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HOMOPLOUTIA: TOP LABOR AND CAPITAL INCOMES IN THE UNITED STATES, 1950–2020

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Homoploutia describes the situation in which the same people are rich in the space of capital and labor income. We combine survey and administrative data to document the evolution of homoploutia in the United States since 1950. In 1950, 10 percent of top decile capital-income earners were also in the top decile of labor income. Today, this indicator is 30 percent. This makes the traditional division to capitalists and laborers less relevant today. We find that the increase in homoploutia accounts for 20 percent of the increase in interpersonal income inequality since 1986.

1. INTRODUCTION

In classical political economy, and often implicitly in functional income distribution studies, it is assumed that there are two distinct groups of people: capitalists, who receive most of their income from ownership (capital), and workers, who receive most of their income from working (labor). In classical political economy, this was clear: capitalists were not only assumed to be richer than workers, but to have their entire income come from property. Similarly, few workers were thought

as deriving a part of their income from ownership of property. Under such "classical capitalism," workers and capitalists (rentiers) were two separate groups of people, with the compositions of their personal income reflecting their positions in the process of production. Typically, of course, capitalists were at the top of the income distribution and workers in the middle or at the bottom.

In recent functional income distribution studies that have documented the increase in the capital share in many countries (Karabarbounis & Neiman 2014; Gutiérrez & Piton 2020) that assumption is implicit. A concern these studies express with the rising capital share is that it is likely to lead to higher interpersonal income inequality (Piketty 2014; Wolff 2017; Kuhn et al. 2020). This is so because capital income is more unequally distributed than labor income and is highly concentrated in the hands of the rich. If capital and labor income shares were similar across the income distribution (i.e. across poor and rich individuals), a rising overall capital share would not affect the interpersonal income distribution.

New findings on the United States show, however, that the dichotomy between capitalists and workers may no longer hold (Milanovic 2019; Smith et al. 2019; Atkinson & Lakner 2021). In fact, an increasing percentage of people who are capital-income rich are also labor-income rich. Using tax data from 1962 to 2016, Atkinson & Lakner (2021) show that the positive association between capital and labor incomes has risen, after a dip between the mid-1960s and mid-1980s, across the entire US income distribution. However, at the top that association is asymmetric: top labor earners are more likely to be among top capitalists than the reverse. Following that line of research, but focusing only on the top of the income distribution, and using data from household surveys, Milanovic (2019) [p. 35] shows that the percentage of people who are in the top income decile and simultaneously in the top decile by both capital and labor income steadily increased in the United States from around 15 percent in 1980 to almost 30 percent in 2017. Eisfeldt et al. (2022) document similar findings and show that "equity-based compensation has transformed high-skilled labor from a pure labor input to a class of 'human capitalists.'"

A capitalism revealed from these studies is clearly a different capitalism from the classical. Milanovic (2019) called this phenomenon, of people rich in both capital and labor incomes, *homoploutia*, from the Greek word *homo* for equal, and *ploutia* for wealth or "richness." In this paper we define the phenomenon and document and analyze the evolution of homoploutia in the United States over the past 70 years. We also study the link between the rising homoploutia and the rising interpersonal income inequality.

Homoploutia breaks the strong capital-labor segregation that exists under classical capitalism. If it were to spread to the rest of the distribution, it would also break the link between the rising capital share and rising interpersonal inequality. In this paper, however, we are concerned with homoploutia at the top only. It poses two new problems. First, having the rich who are rich in terms of both property and skills (human capital) may lead to the creation of an upper class that is well protected against unfavorable macro developments in either labor (unemployment) or capital (decline in asset values) because it has sufficient resources from the other factor to fall upon. It thus may share little with the rest of the population that is being more reliant on one income source (mostly labor). Second, from an ethical point of view, high taxation of a homoploutic upper class becomes more difficult:

the rich are not mere passive coupon-clipping rentiers of the classical capitalism, but hard working wage-earners.

To quantify homoploutia we use the intersection between the top decile of capital-income recipients and labor-income earners (top10K–top10L or $H_{10,10}$). Under classical capitalism, we would expect $H_{10,10}$ to be small, and even close to zero. The more different it is from zero, the more we move away from the capital-labor dichotomy, at least at the top of the income distribution. We then estimate $H_{10,10}$ in the United States since 1950 by using three data sets which allow covering different time periods: the Luxembourg Income Study (LIS 2020), the US Distributional National Accounts (DINA) (Piketty et al. 2020), and an augmented version of the Survey of Consumer Finances (SCF) (Kuhn et al. 2020). We find that homoploutia was low after World War II, has increased by the early 1960s, and then slightly decreased until the mid-1980s. Since 1985 it has been sharply increasing: In 1985, about 17 percent of adults (and of households) in the top decile of capital-income earners were also in the top decile of labor-income earners. In 2018 this indicator was about 30 percent. In all years, the homoploutic top, that is, the intersection of the top decile of capital-income recipients and labor-income earners, belongs to the top total income decile. The homoploutic members are therefore fully contained within the top income decile.

A special problem when studying homoploutia, often not entirely solvable, arises due to the definitions of capital and labor income. While the latter is more or less uniformly defined in various data sources, the definition and coverage of capital income differ significantly between the sources. There is no theoretical consensus as to what is income from property (e.g. treatment of capital gains and losses, income from private pensions, etc.).

Furthermore, there are problems of mislabeling and underestimation. Smith et al. (2019) show that a bulk of corporate income considered by tax data as capital income is in effect a return to management and entrepreneurial characteristics of firm owners, and should be reclassified as labor income (partly as a result of the 1986 tax reform). In a companion paper (Smith et al. 2022), they argue that the reclassification reduces the observed decline in the labor share by a third. Tax data, as this example shows, suffer from issues of mislabeling, driven by changing tax rules and making tax-payers reclassify their income to minimize taxes. This problem alone makes comparisons between years difficult when using tax data only. On the contrary, while household surveys are conceptually more accurate in their definition of capital income, they suffer from under-reporting of capital income at the top. Most (around two-thirds) of the underestimation occurs among the top 1 percent of income recipients (Yonzan et al. 2022). The sources of data thus differ in how they define and cover capital income, and hence how capital (and labor) shares are estimated. We pay special attention to this problem in the paper but cannot solve it, as we have to take the microdata from the sources, some of which go back 70 years, as given.

We also study the drivers of homoploutia. In particular, we look at the relationship between $H_{10,10}$ and overall capital share, and the relationship between $H_{10,10}$ and the marginal distributions of capital and labor incomes. These relationships are contingent on what happens elsewhere. For example, the marginal distributions of capital income and labor income may have become more unequal, leading to

increasing overall inequality, while leaving $H_{10,10}$ unaffected. Similarly, if there is an increase in the capital share, raising, for example, all capital incomes proportionally, homoploutia may be unaffected. The composition of the top 10 percent of capital recipients will remain the same and whether $H_{10,10}$ will go up or down will depend on changes in the top 10 percent of labor-income recipients. The latter can go either way and so could $H_{10,10}$. In conclusion, for homoploutia to increase it is not sufficient that one of several factors (correlation between capital and labor incomes, marginal distributions of capital and labor incomes, or the capital/labor share) moves in a given direction, regardless of what happens to the other factors. Yet, in practice, we find a strong and robust positive relationship between homoploutia and labor income inequality. This leads us to formulate a hypothesis about the possible mechanisms that drove US homoploutia up in the recent period.

The understanding of these relationships allows us to study the link between rising homoploutia and the rising interpersonal income inequality in the United States during the past 35 years. According to tax data, the income share of the richest decile increased between 1986 and 2020 by 10 percent points, from 37 percent to 47 percent (Piketty et al. 2020). We find that ceteris paribus, the increase in homoploutia has contributed 2 percent points, or 20 percent, to this increase.

This paper contributes to different threads of literature. From an empirical perspective its primary contribution is describing how homoploutia evolved in the United States between 1950 and 2020. This allows a better understanding of the dynamics of income inequality over that period. Studying homoploutia is also important for political economy and social mobility, and studies of capitalist systems. It is relevant for economic theory more generally, as many models in various subfields of economics assume a strict division to capitalists and workers (Debortoli & Galí 2017; Walsh 2017; Carroll & Young 2018; Bilbiie 2020; Broer et al. 2020). The increase in homoploutia is thus an additional stylized fact that macroeconomic models should be able to match. It may also be important for designing tax policy, especially considering the taxation of capital income.

The rest of this paper is organized as follows. Section 2 defines homoploutia and describes how it is measured. Section 3 specifies our data sources and presents the main results. Section 4 discusses the link between homoploutia and interpersonal income inequality. We conclude in Section 5.

2. What is Homoploutia?

We first discuss how homoploutia is defined and measured. There are various ways in which it could be defined. One could look at how many of the top one-percenters by capital income are also top one-percenters in terms of labor income (we denote this by top1K–top1L or $H_{1,1}$). This definition would focus on the very narrow sliver at the top (see Online Appendix A). In this paper, our focus will be on a somewhat wider group, the intersection between the top decile of capital-income recipients and the top decile of labor-income earners (top10K–top10L or $H_{10,10}$). As already mentioned, under classical capitalism, if there is a negative correlation between the two sources of income, we would expect $H_{10,10}$ to be small, and potentially close to zero. The more different it is from zero,

the more we move away from the capital-labor dichotomy, at least at the top of the income distribution.

Formally, we define the top10K–top10L measure as

$$(1) \qquad H_{10,10} \equiv \frac{10}{N} \sum_{i=1}^{N} \mathbf{1}_{top10K}(i) \cdot \mathbf{1}_{top10L}(i) = 10 \cdot \Pr(top10L \cap top10K),$$

summing over all households/individuals i, where N is the population size (or number of households). It follows that $H_{10,10}$ is the same as 10 times the probability of being at the top decile of labor income *and* at the top decile of capital income.

Importantly, $H_{10,10}$ is independent of monotonic transformations in the marginal distributions. Thus, a change in homoploutia could affect total income inequality independently from a change in labor income inequality or capital income inequality. We will return to this point and make use of this property in Section 3.3 and Section 4.

In addition, $H_{10,10}$ is equivalent to the probability of being in the top decile of capital-income recipients conditional on being in the top decile of labor-income earners (or vice versa):

$$(2) \qquad H_{10,10} = \Pr(top10K|top10L) = \Pr(top10L|top10K).$$

Other partitions are possible. One could be interested in "asymmetric intersections," for example, the percentage of top 1 percent capital-income earners who are also in the top labor income decile (top1K–top10L). The advantage of $H_{10,10}$, and similar symmetric intersections, is that the percentage of such (top) capital-income earners in such (top) labor-income earners will be, by definition, the same as the reverse, the percentage of top labor-income earners among the top capital-income earners.

It is also possible to look at *homophtocheia* (*phtocheia* is poverty in Greek), the percentage of people who are poor in both capital and labor income terms, for example, those who may be in the bottom decile of labor income but also in the bottom decile of capital income. For our present purposes, however, and to better discriminate between classical and homoploutic capitalism, it may be more interesting to look at the presence of rich capitalists among poor wage earners (top10K–bottom10L). This is an analog of the top10K–top10L because high values of top10K–bottom10L should be characteristic of classical capitalism. On the contrary, absence of such intersection may be expected in homoploutic capitalism. As we will see in the next section, the evolution of top10K–bottom10L indeed mirrors that of top10K–top10L over the past 50 years.

We focus on the top or bottom shares, yet it is possible to define homoploutic capitalism in a more expansive way, as the situation where capital and labor shares are the same throughout the income distribution, that is, where the poor receive the same percentage of their total income from capital as do the rich. Such an approach to homoploutia was recently studied by Ranaldi & Milanovic (2022). The difference between these approaches is similar to the difference between studying the inequality of the full distribution using synthetic measures like Gini coefficient, and studying the same income distribution by focusing on the top, as in works that look

at the top 1 percent or 10 percent shares only. Our paper, in terms of its approach to homoploutia, belongs to the second category.

One may also consider the full joint distribution of labor income ranks and capital income ranks, that is, the copula of labor and capital incomes. The copula is commonly used in intergenerational mobility studies to describe the probability of children to end up in the jth income rank as adults, conditional on their parents occupying the ith income rank at a similar age. This concept is also used, though less commonly, in the context of the joint distribution of labor and capital incomes (Aaberge et al. 2018; Alvaredo et al. 2020; Atkinson & Lakner 2021). We use the copula for the purpose of studying the link between homoploutia and interpersonal inequality in Section 4. Technical details on copulas are discussed in Online Appendix B.

3. The Evolution of Homoploutia in the United States, 1950–2020

The main empirical result of this paper is the characterization of homoploutia in the United States since 1950. The primary indicator we use for this purpose is the share of top decile capital-income earners in the top decile of labor-income earners, $H_{10,10}$. The estimation of $H_{10,10}$ requires individual or household income microdata that cover the top decile of both labor and capital incomes.

3.1. *Data*

We use three data sources:
- Luxembourg Income Study (LIS 2020): A cross-national harmonized database based on household surveys (for the United States, it is based on the Current Population Survey (2020)). The data are available for the years 1974, 1979, 1986, and 1991–2019.
- The US DINA Micro-Files (Piketty et al. 2020): The US DINA combine tax, survey, and national accounts data, and capture 100 percent of national income in the United States. The data are available for 1962, 1964, and 1966–2020.
- The SCF+ (Kuhn et al. 2020): The SCF+ is an augmented version of the SCF, a household survey conducted every 3 years by the Federal Reserve. In the SCF+ archival data were added to the SCF and harmonized to account for the years that precede 1983. For our purposes, the data cover the years 1950–1971 (every 3 years), 1977, 1983, and every 3 years between 1989 and 2016.

Table 1 presents the income definitions and the units used in the three data sets as detailed in their codebooks. In LIS and SCF+ the unit, that is, the income recipient we consider, is a household. In the US DINA it is an equal-split adult.[1] The income definitions are also not identical among the data sets.

The differences between the data sets matter for two main reasons. First, for the interpretation of the results. For example, Smith et al. (2019) show that a bulk

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[1]This means that individuals in tax units that are composed of more than one income-contributing individual are assumed to contribute each an equal part to the total income (see Alvaredo et al. (2020) for more details).

TABLE 1

Income and Unit Definitions in LIS, US DINA, and SCF+

Data Set	Capital Income	Labor Income	Units (Recipients)
LIS	Cash payments from property and capital (including financial and non-financial assets), including interest and dividends, rental income and royalties, and other capital income from investment in self-employment activity. Excludes capital gains, lottery winnings, inheritances, insurance settlements, and all other forms of one-off lump sum payments.	Total income from labor of all household members, including cash payments and value of goods and services received from dependent employment, profits/losses and value of goods from self-employment, as well as the value of own consumption.	Households
DINA	Housing asset income + equity asset income + interest income + business asset income + pension and insurance asset income + interest payments + capital share of net mixed income.	Compensation of employees + labor share of net mixed income + sales and excise taxes falling on labor.	Equal-split adults
SCF+	Income from rent, interest, and dividends.	Income from wages, salaries, self-employment, and professional practice.	Households

of corporate income considered by tax data as capital income is in effect a return to management and entrepreneurial characteristics of firm owners, and should be reclassified as labor income. In Online Appendix C we address the impact of such potential mislabeling on our results. The source for this mislabeling could be partly related to the 1986 major tax reform (Feldstein 1995; Auerbach & Slemrod 1997), which may have led to changes in the distribution of income between labor and capital among top earners (Slemrod 1995; Smith et al. 2019). For example, income that was previously recorded as corporate income and earned in the form of dividends, that is, capital income, could be recorded after 1986 as labor income (if S-corporation income is passed through to personal business income). Yet, such changes are very unlikely to be a major determinant of the evolution of homoploutia, as we document below and in Online Appendix C.

Using the three data sources allows both covering a period of 70 years and testing the robustness of the estimates by comparing between them. To estimate $H_{10,10}$ we detect in each year the income thresholds above which units are to be

included in the top decile of labor income and of capital income. Then we count the number of capital-income earners in the top decile who are also included in the top decile of labor income.

While the juxtaposition of the different data sources is in and of itself of great value, some sources have advantages over the others. In particular, the US DINA has the advantage of being mainly based on tax returns. Thus, this source enjoys a larger sample size and, most importantly, more accurate description of top incomes compared to survey data (Yonzan et al. 2022). This is important for measuring homoploutia, a concept focusing on top income earners. For this reason, most of the analyses below will be based on the US DINA. Yet, in some cases, especially when also discussing low-income earners, we will also use survey data.[2]

3.2. *Main Results*

The main results are presented in Figure 1. Broadly, it shows that homoploutia was low after World War II, when $H_{10,10}$ was about 10 percent. $H_{10,10} = 10$ percent is indeed what we would expect in the case of absence of positive correlation between capital and labor incomes: With a purely random distribution of labor incomes among capital-income recipients $H_{10,10}$ would be 10 percent. Homoploutia increased by the early 1960s, rising to about 25 percent, and then slightly decreased until the mid-1980s. Since 1985 it has been sharply increasing: In 1985, about 17 percent of adults in the top decile of capital-income earners were also in the top decile of labor-income earners. In 2018 this indicator was about 30 percent.

Figure 1 also shows that the different data sources are in agreement with one another, despite differences between their methodologies and raw data. Excluding 1 year in which the SCF+ seems to significantly underestimate homoploutia (1971, in which the SCF+ sample size was uncommonly small, roughly two to four times smaller than in other years (Kuhn et al. 2020)), the various estimates are always within less than 5 percent points from one another and follow a very similar trend. This is especially the case after the mid-1980s, when all three sources move in unison.

In particular, the current levels of homoploutia are the highest to be recorded. This is indicative, among other things, of how the US capitalist system has evolved over time. Not only that "capital is back" (Piketty & Zucman 2014) in the sense that the capital-income ratio and the capital share of income have increased in the past few decades, but also that the traditional division to capitalists and laborers, which may have been relevant when $H_{10,10}$ was low, is much less relevant today. Thus, periods characterized by high interpersonal inequality, high capital-income ratio, and high capital share of income in the past could be fundamentally different from today.

Figure 2 complements the result in Figure 1. Its left panel shows how the average labor income rank of top 10 percent capital-income earners changed from

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[2]The US DINA, unlike the LIS and SCF+, is a data set based on the fusion of various sources: tax returns, surveys, and national accounts. As such, it involves many adjustments to raw data, as documented in Piketty et al. (2018). Online Appendix C shows that when comparing the baseline estimates of homoploutia to those obtained using unadjusted fiscal income data, the results do not qualitatively change.
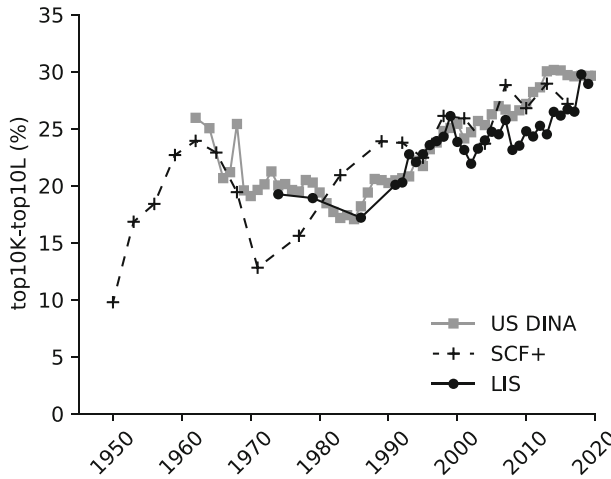
Figure 1. The Evolution of Homoploutia in the United States, 1950–2020

Notes: The figure shows top10K–top10L, the share of top decile capital-income earners in the top decile of labor-income earners, based on three data sources: US DINA (Piketty et al. 2020), SCF+ (Kuhn et al. 2020), and Luxembourg Income Study (LIS 2020).
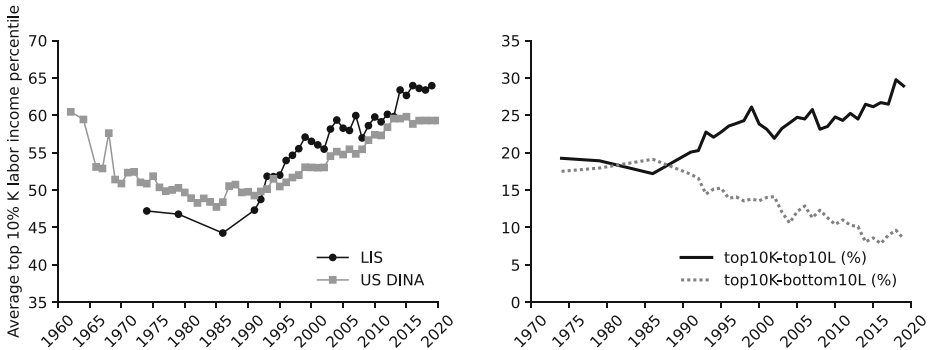

Figure 2. Additional Facets of Rising Homoploutia

Notes: Left: The average labor income percentile among the top 10 percent capital-income earners in the United States, 1962–2020, based on LIS data (LIS 2020) and US DINA (Piketty et al. 2020); Right: The top10K–top10L and top10K–bottom10L in the United States, 1974–2019, based on LIS data.

the 1960s onward. The evolution of this average rank resembles the evolution of $H_{10,10}$. During the late 1970s and 1980s, the average rank was limited within percentiles 45–50, meaning that on average, top 10 percent capital-income earners had below median labor income (with a purely random distribution of capital and labor incomes, the average rank would have been 50). The average rank had increased since to about percentile 60–65 in the late 2010s. The results using both LIS and US DINA are consistent.

The data do not only allow describing the evolution of homoploutia using the share of top decile capital-income earners in the top decile of labor-income earners. We also consider the share of top decile capital-income earners in the bottom decile

of labor-income earners, the top10K–bottom10L. Such individuals or households are closer to the traditional definition of "capitalists," who are capital rich and do not work. The right panel of Figure 2 depicts the evolution of top10K–top10L and top10K–bottom10L using LIS data and shows that the two measures roughly mirror one another. While the top10K–top10L increased from 17 percent to about 30 percent between 1985 and 2019, the top10K–bottom10L decreased from 19 percent to less than 10 percent during the same period.[3]

We note that in all years, the homoploutic top, that is, the intersection of the top decile of capital-income recipients and labor-income earners, belongs to the top total income decile. The homoploutic members are therefore fully contained within the general top of the income distribution, meaning that today, about a third of the general top (when defined as the top *income* decile) is homoploutic. In addition, it is theoretically possible for homoploutia to increase without a simultaneous increase in the share of total income received by the homoploutic top. That would potentially make the increase in homoploutia of less importance and less intuitive. Yet, in practice, the top10K–top10L and the share of total income of the homoploutic top follow a similar trend (see Online Appendix D).

3.3. *Drivers of Homoploutia*

The increasing homoploutia and the falling share of top capital-income earners in the bottom labor income decile may indicate that an older generation of capitalists was replaced by another, characterized by much higher labor income ranks. What is driving this evolution of homoploutia? In part, the rising homoploutia may be driven by the abundance of individuals who earned high wages, saved a large share of their wages, invested it, and after some years began receiving large capital incomes. It might also be driven by an increasing importance of inheritance, received predominantly by individuals in the higher labor income ranks. Moreover, whatever the cause of the original movement toward higher homoploutia, it is likely that in the next generation homoploutia would even increase. This is because individuals born to capital-rich families that can invest heavily in children's education would likely command high wages. In this sense, high homoploutia is an important mechanism that could limit social mobility.

To disentangle the different effects rare detailed longitudinal microdata, which include information on inheritance and saving, are required. Nevertheless, we can shed light on such effects in the absence of these data by considering four key variables:

- Marginal labor income inequality (quantified, e.g. by the top 10 percent labor income share)
- Marginal capital income inequality (idem as above)
- The capital share of income
- $H_{10,10}$ (top10K–top10L)

These variables are a priori independent in the sense that there is no clear mechanical relationship between them. For example, there is no reason for a change

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[3]As suggested above, when considering the bottom income earners, using LIS data can be more reliable than using the US DINA. For this reason, the right panel of Figure 2 uses LIS data.
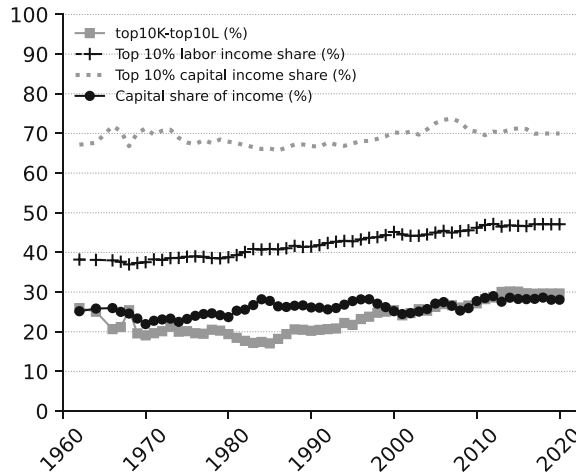
Figure 3. The Evolution of Homoploutia and its Potential Drivers

Notes: The figure shows the evolution of top10K–top10L, as well as the evolution of the top 10 percent labor income share, top 10 percent capital income share, and the capital share of income. All data are taken from the US DINA (Piketty et al. 2020).

in labor income inequality to mechanically lead to a change in any other variable. Therefore, robust statistical links between the variables may be indicative of deeper mechanisms at play. The evolution of these variables from 1962 onward is described in Figure 3.

To map these relationships, we use the US DINA. We regress $H_{10,10}$ on the other three components. We consider the entire period covered by the US DINA (1962–2020), and then focus on the years 1986–2020, in which the changes in all of the variables were most visible. We also regress $H_{10,10}$ on each of the other three variables (capital share of income, top 10 percent labor income share, and top 10 percent capital income share) separately. The results are presented in Table 2.[4]

The regression results show that there is a strong and robust positive relationship between homoploutia and labor income inequality with high explanatory power. No other variable provides both high explanatory power and robust statistical association to $H_{10,10}$. In particular, while the positive association between $H_{10,10}$ and the capital share of income is statistically robust, it lacks substantial explanatory power.[5]

The strong association between $H_{10,10}$ and the top 10 percent labor income share is further demonstrated in Online Appendix E. It shows how the evolution of these two measures is almost identical after 1985.

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[4]The *p*-values in Table 2 are taken using the most conservative error estimate when considering an OLS regression and also different specifications of heteroskedasticity- and autocorrelation-consistent covariance estimators including the Newey-West estimator, to account for the autocorrelation and heteroskedasticity that typically characterize regressions of time series. For robustness we also considered longer and shorter time periods for the regression. They leave the main result unaffected: only labor income inequality is robustly and significantly associated with $H_{10,10}$.

[5]This remains the case when also including the full period 1962–2020, in which β_K is significantly higher than zero in all models, but in the model $H_{10,10} = \alpha + \beta_K K_i + \epsilon_i$ provides an R^2 of 0.35.

TABLE 2

HOMOPLOUTIA AND ITS DETERMINANTS

	Full Model (1962–2020) $H_{10,10} = \alpha + \beta_S S_i$ $+ \beta_L L_i + \beta_K K_i + \epsilon_i$	Full Model (1986–2020) $H_{10,10} = \alpha + \beta_S S_i$ $+ \beta_L L_i + \beta_K K_i + \epsilon_i$	Overall Capital Share Only (1986–2020) $H_{10,10} = \alpha$ $+ \beta_S S_i + \epsilon_i$	Top Lab. Share Only (1986–2020) $H_{10,10} = \alpha$ $+ \beta_L L_i + \epsilon_i$	Top Cap. Share Only (1986–2020) $H_{10,10} = \alpha$ $+ \beta_K K_i + \epsilon_i$
β_S	0.28 (0.380)	0.22 (0.152)	1.55 (0.109)		
β_L	0.66 (0.003)	1.53 (< 0.001)		1.74 (< 0.001)	
β_K	0.71 (< 0.001)	0.18 (0.067)			1.32 (< 0.001)
R^2	0.72	0.97	0.29	0.96	0.57
Obs.	57	35	35	35	35

Notes: Regression results for the relationship between $H_{10,10}$, the overall capital share of income (S), the top 10 percent labor income share (L), and the top 10 percent capital income share (K). The values in brackets represent *p*-values.

Two possible mechanisms for the increase in homoploutia are thus supported by data. First, as described, it is possible that following the increase in labor income inequality over the 1970s and early 1980s high-wage earners were able to save a large share of their wages, invest it, and then begin receiving large capital incomes. Another possible mechanism is that the growing labor income inequality made top labor incomes more attractive to the capital-rich, who were less incentivized to engage with the labor market while labor income inequality was relatively low. This can be reinforced by higher bargaining power that such workers may have due to their high capital incomes. This mechanism is similar to mechanisms suggested for the increase in wage inequality (Katz & Murphy 1992) and executive compensation (Piketty & Saez 2003; Philippon & Reshef 2012).[6]

We also note that the observed trend in homoploutia is not mechanically driven by changes in the compensation structure of executives in the past decades. While executives are paid more through stock options and shares today than a few decades ago (Philippon & Reshef 2012; Smith et al. 2019), this change does not lead to higher top10K–top10L. First, bonuses and exercised non-statutory stock options are accounted for as labor income. Thus, such a structural change would affect the composition within labor incomes rather between labor income and capital income. In addition, capital gains are excluded from our capital income definitions in all data sets (even when included they have a small impact on the estimates, see Online Appendix C). Executive pay is also relevant only for a small group within the top labor income decile, mostly restricted to the top percentile (Smith et al. 2019), so it

[6]We note that in the case where labor incomes are highly mobile intragenerationally, we should not have expected increasing homoploutia based on the described mechanisms. However, there is evidence that labor income mobility in the United States is very limited (year-to-year rank correlation of about 0.9) and stable over time (Kopczuk et al. 2010). Thus in practice this does not pose a concern to the suggested interpretation of the empirical results.

cannot be a dominant factor in the top10K–top10L trend (see Online Appendix C). We also find that potential mislabeling of business income as either labor or capital income (Smith et al. 2019) cannot explain the trend in homoploutia after 1985. Furthermore, Online Appendix C includes a comparison between the top10K–top10L and the top10W–top10L: the share of adults in the top decile of wealth holders who are also at the top decile of labor income earners. The comparison shows very high similarity in levels and trends. This further establishes the robustness of the main results, but also indicates that mislabeling of capital income cannot explain the observed trends and levels.[7]

4. Homoploutia and Income Inequality

In addition to the possible relationship between labor income inequality and homoploutia, there is a mechanical link between homoploutia and total income inequality. Intuitively, as the association between labor and capital incomes becomes stronger across the entire distribution, we should expect total income inequality to be higher as well. This is because both types of incomes are at least somewhat unequal. If the highest incomes of any type (labor or capital) would be more likely to go to the same households or individuals, then the sum of those incomes, or the total income, will be even more unequally distributed. Thus, the increase in homoploutia in recent decades may have played a role in the rising income inequality in the United States.

Specifically, the past 35 years have seen a rise in the United States in all four variables discussed above (see Figure 3): labor income inequality, capital income inequality, the capital share of income, and homoploutia. Keeping all the others constant, an increase in each of these indicators may mechanically lead to an increase in total income inequality. While the literature has focused so far on the first three, we attempt to describe the relationship between the rise in homoploutia since 1985 and the rise in total income inequality. For this purpose we utilize an important property of $H_{10,10}$—it is independent of monotonic transformations in the marginal distributions. Moreover, we can compare the relative importance of changes in homoploutia with the importance of the capital share of income, both as factors contributing to the increase in income inequality.

4.1. *Homoploutia and Inequality: Static Analysis*

To test the impact of homoploutia on total income inequality, we assume that the joint rank distribution of labor and capital incomes follows a Gumbel copula. This has been shown as a good approximation used in the inequality literature in recent years (Saez & Zucman 2016; Alvaredo et al. 2019; Piketty et al. 2019). Online Appendix B presents a discussion of this assumption and demonstrates the differences between real copulas and the approximated Gumbel copulas. It is worth noting that the Gumbel copula serves as a good approximation for the joint rank distribution specifically when homoploutia is high. The approximation is less

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[7]As discussed in Section 3.1, a part of the potential mislabeling of capital and labor incomes after 1985 can be attributed to the 1986 major tax reform.
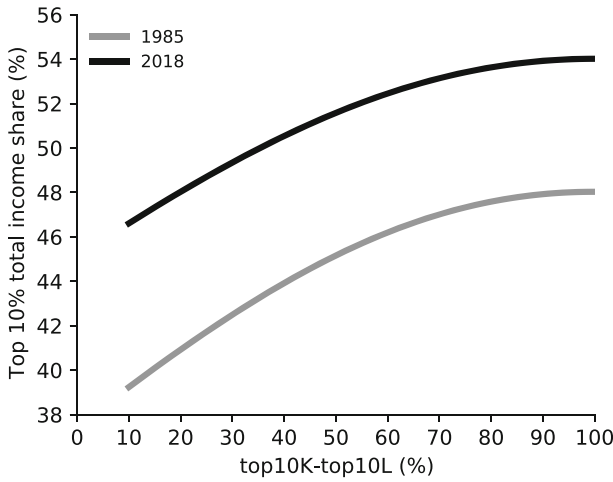
Figure 4. The Top 10 Percent Total Income Share in the United States in 1985 (Gray) and 2018 (Black) as a Function of Homoploutia

Notes: To create this figure we matched the labor income and capital income distributions (from the US DINA) using a Gumbel copula, each time with a different parameter. This is equivalent to changing top10K–top10L (see Online Appendix B for details on how top10K–top10L is related to the Gumbel copula). We then obtain a joint distribution of labor and capital incomes, which allows, by summing the two income components, to obtain the total income distribution, and estimate how unequal it is.

precise when there is a significant share of top capital income earners at the bottom of the labor distribution, but not many top labor income earners at the bottom of the capital income distribution, or vice versa. This could create an asymmetric copula, unlike the Gumbel copula (and other standard copula models, such as Gaussian or Plackett copulas).

Practically, given the marginal labor and capital income distributions (and implicitly the capital income share), we use the copula to match together the two distributions. This way we obtain the joint distribution of labor and capital incomes following Sklar's theorem (Sklar 1959).[8] By summing the two components we obtain the total income distribution.

Repeating the matching procedure systematically, each time with a different parameter for the copula (and thus for homoploutia), allows us to observe how inequality reacts to changes in homoploutia. This is demonstrated in Figure 4 for the actual marginal labor and capital income distributions in the United States in 1985 and 2018. It shows how the top 10 percent total income share mechanically depends on homoploutia. As hypothesized, total income inequality increases with homoploutia. The relationship between top10K–top10L and the top 10 percent income share is concave, and is steepest for realistic top10K–top10L values, between 10 percent and 30 percent.

Figure 4 shows that even with perfect homoploutia, that is, when the top10K–top10L is 100 percent, the top 10 percent total income share is limited.

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[8]The method used for matching two income distributions using a copula follows the method used by Chetty et al. (2017).

This limit depends on the marginal capital and labor income distributions and on the capital income share. For 2018 it is about 54 percent, a level classified as "very high inequality" (Piketty 2014). The figure also shows that, for a given level of homoploutia, overall income inequality will depend on the other three variables (capital share of income, top 10 percent labor income share, and top 10 percent capital income share), and that in 2018 they were more inequality enhancing compared to 1985.

4.2. *Inequality Effects of Homoploutia and Capital Share Increase Over Time*

We are interested in further exploring the impact of homoploutia on total income inequality in practice. Specifically, we would like to understand how it interacts with the changing capital share of income. In the static analysis in Figure 4, the capital shares of income were fixed (to those representing 1985 and 2018). In practice, both homoploutia and the capital share of income have increased in the past few decades, and we will quantify their contributions to the increase in total income inequality. This issue is central in current discussions on inequality (Piketty 2014; Milanovic 2017), and has importance for policy aiming to impact total income inequality.

For this analysis we look at two counterfactual scenarios from 1986 to 2020. In the first scenario, we fix homoploutia to its 1986 level but let the capital share change according to its historical evolution (using the US DINA data). In the second scenario, we fix the capital share to its 1986 level but let homoploutia change. In both scenarios we let the marginal labor and capital income distributions change according to their historical evolution. In each scenario, we calculate the top 10 percent total income share every year.

The results are shown in Figure 5. Both scenarios, as well as the baseline (real) scenario, show a similar evolution. This demonstrates that the changes in the marginal distributions are the biggest contributors to the increase in total income inequality. When the impact of rising homoploutia is neutralized, there is an increasing distance from the baseline, reaching about 2 percent points in the late 2010s. Thus, we can say that the rising homoploutia mechanically led to an increase of 2 percent points in the top 10 percent income share. This is about 20 percent of the entire increase in the top 10 percent income share between 1986 and 2020. The direct impact of the rising capital share on the top 10 percent total income share is much smaller, less than half a percent point over the entire time period.[9]

These results show that homoploutia works as an independent factor in raising inequality. Even if the capital share were fixed (while allowing the marginal capital and labor income distributions evolve as they did), homoploutia would make the income distribution more unequal. The direct mechanical impact (i.e. regardless of a causal relationship) of homoploutia on total income inequality in the past 35 years has been substantial.[10]

[9]This implies that about three-quarters of the overall increase in inequality were due to more unequal marginal distributions of capital and labor.

[10]Atkinson and Lakner (2021) perform a similar analysis, where they decompose the evolution of the top 1 percent income share to the labor share of income, the share in total labor income of the top
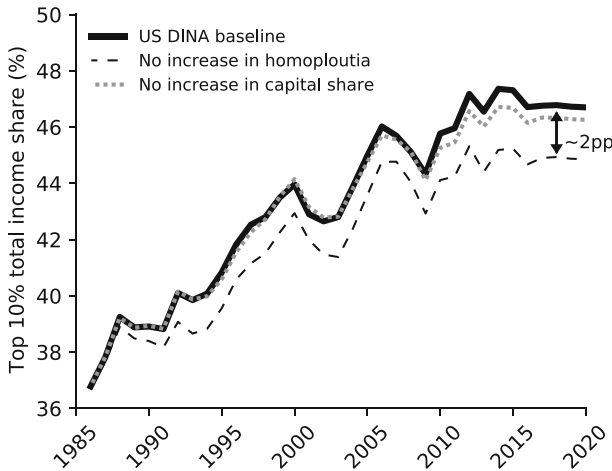
Figure 5. Homploutia and Income Inequality

Notes: The figure depicts the mechanical impact of rising homploutia and capital income share on total income inequality, 1986–2020. The baseline result shows how the top 10 percent total income share changed between 1986 and 2020. The other lines show counterfactual calculations in which homploutia is fixed (dashed black) and capital income share is fixed (dotted gray).

5. Conclusion

A typical assumption made explicitly and implicitly in classical political economy and in studies of income distributions is that an economy can be thought of as divided into workers and capitalists. Capitalists receive their income from ownership (capital), whereas workers receive their income from working (labor). However, the percentage of people in the top decile of capital income who are also in the top decile of labor-income recipients has steadily increased in the United States. Milanovic (2019) called this phenomenon homploutia. In this paper we formally define homploutia and the ways in which it is quantified. More importantly, we describe the evolution of homploutia in the United States from 1950 to 2020.

To quantify homploutia we use the intersection between the top decile of capital-income recipients and labor-income earners. Combining three data sets we find that homploutia was low after World War II, has increased by the early 1960s, and then slightly decreased until the mid-1980s. Since 1985 it has been sharply increasing: In 1985, about 17 percent of adults in the top decile of capital-income

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1 percent of labor income recipients, the share in total capital income of the top 1 percent of capital income recipients, and the alignment coefficients of labor and capital incomes. The alignment coefficients (Atkinson 2007)[p. 35] capture "the extent to which the rankings under income from factor *m* and total income coincide." Increasing alignment coefficients could be thus indicative to rising homploutia. Indeed, Atkinson and Lakner (2021) find increasing coefficients since the 1980s, indicating that the stronger association of capital and labor income ranks and total income ranks has been important to the rising top 1 percent income share. Yet, it is not possible to directly compare these results to the relative importance reported in Figure 5, as the alignment coefficients are affected by monotone transformations in the marginal distributions, unlike our measure of homploutia. Still, both findings are inline.

earners were also in the top decile of labor-income earners. In 2018 this indicator was about 30 percent.

To better understand what drove the rise in homoploutia, we then study its relationship to the capital share of income and the marginal distributions of capital and labor incomes. We find a robust positive relationship between homoploutia and labor income inequality. This suggests that the increasing labor income inequality during the 1970s and 1980s might have led to an increase in homoploutia. A possible mechanism for this relationship is that the growing labor income inequality made top labor incomes more attractive for capital-rich, who were previously less incentivized to engage with the labor market. It is also possible that the increase in wage inequality enabled top earners saving large shares of their wages and acquiring capital assets, receiving high income from those assets later on. A thorough study of these mechanisms, including a possible understanding of the lag between changes in labor income inequality and changes in homoploutia, would require detailed panel data, and is left for future work.

We also study the link between homoploutia and total income inequality in the United States during the past 35 years. The top 10 percent total income share increased between 1986 and 2020 by 10 percent points, from 37 percent to 47 percent (Piketty et al. 2020). We find that ceteris paribus, the increase in homoploutia has contributed 2 percent points, or 20 percent, to this increase. These results suggest that homoploutia may have played a bigger role in increasing income inequality in the United States than the aggregate capital share. This complements the recent literature on the role of the capital share in the evolution of inequality in the past few decades (Piketty 2014; Milanovic 2017; Wolff 2017).

The current trend of rising homoploutia is potentially unprecedented in modern times. It may have far-reaching implications for social mobility. Having the rich who are rich in terms of both property and skills may lead to the creation of an upper class that has little in common with the rest of the population and that is able, through significant investment in offspring, to transmit these advantages across generations. This, in turn, may lead, as explained, to even higher interpersonal income inequality. An additional future step is studying the implications of homoploutia on optimal tax policy. It may be that in the absence of homoploutia, taxation of capital and labor incomes is theoretically justified to be different from the realistic case, of substantial overlap between top capital-income recipients and top labor-income earners.

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Data S1: Supporting Information.