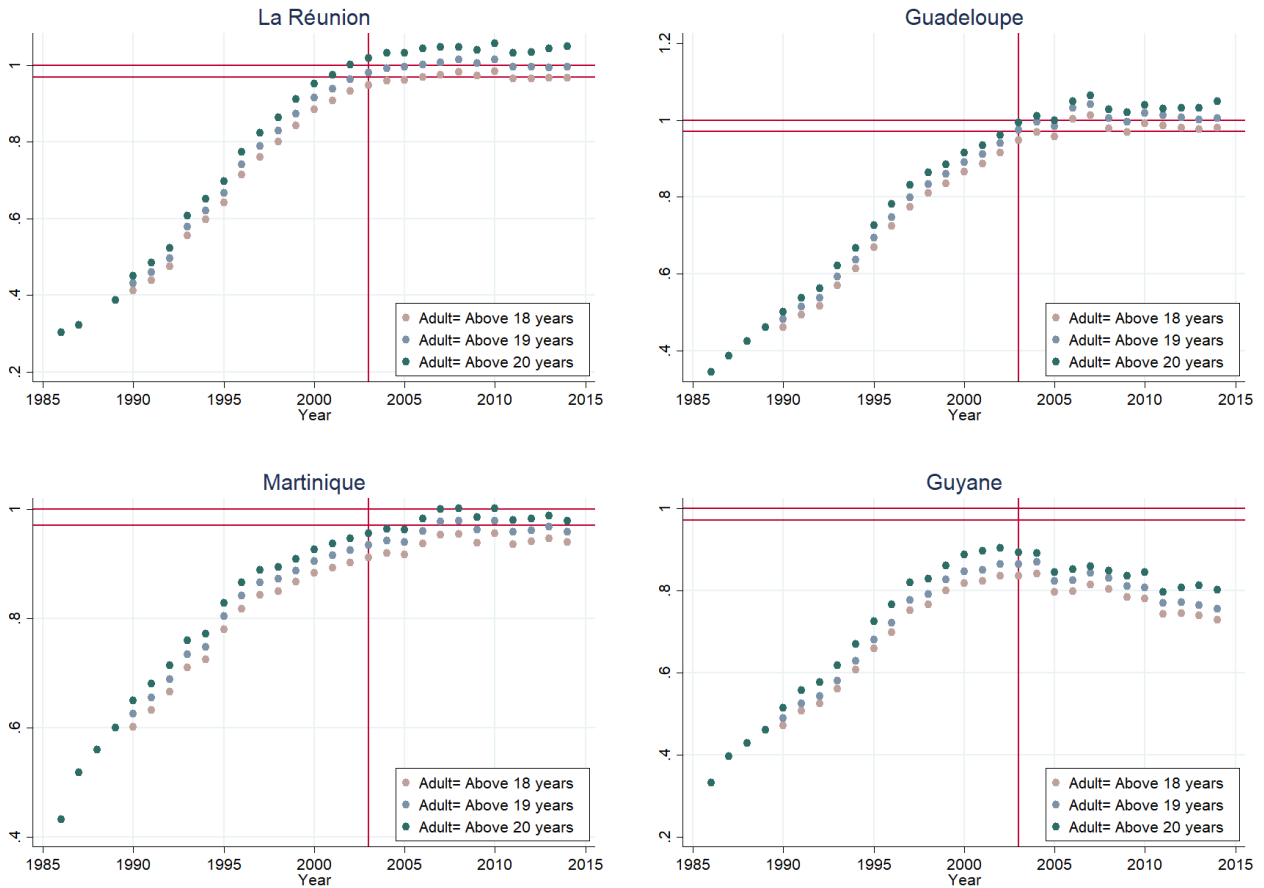Fig. C.5. Proportion of tax declaration for the overseas departments

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 immigrants[63] (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.

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[63]The 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.
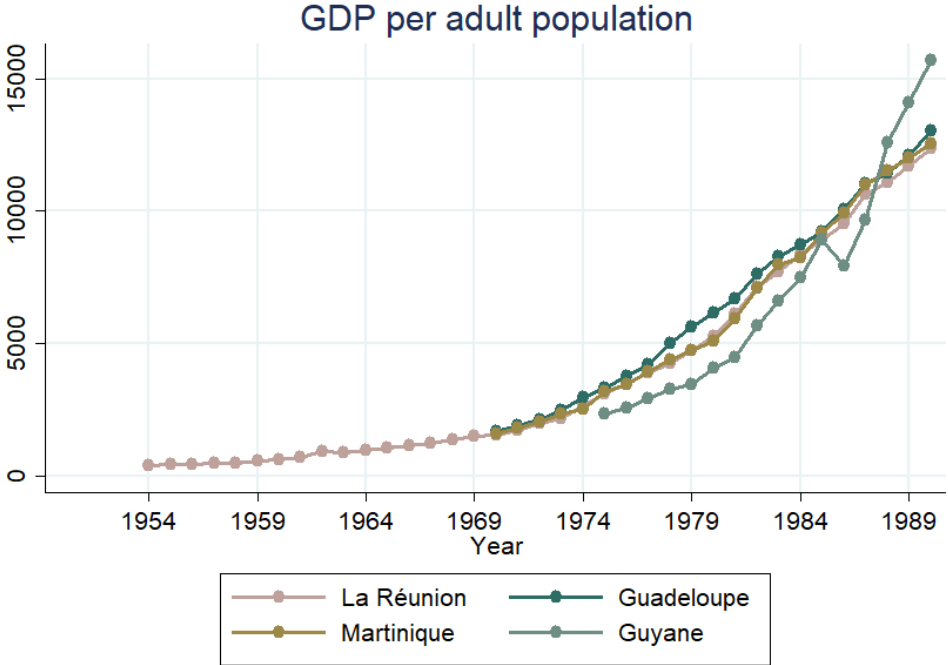

Fig. D.1. GDP per adult

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 ratio[64] 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.

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[64]An average over the period.

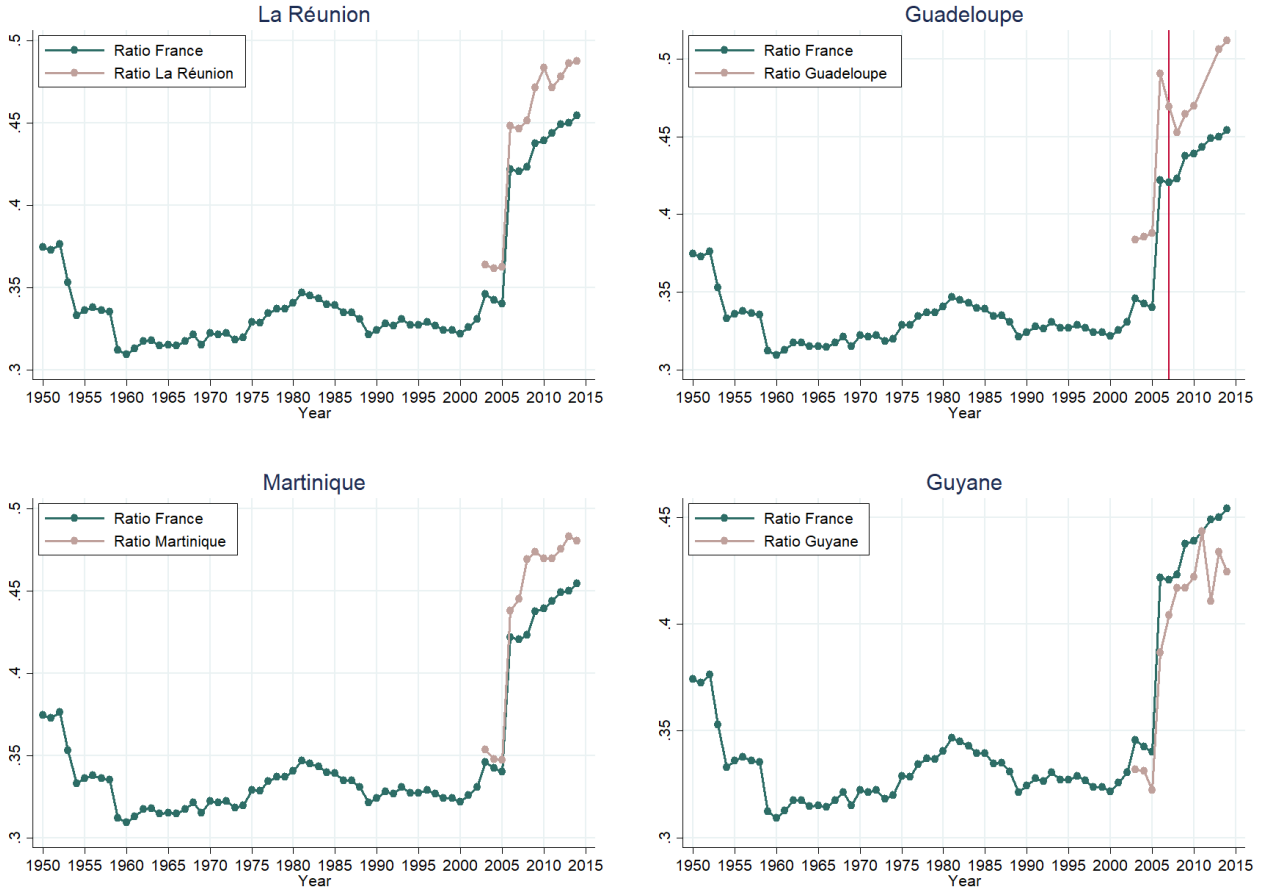Ratio of Taxable Income per Tax Unit to GDP per adult population

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.[65]

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

---

[65]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.
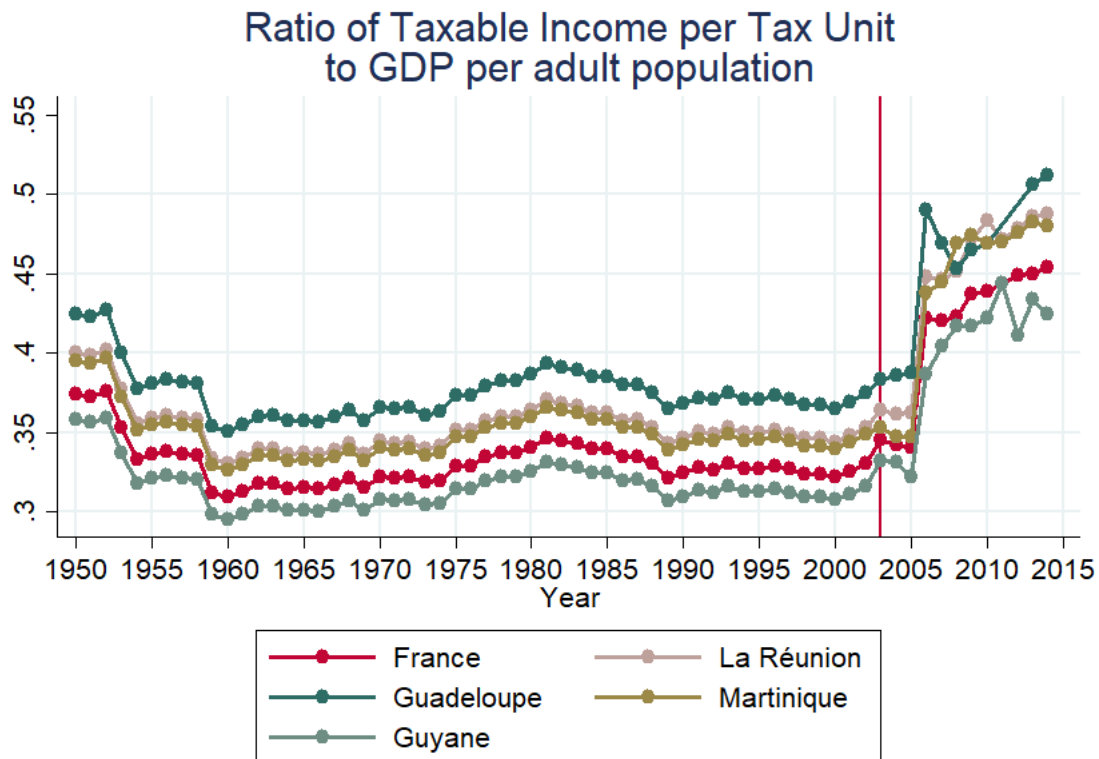

Fig. D.3. Taxable Income per tax units to GDP per adult

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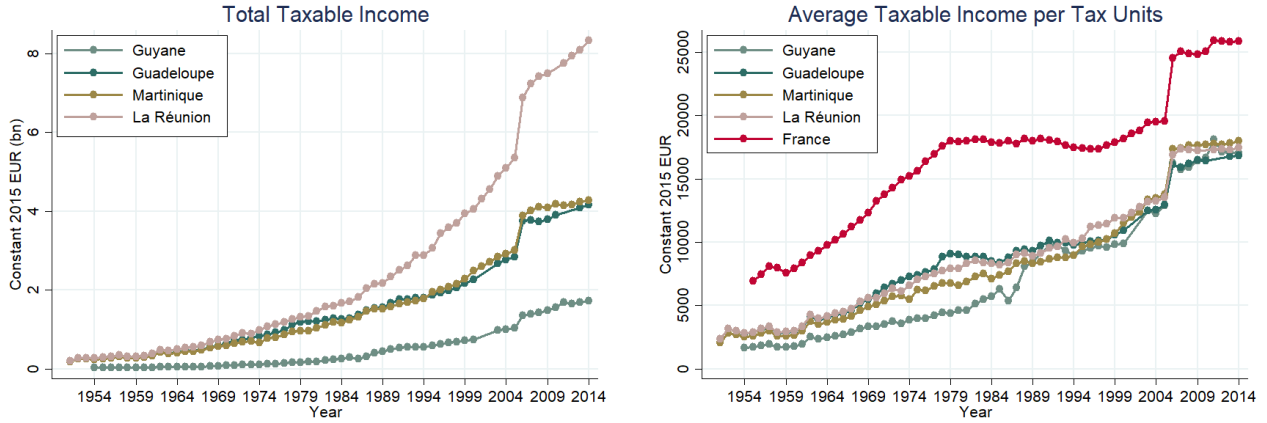
Fig. D.4. Total taxable income and Average Taxable income

Estimation of Fiscal Income

As explained in section 3.2, the income reported by the tax authorities are taxable income-which 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-year-tax 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)
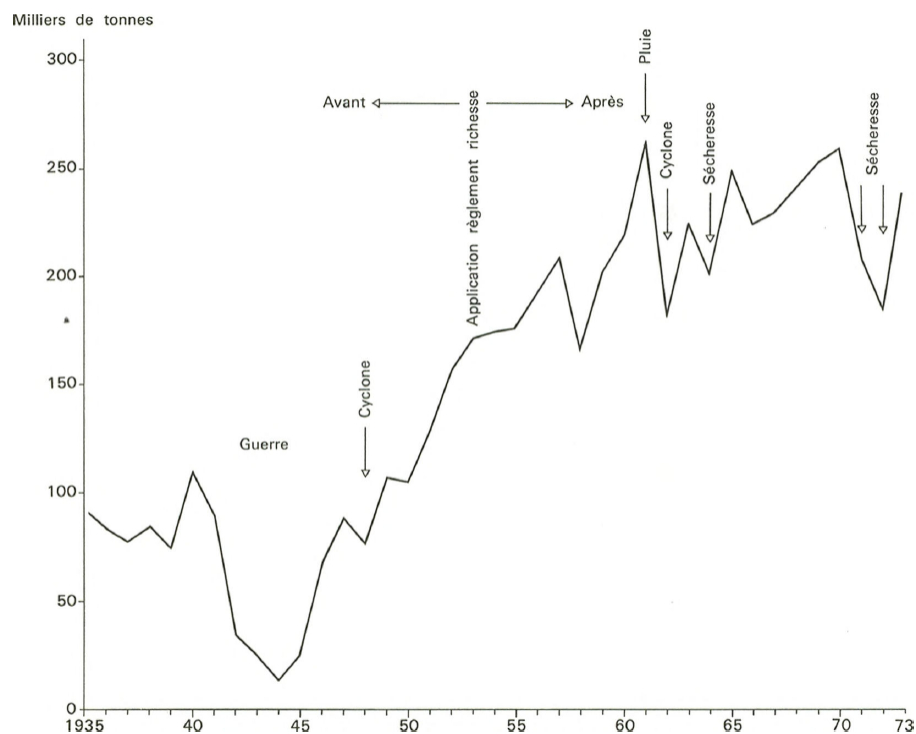
Source: INSEE

2. Minimum Wage

Fig. E.2. Evolution of hourly minimum wage (1970 - 2000)
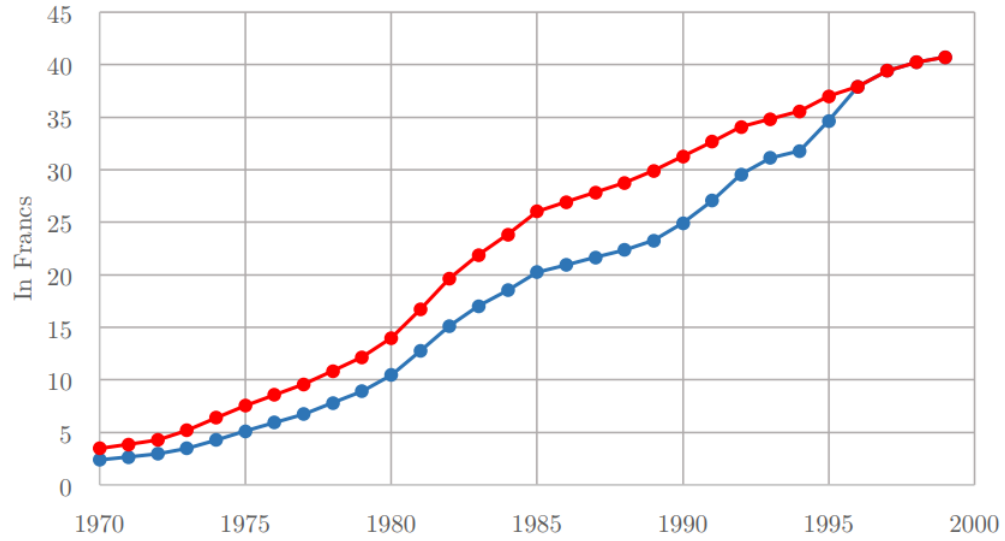
Source: INSEE. Note: The overseas departments are in blue and metropolitan France in red

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

Wage Distribution- Overall
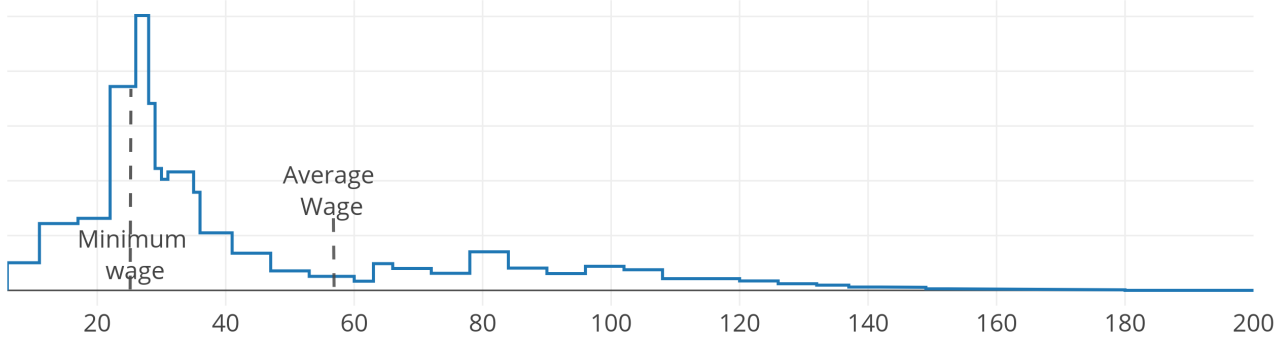
Fig. E.3. Overall wage distribution in La Réunion

Wage Distribution- Private Sector
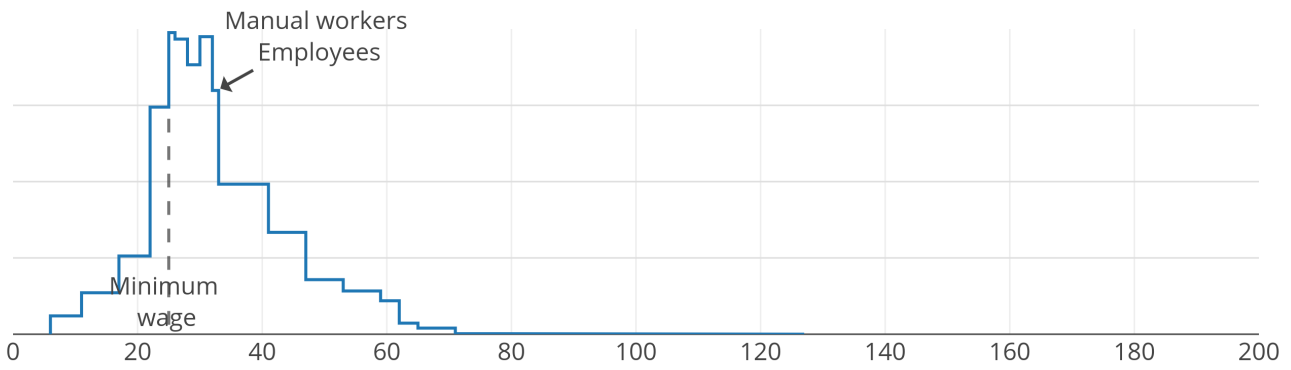
Fig. E.4. Private sector wage distribution in La Réunion

Wage Distribution- Public Sector
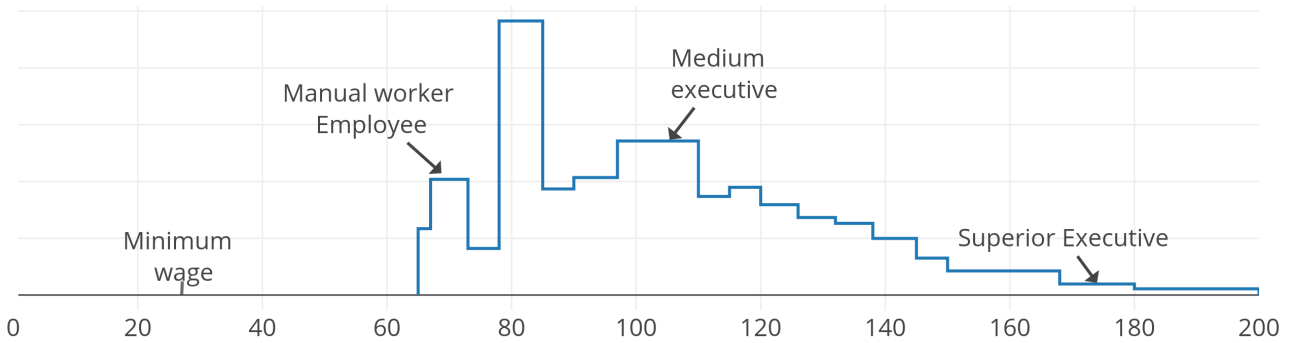
Source: INSEE

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
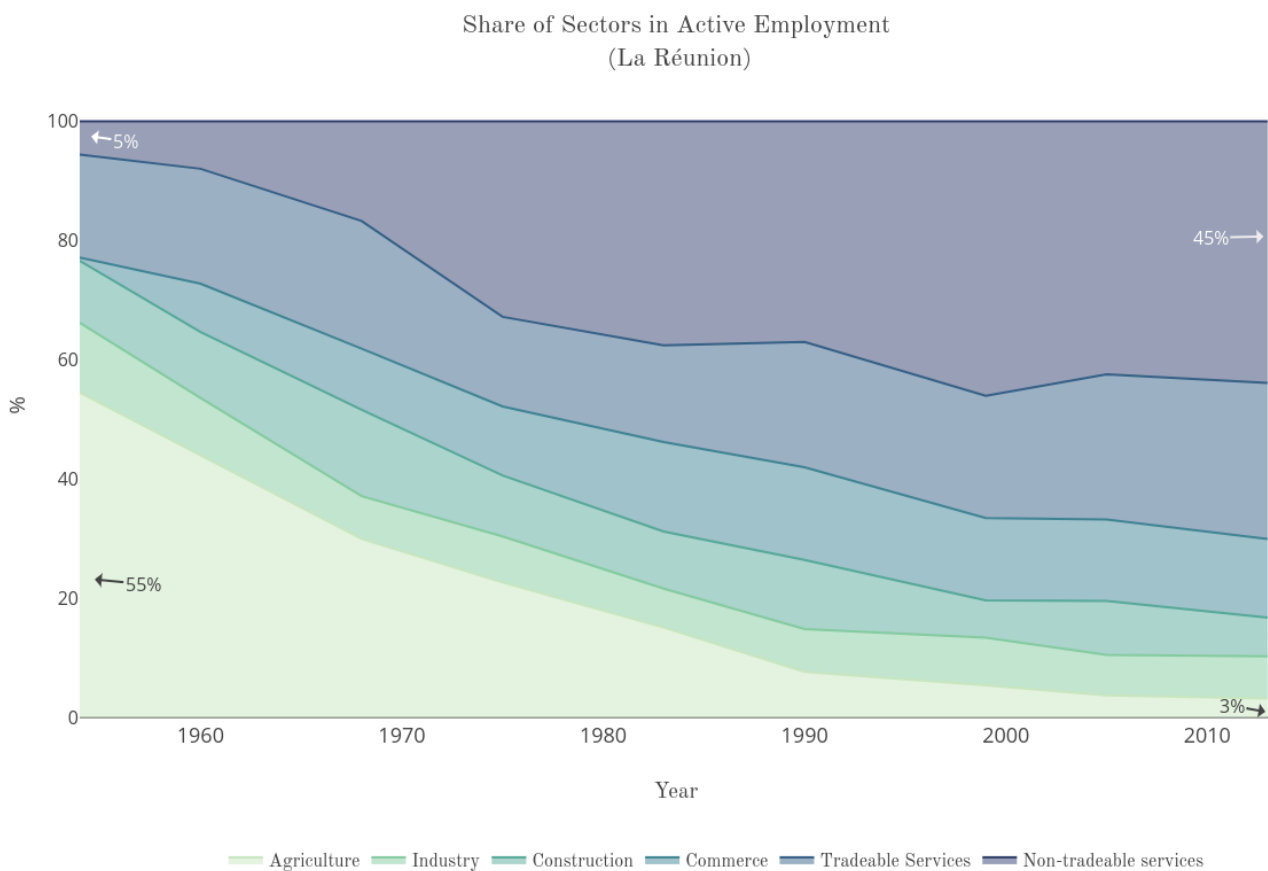
Source: INSEE

5. Illiteracy rate

Table E.1: Illiteracy Rates in the overseas departments

	1954	1961	1967
La Réunion	60,6%	49,4%	39,0%
Guadeloupe	34,5%	22,1%	15,4%
Martinique	25,5%	15,2%	

Source: Population Census

Appendix F.   Native-Metropolitan Divide

In section 6, I use the Echantillon Démographique Permanent (EDP), a rich administrative dataset established in 1967 by INSEE. It comprises of historical census and registry office data on individuals born on certain dates of the year[66]. The overseas departments were added in this panel since 2004 and fiscal data were incorporated as from 2011. In this paper, I exploit the population census data matched with the fiscal data in the four overseas departments in 2014.

To begin with, I only keep "EDP individuals" who are fiscal residents of the overseas department[67]. This EDP sample represents around 4% of the total population. I opt for the fiscal data of 2014 and only keep the primary declaration of adults who declare their income to the tax office[68]. The annual french population census is carried out on a succession over a five-year period. Since the demographic variables of interests are mostly time-invariant, the fiscal data is matched over five years of population census: the two preceding and two subsequent years of 2014 (2012, 2013, 2014, 2015, 2016) in order to minimise the possibility of error. I further excludes individual of less than 25 years of age in 2014 as they are likely to have varying educational and professional status over the five-year period.

Table F.1 shows the descriptive statistics of the resulting sample and table F.2 to F.5 are the regression results with different definitions of income and sample restrictions.

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[66] As from 2004, individuals born on 16 dates of the year

[67] The database also have some information on the other individuals in the household where a person is born on the 16 dates of the year.

[68] This excludes individuals (mostly students) who only declare housing taxes.

Table F.1: Descriptive Statistics

	Native	Metropolitan	Overall
Observations	14103	2205	16308
	86%	14%	
Departments			
Guadeloupe	88%	12%	25%
Martinique	90%	10%	27%
Guyane	72%	28%	6%
La Réunion	85%	15%	41%
Demographic Characteristics			
Female (%)	57%	51%	56%
Married (%)	43%	33%	41%
Age	54.6	46.6	53.5
Years of schooling	9.63	13.86	10.2
Labour market Status			
Active (%)	54%	74%	56%
Employed (%)	62%	80%	66%
Sector of employment			
Public (%)	44%	57%	47%
Private (%)	51%	35%	48%
Self-employed(%)	5%	9%	6%
Average Income (euros)			
Salary	24 961.69	36 470.13	27 389.70
Salaried & self-emp	25 277.76	37 743.59	27 999.73
Salaried &Self-emp (incl. unemp)	17 659.83	32 435.61	20 294.80
Salaried, Selfemp & Retirement (incl. unemp)	14 271.48	29 330.07	16 307.98

Table F.2: Regression Results: Working-Age population
Dependent variable: Salaried Income (incl. Unemployment benefits)

	1	2	3	4	5	6	7	8
Metropolitan	13866.9***	12576.2***	6473.0***	6747.1***	5776.5***	5195.2***	4958.7***	4964.3***
	(436.8)	(434.0)	(405.6)	(377.9)	(333.0)	(298.4)	(297.7)	(297.1)
School Years			2058.1***	1732.3***	1249.4***	943.5***	907.6***	902.8***
			(37.74)	(35.95)	(32.65)	(29.75)	(29.85)	(29.79)
Active				13985.7***	2766.9***	2580.6***	2142.2***	2011.7***
				(321.6)	(339.1)	(303.6)	(306.0)	(305.8)
Employed					17848.9***	4467.2***	3546.5***	1789.2***
					(297.0)	(359.0)	(366.9)	(436.7)
Full-time						19456.7***	19554.0***	18057.8***
						(350.8)	(352.9)	(406.2)
Public Sector							2287.2***	2457.8***
							(268.0)	(268.4)
Self-employment							5405.4***	8065.8***
							(644.2)	(736.8)
Permanent								3479.0***
								(471.0)
Constant	13695.8***	22463.1***	-12057.2***	-27065.0***	-18048.6***	-14117.4***	-13301.1***	-12852.4***
	(331.4)	(897.4)	(1024.9)	(1015.3)	(906.2)	(814.5)	(815.5)	(816.0)
Observations	12438	12438	12438	12438	12438	12438	12438	12438
Adj R2	0.0859	0.131	0.299	0.391	0.528	0.622	0.626	0.627
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dept FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard Errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001. The sample of 12438 observations include all working-age population (between 25 - 65 years of age

Table F.3: Regression Results

Dependent variable: Salaried Income (incl. Unemployment benefits)

	1	2	3	4	5	6	7
Metropolitan	14288.8***	13869.1***	6950.3***	6226.0***	5798.6***	5572.8***	5575.0***
	(494.5)	(476.4)	(437.6)	(388.0)	(346.0)	(345.6)	(344.9)
School Years			2381.8***	1733.0***	1293.0***	1245.5***	1236.5***
			(45.15)	(42.04)	(38.55)	(38.90)	(38.85)
Employed				16042.1***	4119.5***	3379.6***	1860.3***
				(319.5)	(375.5)	(383.4)	(454.8)
Full-time					18127.5***	18254.9***	16951.1***
					(371.9)	(374.6)	(429.3)
Public Sector						1905.0***	2066.4***
						(282.0)	(282.6)
Self-employment						4540.6***	6885.2***
						(672.2)	(770.7)
Permanent							3048.2***
							(493.2)
Constant	17938.0***	10395.6***	-27390.7***	-24953.0***	-19185.3***	-18540.9***	-18065.3***
	(395.3)	(1066.0)	(1177.2)	(1044.1)	(938.3)	(938.2)	(939.5)
Observations	9207	9207	9207	9207	9207	9207	9207
Adj R2	0.0940	0.188	0.376	0.511	0.611	0.614	0.616
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes
Dept FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard Errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001. The sample of 9207 observations include all active working-age population (between 25 - 65 years of age

Table F.4: Regression Results

Dependent variable: Salaried and Self-employment income

	1	2	3	4	5	6
Metropolitan	12588.5***	12858.9***	6840.4***	6578.8***	6166.3***	6147.6***
	(586.7)	(573.7)	(536.9)	(487.7)	(485.9)	(485.0)
School Years			2307.3***	1741.4***	1674.3***	1660.3***
			(59.84)	(56.61)	(57.37)	(57.33)
Full-time				16734.7***	17240.6***	15990.4***
				(468.2)	(470.6)	(536.3)
Public Sector					1693.0***	1911.7***
					(399.7)	(401.5)
Self-employment					7836.7***	10151.3***
					(831.7)	(958.5)
Permanent						2947.9***
						(610.1)
Constant	25884.7***	15188.8***	-23542.5***	-26663.8***	-26769.6***	-27486.3***
	(499.8)	(1397.1)	(1604.4)	(1459.7)	(1451.3)	(1456.2)
Observations	6019	6019	6019	6019	6019	6019
Adj R2	0.0734	0.150	0.319	0.438	0.447	0.449
Controls	No	Yes	Yes	Yes	Yes	Yes
Dept FE	Yes	Yes	Yes	Yes	Yes	Yes

Standard Errors in parentheses. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. The sample of 6019 observations include employed working-age population (more than 25 years of age

Table F.5: Regression Results
Dependent variable: Salaried Income, Self-employment earnings
(incl. Unemployment benefits) and Retirement pensions

	1	2	3	4	5	6	7	8
Metropolitan	14886.1***	13391.8***	7228.6***	7412.1***	6423.5***	5900.5***	5582.5***	5591.0***
	(387.9)	(384.6)	(357.3)	(344.5)	(312.8)	(293.4)	(292.3)	(292.0)
School Years			1938.9***	1741.5***	1405.9***	1223.9***	1199.4***	1196.3***
			(30.37)	(29.81)	(27.61)	(26.16)	(26.15)	(26.13)
Active				10395.0***	-1220.9***	-1425.9***	-1892.7***	-2009.3***
				(295.3)	(331.6)	(310.8)	(312.9)	(313.2)
Employed					17457.6***	5304.3***	4013.9***	2548.6***
					(293.9)	(376.1)	(384.2)	(458.3)
Full-time						17256.2***	17595.6***	16353.2***
						(363.6)	(365.1)	(422.1)
Public Sector							2147.8***	2282.8***
							(279.8)	(280.5)
Self-employment							8997.4***	11196.5***
							(664.8)	(763.1)
Permanent								2882.6***
								(492.8)
Constant	14541.1***	24607.0***	-9147.3***	-23151.5***	-17035.5***	-14930.8***	-14334.0***	-14108.9***
	(265.8)	(631.0)	(773.3)	(845.0)	(773.0)	(726.0)	(724.2)	(724.5)
Observations	16308	16308	16308	16308	16308	16308	16308	16308
Adj R2	0.0920	0.146	0.317	0.365	0.478	0.541	0.547	0.548
Dept FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Standard Errors in parentheses. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. The sample of 16308 observations include the adult population (more than 25 years of age