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Giving Eternal Life.
Notes on a Recent Book by Marco Dotti

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1. Introduction

The topic of life annuities has not received the deserved attention from historians, despite the importance of the instrument and its pervasiveness in the economy of the *Ancien régime*. It has been known in Europe since the Middle Ages, and it has allowed men or women to invest capital in an institution having in return a pension during their life.[1]

Italian scholars have shown marginal interest in life annuities, focusing more on public finance and public debt or they have dealt with it as a tangential topic in broader research, such as socio-historical topics. More can be found in the French world, where the horizon expands to include tontines organized on public debt in addition to life annuities. However, the approach is strongly focused on the link of the annuities to probabilistic models and the impact these instruments had on the financial and political crisis of the eighteenth century.[2] So, their potential has been greatly un-

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[1] M. Dotti, *"Il misto barlume della probabilità". Le rendite vitalizie nell'ancien régime*, Carocci, Rome, 2023.

[2] P. Hébrard, *Les tontines et rentes viagères de la monarchie francaise, de leur création sous Louis XIV à leur liquidation par la convention nationale*, ACRH, Paris, 2017; P. Pradier, K. Béguin, "Les vies à l'aune du roi et de l'Église. La valeur vénale des rentes viagères au XVII[e] siècle", in P. Boucheron, L. Gaffuri, J-P. Genet (eds.), *Valeurs et systèmes de valeurs (Moyen Âge et Temps modernes). Le pouvoir symbolique en Occident (1300-1640)*,

derestimated, especially their "morphological versatility and social and economic multi functionality" (p. 14).

Life annuities were proposed by cities, territorial bodies, states, and in Italy in particular by charitable institutions and hospitals. Similarly, those interested in using this instrument were equally varied: merchants, artisans, nobles, foreigners, widows, and many others. The stipulation of a life annuity involved a complex process of estimation that had to consider the capital employed, the age and health of the earner, and any other services requested, to establish the annual annuity assigned to the donor. It was an attempt to manage uncertainty, determined not only by life expectancy but often also by the nature of the capital utilized to constitute the pension. This is the central theme of the entire book: overcoming uncertainty, declined on the various planes that revolved around the instrument: economic, social, financial, and institutional.

Dotti proposes life annuities as an epistemological laboratory for the development of the doctrine of chance and at the same time as a testing ground for (more or less) new forecasting and estimation systems. Due to their complex heterogeneity, life annuities reveal how various types of practices, such as *pro anima* bequests, are accumulated within the instrument. The author looks at this multiplicity by asking "What decision does the stipulation of a life annuity respond to",[3] thus confronting the social and economic context of the subscriber, and identifying possible factors that influenced his choice.

From the first pages, it's clear that the author intends to prioritize the morphology of the instrument in identifying cases, looking at their type rather than their quantity, thus highlighting the complexity and different forms it assumed. Dotti's research ground are the main charitable and confraternal institutions of Siena, Venice, Brescia, Milan, Lodi, and Turin between the fifteenth and eighteenth centuries. The choice to proceed "by cases" is the most functional

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Paris, Éditions de la Sorbonne, 2016; K. Béguin, *Financer la guerre au XVII^e siècle. La dette publique et les rentiers de l'absolutisme*, Seyssel, Champ Vallon, 2015.

[3] A. Torre, "*Cause pie*". *Riflessioni su lasciti e benefici in antico regime*, Quaderni storici, 154, 2017, pp. 155-180, part. 160.

for Marco Dotti, allowing him to collect a vast array of data that shows not only the morphological characteristics of the contracts but also opens a discussion on the "evolution of the estimation process". The narrative continuously intertwines social, cultural, scientific, and economic aspects, giving value to archival sources.

In approaching the documents, the author clearly explains his choices. Firstly, the intention to focus on life annuities stipulated by pious places, not hiding their problematic aspects, especially the difficulty in distinguishing cases from the sources produced by the institutions, which did not always separately collect this type of contract. At the same time, he devoted his attention to the morphological variety of the instrument, which often incorporated other charitable practices or different contractual types. This provides a point of observation on the society of the Ancien régime, allowing us to observe its social and economic mechanisms and dynamics through the lens of the life annuity.

2. All about the rating

Dotti's research takes life annuities as a point of observation for a broader and more multifaceted issue that directly concerns how reality is experienced and understood, which the author effectively defines as the "practice of uncertainty." Life annuities necessitated highly detailed estimation and forecasting practices, centred, among other things, on an anthropologically central "object" such as the relationship between life and death.

The first issue to address is undoubtedly the economic risk associated with forecasting and the practices implemented to overcome the uncertainty related to the lifespan of annuity beneficiaries. In different practices that were fundamental to the society of the *Ancien régime*, as highlighted by Giovanni Ceccarelli regarding the insurance market, estimation undoubtedly preceded the development of probability calculation.[4] However, during the *Ancien régime* sev-

[4] G. Ceccarelli, *Stime senza probabilità. Assicurazione a rischio nella Firenze rinascimentale*, Quaderni Storici, 3, 2010, pp. 651-702.

eral scholars, including for example Christiaan Huygens and Daniel Bernoulli, focused on understanding the (more or less) predictable variables – structural or contingent – in an attempt to determine the probabilities of success. Over the centuries, life annuities became the ground for developing and testing new theories on probability calculation. These new theories, which at the time were called the "doctrine of chance" or what Pascal defined as the "geometry of chance," opened a new form of relationship with the body, death, and society, producing as a result the application of demographic statistics and probability calculation to these areas.

The institutions that granted life annuities met the new scientific discoveries that were interested in the study of probability, accessing the knowledge that specialists were codifying, starting with the refinement of mortality tables. With his epidemiological model of 1760 Daniel Bernoulli[5] demonstrated the importance of variolation within public health policies, highlighting a longer life expectancy for those who underwent it. The advent and progressive refinement of tools to determine the survival probabilities of individuals, through precise indicators, made the life expectancy of subscribers somewhat predictable, but could not account for all possible variables. The subjectivity of the cases and the heterogeneous social extraction of the subscriber made it problematic to fit the annuity into a rigid structure, often preferring a case-by-case evaluation.

3. From pious places' point of view

In general, each institution managed life annuities according to its practical needs, depending on the circumstances, the quality of the capital, and the possibilities of making it profitable. At the same time, they could not deviate from the charitable purposes of the institution. In this process, during negotiations they asserted their so-

[5] K. Dietz, J.A.P. Heesterbeek, "Daniel Bernoulli's epidemiological model revisited", in *Mathematical Biosciences*, 180, 1-2, 2002, pp. 1-21.

cial weight and status within the community. Thus, capital was given to a pious place in exchange for an annual annuity for oneself or another person. The asset – often not just money – was given for charitable purposes obtaining a pension in return. Simultaneously, the capital financed the pious institution's activities and the annuity. The relationship between charity and economy, spiritual and monetary values, to which Giacomo Todeschini has dedicated major pages,[6] is one of the main axes of the constitutive process of life annuities.

On the privileged status of charitable entities within the society of the Ancien régime, significant historiographical testimonies and important reflections have accumulated, including the recent one proposed by Angelo Torre.[7] These institutions could modify the relationships between the subjects involved, generating rights and creating dependencies through instruments such as testamentary bequests or donations. These sequences of dispositions and transactions included bequests, loans, and, obviously, annuities, operating simultaneously on multiple planes (economic, social, familial, and religious).

The link between bequests and life annuities is strong, but it would be reductive to see it solely considering the charitable impetus or as the ultimate result of a calculation to secure a pension. Rather, it should be viewed from the perspective of the potential that could be expressed from the transaction between the institution and the individual. Dotti, drawing on Marcel Mauss's image of "total social facts," speaks of them as "prestazioni totali," within which var-

[6] G. Todeschini, *I mercanti e il tempio. La società cristiana e il circolo virtuoso della ricchezza fra Medioevo ed Età Moderna*, il Mulino, Bologna, 2002.

[7] A. Torre, *Opere pie*, cit. About that, look at M. Garbellotti, "Città, ospedali e beni dei poveri a Verona in età moderna", in G. Boschero, B. Molina (eds.), *Politiche del credito. Investimento, consumo, solidarietà*, Comune di Asti, Asti, pp. 325-334. Also fundamental, S. Cerutti, *Étrangers. Étude d'une condition d'incertitude dans une société d'Ancien Régime*, Bayard, Paris, 2012 pp. 121-127.
Dotti as well had addressed the issue, for example in *Il mercato dell'incertezza. Pratiche sociali e finanziarie viste attraverso la lente di una grande confraternita urbana*, il Mulino, Bologna 2016.

ious types of obligations are found, from financial to ritual obligations.[8] Similarly, the nature of the capital was multifaceted, often not composed solely of money but also of credit titles or uncertain assets. These represented an element of risk for the charitable institution. In the modern era, deferred payment was very common in transactions, and the entire economy was based on the certification of this obligation.[9] In a society that considered much of contemporary financial practices as usury, paradoxically, credit was omnipresent and often referred to the categories of reciprocity or gift.[10]

The bond created by lending was seen also from a social perspective, where money was granted on a medium-to-long-term period, often making it uncollectible but allowing the creation of social value and of a relationship, often asymmetrical, that added to an economic income guaranteed by the annuity.[11] The difficulty of recovering credit thus assumed a social characteristic, crystallizing this bond and its consequences within the community, not limited to the material aspects of the transaction generated by the lender-debtor relationship.[12]

Institutions – particularly pious places – contributed to bringing order to this background, playing a primary role in draining and managing uncollectible credits. In this context, annuities were often constituted with uncertain capital, especially when it came from credits or assets able to give access to other rights, such as citizen-

8 M. Mauss, *Saggio sul dono. Forma e motivo dello scambio nelle società arcaiche*, Einaudi, Turin, 2002, p. 134.

9 C. Muldrew, "Hard food for midas": Cash and its Social Value in Early Modern England, in *Past and Present*, CLXX (2001), p. 83.

10 A. Arru, *"Donare non è perdere". I vantaggi della reciprocità a Roma tra Settecento e Ottocento*, Quaderni storici, XCVIII, 1998, pp. 361-382. Anche R. Ago, *Economia barocca*, Donzelli, Rome, 1998, e soprattutto B. Clavero, *Antidora Antropologia Catolica de la economia*, Giuffrè, Milan, 1991.

11 R. Ago, *Economia barocca*, ct., pp. 103-105.

12 A topic on which Dotti had already proposed many articles, including "'Avere credito'. Finanze locali, istituzioni e famiglie a Como in antico regime", in M. Carboni, M.G. Muzzarelli (eds.), *Reti di credito. Circuiti informali, impropri, nascosti (secoli XIII-XIX)*, Atti del convegno internazionale di Bologna (13-14 settembre 2012), il Mulino, Bologna, pp. 163-94.

ship. They presented themselves as the solution to a tangle of uncertainties, in which charitable institutions could propose solutions, allowing them to enjoy the annuities of uncertain resources during their lifetime and often securing an immaterial investment, consisting of masses for the salvation of the soul. In other words, giving an uncertain asset a "charitable habitat," entrusting it to a charitable institution and linking it to ritual obligations, made it privileged in the eyes of society.

As for the subscribers, they came from different backgrounds: members of the oldest aristocracy, merchants, bankers, doctors, and even foreigners, who used the institution to create an assistance proposal capable of compensating for the lack of social ties. Often, they were already linked to the pia loca where they constituted the annuity, helping it with their economic and financial expertise. The synergy between these figures also characterized the "public" evolution of life annuities, as in the case of annuities on French public debt promoted by Necker which transformed the annuity into a financial instrument detached from the beneficiaries' lives and potentially linked to multiple people chosen by the investor. Geneva doctors and bankers found a way to organize groups of "heads" selected to maximize the gain for investors.

4. Don't lose your "head"

In the case of French public life annuities, doctors, merchants, and bankers attempted to tackle the issue of estimation. Those called up to evaluate had to rely on known elements, aiming to limit the risks to which investors were exposed, such as the age of the subscribers and their health status. Aware that the premature death of an insured person would deprive them of their income, they sought to mitigate the danger by carefully selecting the "heads," choosing, for example, the longer-lived female and variolated girls, who were well cared for, even medically. Medicine lacked diagnostic tools and was still strongly anchored to Aristotelian theories that linked the patient's health to their relationship with the environment. To partially overcome these difficulties people resorted to the so called "mortality tables": "based on statistical data and following a medical logic, an ideally biometric estimation was made on the demand side, rather than on the supply side, as it was often the case for hospital administrators or more generally for institutions that provided life annuities" (p. 117).

The relationship between science and life annuities, between medicine and financial investment evolved during the eighteenth century, absorbing the technical and diagnostic innovations of medical science developed during the Enlightenment. It became a financial instrument that guaranteed a substantial annuity with moderate risk.

Dotti exemplifies this with the case of the Geneva physician Théodore Tronchin (1709-1781): a pioneer of inoculation and a member of a banking family closely connected with the leading figures of the mid-eighteenth-century Parisian economy. Tronchin, like other doctors before him, saw the potential of using medical expertise to assess the life expectancy of the "heads," on which annuities were insured. Théodore Tronchin's son, Louis-François, was also involved in these financial practices, becoming in 1758 the "head" on which a life annuity was established in favour of the Baroness of Coppet, Élisabeth Locher, belonging to a wealthy family of merchants settled in Geneva. In this specific case, it was a tontine to finance the French public debt. The instrument was particularly favoured by the French government, which used it, as noted by Berthon and Gallais-Hamonno, on several occasions, becoming a true "companion" of the mid-eighteenth-century French economic life, used to address public debt problems.[13]

In 1711, Élisabeth married the Geneva banker Jean-Jacques Hogguer (1680-1742), who, in 1715, purchased the Château de Cop-

[13] J. Berthon, G. Gallais-Hamonno, *Les emprunts tontiniers de l'Ancien Régime, un exemple d'ingénierie financière au XVIIIIe siècle*, Publications de la Sorbonne, Paris, 2008, pp. 13-30.

pet and the baronial title. After being widowed, she moved to Paris to spend the rest of her life. Returning to the young Tronchin, he possessed all the qualities to represent a good choice, such as his young age – he was fourteen when the annuity was established – having already been variolated, and belonging to a family that would not let him lack anything, especially about health. The annuity was 1,200 livres, accruing annually from the interest of the 1757 tontine, established by royal edict in November. In 1772, following the will of the baroness's heirs, the life annuity passed to Louis François (p. 115-118).

By deciding to create a life annuity with the tontine shares, Théodore Tronchin aligned himself with many, including doctors, who invested and speculated through this financial instrument, aware of its validity and the guarantee of advantageous interest rates for many years with minimal risk. The choice was undoubtedly influenced by the success of this practice among the Geneva oligarchy and then in Parisian salon society. And by the research, some of which conducted by people close to him, on the probabilities applied to life expectancy, especially after the spread of inoculation to prevent smallpox contagion. Medicine thus intervened not only in determining the survival probabilities of the annuity earner but also in assessing their condition at the time of the contract.[14] Care thus became functional to the financial instrument.[15]

So, there was a synergy between professions: bankers, who had to manage the operation, and doctors, who assessed the subjects' condition through empirical examination. In this case, the estimation practice was entirely up to this duo, which had to develop the most realistic forecasts possible. This was the opposite of the usual practice, where institutions took on the task of converting capital into annual pensions, making an assessment, preparing tools to facilitate it, and finally determining the annuity.

[14] It was the case of "Les trentes Demoiselles de Genève". L. Luthy, *La Banque protestante en France de la révocation de l'édit de Nantes à la révolution*, II, Sevpen, Paris, p. 61.
[15] G. Lorandi, *Credito e professione medica nel Settecento europeo*, Educatt, Milan, 2024.

5. Overcome the darkness of uncertainty

Despite the multiplication of professions and the progressive specialization of institutions in granting life annuities, the problem of estimation remained. However, by the end of the Ancien régime important tools had been produced, resulting from medical-scientific discoveries and the progress of calculation theories. In 1832, even the Compagnia Generali of Trieste, having obtained government authorization to practice life insurance, referred to Deparcieux's tables (p. 140).

Looking at life annuities from the Ancien régime, as the case of Generali shows, means tracing back to a not-too-distant past the roots of our current way of understanding reality and addressing issues related to forecasting and estimation.[16]

Granting life annuities, hospitals, and confraternal institutions were engaged in a "practice of uncertainty" given by many possibilities that subscribers could have, regarding life expectancy, services, and the nature of the capital. Dotti calls it "baroque accounting" to demonstrate how various fields — economic, social, ritual, etc. — overlap and interpenetrate over an extended temporal horizon that spans over multiple generations. The issue of uncertainty returns, to be overcome by implementing all the knowledge possessed by both: the subscriber and the institution. Thus, from the subscriber's perspective, the latter became a safe harbour to overcome the uncertainty connected with life annuities.

Thinking of adhering to a functionalist interpretation of institutions by the total observance of a rigid protocol, would not allow the comprehension of the kaleidoscopic reality pia loca had to face, nor the negotiation process to which both parties were called. Conversely, the volume reveals that the fundamental element resulting from the study of life annuities is only partly the analysis of the in-

[16] V. Zelizer, *Morals and Markets. The Development of Life Insurance in the United States*, NY, Columbia University Press, 2019. Where we see how even in contemporary life insurance there is a mix of calculation, hope, moral purposes, etc. showing continuity with the past.

strument itself, but rather what surrounds it, which helps clarify the issues and the concerns, lived by the protagonists. In this way, the part of uncertainty is reduced, like a doctor examining the potential "head" and evaluating biometric data, as well as the history of their illnesses and family. As observed in the case of the fifteenth-century Dutch nobility, the life annuity acts as a catalyst for needs, problems, and even solutions in the face of uncertainty.[17] To fully understand this nature, the perspective must be broadened, studying annuities considering family, social, economic, and political points of view, and the activities of those involved. In other words, to understand the nature and dimension of uncertainty and, at the same time, the practices implemented to overcome it, we have to start asking "What universe do the social actors face, and how do they react to it."[18] It is probably for this reason that in life annuities, insurance dialogues with betting, charity with interest, and, as in gambling, chance converses with providence.[19]

Dotti concludes by asserting that in such practices, we can observe an "extended art of conjecture" (p. 195), evidently recalling Bernoulli's *Ars conjectandi*, but alluding to an extension to further parameters and expectations not controllable through probability calculation and yet, as mentioned, included in the choices and evaluations of the parties. More indirectly, this definition seems to contain a suggestive reference to Einstein's "general (or extended) relativity," challenged by the probabilistic epistemology of quantum mechanics (explicitly cited in the introduction of the volume), proving how the book, through the study of life annuities, aims to represent a precise (and at times micro-analytical) historiographical opening on much broader epistemological issues.

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[17] F. Buylaert, Y. Huybrechts, "Blue blood in the red? Nobles on the Antwerp annuity market (1490-1493)", in *Edad Media. Revista de Historia*, 19, 2018, pp. 184-217, part. 216-217.
[18] A. Torre, "Cause pie", p. 160.
[19] Cfr. A. Addobbati, "La sorte e la provvidenza. Una controversia sul gioco d'azzardo nel primo Settecento", in B. Alfonzetti, R. Turchi (eds.), *Spazi e tempi del gioco nel Settecento*, Edizioni di storia e letteratura, Rome, 2011, pp. 95-118.