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# Scripting the Habitus: How Financial Devices Prefigure Class Differences

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*Abstract:* Prior research explains socioeconomic differences in financial decisions by the habitus, preferences, and constraints. Yet financial decisions are increasingly shaped by platforms, which prefigure subjectivities and behaviours. Analysing scripts of financial platforms targeted at different classes, we suggest that the scripts of the platforms used by diverse classes become central to fostering class differences in financial decisions. Contributions to the sociology of finance, class-formation, and the performativity of marketing are discussed.

*Keywords:* Digital devices, financial decisions, social class, inequality, scripts

## Scénariser l'habitus : comment les dispositifs financiers préfigurent les différences de classe

*Résumé :* Des recherches antérieures expliquent les différences socio-économiques dans les décisions financières par l'habitus, les préférences et les contraintes. Cependant, les décisions financières sont de plus en plus façonnées par les plateformes, qui préfigurent les subjectivités et les comportements. En analysant les scripts de plateformes financières ciblant différentes classes, nous suggérons que les scripts des plateformes utilisées par diverses classes deviennent centraux pour favoriser les différences de classe dans les décisions financières. Les contributions à la sociologie de la finance, à la formation des classes et à la performativité du marketing sont discutées.

*Mots-clés :* Appareils numériques, décisions financières, classe sociale, inégalités, scénarios

## Scripting the Habitus: Wie Finanz-Apparaturen Klassenunterschiede vorwegnehmen

*Zusammenfassung:* Frühere Forschungen erklären sozioökonomische Unterschiede in finanziellen Entscheidungen durch den Habitus, Präferenzen und Beschränkungen. Jedoch werden finanzielle Entscheidungen zunehmend von Plattformen geprägt, die Subjektivitäten und Verhaltensweisen vorwegnehmen. Der Analyse von Skripten von Finanzplattformen, die auf verschiedene Klassen ausgerichtet sind, folgend, schlagen wir vor, dass die Skripte der von verschiedenen Klassen verwendeten Plattformen von zentraler Bedeutung dabei sind, Klassenunterschiede bei finanziellen Entscheidungen zu fördern. Diskutiert werden Beiträge zur Finanzsoziologie, zur Klassenbildung und zur Performativität des Marketings.

*Schlüsselwörter:* Digitale Geräte, finanzielle Entscheidungen, soziale Klasse, Ungleichheit, Skripte

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## 1 Introduction[1]

Socioeconomic differences in financial decision-making are well documented (Bourdieu, 2005; Friedman & Savage, 1948; Henry & Caldwell, 2008; Mullainathan & Shafir, 2009; Pintelon et al., 2013). Bourdieusian sociology explains these differences by the different social conditions during upbringing, resulting in different economic habituses across social classes (Bourdieu, 1984; 2005), while the Foucauldian literature points to the class-specific resistance and domestication processes of financializing discourses (e. g.,Verdouw, 2017). In the age of digital financial devices, however, the human decision-maker central to these theories fades more and more into the background. A large part of our financial decision-making is carried out with the help of apps and websites, which prefigure specific time horizons, risks, and financial preferences as well as decision-making models – often customized to the user. Drawing on the social studies of finance (Hayes, 2019), the sociology of algorithms (Airoldi, 2022), and the performativity of devices and marketing (Callon, 1998; Callon & Muniesa, 2005), this paper asks how financial devices may contribute to the shaping of class differences in economic decisions through the different economic subjectivities and behaviours prefigured by the scripts of the apps/websites targeted at different classes. To do that, it provides an in-depth analysis, using the walk-through method (Light et al., 2018), of three Swiss digital financial products, targeted at different classes: a credit site, an investment site, and a mortgage site. It shows the differences in the financial subjects assumed and encouraged by the websites and theorizes the role of devices in classed patterns of economic action.

The paper begins with a review of the literature on class differences in financial decision-making and subjectivities and explains the potential role of devices using a Callonian framework. We then outline our methodology and proceed with the comparison of the financial subjects assumed and prefigured by financial devices targeted at different social classes. We conclude by a Discussion and Conclusion, situating the contributions to the literature on class differences in financial decisions, the Callonian study of rationality and the performative role of market devices.

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## 2 Literature Review

### 2.1 Class Differences in Financial Decisions

Financial decisions involve financial behaviours, such as taking out a mortgage or choosing a stock to invest in. Financial decisions rely on cognitive processes (such as specific calculations, comparisons, or the lack thereof – see Pellandini-Simányi & Barnhart, 2024), which draw on financial preferences (such as time-preference, debt-tolerance, risk-tolerance, green values, and so on) and evoke various emotions (Henry, 2005). In this paper, we refer these under the umbrella term of financial subjectivities.

Sociology (e.g., Bourdieu, 2005), consumer behaviour (e.g., Henry, 2005), and economics (e.g., Vissing-Jorgensen, 2003) have documented socioeconomic differences in financial decision-making and subjectivities. For example, working class people tend to be more risk averse in investments, short-termist in their financial goals, more focused on daily budgeting (Henry, 2005), and more likely to engage in financial behaviour promising immediate rewards, such as lotteries (Beckert & Lutter, 2013); while the upper class is more risk tolerant in investments, more focused on long-term financial goals and on accumulating financial assets (Fligstein & Goldstein, 2015; Henry, 2005).

The question of why different social classes make different financial choices is relevant, first, from the point of view of the broader theoretical question of the effects of social structure on economic behaviour (Beckert & Lutter, 2013; Bourdieu, 1990; Henry & Caldwell, 2008). Second, given that financial choices have an impact on people's economic outcomes, class differences in financial choices are also relevant for the question of how economic inequalities are reproduced and deepened (Fligstein & Goldstein, 2015; Fourcade & Healy, 2013). For example, in the United States, the increasing credit consumption by the lower and middle classes has deteriorated their financial position, while the investments made by the upper classes allowed them to improve their financial position (Fligstein & Goldstein, 2015; Montgomerie, 2009). This angle has become all the more pertinent in the context of neoliberal responsibilization, where people are expected to make individual provisions for their consumption, pensions, healthcare, and housing through financial choices of investments, credit, and mortgages.

Theories drawing on the economics framework of rational choice attribute class differences in financial choices to the constraints and to the different levels of utility that different classes derive from specific choices, such as from investing or taking risks (Friedman & Savage, 1948; Mullainathan & Shafir, 2009; Pintelon, et al., 2013). Additional explanations include class differences in risk-perception (Makkulau & Hajar, 2024), macroeconomic expectations (Das et al., 2020), financial literacy (Asmara & Wiagustini, 2021; Raut, 2020), and behavioural biases (Laajaj, 2017).

Sociological analysis of why individuals of different socioeconomic positions may present different financial subjectivities and behaviours have been largely informed by Foucauldian analysis of financialization and Bourdieu's work on the habitus. In particular, the "Financialization of Everyday Life" literature has discussed the often conflicting discourses of neoliberal responsibilization, which call forth investorial, entrepreneurial, and consumer subjects (Langley, 2007). In the Foucauldian framework, financial subjectivities result from the internalization of discourses into subjectivities and related "technologies of the self" of self-governance. These discourses, in turn, reflect the interest of neoliberal policies which require subjects that willingly provide for their own retirement, entrepreneurially invest, yet also participate as consumers in the economy. This literature notes that discourses are not always internalized fully: according to arguments of "variegated financial subjectivities" (Lai, 2017) the "domestication of finance" (Pellandini-Simányi et al., 2015), or "layered performativity" (Agunsoye, 2024), people incorporate them differently into their everyday life and are able to engage in various degrees of counter conduct (Agunsoye, 2021; Agunsoye & James, 2024; Lai, 2017). This is partly because financial considerations enter into a web of cultural and social concerns (Pellandini-Simányi et al. 2015), and partly because what is considered a rational financial decision depends on situational constraints that people experience in their daily lives (Agunsoye 2021; Agunsoye & James, 2024).

Verdouw's (2017) study is one of the few works in this tradition that focuses on class difference. She suggests that participation and resistance to the adoption of neoliberal financial discourse varies by class due to the different "life values, life goals, monetary boundaries and future understandings" into which these discourses are incorporated. Other studies also provide hints to the sources of class differences. Lazzarato (2012), for example, argues that class relations are replaced by relations between debtors and creditors. This power relation, in turn, leads to different subjectivities: debtors are subjectivated through the morality of repayment obligation, ensuring their subordination. Other studies examine governmental discourses directed at specific classes – such as financial literacy programs for low and moderate income people in the US (Loomis, 2018) or governmental discourses of asset-based safety aimed at middle-class homeowners (Hillig, 2019) – which, read comparatively, suggest that differences in financial subjectivities and behaviours may stem from the different discourses and neoliberal constraints to which different classes are subjected.

The second main tradition, informed by Bourdieu, suggests that class constraints get ingrained in people's habitus, unconsciously through practices during childhood socialization (Bourdieu, 1984; 1990). The habitus shapes their economic choices even in later life when these constrains may no longer apply. For Bourdieu, this mechanism explains not only class differences but also their persistence, modelling a mechanism through which classes reproduce themselves through seemingly agentic choices.

In both economic and sociological theories, the individual mind is central: explanation for class differences in economic choices lies in the differences in conscious rational choice, appropriation of discourse or the less conscious habitus. (This does not mean that these literatures consider choices as fully agentic: in the Foucauldian literature, they reflect societal discourses, while Bourdieu's habitus reflects socioeconomic differences.)

Bourdieu's later work on banks and their clients complemented this focus with the institutional level of banks: banks address different clients differently, which adds a further layer of explanation to observed class differences in financial subjectivity and behaviour (Bourdieu, 2005; Bourdieu et al., 1963; Lazarus, 2012). This insight is consistent with explanations that suggests that financial choices across classes are also caused by the different constraints people face in financial markets, unequal access, and exclusion (see Dwyer, 2018; Fourcade & Healy, 2013; 2017). Bourdieu reflects on how these constraints are not only external barriers but also enter into people's subjectivity, reinforcing and deepening their existing habitus through relational interactions with institutions.

## 2.2 Devices and Class Differences

What has received less attention in these literatures is the role devices play in shaping class differences in financial decision-making and subjectivity. Why are devices important? Financial decision-making rarely takes place in a vacuum, as an abstract thought process. Rather, people make financial choices with the help of various tools: they take out credit via a credit website, manage their investments via e-banking, and compare mortgages online. These tools are not neutral: they have specific "scripts" (Akrich, 1992), which refer to the intended uses, actions, and mindsets that their designers encoded into them intentionally or unintentionally.

According to Callon's (1998) influential arguments on the performativity of economics, rational decision-making is not an innate skill. Rather, it is produced through specific devices, "prosthesis" that allow, or may even force, actors to act according to the economics textbook *homo economicus* model. Indeed, digital financial devices are exactly what Callon describes as "prostheses" for economic choices: we are able to borrow, save, and invest with a few clicks because they aid calculation by offering default amounts and terms, calculate affordability and different options and give us financial solutions, which we can choose to simply accept. Even if we choose a different solution suggested to us by the platform, it is still the platform that makes the calculations and decides what elements of the offers should be calculated in the first place. For example, roboadvisors decide the portfolio allocation based on the user's goals and preferences (Hayes, 2019), mortgage platforms create ready offers, and consumer credit sites require us to choose only the amount and

the length of the repayment. We are not required to decide on more than a handful of parameters, depending on the site.

Indeed, recent research unveiled a wide array of economic subjects, preferences, and actions scripted into financial devices for lay people. For example, roboadvisors encourage passivity in order to maximize long-term returns (Hayes, 2019; 2020), while trading platforms encourage frequent trading actions and quick reactions to the immediate fluctuations of prices (van der Heide & Želinský, 2021). Moreover, as the recently exploding literature on algorithmic customization suggests, choices, options, and nudges shaping the decisions are often customized in real time, depending on the user in front of the screen (Airoldi, 2021; Deville & van der Velden, 2016). Albeit class is often considered outdated as a category for predicting consumption – and has been replaced by lifestyles, milieus and, more recently, by behavioural segmentation in many business areas – class indicators, such as wealth and income, are still used in the segmentation and targeting of financial products (Bailey et al., 2010). This is because income and wealth largely impacts what kind of financial product – for example, a payday loan or a mortgage – one needs and is eligible for (Fourcade & Healy, 2013).

If financial choices are shaped by financial devices, then observed class differences in financial choices may stem, beyond the existing explanations focused on the human subjectivity, from the fact that (1) different financial products, with different decision-making scripts are offered to different social classes and that (2) they are actually used according to these script by different social classes. This paper develops this argument by focussing empirically on the first condition of this proposition.

## 3 Methods

To understand the financial subjectivities and behaviours encouraged by financial apps used by individuals of different class backgrounds, we conducted an in-depth analysis of three financial platforms targeted at upper-class, middle-class, and lower-class individuals, respectively. The study was conducted in Switzerland. Class is a multifaceted concept, typically encompassing income, wealth, education, and occupation. However, for the purposes of this research, we only focused on the income/wealth aspect because this is the only aspect of the class, targeted by the app/website, for which data was available. To establish which products are targeted at which classes, we used existing statistics on product use and the minimum financial requirements set by the platforms, such as the minimum investment amount for the investment site, and minimum salary and equity for the mortgage site.

Representative studies found that wealth-management services are used significantly more often by high income people; mortgages by high and middle income; and consumer credit by middle and low income ones (Brown & Graf, 2012;

Moneyland, 2019a; 2019b). Based on this, we choose a credit platform, a mortgage platform and a wealth management investment platform, which were the most likely to be targeted at low, middle/high, and high-income segments respectively. The platforms belong to financial institutions and allow individuals to choose and apply for financial products. Other parts of the research involved interviews with the developers of these sites, therefore we used pseudonyms for the sites (Credit Site, Mortgage Site and Investment Site) to protect the interviewees' anonymity. Here we do not analyse these interviews; only note that they confirmed that the sites were targeted at the low, middle/upper, and the upper income segments, respectively.

We chose to analyse the websites instead of the apps because they provided fuller functionalities. The study used digital observation, focusing on the comparative analysis of the kind of subjectivities the websites called forth and on the actions that they prescribed or encouraged. In the first step, we used the websites as regular users (up until the final application step) and recorded our observations. In the second step, we analysed the websites in detail, using the "walk-through method" (Light et al., 2018), which involves a "step-by-step observation and documentation of an app's screens, features and flows of activity – slowing down the mundane actions and interactions that form part of normal app use in order to make them salient and therefore available for critical analysis" (Light et al., 2018, p. 882). The analysis produced over 148 screenshots, 24 screen videos, and 115 pages of written observations.

An epistemological challenge to analysing digital platforms is that what one can see (e.g. the suggested default amounts) is not always uniform, but may be customized based on prior cookies, screen resolution, geolocation and so on (Deville & van der Velden, 2016). To avoid this problem, we used the Virtual Machine software, which is a "clean" browser, free from cookies and user information.

We analysed the data in two ways. First, we looked at discursive elements, that is, the images and the discourses of the sites through which ideal users are signalled and called forth. In this step, we analysed the texts of websites, focusing on their assumptions about users' goals, risk tolerance, budgeting preferences, planning time horizons, and financial literacy. Second, we analysed the behavioural scripts of the sites: default settings and other nudges, the decision-making route encouraged or enforced by the site, and analysed what kind of goals, rationalities they entail. The analysis was done by three members of the research team, triangulating between the analysis methods and findings.

## 4 Findings

In this section, we compare the financial subjectivities and behaviours assumed and encouraged by the different sites targeted at different social classes. As we discuss in detail in the Discussion, our analysis does not look at the *causes* of these differ-

ences (which may lie in the very nature of the products, regulatory requirements, technical constraints, marketing decisions and so on). Its focuses on documenting the differences across sites that are likely to be used by different classes; potentially shaping their subjectivity and behaviour through these interactions.

We will first compare the *discourse*s of each site, which serves to identify their assumed ideal user, then we turn to their *behavioural* scripts. Table 1 provides an overview of the main points that we will develop.

Table 1 Differences in the Ideal Subject and Behaviour Scripted Into Financial Websites Targeted at Different Social Classes

| Lower class | Upper/middle class |
|---|---|
| Not willing, nor interested in information and calculation | Keen on calculation and interested in information |
| Less information provided; prevents calculation and independent decision-making | Scripts enforce calculation, decisions, and formulating financial preferences |
| The website/app takes over more decisions and helps with decision-making | The website/app takes over less decisions; mainly helps with the execution of the decision |
| Risk-averse choices as default | High-risk/high-gain options available, subject to choice |
| Present-orientation and debt-tolerance | Future-orientation and investorial logic |
| Short-term planning horizon | Long-term planning horizon |

### 4.1 Scripting Subjectivity Through Discourse

The *Consumer Credit* website, targeted at lower class individuals, promotes credit as a "solution to everyday problems". The site's discourse focuses on the user's tangible needs: "Has your TV stopped working? Do you need a new washing machine? Or another expensive purchase on the way? We'll help you solve it". The subpages address different everyday needs, such as the need for a washing machine or extra money during one's studies and promise a cheap and easy solution for them. The site's language is plain, no technical financial terms are used, suited to a user with minimal financial expertise.

The assumed user would like to go about her everyday life expenses without being involved in complex financial choices. Financial choices are presented as a burden and the website's main promise is to take over some of this burden: "Our

goal is to make your life as easy as possible with our online products. We not only know our way in all financial matters, but we are also always there for you: online or in person". This text is consistent with the visuals of the credit website, which picture young people in casual clothes, laughing, with the company's mascot on their shoulder. The mascot is a friendly figure; however, unlike the users, it wears a tie, conveying a sense of expertise. The mascot, being more knowledgeable than the user, holds the financial competencies. It suggests that the user received active support from the mascot, a symbol of reliance and competence.

Already these images – which will later be confirmed by our analysis of the behavioural scripts – suggest the externalization of the user's agency: the decision-making process and calculative power is entrusted to the company, symbolized by the mascot. The goal is to reassure potential users that their credit needs will be handled by an expert, thanks to whom they will obtain "financial freedom". Users' lack of financial expertise is not considered a problem; digital devices make up for the lack of competence of the user, acting as a supportive external source of expertise.

The layout and setup of the website focuses on the user's assumed core need: to obtain credit quickly and easily. As opposed to the thoughtful users depicted, for example, on the Mortgage Site (reflecting the assumed thoughtful decision-process), Credit Site pictures laughing users, which is likely to refer to the joy they feel when they receive the money, shifting the focus from decision-making to the end result. Consistent with this, the information provided is limited and is focused on the necessary requirements to apply for credit. Comparisons between different products, calculations, or explanations are not provided. Rather, the emphasis is on the speed of getting the credit request approved so that everyday life can go on smoothly: "Consumer credit gives you budget flexibility when your cash runs out. That's when you need things to happen quickly. […] At Credit Site, we understand – and do everything we can to process your credit application quickly".

In contrast to the consumer credit website, the *mortgage website*, targeted at middle- and upper-class users, assumes a user who is already somewhat financially literate and who is willing and eager to increase her financial literacy to make an informed, active financial choice. The site uses more technical terms and, unlike the credit site, includes educational parts. For example, a section explains the main differences between a fixed and the variable interest rate mortgages and another section explains how the Saron, the Swiss reference rate, works.

Whereas the consumer credit site's main promise was to free users from the burden of financial choices, here users are invited to choose between products with different conditions, engage in a self-assessment, and view themselves as subjects with financial preferences. For example, they are encouraged to reflect on how risk-averse they are and for how long they plan to have a mortgage. While credit users were assumed to be worried about ordinary life problems, such as their washing machine breaking down, mortgage clients are addressed as subjects concerned about

finding the product that matches their *financial preferences*. They thus are assumed to use a financial logic, to think about long-term fluctuations in interest rates and their own financial conditions.

For example, the fixed rate mortgage promises "budgetary and planning security, whether you want to protect yourself against rising market rates or set a long-term interest rate", suggesting that users would want to plan for the long-term, understand the effects of changing interest rates, and would want to make active steps to fend off these risks. The texts on the site suggest that users make calculations, investigate the numbers ("The numbers add up"). In line with this assumed need, the mortgage site provides more information about the terms and conditions, in contrast to the consumer credit website that steered users towards the quickest possible decision.

Turning to the images of the Mortgage Site, targeted at the middle and upper class, we see people at different stages of the house acquisition and building process. For example, a man (who seems to be the owner of the house) and a worker, a couple looking at their future house, or a woman applying for a mortgage using a laptop. People are pictured with a thoughtful expression on their face, rather than laughing as on the credit website, which suggests that users are expected to make a cognitive effort. Other images show them with a content expression, suggesting the owners' satisfaction of having achieved an objective with an effort. The emphasis is on the personal ability to evaluate and, as a result, choose the best option. This is reinforced by the text that suggests that the bank gives users the tools to evaluate their options and to make the best, responsible financial choices: "Choose the mortgage model that suits you best […] Choose according to your flexibility or the level of security you want".

Turning to the *investment website*, targeting upper class users, we notice that references in the text to everyday concerns – a washing machine or a home – are completely absent. Users are assumed to be driven by purely financial aims: to invest, to manage one's wealth, and to create profit ("reliably grow your wealth"). The website assumes a competent user who is looking to invest at a lower cost than traditional investment services: "Do you want to make sound investments without excessive fees? Open an Investment Site account today and never look back".

The website contains much more information both in terms of text and visual illustration than the Credit and the Mortgage Site, suggesting that the assumed user would like to have an in-depth understanding of what happens with his/her money and to take control over every aspect of the portfolio. The ideal users of the site are people who "want wealth management – anytime, anywhere […] real-time reporting […] values independence […] looking for diversification […] insist on security". The language used by the site is much more technical than the two other analysed sites. It takes for granted that users are familiar with the technical terms, and it only explains – in equally technical terms – highly complex products (for example, the legal and financial implications of Exchange-Traded Funds).

In contrast to the two other sites, the investment website's starting page does not feature people: we see a laptop with a financial chart and a smartphone with a diversification portfolio. Indeed, most images of the site feature financial charts and other forms of visual representations of finance, such as comparisons of the performance of different portfolios. The infographic style pictures suggest a user who is able and keen on making rational, calculative decisions and would like to be in control – as opposed to the Credit Site, where the aim is to reassure users that they will get the desired credit, without encountering obstacles on the way.

In this site, it is only at the bottom of the first page that people appear. It is typically a sole male figure in an office setting, with a phone in his hand, gazing into the horizon with a confident look on his face. The aim is not to establish visual contact with the viewer – in contrast to the Credit Site, where the people make eye contact with the viewer – rather, to project the viewer's mind to the future well-being. The website also features testimonials: black and white images of men wearing business casual, identified as entrepreneurs, praising Investment Site's services. The technical charts, people in more formal clothes and in professional settings convey a sense of expertise and security. Investing is pictured as something that opens up new opportunities – as opposed to solving problems, characteristics of the two other sites.

### 4.2 Scripting Actions Through Behavioural Scripts

After analysing the discursive and visual elements, in the next step of the analysis, we looked at what kind of actions are prompted by the websites, distinguishing between decisions that are encouraged and decisions that are taken over by the website. Actions can be encouraged by setting specific choices as the default and through a variety of other nudges. By "taking over" a decision, we mean that the website offers products only with specific features as opposed to offering different options and choices between them to users. To understand how websites prompt specific choices, we analysed the decision-aiding tools (e.g., sliders), default settings, and visual elements that steered users towards specific actions (such as high-visibility action buttons as opposed to hidden "Read more" links). We were interested in the level of agency allowed by the websites targeted at different users, as well as the substantive qualities enacted by the apps on their users' behalf. When the website took over part of the decisions, we analysed what kind of financial decision-making, risk preferences, planning time horizons, financial aims, and financial control it enacted on its users' behalf.

The *credit website*, as explained in the previous part, addressed users as financially helpless subjects, whose main objective is to live their life in a carefree way. Credit users were assumed to be concerned with solving everyday problems as quickly as possible and as neither willing nor able to make financial calculations. As such, they were assumed to be happy to receive support in managing the burdensome financial

choice. This idea was well expressed on a visual level: the mascot on the consumer's shoulder represented the helping expertise of the company to which the consumer delegated the burdensome aspects of the financial choice. The image symbolized the externalization of agency: the mascot embodied the financial competence needed by the user to make financial choices.

This visual representation corresponds to limited decision-making encouraged by the script of the site. The site steers users towards acquiring the credit as quickly as possible – with as little deliberation as possible: "Get your credit easily!", "Apply for your credit in just a few steps". The decision-making process is indeed condensed into one site where the user is asked to use two sliders: one to choose the loan amount and the other to choose the loan duration. The sliders allow for these choices to be made very easily, and users can see the indictive monthly instalments displayed in large, bold numbers as they are "playing with" the sliders.

While the sliders may give the impression of agency, users have limited choice over the products. The interest rates (fixed or flexible), repayment terms, late payment fees, risks, and other financial characteristics that may potentially reflect people's financial preferences cannot be chosen. As the actual interest rate is calculated based on the creditworthiness of the borrower – which is only assessed later in the application process – even the limited information provided by the site may change in the final offer. Indeed, the site suggests that interest rates will be somewhere between 4.9 and 9.9 % – a range wide enough to foreclose potential calculations.

Indeed, throughout the credit application process, users are offered little information, limited to eligibility and to product characteristics that they are not able to choose, which prevents them from fully evaluating the product. To access further information, users need to scroll to the bottom of the page and decipher the "Legal information" or to write an email with specific questions – neither of which is encouraged by the set-up of the website. Instead, large, yellow "Apply for a loan now" buttons encourage users to complete the process as quickly as possible. Agency is limited to getting the product; the product qualities and the financial preferences supposedly reflected by it are chosen by the website on users' behalf. The calculative agency required for financial choices reside in the app itself, which performs the calculation on users' behalf.

Given that the site takes over a large part of the decision-making, we examined what kind of financial preferences it enacts on its users' behalf. Looking at the financial aims, the website encourages users to borrow relatively high amounts. The default amount is set to 36 000 CHF which is higher than the 30 000 CHF average loan amount in Switzerland (Amrein & Dietrich, 2021). This default amount appears as close to the lower end of the slider, suggesting that 36 000 CHF is a low amount, encouraging users to borrow more.

The most prominent number on the site is the monthly amount; rather than, let's say, the total repayment amount, which in not displayed on the Credit Site.

This pictures loans in a permanent present, without considerations for the long term. By moving the "amount" and "time" sliders, the monthly amount moves up or down. By increasing the length of the repayment, users are able to lower their monthly amount; however, it comes at the cost of increasing the overall repayment amount, which is not displayed. The default time is set to the maximum of 120 months, which represents the lowest monthly repayment, yet the highest overall repayment amount. The set-up of the calculation device encourages users to adopt a "Carpe Diem", short-termism mentality that focuses on acquiring the highest possible amount – now.

The offered product also enacts a specific risk tolerance for its users. The default setting is to acquire payment protection insurance against incapacity to work (this choice can be unticked). This default option enacts a risk-averse user. However, we note that this option also cost more, and it also serves the interest of the lender. Unlike mortgages, consumer credit is not secured by a property, hence the risk of default is problematic also for the lender, not only for the borrower.

In contrast to the quick, one-step consumer credit process, the *mortgage site* requires users to go through several steps as obligatory passage points. The steps oblige users to assess their own financial preferences and to choose from different product options. In the first step, users are asked to use sliders to indicate their equity, the desired house's price, and their salary. Depending on the amounts entered, they immediately see if they are eligible and are encouraged to play with the sliders to find the "right" (eligible) parameters. These parameters correspond to the maximum Loan-To-Value and Payment-To-Income ratios fixed by regulation. The site, to conform to regulation, enforces a degree of risk-averse behaviour on its users. It does not allow them to borrow more than what they can comfortably afford from their salary and or to get too large a mortgage on the house.

In the next step, users are offered three different mortgage options. Each option is a bundle of different mortgage products that contain fixed and variable rate elements of different maturity. Fixed rate mortgages are safer but more expensive, while variable rate mortgages are cheaper yet riskier. Hence, the larger the variable rate element, the riskier the product. At this point, the website asks the user to "choose the most suitable mortgage for you", which requires a reflection on one's risk tolerance. Users are not assumed to know their risk tolerance, hence are asked to choose from three personality profiles: "defensive", "balanced", and "dynamic". The website explains that they differ in their relationship to flexibility and security levels and provides illustrative pictures of each as a personality. For each personality type, a corresponding product is offered, with detailed information on the monthly rate, the total amount, interest rates and so on.

In this website, although there is the option to interrupt the online process and book a personal consultation, if one is to follow the online route, financial deliberation and self-assessment is unavoidable. This means that the site forces some

degree of agency on its users. In order to apply, users need to reflect on their own financial preferences by relating their self-image to the pictures and the numbers describing the products. They need to assume a financial subjectivity and enact it via financial choices. Moreover, the scripts push users to consider longer time horizons and to reflect on long-term changes in their own financial situations and potential changes in the market.

In comparison to the Consumer Credit and the Mortgage Sites, the *investment website*, targeted at wealthier users, requires a much more active participation in the decision-making process. As discussed above, the content of the Investment Site implies a high level of financial literacy and expertise. This is in stark contrast to the Credit Site which relies on emotional proximity to gain users' trust. On the Investment Site, users can start the decision-making process on two different paths: by trying a test account or by directly opening an official account. The first step requires that users indicate their aims, expectations, their degree of financial literacy, their level of risk tolerance in an uncertain market, and their assessment of their financial situation. Contrary to the mortgage website, this step is presented in the form of a questionnaire, which assumes that users already know their own preferences – they just need to express them.

In the next steps, each section is clearly distinguished, and each element of the portfolio is explained in detail. The site does not aim to make users understand the offer at a glance, as with credit products. The information must be read carefully; users must click on the confirmation button on each page in order to proceed. The decision-making process also includes a "learning section" tool, where users are guided through each element of the dashboard to understand how it works. This phase cannot be skipped by users, who are obliged to complete and confirm each step to access their investment portfolio.

This process requires more agency from the user compared to the two other products, yet also within certain limits. The investment mix is calculated by an algorithm based on the answers and data provided by the user. The user's decision-making power is limited to adjusting certain elements of the dashboard; and he or she can decide to what extent to adhere to the script offered by the app. However, the range of actions falls within an already defined framework of options; for example, the website does not allow for actions that exceed the user's risk tolerance. Risk-taking is thus distributed between the app and the user and does not rely on the user's sense of responsibility.

This means that even here, parts of the calculative agency required for investment decisions resides in the app itself ("Let us delegate your decision to us" or "We will autonomously choose which financial tools to invest in."). Importantly, however, unlike in the credit website, where limits to agency are described as a service (taking over the burden), here the text focuses on assuring the user that despite curtailing her agency, she will still be in control. The promise is that users can gain even more

control by benefitting from the calculative power of the site that helps them realize the financial strategy that is best suited to them. Further, the website encourages users to keep track of the performance of their investments over time and to set the direction for future investment, scripting a constant monitoring behaviour and engagement with their finances.

Looking at the type of investment perspective encouraged, the website discourages users from engaging in short-term investment behaviour, steering them toward a long-term perspective. This is done in multiple ways and during all phases of investment portfolio creation. For instance, the text reads "the longer the investment period, the better the risk/reward ratio. So, our advice is to give your investment a few years, preferably a decade or more". This site also features sliders, yet unlike in the credit site where they showed the eligibility criteria, here they are used as a future-simulation tool to demonstrate how revenues will grow over time. In the visual financial projections, the greatest increase occurs after a period of 10–20 years thus encouraging users to invest longer.

## 5 Discussion

This paper asked whether different economic rationalities are scripted in the apps/websites targeted at different classes. Analysing the scripts of three financial websites, with integrated decision-aiding devices, we found first, differences in the subjects assumed and encouraged by the websites targeted at lower-, middle- and upper-class individuals. The credit website, targeted at lower class users, assumed users who are neither able nor willing to understand financial decisions. In contrast, the mortgage and investment site, targeted at middle- and upper-class users, assumed users who are able and eager to take control of their finances, learn about finance, and make decisions. While lower class users were assumed to be interested in solving only their current everyday problems, middle- and upper-class users were assumed to be interested in long-term wealth accumulation.

Consistently with this finding, we found that the website targeted at lower class users is much simpler and more gamified, takes over more decisions from its users, and actively prevents calculation and independent decision-making by not making information readily available. In contrast, the mortgage website, targeted at the middle class, requires decision-making and forces users to compare when choosing between different options. The investment website, targeted at the upper class, requires the most calculation and choice-making. Both the mortgage and the investment site required users to assess and express their own financial preferences in terms of risk and time horizons, to reflect on themselves as financial subjects, and choose products that meet their preferences. This was missing from the credit site where users' only financial preference seemed to be to get money as quickly as possible.

Looking at the choices encouraged and made on behalf of users, we found that the website targeting the lower class encourages a short-term, present orientation with a focus on the maximization of present financial well-being, while middle- and upper-class websites promote a long-term future orientation, with a focus on wealth accumulation. In terms of risks, the lower-class website enacted and encouraged risk-averse choices which were more costly for users, while the middle and upper-class sited gave the choice over risks to users, allowing for high-risk/high-gain choices.

## 6 Conclusion

Individuals of different class backgrounds manage money and make financial choices differently. Existing studies explain these class differences through focusing on individuals' class-specific decision-making rationales, aims, ways of incorporating discourses, and their habitus (Beckert & Lutter, 2013; Bourdieu, 2005; Friedman & Savage, 1948; Henry & Caldwell, 2008; Mullainathan & Shafir, 2009; Pintelon, et al., 2013). They suggest that financial subjectivity is shaped by macro (and meso) level cultural discourses and societal structures. Class differences arise because people are subjected to different discourses and socialization influences. Financial behaviour arises from the application of these subjectivities to specific decisions situations (with class-specific constraints).

This paper extended these theories with a further mechanism, which is becoming increasingly relevant with rise of digital tools. Consistently with the literature on devices, we showed that financial platforms encourage specific subjectivities and actions. They do so partly *symbolically*, by encouraging users to adopt specific goals, motivations, time orientations, and relationship to finance. Importantly, they also shape individual decisions *practically*, by nudging and even forcing individuals to make specific actions (for example, the investment website does not allow one the click "Next" unless the user assessed her risk preference) and foreclosing others (for example, the credit website does not offer information and choice between different interest rates).

The key point of our paper is that the devices targeted at different socio-economic groups encourage different financial subjectivities and behaviours. This suggests that observed patterns of class differences in financial choices may partly stem from the different scripts of the devices used by the different classes rather than from their different habitus, technologies of the self, or financial preferences alone. These different uses are caused first, by the fact that different classes use different products; and partly by the fact that the same product may look differently when used by people of different class backgrounds due to customization (which is less prevalent in Switzerland, studied in this paper, but is increasingly used in the United Stated and the United Kingdom). As financial devices become increasingly

central to financial practices, over time, they may feed back into the class habitus, which – as Bourdieu suggested – develops through practice. However, the process of class habitus-formation is different from class-specific devices constraining choices – even if the latter may reinforce the former.

This finding extends, first, nascent research on the way algorithms map and reproduce class. In particular, Airoldi (2022) in his book, "Machine habitus", suggested that large machine learning algorithms acquire and reproduce the habitus of the users that produced the data on which it was trained. For example, an algorithm trained on Twitter interactions will have a different habitus than one trained on Tik-Tok or LinkedIn due to the different demographics and taste cultures of the users whose interactions it used for learning. In the case examined here, it was not a machine learning algorithm, but marketing and UX designers that scripted the websites with specific ideas of the users (Pellandini-Simányi, 2023); however, similarly to Airoldi's points, these scripts also have a specific habitus, which they enact on their users behalf. As banking services integrate more and more behavioural data into the development and customizations services, these two research streams converge and open exciting areas of further research on how exactly class habituses are reinforced – or contrary, flattened – by financial algorithms and devices.

Second, our paper extends research on the performative role of marketing (Araujo et al., 2010; Ariztia, 2015 ). While prior research highlighted the way marketing enables the formation of social groups through providing symbolic resources and consumer goods, our study points to a more complex performative effect. In our case, the assumed decision processes of users are not just encouraged but often scripted into the decision-devices: they practically execute and enforce specific decisions and choices for specific target groups.

Finally, we contribute to the Callonian literature on the making of the *homo economicus* (Callon, 1998; Callon, et al., 2007; Callon & Muniesa, 2005). In this paper, we shifted the original focus on rationality to financial subjectivity, including financial preferences and calculative styles, and looked at how they are enabled by digital devices. The shift to financial subjectivities allowed us to ask how the devices themselves may be classed, designed, and scripted for a specific classed subject. This opens a new area of investigation, missing from the Callonian analysis and from the literature on devices: of how class and economic devices are related; specifically, how devices may produce classed economic subjectivities and behaviours and become vehicles of deepening or flattening class differences.

Our paper has several limitations. First, we did not examine *why* products are scripted the way they are. It is unlikely that developers would consciously script devices with a specific habitus. A more plausible explanation is that the differences observed by us are unintentional consequences of the design processes, feedback loops from the users, product-specific regulatory requirements, and specificities of the products. For example, according to the regulatory requirements, investment

products can only be sold after suitability and affordability checks, which entails assessing the risk and investment preferences and the financial literacy of the user. This obliges service providers to create a more complex process with decisions required from users, compared to a credit selling process that is not subject to such regulatory requirements. Moreover, consumer credit, in an economic sense, is moving a future purchase to the present; while investment and saving is about foregoing present spending in the hope of a higher future spending – which has implications of the time horizons that these products imply, which is likely to be reflected in how they are presented on a website. Unpacking the complex reasons of why products are scripted with specific economic subjectivities and actions is thus an important area for further research. (However, the answer to the *why* question does not change the crux of our argument: that people of different social classes are more likely to interact with different digital financial products, with different scripts for behaviour and subjectivation – which may eventually contribute to class differences in financial subjectivity and behaviour.)

Second, the question of whether these devices act as a mechanism explaining class devices in financial decision-making requires further analysis. For that, three conditions need to be met, of which this paper examined only the first one: (1) differences in the scripts of financial devices targeted at different classes (2) that are actually used by individuals of different classes (3) who use them according to the scripts. The second condition refers to the sorting process through which individuals of different classes gain access to different devices – and through them, to different scripts and subject positions (Fourcade & Healy, 2013). This paper did not examine this sorting process; however, prior research already suggest that the condition is likely to apply. This is partly because financial products are strongly regulated. Service providers are required by law to assess if clients are able to afford their loans, resulting in minimum income and wealth requirements for certain financial products, such as mortgages (Pellandini-Simányi & Conte, 2021). They also need to assess the suitability of products for their clients, meaning that they can only offer specific products if the client shows sufficient levels of financial literacy and expresses consonant financial preferences. These criteria are strongly linked to income and education, and thus to class. Moreover, risk assessment, which is the key criteria of eligibility, relies largely on income and wealth variables (Rona-Tas & Guseva, 2018). Finally, financial providers' segmentation and targeting uses income and wealth, which is seen to provide a key basis for people's needs for financial products (Bailey et al., 2010). The unintended side effect of using class variables in eligibility and targeting is that people of different classes gain access to different financial devices. Based on these points, condition (2) is likely to be met; however, further research is needed to confirm it.

Turning to condition (3), we note that the actions encouraged by the financial apps and websites are not fully deterministic: users can leave the website, look

up information not listed on the site, and go against their scripts (Fuentes, 2019; Cochoy et al. 2017). However, the sites' behavioural scripts are difficult, if not impossible, to overcome: while users may look for additional information and reject the default options, they can only choose from the pre-defined set of products and must follow the predefined steps, otherwise they are not able to apply for the product. This suggests that a degree of script-conformity (condition 3) is enforced by financial devices at a behavioural level; which however, is an area that requires further research.

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