Political Imaginaries of the Weighted Average Cost of Capital:
A Conceptual Analysis

Horacio Ortiz

Abstract

This article analyzes the formulation of the "weighted average cost of capital" in the manuals of two of the most influential associations of financial analysts. It focuses on the use of the formula as the discount rate to determine the "fundamental value" of listed companies using the "discounted cash flows" method, a cornerstone of the definition of "shareholder value" used in the finance industry worldwide. It shows that the choice of variables and their mathematical relations in the formula mobilize multiple, partly independent and contradictory epistemologies and ontologies. This multiplicity is assembled along political imaginaries concerning the relation between particular notions of the maximizing investor, the efficient markets and the sovereign state. The figure of the investor is considered the only legitimate agent to claim the "free" cash flows of the company, the efficient markets are considered the source of truthful representation of value, and the state is supposed to guarantee both the fair play between investors and a minimum revenue for money owners, to be extracted from the rest of society through the tax system. The formula thus legitimizes and renders self-evident power relations that sustain the global inequalities produced by the finance industry.

Keywords: weighted average cost of capital; discounted cash flows; value; power, market efficiency; investor

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Introduction

This article proposes to highlight some of the political imaginaries present in the formula used to determine the discount rate for valuation of listed companies, called the "weighted average cost of capital" (WACC). The use of discounting as a method of valuation is extremely widespread today in financial valuation and corporate management. This method, called the "discounted cash flows" (DCF) method, consists in assessing future cash flows and discounting them at a discount rate. This procedure yields what is called the "present value" of future cash flows. It is used to compare the relative values of competing investment opportunities within a company. And it is one of the ways to determine what is called the "fundamental value" of an asset, such as a stock. In both cases, the discount rate is established in relation to the return on investment supposedly due to the sources of "capital", i.e. stock owners and bondholders.

Nowadays, the WACC and the DCF are directly connected with the idea of assessing economic activity in order to maximize "shareholder value", considering that the sole purpose of companies is to produce money for their owners (but without forgetting to pay their creditors). This idea grew in importance in the second half of the twentieth century, to become a cornerstone not only of financial valuation, but of corporate management in general (Fligstein 1990; Lazonik and O'Sullivan 2000; Lordon 2000; Ho 2009; Levy 2014). Parker (1968) shows that although some form of DCF method was already used in the sixteenth century, it was not until after World War Two (WWII) that it became widespread, as engineers, economists and accountants increasingly appropriated it, transformed it and applied it to new fields. Miller (1991) shows how part of its extension in the UK in the 1960s is due to the British government's attempt to impose it not only for the management of public companies, but also for private companies, with the hope that this metric would orient investment to activities fostering GDP growth. Since then, the method has been used in management decisions within companies and as a general method to evaluate any asset, from listed stocks to companies in mergers and acquisitions and start-ups (Muniesa et al. 2017: ch. 3; Doganova 2018a). Doganova (2018b) proposes to call the DCF a "political technology", because of its widespread role in organizing collective action to define and rank values, transform social activities into appropriable capital and establish a power relation favoring the present over the future.

Different forms of DCF valuation may use different discount rates. This article will analyze the political imaginaries present in the WACC by following the justifications and explanations of the formula provided in two of the most mainstream manuals of financial analysis. These manuals are produced by the most influential associations of financial analysts in the world, the US-based Chartered Financial

Analysts Association, which delivers the CFA diploma,[1] and the Association of Certified International Investment Analysts, which federates professional associations of financial analysts around the world and delivers the CIIA diploma.[2] The relevance of these manuals is manifold. They are used by tens of thousands of candidates to obtain these diplomas every year, and success in the exams usually helps foster the candidates' careers in the finance industry. But, more importantly, the methods, formulas and lines of reasoning contained in the manuals compound the standardized procedures applied in most of the finance industry globally. This is not because these two organizations would impose their will on the finance industry, but because, as professional associations, they are a social space where the finance industry brings together, showcases and institutionalizes its standards, in order to legitimize its expertise and self-regulation and to influence financial regulation (Coffee 2006: ch. 7). So-called "front-office" employees of the finance industry, such as financial analysts, fund managers, brokers and traders, among others, must be qualified by regulatory authorities to conduct their activities. This qualification is usually obtained by passing examinations where professionals must prove their knowledge of these procedures. The CFA and CIIA diplomas are officially recognized as certifications of professional proficiency by several financial regulatory agencies, in the US, Europe and in many other jurisdictions. In some instances, regulation waives the requirement to pass qualifying examinations for holders of these diplomas. The financial professionals mentioned above must apply these methods in everyday practice in order to comply with their labor contracts and with financial regulation. Failure to do so can lead to being fired and even to legal suits.[3]

This article proposes to analyze the imaginaries that organize the calculations and choices of variables used to obtain the discount rate when the formula is used to value listed companies. In this role, the WACC is part of the institutional setting of the finance industry. Since the 1980s in the US (Krippner 2011), Europe (Abdelal 2007), Brazil (Müller 2006), Japan (Amyx 2004), China (Hertz 1998), India (Reddy 2009) and many other jurisdictions (Blyth 2003), regulatory transformations were aimed explicitly at giving the finance industry a

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[1] *CFA 1*, *Schweser Notes*. 2007. USA: Schweser Kaplan for CFA Level 1 and *CFA 2*, *Schweser Notes*. 2007. USA: Schweser Kaplan, subsequently quoted as CFA, Level 1 and CFA, Level 2, cf. https://www.cfainstitute.org, accessed 8 Apr 2021.

[2] *Course Manual*. 2009. Geneva: International Learning Platform for Investment Professionals, subsequently quoted as CIIA, cf. http://www.aciia.org/, accessed 8 Apr 2021.

[3] See for instance the decision of 8 July 2013 of the Court of the Chancery of the State of Delaware in the case Merion Capital L. P. et alii vs. 3M Congent Inc. (I thank Liliana Doganova for informing me of this example).

central role in the distribution of money. This was done using the theoretical frame of financial economics derived from neoclassical economics.[4] According to this regulatory and conceptual frame, the finance industry is the social space that ensures that "investors" exchange in "efficient markets", so that the prices they produce reflect all available information about the "value" of the assets and serve as signals for an "optimal" allocation of money in society at large. According to the methods present in manuals like those analyzed here and upheld by financial regulation, it is only when investors apply these methods that their actions will ensue in the market efficiency that the methods themselves presuppose. While the determination of value by "investors" is defined as a technical operation for their individual gain, the theory of market efficiency considers that it has a political role, as it is a precondition for a socially optimal allocation of resources. The definition of the WACC to assess the "value" of listed stocks is thus established by mobilizing these political imaginaries concerning the social role of valuation methods (Ortiz forthcoming).[5]

The determination of the value of a financial asset places this asset in a hierarchy in the access to the money managed by the finance industry, as more valuable assets are supposed to attract more money. Some activities are constituted as assets and ranked, while others are simply excluded from the "investment universe", deemed not to have any financial value, and hence not worthy of the money managed by the finance industry (Leyshon and Thrift 2007; Fourcade and Healy 2013; Ortiz 2014, 2021; Muniesa et al. 2017). The WACC is part of the procedures carried out in the finance industry that contribute to the production of social hierarchies in the global space of this industry's operations.

Miller and Rose (1992) have proposed to understand discounted cash flow methods, among other techniques, as ways of organizing power relations that work because they are disseminated in practices well beyond the official reaches of state administration. This follows Foucault's idea that power is produced in interactions everywhere, which are imbued with "intention" but cannot be attributed to one

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[4] Financial and accounting regulation is of course diverse across jurisdictions (see for instance Davies and Green 2011: ch. 5). It is enforced by diverse state agencies with different prerogatives and scopes, and in many cases it is partly carried out by private companies, such as auditing companies (Cooper and Robson 2006). In this article, when I refer to financial regulation in general, I refer to the general imaginaries of neoclassical economics that are used, among others, in the jurisdictions evoked above (see for instance Mayntz 2013 for an assessment of continuity in this respect after 2008 in a variety of jurisdictions).

[5] An initial exploration of the ideas presented here was published in Muniesa et al. (2017: ch. 9). The analysis presented here includes material that was not taken into account in that version, and situates it within a discussion of the political imaginaries of finance.

specific subject or center of decision (1978: 94; see also Escalona Victoria 2016). Miller and Rose thus propose to consider that state agencies, but also states in the global geopolitical arena, must be understood as the result of the stabilization of particular rules of action and procedures, around which different actors, social groups and organizations come together through power struggles and negotiations. Accounting and financial methods shared by all the actors that are part of this stabilization are thus among the "mediating instruments" that allow for these alliances and stabilizations to come about and be sustained (Miller and O'Leary 2007). As accounting and financial methods are used across multiple social settings, they establish a particular geography of power relations that is not limited to the borders or concerns of one particular organization (Mennicken and Miller 2012). This happens as actors attribute different meanings to them, which are technical, but also moral and political. Here I propose to focus on the political meanings of the WACC, which I term political imaginaries.

De Goede (2005) and Langley (2015) have studied financial methods, regulatory frameworks and policy using Foucault's analysis of the role of moral and political categories in the constitution of expert forms of knowledge and practices of social discipline. They show how the concepts of market, investment, credit, speculation and risk used in these methods and regulatory frameworks have multiple, often contradictory, genealogies, which coalesce around moral, political and affective meanings in particular institutional settings. Miller and Rose (1992) highlight that it is important to study methods like the discounted cash flow method by looking at the ontologies, epistemologies and rationales they presuppose. This implies also looking at how these procedures include definitions of the actors that are supposed to apply them (p. 179). Young (2006) shows that accounting standards presuppose specific interests of their users. As these standards become financialized, the figure of the user and his/her relation to the company he/she assesses is transformed, coming closer to the relation of an investor who analyzes investment opportunities and compares them with asset prices in supposedly efficient markets (see also Ravenscroft and Williams 2009; Erb and Pelger 2015). Elsewhere, I have studied how employees of the finance industry who use these methods may mobilize their moral and political meanings in different ways. In particular, they refer to the moral and political meanings of the concepts of investor and efficient market, for instance to legitimize their work in conflicts with colleagues, or to legitimize the global distributive effects of the finance industry (Ortiz 2014). In the cases I studied, employees mobilized the political imaginaries of a world where the optimal allocation of resources ensues from the encounter of independent investors in efficient markets, in order to make sense of the multiple and contradictory ontologies and

epistemologies of the financial methods they used in everyday practice. Following this approach, this article proposes to study how the definition of the WACC in the manuals of the CFA and CIIA makes reference to specific political imaginaries about the identity of investors, the characteristics of efficient markets and the roles of the state.

Beckert and Bronk (2018) use the term "imaginary" to distinguish what they consider as uncertain bets in finance from otherwise "calculative reason", so that "imagination" is distinguished from "rational analysis" (p. 4). On the contrary, I consider here that mathematical relations in financial methods are themselves part of political imaginaries. These imaginaries do not just concern a meaning that would be attributed to otherwise politically neutral mathematical formulas and numbers. Vollmer (2007) shows how the possibility of using the same mathematical formula in different social settings allows for it to be connected to different moral and political meanings. But this does not mean that the formula itself would exist in a domain of its own, where these meanings do not exist. On the contrary, as Guyer et al. (2010) remind us, the production of mathematical relations is always marked by moral, political and religious meanings. When formulas circulate among different settings, these meanings can change, but they remain always important for how these relations are produced (see also Guyer 2016: ch. 7).

The political imaginaries I propose to address in this article concern the way in which numbers and mathematical relations are produced in financial methods. Mathematical relations presuppose ontologies and epistemologies concerning the entities that they bring together. Considering different entities as mathematically comparable in order to add them or to establish averages and other statistical relations between them are political acts. They attribute characteristics to these entities and to their worlds that orient normatively what can and cannot be done and, in the case of financial formulas, who should get what and why. Maurer (2002) has shown that probabilities used in financial methods reproduce the presupposition about a stable cosmos governed by mathematical rules, which was explicit in the theological debates where these formulas were first established. De Goede (2005: ch. 4) has shown how this religious imaginary was explicit in the construction and justification of stock indexes at the beginning of the twentieth century. That kind of analysis necessitates a genealogical study that goes beyond the limits of the one proposed here, which is restricted to the analysis of the content of the CFA and CIIA manuals. But that same analytical principle is used here to study the WACC. I propose to analyze the meanings of the numbers and mathematical relations present in the textbook definition of the formula, in order to highlight the ontologies, epistemologies and power relations they imply. This allows for seeing how these ontologies and epistemologies

make these power relations appear as necessary and legitimate, excluding other ways in which the social distributive effects of the finance industry could be problematized.

The WACC can be used in very different settings and can therefore have different meanings. Studying its definition in the manuals of the CFA and CIIA allows for seeing one of these settings, which is particularly relevant given the institutional role of these manuals. In them, the formula is defined as the discount rate that "investors" should "require" as the minimum rate of return on their investment. Thereby, like the accounting categories and rationales studied by Young (2006), the formula proposes a specific definition of what an "investor" is. This figure is then put in relation with two other entities: the "markets", which are problematized in terms of their "efficiency", and the "state", problematized in terms of its sovereignty. These problematizations, as Miller and Rose (1992) suggest, establish a limited set of concepts, rationales and controversies that designate the space of what the formula allows for thinking and renders legitimate, and they veil what the formula eschews (Strathern 2000; Williams 2013). In the formula, the markets and the state can be called "abstract" spaces (Mennicken and Miller 2012: 7, 20) that make certain things calculable and certain relations between them and the investor relevant, natural and legitimate. Exploring this financial imagination allows then for showing how the most minute technical operation can actually carry important forms of political legitimation of the conceptual frame of financial regulation, which gives the finance industry a fundamental role in the production of social hierarchies. Studying the political imaginaries of the WACC allows for exposing this imagination and the limits it imposes. This kind of analysis is thus important in providing a critique of the political imaginaries of "value", "investors", "markets" and "states", which are used to legitimize the global hierarchies produced by the application of these methods in the finance industry (Ortiz 2013, forthcoming). In the following pages, I will study the definitions of the figures of the "investor", the "market" and the "state" present in the formula, and then show how they are articulated in a way that gives preeminence to the figure of the investor over the rest of society.

The investor

The concept of investor today refers to various, sometimes very different social relations. Historians show that during the nineteenth century in the US, the social identity of the financial investor shifted dramatically. The concept connected with the image of a person who acted irresponsibly with their money, similar to a gambler. But that shifted towards the end of the century, when it related to the image of a person, preferably white and male, who acted based on science and

responded to the moral responsibility of taking care of the well-being of his family (Zelizer 1979: ch. 6; de Goede 2005: chs 3–4; Preda 2005, 2009: ch. 3). After WWII, the concept changed again, and was increasingly used to designate not only individual investors, but also the US middle-classes as a segment of society whose pension plans were invested in financial assets (Montagne 2006: ch. 3). The concept was increasingly defined by making reference to the financial methods found today in manuals like those of the CIIA and the CFA, which were developed in a circulation of people and ideas among financial professionals, regulators and academics (Whitley 1986; MacKenzie 2006).

In most jurisdictions around the world, financial regulation distinguishes the category of "qualified" or "sophisticated" investors, defined by their knowledge of financial theory, and by the concrete means they have to apply it.[6] These conditions describe mainly the employees of the finance industry, whose companies are often referred to as "institutional investors". Worldwide, the overwhelming majority of transactions concerning listed stocks, bonds and other financial assets occur between employees of the finance industry. In this setting, the figure of the investor is produced in a relation of representation: employees of the finance industry are considered investors because they invest money that belongs to their clients, and their clients are considered investors because they entrust their money to these professionals (Clark 2000; Montagne 2006; Erturk et al. 2007; Ortiz 2011, 2014).

The formulas and methods presented in the CIIA and CFA manuals are all established as tools for an investor seeking to maximize returns and reduce risk. The analysis of companies is thus oriented toward the idea of maximization of shareholder value. The "Corporate" section of the CFA manual thus starts with the sentence: "Modern finance theory and practice is based on the basic principle that business managers should act so as to maximise shareholder value, i.e., the value of equity shares of the company".[7] The analysis that I propose below focuses then not on the social images of the investor described above, but on the figure of the investor that is "made up" (Young 2006) in the

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[6] This definition also includes the marginal case of very wealthy individuals. The European Securities and Markets Authority (ESMA) uses the expression "professional" investor.

[7] CFA 1, Level 1, Corporate, ch. 1, p. 1.

formula, i.e. the way in which the formula defines what an investor is, what he[8] is supposed to desire and how he is supposed to calculate it.

Different formulas may contain slightly different features defining the figure of the investor. In the case of the WACC, this figure is connected to stocks and bonds, considered as the two sources of financing of the company that is evaluated. In financial valuation of listed companies, the WACC is used to determine what is called the "fundamental value" of the company using the DCF method. This value is defined as the "present" value of the future cash flows that will be available for those investing their money in the company. Concerning the valuation of stocks, CFA and CIIA manuals propose the same method, which is found in almost exact terms in most manuals. The income statement provides the representation of the company organized as a stream of cash flows that are allocated between different components, among which are the shareholders. Seen from the point of view of the figure of the investor, the cash flow that can be allocated to the shareholder becomes the focus of the analysis, as all other components are considered as sources of revenue or cost. Shareholder value is here defined as a relation between the investor and the company that is represented as appropriable cash by accounting categories of the income statement.

The calculation aims at determining future monetary amounts for all the elements of the income statement. This should allow for determining, for each year in the mid-term future (usually between five and fifteen years), the "free cash flows to the firm", calculated as net income plus non-cash expenses (such as depreciation and amortization) plus interest payment minus fixed capital investment and working capital investment.[9] The CFA manual states: "That pile of remaining cash is called free cash flow to the firm (FCFF) because it's "free" to pay out to the company's investors".[10] The "free cash flow to the firm" is then discounted at the weighted average cost of capital, giving as a result the "present value of the firm".

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[8] While in theoretical discourse it is useful to use feminine pronouns to speak about abstract agents, if only to highlight the gendered impositions of language, doing so when talking about finance may give the false impression that these agents are indeed gender-neutral. The fact is that they are not, and that, as in many other settings, there is a strongly gendered distribution of power, with male domination being the norm (cf. Roth 2006; Ho 2009: 79–80; Fisher 2012; Salzinger, 2016; Souleles 2019: ch. 3). I will therefore use masculine pronouns to speak about the figure of the "investor".

[9] CFA, Level 2, Book 4, pp. 169 ff.; CIIA 1, Equity, ch. 4, pp. 7–13.

[10] CFA, Level 2, Book 4, p. 169.

The definition of the formula is as follows:[11]

$WACC = K_d . (1 - t) . D / (D + E) + K_e . E / (D + E)$, where:

D: value of debt

E: value of equity

(D + E): enterprise value

K_d: cost of debt

t: tax rate on earnings at the moment of the calculation

K_e: cost of capital

$K_e = R_f + (R_m - R_f). \beta_e$ (according to the preferred method of the Capital Asset Pricing Model, see below)

K_d = yield to maturity of debt

R_f: risk-free interest rate

R_m: interest rate required or expected by the market

$(R_m - R_f)$: risk premium required or expected by the market for the company or the sector to which it belongs

β_e: equity beta (sensitivity of the price of the stock of the company to the variation of its reference index, calculated statistically using historical data).

In using the WACC to calculate the "present value of the firm", all cash flows that are not "costs" are thus considered to belong to two figures of the investor: bondholders and stock owners. The "present value of debt" is deducted from the "value of the firm", and this gives the "value of equity", which is termed the company's "fundamental",[12] "intrinsic"[13] or even "true"[14] value. This number can then be divided by the number of shares in order to obtain the "fundamental value" of each share. The two types of investor are differentiated by the amount they have invested in the company and by the order of access to the "free cash flows". As we will see below, the discount rate averages the respective weight of debt and stocks in the "value of the firm" by comparing their capitalization, which is measured by multiplying the price of an asset, such as a stock, by the number of existing assets. Following standard legal provisions for bankruptcy, creditors have preeminence over shareholders: the "value of equity" is only obtained after subtracting the "value of debt" from the "value of the firm".

The WACC is thus a mathematical instantiation of the concept of "shareholder value". As several studies have shown, the DCF method, with its discount rate and the comparison of "present values", is used in conflicts within companies that undergo restructuring to increase "shareholder value" (Armstrong 2000; Ezzamel et al. 2008). These

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[11] CFA, Level 1, Book 4, p. 35; CIIA Equity, ch. 4, p. 15.

[12] CFA, Level 1, Book 4, p. 178; CIIA, Equity Questions II, p. 4.

[13] CFA, Level 1, Book 4, p. 279; CIIA, Equity Solutions II, p. 8.

[14] CIIA, Equity, ch. 4, p. 35.

methods are used even in the management of public services, transforming their meaning from that of a social right to that of an investment (Toms et al. 2011; Chiapello 2015). In the formula of the WACC, the equality sign that equates a number called the "cost of capital" and an addition of items is premised on that kind of power relation. The only two items that are added are the "required" rates of return of two figures of the investor, weighted by the current monetary value of the investment they own. This equality states that only stock owners and bondholders have the right to "require" a rate of return from the company, the money that is "free" for them to take. Thus, the formula establishes, in the form of a mathematical relation, the power relations between investors and the rest of the participants to the social activities that make up the firm, such as employees, commercial partners or the environment in which the company operates. This figure of the investor is defined in relation to two other entities, efficient markets and the state.

The market

In financial regulation and financial economics, the concept of market is strongly linked to the idea of market efficiency. But even within that genealogy, the concept of market has had different meanings over time. For Adam Smith, free markets had primarily a political importance, which is that they were a site of civil equalization, where each individual could act freely based on his/her own reason. As these free subjects competed with each other, Smith considered that they produced prices that best approached the "natural" price of the objects of exchange, i.e. the one that reflected their labor value (1991 [1776]: 65). Foucault (2008) showed how, for ordo-liberal philosophers, the concept of the market worked as a regulatory idea in the general Kantian sense that it provided an ideal toward which institutions and individual action should be oriented, but which would not necessarily be attained. For them, the political importance of these markets was that they were supposed to be arenas where the social disciplining role of prices would be legitimated as the outcome of free social interactions. As Walter (1996) highlights, after ordo-liberalism, financial economics let go of the idea of a natural value of the objects of exchange that was central in classical economics, to focus on the idea that what prices reflect is the information actors have about these objects. In this case, market efficiency has a political and epistemological legitimacy that is not connected to the idea that objects or activities have a natural value.

Miller and Rose (1990) highlighted how the concept of market is used as part of a program. They show it is deployed in a series of tools, procedures, rules and institutions, with the aim of orienting individual action in the moral and political directions that are close to the ideals

of ordo-liberalism. The concept can be appropriated in multiple settings, where it articulates several power relations that are far from the ideal described in its standardized definition. Financial regulation tends to produce rules officially aimed at enhancing or sustaining market efficiency, which is supposedly located in regulated and over-the-counter exchanges that are overwhelmingly composed of finance industry companies. Organizational analyses of this industry have repeatedly shown that it does not operate in any way like Adam Smith's or the ordo-liberals' ideal of an open arena where individuals would freely exchange their own labor and capital. The finance industry is a bureaucratic setting, where most actors are employees applying standardized procedures for a salary. These procedures are used to organize most of their actions of valuation and investment (Clark and Thrift 2005; Zaloom 2006; Ortiz 2014, forthcoming). As Arjaliès et al. (2017: ch. 7) have shown, even in cases where a string of companies aims at changing their investment strategy, they may be prevented from doing so by the "chains" of contracts and legal provisions that bind them to each other and to clients and third parties.

Yet, the concept of market efficiency is pervasive in financial regulation and is a foundation of the methods formalized in manuals like those of the CIIA and the CFA (Whitley 1986; MacKenzie 2006; Polillo 2018). The concept is central in the definition of the WACC, where it is used to give meaning to the prices that are used as numbers in the calculation. Most of the numbers to be used with the formula come from prices found on over-the-counter or regulated exchanges, which the manuals call "markets". The analysis proposed here seeks then to explore what kind of "abstract" space (Mennicken and Miller 2012: 7, 20) is defined with this concept of market in the formula. In particular, I will study how it connects to the political imaginaries of market efficiency described above, in a way that articulates the possibilities, prerogatives and limits of the figure of the investor studied in the previous section.

Prices used in the WACC can be spot prices, i.e. the price used in one transaction at a point in time, or they can ensue from the use of mathematical formulae to treat bundles of prices. Spot prices concern the Equity and Debt items in the formula. The manuals present three main ways to define equity, consisting of book value, target capital structure and market prices, but, when the aim is to establish the value of the firm, they explicitly favor using the market capitalization of the company at the time of valuation.[15] Similarly, the debt is defined by the market capitalization of the company's outstanding bonds, if the company has any. Spot prices are also used for the so-called "risk-free rate of return", which is usually defined by the yield of certain

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[15] CFA, Level 2, Book 4, p. 182; CIIA, Corporate, ch. 1, p. 47.

sovereign bonds.[16] The "required rate of return of debt" is defined by the yield-to-maturity of the company's bonds.[17] In all these cases, the prices that are used are those current at the moment of valuation, which means that, like stock and bond prices in general, they change all the time.

Market prices are also present after undergoing statistical reworking. The "required rate of return for equity" is determined by applying statistical analyses to past returns, as expressed by the market price and dividend distribution. To do this, the manuals favor the use of the Capital Asset Pricing Model (CAPM), which measures the relation between the company's returns and that of the "market", for which a market index should be used as representation.[18]

In all these cases, it is important to ask what makes a price a relevant piece of information in calculating a required rate of return for investors and, in turn, calculating the "fundamental value" of a listed company. The status of prices as information depends directly, in the manuals, on the concept of market efficiency. Whether they are constantly changing spot prices taken at a point in time, or whether they are averages thereof, the rationale for considering stock and bond prices as accurate representations of the assets' "value" is founded on the notion of market efficiency.

As many authors studying the genealogy of this concept show, before the notion of market efficiency, financial regulators tended to view prices of financial assets as the result of erratic speculative movements. These movements were considered akin to gambling and were thus often declared illegal (de Goede 2005: ch. 3; Preda 2009: ch. 3). In the liberal and neoliberal definition of free markets evoked at the beginning of this section, this representative character is based on free exchanges between participants, who seek information about the assets, so that their interactions result in a collective knowledge that supersedes the knowledge of each individual. In line with this form of reasoning, the CFA refers to one of the most prominent figures of financial economics, Eugene Fama, and states:

> Under these assumptions [of market efficiency] the competitive behavior of this large group of market participants should cause rapid price adjustments in response to any newly released information. The new price will reflect investors'

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[16] CFA, Level 2, Book 4, p. 124; CIIA, Corporate, ch. 5, p. 11.

[17] In the case where a company has no bonds, manuals propose using outstanding loans or, when that information is not available, to use standard market prices and "capital structures" calculated as averages of the whole "market". CFA, Level 2, Book 4, p. 101; CIIA, Corporate, ch. 1, p. 44.

[18] CFA, Level 2, Book 4, p. 101; CIIA, Corporate, ch. 1, p. 37.

new estimates of the investment's value and riskiness. Should these assumptions not hold (as in emerging markets), abnormal returns may be possible.[19]

In the same line, the CIIA states that "EMH [Efficient Market Hypothesis] implies that market price always reflects the true value of the asset"[20] and "in an informationally efficient market, the price of the traded securities equals their value".[21]

But this type of truth has also benefited, in financial methods in general and including the WACC, from a concomitant epistemology derived from the positivist understanding, in the nineteenth century, concerning the relation between natural laws and their mathematical formulation. Since prices were considered to represent the true value of companies, i.e. the present value of their future cash flows, the evolution of prices was considered to represent economic processes. The presupposition of a link between economic activity and natural cycles was at the basis of the creation of the first stock indexes at the end of the nineteenth century (de Goede 2005: 103). MacKenzie (2006) shows that after WWII, the use of statistical tools to treat stock prices was extended. Like natural data, prices and returns on stocks among other financial data were considered discrete events with equal weight with a normal distribution, and therefore liable to statistical treatment in which averages, standard deviations, correlations and other mathematical relations were expected to say something meaningful. This process led to two main theoretical constructions, whose authors obtained Nobel prizes in Economics, and the use of which have led to a widespread change in the way in which valuation and investment have been understood and produced by the finance industry since the 1970s. Harry Markovitz is credited with proving mathematically the old saying that one should not put all the eggs in the same basket. Since prices are supposed to reflect information that is yet unfathomable and answers to no particular rule, they are considered to vary "randomly", an assertion attributed to Eugene Fama. By construction, then, the standard deviation of the prices of a single asset is higher than that of a bundle of assets. This implies that the investor should buy the whole market in order to minimize the standard deviation of returns, also called "volatility". It also implies, as William Sharpe and others developed later in the CAPM, that, statistically, each stock's returns can be analyzed as varying partly in relation to the market's variation and partly independently.[22] This

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[19] CFA, Level 1, Book 4, p. 178.

[20] CIIA, Portfolio Management, ch. 1, p. 37.

[21] CIIA, Corporate, ch. 4, p. 2.

[22] The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel was awarded to Harry Markovitz and William Sharpe in 1990 and to Eugene Fama in 2013.

allows for comparing the variation of the stock and that of the market, a relation measured by the *β*(beta) coefficient. Debates concerning the use of CAPM and beta concentrate on the fact that using different market prices and time series, the results are different. The question is the accuracy of the method to reproduce a truth of market prices, but the existence of this truth is nevertheless an epistemological precondition for the methodological debate to make sense at all.[23]

Efficient markets are thus supposed to have an epistemological authority based on their capacity to produce prices that reflect all available information and hence the best approximation of the asset's value. The manuals assert that this epistemological authority also gives them the political legitimacy derived from their role in orienting investment in a way that is optimal for society. Both CFA and CIIA manuals devote a whole section to the definition of the concept of market efficiency and to its importance for valuation, investment and the social allocation of resources. Thus they bring together "shareholder value" and a supposedly politically desired economic order. The CFA refers to Nozick and utilitarianism as the only two possible ways to understand this and states:

> When markets are functioning well, competition and allocation by price lead to an efficient allocation of resources, so that the marginal benefit to society just equals the marginal cost for the "last" unit of each good and service produced.[24]

According to the CIIA, the aim to maximize shareholder value benefits not only the company, its customers and employees:

> another rationale for using shareholder value maximisation as the primary objective for businesses is that such an objective leads to efficient allocation of capital. If the markets are efficient, those businesses which operate in the most efficient manner will experience ever-increasing share prices and therefore will be able to obtain the capital needed for growth at lower costs of funds. On the other hand, businesses, which are not successful, will see their share prices dropping, their cost of funds will be higher and consequently these businesses will not grow.[25]

This political and epistemological authority then enters into a tense, partly contradictory relation with the authority of the investor described in the previous section. This is because, according to the manuals, when markets are efficient, the individual investor cannot by himself reach a valuation that represents all available information better than the actual price. He must simply accept this price as a signal for the allocation of his money:

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[23] CFA, Level 1, Book 4, p. 44; CIIA, Portfolio Management, ch. 1, p. 62.

[24] CIIA, Corporate, ch. 1, p. 2.

[25] CFA, Level 1, Book 2, p. 21.

> The semistrong form of the EMH holds that security prices rapidly adjust to the arrival of all new public information. As such, current security prices fully reflect all publicly available information. The semistrong form says security prices include all security market and nonmarket information available to the public. The conclusion is that an investor cannot achieve abnormal returns using fundamental analysis [...] If semistrong form efficiency holds, neither technical nor fundamental analysis has any value in stock selection and portfolio construction.[26]

The market, as an external source of the truth of value, overrides the subjective capacity of the investor to assess value that is implied in the use of the WACC. Statistical treatment of market prices implies that this truth is indeed realized by the market; otherwise prices would not represent anything and should not be used as data. But it also gives this truth a new layer of reliability, that of the regularity of probabilities, since if this was not implied, the statistical analysis would itself be meaningless. This implies a certain contradiction. If the WACC is to be used at all, it is because the figure of the investor presupposes that the market price is not a correct representation of the fundamental value of his assets. Using the WACC, he asserts his freedom as an individual by deploying his personal cognitive capacities; but using market prices as representative of this value implies that they express a truth that imposes itself, objectively, on every individual. The contradiction is blatant in the WACC, since stock prices are used as a correct representation of the value of equity, but in order to conduct a fundamental valuation that will produce another price for the same equity. Thus, the formula implies, at the same time, that stock markets are and are not efficient. When they address this, the manuals do not consider this a contradiction, but a case of

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[26] CFA, Level 1, Book 4, pp. 179, 187. Cf. CIIA, Portfolio Management, ch. 1, p. 42: "If the market is semistrong-form efficient, fundamental analysis does not permit [the investor] to achieve superior performances since all publicly available information is already reflected in prices".

"circularity", to be solved by using mathematically constructed variables that must be based on "market values".[27]

The WACC mobilizes different definitions of the "market". On the one hand, the market is defined according to the liberal and neoliberal imaginaries evoked at the beginning of this section, considering free markets where individual investors exchange and gather all relevant information about assets. On the other hand, markets are defined by considering their prices as discrete and equally weighted events that behave according to the laws of probabilities. Muniesa (2000, 2007) shows that these conceptual tensions articulate the institutional underpinning of the existence of the prices themselves. Studying the debates concerning the automation of Euronext in the late twentieth century, he shows how the representative character of prices was at the center of the conflicts between the actors influencing the process. Stock prices were taken to represent different things. As social or natural phenomena, they could be taken to say something about a relation between buyers and sellers, about the individual story of a company, or about some law or rule of thumb that could be drawn from the past into the future. In financial regulation, the concept of market efficiency can be used with these different definitions, for instance when there is a drive to enhance transparency (see for example Underhill and Blom 2013), or in the debates about the expansion of algorithmic trading based on the probabilistic approach (see for instance Lange et al. 2016). But both logics reassert the authority of market efficiency as the source of an accurate representation of the value of companies' stocks and bonds in prices. The manuals thus reproduce the discourse taken up by financial regulation, according to which the finance industry would contribute to an optimal allocation of resources by fostering efficient financial markets. The WACC turns this political doctrine into a self-evident epistemology that shapes the gaze of the investor. The state is the other source of data in the formula.

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[27] CIIA, Equity, ch. 4, p. 15: "It is important to note that the weights (D stands for Debt, E stands for Equity) should correspond to market values of debt and equity. The market value of debt can usually be approximated with its book value. The book value of equity, on the other hand, is typically much different from its market value. Here, we run into a problem of circularity. We need a market value based WACC as the discount rate to estimate the market value itself. This is not only an EVA [Economic Value Added] problem but it's the same circularity if you value firms with the DCF approach (Discounted Cash Flow approach). The typical solution to that is to use a target capital structure for the weights (still, the target has to be expressed in market value terms)". Yet, this is not what the manual proposes in the initial definition of the formula. This leads, for instance, Fernandez (2010) to state that the two values for equity, i.e. that determined to give the different weights to the costs of equity and debt, and that obtained by discounted cash flows with the WACC, should be obtained by iteration.

The state

Foucault considered that the state should not be studied as a center from which power emanates, but as a "crystallization" of power relations (1978: 93; see also Escalona Victoria 2016). Many analyses have highlighted that the state is the effect, multiple and shifting, of the articulation of varied actors, programs, ideas and practices (Miller and Rose 1992). In this analysis, the state is not only produced by its official agents, such as state employees, but also by practices that take the state into account or presuppose it, and thereby produce its effects (Das and Poole 2004; Abélès 2005 [1990]; Sharma and Gupta 2006). This section applies this insight to the way in which the state is formulated in the elaboration of the WACC. Like the efficient markets, the state is also an "abstract" space produced by the formula (Mennicken and Miller 2012: 7, 20). My analysis is thus oriented to see how the formulation of the WACC produces imaginaries about what the state can and cannot do in relation to the efficient markets and the figure of the investor that I explored in previous sections.

As a source of data, the state appears in three forms in the formula. The first is as the guarantor and producer of accounting data. For instance, when the debt of the company is not composed solely of exchanged bonds, the cost of debt needs to be evaluated using the liabilities officially reported by the company. More generally, the market data used in the formula is stabilized by regulatory authorities that oversee financial activities and reporting. Second, the state also appears as a collector of tax, in the form of t. The discussions here concern the capacity of the valuating gaze to determine the right tax rate for the company. Finally, the state appears as the source of the risk-free interest rate, which is usually defined by the yield-to-maturity of the sovereign bonds of the richest states in the world, deemed default-free.[28] The difference between this risk-free rate and the statistically produced market return gives the "risk premium", found in CAPM and used to calculate the rate of return of equity.

These three sources of data refer to different state activities and are considered true or accurate in different ways. They also define different roles of the state in the production of the cash flows supposed to be "free" for investors and in the determination of the discount rate.

On the one hand, the data used in the formula implies that the state guarantee about accounting and financial reporting is reliable. Although accounting and reporting standards are today produced partly by non-state professional organizations, states remain the authority that validates these choices and enforces them. The importance of accounting for tax definition and collection is of course a fundamental factor in the process. This is often problematized in financial practice, for instance, by considering that some states and the

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[28] CFA, Level 2, Book 4, p. 124; CIIA, Corporate, ch. 5, p. 11.

data they oversee are more reliable than others. In this case, the state does not impact the amount of "free" cash flow supposedly available for the investor, but it guarantees its visibility and calculability.

On the other hand, the tax rate is determined by the state directly. In Austin's terminology, it is a performative act: the tax rate is true as soon as the relevant state agencies make it official (Austin 1976). As tax collector the state has a direct influence on the cash flows requested by investors in two ways. First, since taxes that are paid will not be available for investors, it is understood that declared earnings can be very low due to an accounting strategy aiming at increasing the cash that the firm can reinvest without it being taxed. This explains why discounting is not made on earnings, but on free cash-flows to the firm, adding, among other things, depreciation and amortization, i.e. sources of cash available for the company that will not be taxed. Second, the fact that the state will not tax the part of revenues that is used to pay interest on debt implies that debt may be a more profitable source of funding than equity. Manuals thus explain that taxes actually play a role in the structure of the sources of financing of the company, and therefore in the way its future cash flows are to be discounted.[29]

Finally, the risk-free interest rate relates to yet another epistemology. On the one hand, it depends on the existence of government debt, and on its qualification as "risk-free". This qualification often depends on rating agencies, which establish a ranking among states, with the top ranking given to the rich states that are usually the ones considered risk-free in the manuals (Sinclair 2005; Fourcade 2017). But it also implies the evaluation of the efficient market, since the risk-free rate is the spot market rate of the supposedly risk-free sovereign debt. Yet, the most crucial element of this data is the notion of sovereignty that it implies. What makes this rate "risk-free" is the assumption that the state will always honor its debts. This implies that the state's capacity to pay its debt is beyond the grasp of probabilities, otherwise, some "risk" would be measurable.[30] This infinity is continuous: for there not to be any "risk", the guarantee of payment must always hold. This absolute character of state sovereignty makes the risk-free rate of return operate as a universal standard of value that allows for establishing a relation of forces among the social activities attempting to attract investors' money. Activities that are not "risk-free" and that cannot propose returns higher than the "risk-free" rate are simply excluded from the "investment universe" and do not exist as objects of investment. Thus, the state founds the distinction between those who can and those who cannot be objects of the gaze of the investor

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[29] CFA, Level 2, Book 2, p. 169; CIIA, Corporate, ch. 1, p. 40.

[30] Pradier (2006) shows how the notion of "risk" in economic theory is unstable and multifarious. The notion of "risk-free" is yet one more variation of this ambiguous concept.

(Sinclair 2005; Boy 2015; Ortiz forthcoming). The standard of value established by the state is thus imposed both on the social activities that vie for investors' money, and on the investor' list of investment possibilities.

Different definitions of the state in the WACC establish different relations between the state, the investor and the markets. As a guarantor of the quality of accounting and financial information, and as a general tax collector, the state that is presupposed in the sources of data of the WACC seems aligned with the theory of market efficiency analyzed above. The state ensures the rules of the market, in particular the crucial issue of there being commonly shared and transparent information, and this service, among others, implies a certain level of taxation. In this frame, the sovereignty of the state is there to sustain the existence of investors and efficient markets.

But the notion of "risk-free" introduces several features that depart from this picture. It is striking that, although there could be other notions of "risk-free", and although calculations could be made using sovereign bonds of rich states without calling them "risk-free", these bonds are used systematically with this expression in the formulae, in a way that counters liberal discourse. Indeed, this notion seems to establish a guaranteed rent for anyone owning money. This is particularly important because it is the foundation of the "freedom" of the valuating investor: if an object of investment does not provide enough yield for its "risk", the investor is always guaranteed to have a minimal return by purchasing government debt. In this frame, this minimum revenue guarantee can only be based on taxes, since in the long run, printing money would mean inflation and a decrease of money's purchasing power.[31] This sheds another light on the presence of the state as tax collector. On the one hand, manuals consider that taxes are not desirable. CFA and CIIA manuals call the tax rebate a "subsidy",[32] and the CFA considers that a "perfect world" is tax-free.[33] On the other hand the notion of "risk-free" implies that the state will stay indebted forever, and will do all it can to honor its debts, putting investors' claims on public budget above the claims of any other member of the polity.

The three definitions of the state in the formula establish different relations between the state, the investor and the market. But in all three cases, the formulation of the WACC gives priority to the investor over the rest of society, and makes claims for the state to support this

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[31] Both manuals thus distinguish the "real risk-free rate" from the "nominal risk-free rate", as the latter includes inflation, cf. CFA, Level 1, Book 1, pp. 97–98 and CIIA, Portfolio Management, ch. 1, p. 1.

[32] CFA, Level 2, Book 4, p. 271; CIIA, Corporate, ch. 4, p. 7.

[33] CFA, Level 2, Book 2, p. 169.

power relation. The following section analyzes how the power relations described for these three entities are articulated in the WACC.

A political assemblage

As described above, the WACC brings together different epistemologies and ontologies, concerning time and the definitions of the figure of the investor, the efficient market and the state. Like the "mediating instruments" described by Miller and O'Leary (2007, see also Wise 1988), this formula thus allows for the articulation of multiple imaginaries into a common program, that of the definition of the "fundamental value" of listed companies. The concept of "assemblage" proposed by Deleuze and Guattari (1987) is useful in describing a specificity of this articulation (see also Mennicken and Miller 2012). The different imaginaries in the formula are partly independent, in the sense that they can be thought without the others. And some are contradictory, as we saw concerning the assumptions about market efficiency. Yet, the way in which they are brought together in the formula in the case of the manuals studied here brings about a new set of possibilities, an "assemblage", in which something like the "present value" of future cash flows, and hence the "fundamental value" of a listed company, is thought not only as possible, but also as "true" and "fair" (Muniesa 2011; Ortiz 2013, forthcoming). This section analyzes how the political imagination concerning the relation between investors, markets and states is a crucial set of connections keeping this assemblage together (Ortiz 2011, forthcoming).

The formula brings together different methods to determine the accuracy, representative character, or legitimacy of the numbers that are put in relation to each other. The formula is defined as the deed of an investor attempting to evaluate stocks because he considers that the current market price does not reflect their fundamental value accurately enough. The WACC is thus conceived as the best representation of the individual interest and cognitive equipment of the investor, i.e. the return he "requires" from his investment. This is connected to a specific temporality. Since the formula uses the constantly changing spot prices of financial assets, its application inevitably produces different discount rates every time. The discount rate is thus determined only for the time being and will be superseded by any future calculation. The validity of the number produced by the formula thus corresponds to the temporality of the individual gaze that it presupposes: it is only valid in the present moment when that gaze is enacted.

On the other hand, the formula presupposes that markets are efficient, including the determination of the fundamental value of the company under valuation, as we saw in the case of the definition of the relative weight of debt and equity. This efficiency refers to two

different ways to produce an accurate representation of value. One understanding implies that this truth obtains from the interaction of free participants seeking to maximize returns, so that the accuracy is the product of a social institution. The probabilistic understanding, on the other hand, considers that this truth corresponds to probabilistic rules about averages, standard deviations and correlations, among others. The social production of prices depends on the recurrent exchange of investors, with the promise that these exchanges will continue in the future, according to the rhythm of activity of free individual actors. In the case of probabilities, the temporality is that of an infinite occurrence of equally weighted events, which behave according to mathematical relations and not to the workings of a social institution in a specific time and place.

Finally, the state appears as a source of accurate data in three different ways. The state is partly a performative source of data that determines the tax rate according to the temporality of the production of the law and the changes in government and policy. It is partly an authority that guarantees the respect of truthful declaration of data by other organizations, such as accounting data and financial reports, according to the yearly and quarterly cycles of reporting and the occasional changes in reporting methods and standards. And it is partly an entity that guarantees a minimum "risk-free" rate of return to money owners, which stands outside the temporality of probabilities by virtue of its power over taxpayers. In this capacity, the state also sets an absolute standard of financial value to which all other assets are compared in order to exist and be ranked. The promise of infinite continuity of the state repayment guarantee is different from the promise of the market. The latter concerns future interactions in individual transactions, which are discrete and supposed to occur according to irregular free-arbiter decisions. It is also different from the infinity supposed in the calculation of probabilities, which implies discrete natural events that are regularly distributed and have equal weights.

In the manuals, the presentation of the formula is not accompanied by an attempt to render these different temporalities and epistemologies compatible in their own terms. On the other hand, the recurrent references that make this multiplicity cohesive are: the figure of the investor who seeks to maximize returns; the authority of markets that elicit a representation of "true" value in prices; and the duty of states to guarantee the fairness of the rules for all investors, and a minimum rate of return for investors, due to their status of money owners, which must be paid by taxpayers. This political narrative has two tensions that it is important to highlight, because they connect with the broader and more fundamental question of the legitimacy of the role that financial regulation tends to give the finance industry in the distribution of social resources.

The first tension concerns the role that formulas like the WACC play in the relative authority of the investor and the markets. In the definition of market efficiency, there is interdependence between the freedom of investors to look for information and evaluate assets and the authority of market prices once markets are efficient. Theoretically, in order to be efficient, markets need investors who think they are not efficient and look for information. But market efficiency derives its legitimacy from the idea that economic actors believe in it, and hence use prices as signals for the allocation of money, leading to a socially optimal situation. According to this view, in this process, the financial methods compounded in the manuals of the CIIA and the CFA, which are found with almost exactly the same formulation in most manuals of financial analysis and investment, play a crucial role. It is supposed that it is only when investors use these methods that they can assess value correctly and contribute to the efficiency of markets. Thus, the supposed freedom of the investor and efficiency of markets are based on the supposed epistemological correctness of these financial methods. This rationale underpins the upholding of these methods by financial regulation as an element that would guarantee that the finance industry, as the site where "qualified investors" would be enacted, would be the social institution most contributing to an optimal allocation of money globally. This dynamic relation between the figure of the investor, the efficiency of markets and the role of financial methods encloses within the finance industry any possibility to produce a socially optimal allocation of money, effectively erasing from the space of possibilities all other social actors that could claim a right to participate.

The second tension concerns the role of the state. On the one hand, the state is defined as a guarantor of the fairness of rules for all investors, in line with the general liberal ideal of what states should do to sustain free markets leading to a socially optimal allocation of resources. On the other hand, if the ranking of states according to their "risk-free" status expresses the hierarchies of a postcolonial order, the state is also defined along a somewhat feudal understanding that considers that some members of society, due to their status – in this case as money owners – are entitled to a minimal revenue paid to them by the rest of the polity through the tax system, i.e. in a way that is theoretically enforced by the state's monopoly of physical violence. This tension was already highlighted in the early critiques of liberalism, for instance by Marx, who shows that in a situation where ownership is very unevenly distributed, the supposed fairness of market rules and freedom of economic actors only works for a minority, which imposes its power to concentrate resources on the rest of society (1977 [1869]). This issue is also central in contemporary power relations. Financial regulation in most jurisdictions is premised on the existence of "safe" or "risk-free" assets, which constitute a core,

required investment for large financial institutions. And this double role of states, as guarantors of supposedly fair market rules, and as guarantors of the reproduction of inequalities, can be found for instance in the structural reforms imposed by the International Monetary Fund (IMF) on poor countries, in programs of privatization of social services worldwide, and in the accumulation of money in financial assets owned by a small minority of people, observable since these assets were established centuries ago. This double role of states thus stands at the core of contemporary analyses of the role of the finance industry and private property in the production of inequalities (Piketty 2014).

These political imaginaries do not just concern the WACC. They constitute a crucial scaffolding for the multiple temporalities, epistemologies and ontologies presupposed in the many financial formulas, methods and rationales contained in these manuals. As such, these imaginaries are mobilized to attempt to bridge the supposed technical and political legitimacy of financial methods and the concrete distributive effects that their application has worldwide.

Conclusion

This article has proposed conducting a conceptual analysis of a single formula, the weighted average cost of capital, as it is defined and explained in the manuals of the CFA and the CIIA for its use in evaluating listed companies. The analysis highlights that the formula implies multiple epistemologies and ontologies that are independent from each other and that at some points even contradict each other. This multiplicity is assembled through a political imagination to which all these elements refer, giving preeminence to the notions of investor and markets for the definition of value and the socially optimal allocation of resources. The language in the manuals considers that the financial methods they propose are the necessary component for this optimality to be attained. It also asserts that the role of the state is to guarantee both the fairness of market rules for participants, and minimal revenue for money owners, to be obtained from the rest of society through the tax system.

These political imaginaries are not only present in the WACC: they are present in all the financial methods found in these manuals. The manuals regularly refer to some influential authors of financial economics; but the methods and rationales compounded in the manuals are not the result of a single theoretical endeavor. As the historians of finance quoted above highlight, they have complex genealogies. The interest in looking at their combination in the manuals of the CIIA and the CFA is that, as content of professional textbooks, these concepts, methods and rationales, with their political imaginaries, circulate beyond the academic spaces of neoclassical economics and financial economics. They produce a territoriality of

their own, with its own capacities to become legitimate, and its own fragilities and limits.

The history of the appropriation of neoclassical economics in financial regulation goes beyond the scope of this article. This appropriation can be extremely diverse, so that it was used to justify privatization of the finance industry in some places (Stiglitz 2006) and to enhance the control of state-owned financial companies by the Chinese government, for instance (Wang 2015; Petry 2020). But in all these cases, as these authors show, regulation takes up the political imaginaries concerning an optimal resource allocation that would result from efficient markets. The political imaginaries I analyzed in the WACC are also mobilized in financial regulation to give legitimacy to the inequalities produced by the finance industry globally.

The power relations described in the WACC remain narrative as long as we only look at them in textbooks. For those relations to be effective, broader social institutions must be enacted every day, such as the finance industry, property rights and the global hierarchy of states that the notion of risk-free refers to. Studying the way in which value is defined in the finance industry matters because valuation is a fundamental part of the process whereby the finance industry distributes money worldwide. This kind of analysis presupposes that "value" is not something that exists by itself, but that there are practices where the word and those associated to it (values, valuation, valorization, evaluation, etc.), defined in several ways, are used to establish particular social relations (Muniesa 2011; Helgesson and Muniesa 2013; Ortiz 2013; Kornberger et al. 2015). Asserting that there is something called value, that it can be assessed technically and that it has a truth that is both the result of methodological accuracy and political fairness, is part of how the distributive effects of the finance industry are produced and legitimized. Looking at the political imagination that underpins financial methods is a way to contribute to a critique of the social institutions that sustain the relevance of these methods and the unequal distributive effects of their application.

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