



Georges d'Avenel: an economic historian ahead of its time

Alain Alcouffe, David Le Bris

► To cite this version:

Alain Alcouffe, David Le Bris. Georges d'Avenel: an economic historian ahead of its time. 2021 European Society for the History of Economic Thought Conference "Development and Underdevelopment in the History of Economic Thought", European society for the history of economic thought (ESHET), Oct 2021, Sofia, Bulgaria. pp.1-29, 10.1080/09672567.2023.2226397 . hal-03551429v2

HAL Id: hal-03551429

<https://hal.science/hal-03551429v2>

Submitted on 11 Jul 2023

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Georges d'Avenel. An economic historian ahead of his time¹

Alain Alcouffe, University of Toulouse 1 Capitole, alain.alcouffe@ut-capitole.fr

David Le Bris, Toulouse Business School, d.le-bris@tbs-education.fr

Abstract:

Unsatisfied with traditional history, Georges d'Avenel focused on quantitative data to understand the past. He built series of prices for multiple goods and services from 1200 to 1890, documenting long-term changes in incomes and prices as a result of technical progress as well as in inequalities as captured by the top 1%. Criticised by some historians during his lifetime, his data were used by Vilfredo Pareto, Irving Fisher, Ragnar Frisch and Alfred Marshall and are still being used today. His analysis provided input for various fields and paved the way for the *Annales* school. D'Avenel introduced a quantitative approach to historical analysis and current social scientists now acknowledge him as a kind of predecessor.

Keywords: cliometrics, economic history, top 1%, inequalities, mentalities

JEL codes: B15, B16, N13, N33

1. Introduction

In recent decades, many economists have reconnected with history for various reasons, such as to observe long-term phenomena (e.g. inequalities, Piketty 2001) and rare events (financial crises) or to underscore the age-old origin of some factors (persistent studies, see Cioni et al. 2022). Such efforts to reconnect with history for answers is concomitant with the “applied turn” in economics (Cherrier and Backhouse 2017). It is also a reconnection because, at its origin political economy was embedded with what is now called economic history (Diebolt 2016; Diebolt and Hauper 2021). Vauban and Petty, as well as the classical school of

¹ Presented to the Eshet Conference, Development and Underdevelopment in the History of Economic Thought, Sofia, 8-10 October 2021.

economics and Karl Marx, all employed historical evidence in their study of economic practices, social phenomena and the capitalist system; Marx even built a theory based on history. The recognition of economic history as a distinct field of scholarship appears with the Marginal Revolution while the German Historical School and its counterparts in various countries as well as the institutionalists were dismissive of abstract economic theory. This split between economic history and economics called into question the potential place of economic history in the history of economics.²

At the beginning of this split, Georges d'Avenel (1855–1939), a mundane and eccentric researcher, published an impressive amount of data, notably price series from the 13th to the 19th century. He also used a fully empirical approach to deduce various “discoveries” from repeated observations of the past that fostered debates on topics such as inequality, living standards, welfare, the nature of consumption, human capital and social transformations. His very long-term approach helped him to detect major changes occurring during his time, especially the fact that technical progress allowed the extension of the consumption of products once considered luxuries reserved for an elite, a process he called the *nivellement des jouissances* (levelling of enjoyments), which later became more commonly known as mass consumption.

D'Avenel's historical data and analysis were soon mentioned by, among others, *excusez du peu*, Vilfredo Pareto with regard to inequalities, Irving Fisher for economic cycles, and Alfred Marshall for the comparative approach. Long after their publications, d'Avenel was still being cited by distinguished economists such as Anna Schwarz and Maurice Allais. His quantitative approach to history also paved the way for the *Annales* school, as recognised later by some of its eminent members such as Fernand Braudel (1967; 1988). D'Avenel's quantitative analysis

² When dealing with this issue, Vibha Kapuria-Foreman and Mark Perlman (1995) coined the expression of an “economic historian's economist” in order to highlight the credentials of Simon Kuznets.

of several social issues also attracted the interest of other more recent social scientists (Williams 1982).

Using JSTOR and Google Scholar, we identified citations of d’Avenel’s books (not articles), distinguishing his work on price series from those on more sociological issues, which we classified as “ways of life” citations. Due to the nobiliary particle in his name, which is rendered in various ways such as “Avenel d’”, “d’Avenel”, “Vicomte Avenel”, “Vicomte d’Avenel” (not to mention the possible combinations with his first name), we are not fully confident in the absolute numbers of the citations (we likely overlooked some), but such bias remains constant over time so we are certain that the changes have been correctly tracked: there has been a near constant level of citation of his work on prices and recent interest on “ways of life” issues.

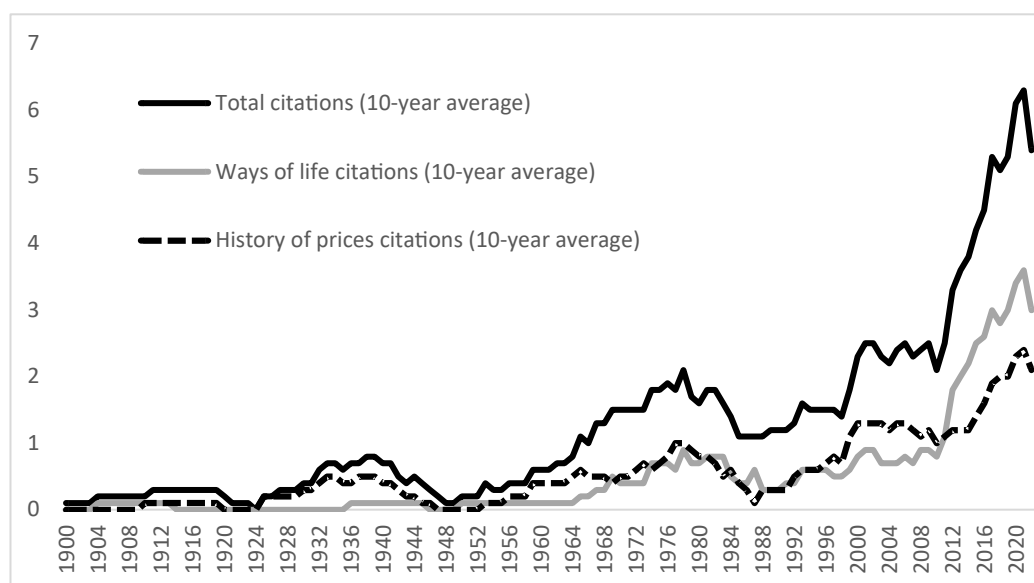


Fig. 1. Yearly citations of d’Avenel’s work (1900–2020).

Note: The “History of prices” series indicates the citations of the various volumes of the eponymous book. “Ways of life” citations are for *Le mécanisme de la vie moderne* and its various iterations, *Découvertes d’histoire sociale* and *Le nivellement des jouissances*. The “Total citations” series encompasses the two other series as well as other books.

Although Georges d'Avenel was sometimes called an economist, he was very cautious not to get involved in the battlefield of the *Methodenstreit*. He was first and foremost a historian, even if not a professional one, who was proud of his familiarity with archives. Dissatisfied with the history of battles and great men, he turned his attention towards the economic life of people to understand things on a deeper level behind “bark of things” and the “miscellaneous facts of history”. D'Avenel introduced his approach, which encompassed socio-economic facts, to write a historical account of Cardinal Richelieu (1884). Later, taking the opportunity offered by a competition held by the *Académie des Sciences Morales et Politiques (ASMP)*, he undertook an in-depth investigation of French prices from the 12th to the 19th centuries. The scope of his enquiry surpassed the precedent set by Thorold Rogers in England. More importantly, d'Avenel used the various data he collected – and not only prices – to develop analyses and even theories to understand socio-economic life. He won the prize offered by the *ASMP*, which funded the printing of his books. He also found recognition through publications that reached large audiences, such as books and numerous articles in the *Revue des Deux Mondes (RDDM)*; with 12,000 subscribers in 1914, the *RDDM* was the dominant intellectual journal of the time with a strong “moral authority” (Yon 2010).

While economists viewed his work in a positive light, two prominent historians of his time, Charles Seignobos and Henri Hauser, were very hostile. Part of their hostility was grounded in scientific problems, but they also took issue with d'Avenel's original political stance and the provocative claims he made. As a public figure, he was frequently involved in contemporary debates, assuming original positions and especially downgrading the role of politics in the improvement of the fate of humankind. He was important enough to deserve a full pamphlet written by French activist Charles Maurras. Despite several methodological weaknesses, the data d'Avenel gathered and published eventually offered reliable price series. However, the method he used to compare wealth and living standards over time is more

questionable.

The shift of economics towards theories can explain why the history of economic thought overlooked the influence of d'Avenel's work while he was an original representative of the old-fashioned economic approach embedded in historical considerations whose work provided input for all kinds of economists, including theoreticians. Our contribution aims to introduce d'Avenel into the economic debates forgotten by historians of economics and to assess his surprising legacies. In addition, to support modern researchers in using his data, we clarify the potential weaknesses of his work and what can be confidently used.

The next section covers various features of Georges d'Avenel's life. The third section outlines his main work on the history of prices and goes into the strengths and weaknesses of that work, while the fourth section shows d'Avenel's specific position in high society. The fifth section discusses the reception of his studies by historians and economists from the 1890s to the first decades of the 21st century. The sixth section exhibits his original economic investigations and is followed by the conclusion.

2. Biographical sketch of an “enlightened amateur”

Georges d'Avenel (1855–1939) was born in Neuilly, France, a wealthy city just outside Paris, to Henri d'Avenel and his spouse née Aglaé d'Hémeric de Cartouzière. Both sides of the family belonged to the French nobility of Normandy; one d'Avenel is mentioned among the companions of William the Conqueror. Georges's uncle, Joseph d'Avenel (1810–1891), was an erudite historian and member of local antiquarian societies, which helped his nephew in his research. Georges studied at the Jesuit Collège de Vaugirard but did not attend any higher education establishment. He entered the French administration as soon as he could, during a period marked by regime changes after the fall of the Second Empire.

D'Avenel had a brilliant career as a civil servant: in 1873, at only 18, he became chief of staff of the Creuse prefect, and in 1874, the chief of cabinet of the Loir et Cher prefect, attached to the cabinet of the Ministry of the Interior, and editor at the Ministry of the Interior. From 1 November 1877, he served as head of the Secretariat of the Departmental and Communal Administration of the Ministry of the Interior. In July 1880, he resigned after a total of seven years of administrative service. Vapereau (1893) links this decision to changes in French policies on congregations that led to the expulsion in 1880 of most of the religious orders offering teaching (Jules Ferry Laws). Nevertheless, this motive was undetectable in the subsequent writings of d'Avenel, who held an original position regarding the Roman Catholic Church. Despite being a Catholic himself, he was in favour of the separation of church and state (d'Avenel 1890).

After leaving his post, d'Avenel entered a period during which he was uncertain about his professional status. When he married Laura Jane Delancey Meinell, the daughter of an American colonel, in April 1880, he indicated he was an editor at the Ministry of the Interior, but on the birth certificates of his children in 1881 and 1885 after he resigned, he simply indicated he had no profession. Later he defined himself as a landlord and eventually in 1902 as a "man of letters". D'Avenel was clearly uncomfortable with occupational categories. Indeed, he maintained many activities and was not always occupied with archives and writing. He owned several estates where apple trees were grown to make cider. His involvement in this industry was significant enough that he was nominated cider commissioner at the 1900 Paris Exposition, where his own cider was celebrated. But he was later implicated in a case of falsification of cider made from sugar and water. He was sentenced in absentia by the courts and lost his Legion of Honour award, but after five years he was cleared on appeal in 1917 and his medal was returned. But his historical research was his passion and kept him busy. He was largely a self-taught "amateur" historian. Because he had no formal training in history or

autobiographical notes, we can only trace his different publications to describe his path to becoming a historian and economist.

D'Avenel was still a civil servant when he published his first historical work in 1878 on the bishops and archbishops of Paris. It was a prosopography that showed his familiarity with historiography from the Middle Ages to the 19th century and archives, but was well removed from economic issues. This publication was certainly an opportunity to consider the relationship between the French Catholic church and the state, a hot topic at the time. In 1881 he published a short book that was still related to the political issues of his time but with a first clear interest in economic problems. The book dealt with the history of the octrois (a city entrance tax on goods) to “demonstrate the necessity of their creation in the past and their continuance in the present” (d'Avenel 1881: 4). These taxes, as old as towns themselves, were considered by economists as a barrier to free trade from the 18th century. According to Turgot (1774), the octrois were an abusive levy that cities used to obtain financial resources at the expense of the rural population by subjecting all foodstuffs to heavy taxes that reduced their consumption and were borne by the poorest citizens. The French National Assembly eliminated the octrois in 1791 but they were soon re-established and remained in effect until World War II. The debate continued over the entire 19th century. The French liberal school, and especially Jean-Baptiste Say's son (Horace) and grandson (Léon), were hostile to the octrois, which they considered as an offence to the laissez-faire doctrine. The *Dictionnaire de l'économie politique*, edited by Charles Coquelin, and the *Dictionnaire des finances*, edited by Léon Say, both discussed the advantages and disadvantages of the octrois. The argument for the tax maintained that it was the only way to allow for local policies.

D'Avenel turned to history to contest the arguments against these taxes, pointing out that this type of taxation was freely voted and could be withdrawn by municipal councils (as it had

nearly always been); it was also a crucial resource for city policies. To justify the universality of this system, d'Avenel also offered examples of equivalent taxes in foreign countries. Unsurprisingly, he was criticised in *L'Economiste français* (3 June 1882) by Arthur Mangin.³ D'Avenel's book on taxation spoke to the public debate and was a first example of how he was able to generate animosity across a wide spectrum of people: Republicans (favourable to the octrois) because the abhorred Ancien Regime was used as a reference, as well as economists because d'Avenel provided support for a policy that was theoretically negative for a free market to prosper. Whatever the qualities of his book as a historical work, d'Avenel did not capitalise on it to obtain any support but quite the opposite.

After this first incursion into economic issues, he devoted more than ten years of research to Cardinal Richelieu, resulting in a book on Richelieu and the absolute monarchy, which was awarded the Grand Prix Gobert by the French Academy in 1889. Although the issue seems far removed from economics, d'Avenel took a very original approach (explained below) to this book, basing most of his analysis on economic considerations. Unfortunately for d'Avenel, his book was soon overshadowed by the biography of Richelieu published in 1893 by Gabriel Hanotaux (1853–1944), a former foreign affairs minister and historian. However, a century later, the comparison between the two books turned in favour of d'Avenel.⁴ From 1893, he also served as editor for the publication of the correspondence of Cardinal Mazarin.

But d'Avenel had already switched to another topic following a query from the *ASMP*. Following the proposal of its department of political economy, statistics and finance, the *ASMP* had set the subject of the Count Rossi Prize in 1887: the economic history of the value and income of land in the 17th and 18th centuries in France. In 1889, it offered another Count Rossi Prize: extending the subject from the 13th century. After this extension, entries for both

³ Arthur Mangin, a highly recognised populariser of science, was the journal's science columnist.

⁴ Fernand Braudel wrote a devastating critique of Hanotaux in *Annales*, 1951, 6–2: 285.

competitions were judged in 1892, and both prizes were awarded to the same author: Viscount G. d'Avenel (Levasseur 1892). He received a public grant for this achievement through the *Institut de France* (the institution grouping the different French academies) to publish his results, a book now known as the *Histoire économique de la propriété*, published in seven volumes from 1894 to 1926.

3. D'Avenel's history of prices: strengths and weaknesses

For its 1887 prize essay competition, the *ASMP* asked candidates to compare the economic value and income of land to the wages of farmers and workers and the prices of food and other agricultural products (Levasseur 1892). There is no evidence that the publication of Rogers's history of prices in England (launched in 1866) had led the *ASMP* to set the Count Rossi Prize topic on the history of French prices, but d'Avenel was aware of Rogers' studies and eager to follow his efforts. The minutes of the *Société d'archéologie d'Avranches* indicate that Georges d'Avenel had used his many connections within the society to establish contact with Rogers, who had already published the first four volumes of his *A History of Agriculture and Prices in England* and replied that "he [would] be glad to help M. d'Avenel in any way".⁵

The eight seats devoted to economics and statistics in the *ASMP* were held by Maurice Block, Athanase Cucheval-Clarigny, Émile Levasseur, Jean Courcelle-Seneuil (replaced by Clément Juglar in December 1892), Léon Say, Frédéric Passy, Paul Leroy-Beaulieu and Henri Germain. Among them, Cucheval-Clarigny and Germain did not remain in the history of economic thought. Cucheval-Clarigny was an erudite librarian at the *École Normale* while Germain was a French banker and politician; he founded *Crédit Lyonnais* in 1863. The

⁵ Arthur Reed Ropes (better known under his pen name Adrian Ross), whose parents lived in Normandy, was the intermediary between Rogers and d'Avenel. In 1883 he graduated from King's College with a first-class degree, winning the Lightfoot Scholarship for history and a Whewell Scholarship in international law. He was elected a fellow of the College. (*Revue de l'Avranchin* 1886, Séance du 10 novembre 1887: 605)

remaining six seats were occupied by scholars of the French liberal school, which they more or less revered. It is noteworthy that two academics (Block and Leroy) were interested in the topic, but Émile Levasseur (1828–1911), a French economist and historian, was most involved in this theme for the essay competition. As a professor of geography, history and statistics, Levasseur himself had already covered the topic. In the introduction of his 1858 book, he presented “the history of precious metals in the previous eighteen centuries, and [made] the present revolution understandable through the example of revolutions and the near continuous variations of gold and silver⁶”, and in his conclusion, he discussed the pros and cons of the demonetisation of one of the two metals. The book appeared amid the turmoil set off by the discoveries of gold in California and Australia. Levasseur’s 1858 book contained some evidence that he knew Ricardo’s monetary theories and that he was also aware of Thomas Tooke and William Newmarch’s *History of Prices*. The main focus of the *ASMP*’s essay competition was land prices, which was a hot topic at the time. Indeed, while agricultural land had been a safe asset for centuries, its relative price had begun declining.

Based on his previous studies, d’Avenel was perfectly aware of the difficulties involved in the *ASMP*’s competition. He had already published a first part of his work on Richelieu in 1882 as a presentation to the *ASMP* (d’Avenel 1882) centred on the monetary value and the power of money under Louis XIII. These monetary issues were actually at the heart of his questions from the beginning. Indeed, for his octroi study, he compared 17th-century taxes with current taxes, raising the issue of the purchasing power of money over time. This was a point he emphasised in his study on Richelieu, asserting that “a figure of the past is of interest to us only insofar as we know its corresponding value in the present time” (d’Avenel 1884, vol. 2: 139).⁷ D’Avenel reiterated this conviction to correctly address the aim of the *ASMP*, persuaded that in order for readers to understand his results, he had to compare his findings

⁶ Unless otherwise noted, all translations of quoted material from French sources are our own.

⁷ This quote is from a chapter entitled: “The value of money and its purchasing power”.

with the current situation of the late 19th century: “Any price that is not converted into modern language is an unlit lantern” (d’Avenel 1894–1926, vol. 1: XVI).

Comparing prices over time involves addressing three kinds of difficulties. First, measurement units had changed over time and across the various areas of France. As a result, d’Avenel had to convert the old local units into the new metric system. Second, an even more complicated issue had to do with currencies. Currencies raised two problems: one was a minor issue regarding the existence of multiple currencies in circulation (whether legally or not) in the various parts of the kingdom, while another arose from the frequent debasement of the *livre tournois*. Prices in the archives were expressed in account moneys, mainly in *livres tournois*, while payments were made through various coins corresponding to different mints from several authorities, including foreign ones. The problem d’Avenel faced was how to transform an “account price” into something comparable over time. For d’Avenel, who lived during several decades of a stable gold–silver standard, the most natural approach “something” should be a quantity of silver (the value in silver set in 1803 for the franc germinal was similar to the value of the *livre tournois*, which had remained constant since 1726). But what was the amount of silver obtained in exchange for one *livre tournois* at any point in time before 1726?

We know from Gresham’s law that money changers based their business on arbitraging to reach the most exact value for each coin. Meanwhile, the French State regularly proclaimed an “official” value for the *livre tournois* as expressed in metal. A few years before d’Avenel, Natalis de Wailly published a collection – still a key reference today – of these official values. D’Avenel rejected these official values for the *livre tournois*, preferring instead to use changers’ values of the silver content of the *livre tournois* (or the few other account moneys used); this approach is relevant (see section 5). Taking for granted that these values were

correct, d'Avenel could convert the price at various times into quantities of silver and express it in gold francs of the time, since the franc germinal was set at 4.5 grams of silver. Using this conversion tool (see values in d'Avenel 1894–1926, vol. 1: 481–94), d'Avenel expressed all the prices he collected in francs germinal. Moreover, he provided averages for many items, but without any indication on how they were built and sometimes using very few observations from very different areas. In any event, this part of his analysis is broadly reliable, while the following one is more uncertain.

The third problem was also the most difficult to solve: the purchasing power of silver changed over the centuries according to the prices of goods and services actually consumed over time. D'Avenel, already in his book on Richelieu, clearly explained that the comparison of a similar quantity of metal at two different points in time leaves something to be desired:

Comparing the currencies of two periods does not reveal the power of money during these two periods. This is a mistake that many authors have made. The average weight of the *livre*, between 1610 and 1643, was about ten grams; but if the *livre* under Louis XIII weighed ten grams, while our current franc weighs only five grams, it means that the *livre* is worth two francs by weight, and not that it has only twice as much purchasing power as the franc. (d'Avenel 1894–1926, vol. 2: 158–9)

So what can be bought by a given quantity of metal at each point in time? He criticised the use of the price of wheat as a single representative good not only because bread was not the only thing people consumed:

This is the case when we say that man does not live by bread alone; he relies on many other edible products, he drinks, he heats his home, he needs light; he needs clothes, furniture, beasts of burden, which he must buy and feed, and we are only talking here about the poorest. The middle and upper classes have many other needs, interests and expenses. (d'Avenel 1894–1926, vol. 2: 158–9)

But extending the analysis to random products could also be misleading:

For example, there are goods that have decreased in price since Louis XIII, or have increased only slightly, as a result of new manufacturing processes and new conditions for transport by land or sea. Considered in isolation, the prices of these objects will not reveal the true power of money. (d'Avenel 1894–1926, vol. 2: 158–9)

D'Avenel rightly highlighted the difficulty that economists still face today: how to appreciate changes in the prices of what is actually consumed? He clearly explained that what is important is the quantity of goods and services that can be bought by calling for price series:

Purchasing power is the difference between the quantities of goods provided by ten grams of silver in 1640 and ten grams of silver in 1883. It is therefore necessary, in order to determine its exact value, to know the price of almost all the items that are necessary, or simply useful and pleasant, to life at the time one wants to study. (d'Avenel 1894–1926, vol. 2: 158–9)

D'Avenel was aware that a consistent measurement must take into account the basket of what is actually consumed at each point in time. This ambition was very consistent but extremely difficult to achieve because only very recently has such a variable basket, applicable only to England, been estimated by Horrell (2023), who recalls that “existing long-run cost-of-living series indices are constructed around the consumption of an unchanging basket of goods”. She constructed baskets of different weights (0% at some periods) of 34 products (beans, rent, candles, tobacco etc.) at eight points between 1299 and 1850. The most advanced work for France (Ridolfi 2019) still used a fixed basket of 12 goods. Conversely, d'Avenel was much more (probably overly) ambitious:

To come to a serious conclusion, it is not enough to group a few isolated figures together and to indicate the price of a few commodities. To merit any claim, one must be almost complete, neglect nothing, and take into account all the elements of the existence of the various classes of society. To cite a handful of figures to determine the power of money for a whole century is to proceed by hypothesis, and therefore to remain in the realm of probability. (d'Avenel 1894–1926, vol. 2: 158–9)

Moreover, d'Avenel wanted to distinguish three classes of income and wealth in French society, each associated with a particular consumption structure.

For starting point let there be taken, at two different dates, a constant figure representing income. Adding up the sum of wants and enjoyments to which the figure corresponds it may be concluded that, if it represents twice, thrice, or four times as much, then the purchasing power of money was twice, thrice, or four times higher at the one date than at the other. (d'Avenel 1894–1926, vol. 1: 10, as cited in Gide 1895: 408)

Thus, for the wealthy class, for the middle class, for the working class, there are three special and different powers of money, each of which must be determined separately and which serve as types. (d'Avenel 1894–1926, vol. 1: 10)

In fact, d'Avenel presented only two tables providing estimates of the purchasing power of money from 1200 to 1600 and from 1600 to 1790 he was more assertive regarding the accuracy of his results for the second period and refused to present estimates according to three social classes and thus different consumption patterns.⁸ He only offered tables with an aggregated “general purchasing power” announced as weighted by 60% for the lowest social class, 30% for the middle and 10% for the upper class; these weighted values corresponded to the fact that during his time, 60% of households earned below 2,500 francs per year, 30% between 2,500 and 7,500 francs and 10% more than 7,500 francs (d'Avenel 1894–1926, vol. 1: 10).

The first table was preceded by a disclaimer: “In summary, the power of precious metals, from 1200 to 1600, compared to their current power as a unit, seems to have been”:

Purchasing power of money from 1200 to 1600 (base 1 in 1890)			
1201–1225	4½	1426–1450	4½
1226–1300	4	1451–1500	6
1301–1350	3½	1501–1525	5

⁸ He provides a short table of the purchasing power of the poor in d'Avenel 1894–1926 vol. 3: 382.

1351–1375	3	1526–1550	4
1376–1400	4	1551–1575	3
1401–1425	4¼	1576–1600	2½

Source: d’Avenel 1894–1926, vol. 1: 27.

Meanwhile, he was much more assertive concerning the second period: “The coefficients of the power of money, from 1601 to 1790, were exactly as follows (the current power being equal to 1)”.

Purchasing power of money from 1601 to 1790 (base 1 in 1890)			
1601–1625	3.00	1701–1725	2.75
1626–1650	2.50	1726–1750	3.00
1651–1675	2.00	1751–1775	2.33
1676–1700	2.33	1776–1790	2.00

Source: d’Avenel 1894–1926, vol. 1: 32.

D’Avenel himself was aware of the many hidden hypotheses surrounding his estimates. While he provided many examples of his “discoveries” regarding the fluctuating purchasing power of money, he gave considerably less information about how he built the consumption baskets over time. It must be acknowledged that despite his intuition that a variable basket of goods and services should be taken into account to measure the purchasing power of money, his explanations on how he used them to measure the general level of prices fell short. He described how he proceeded while listing products:

To compare 2 kilograms of silver, which we take from the circulation of money, one in 1500, the other in 1892, and whose purchasing power we want to know, we need to know not only what each of them will give us in terms of bread, meat, panties [*culottes*] and cupboards, but also what they represent of workers’ wages, salary and fees, paid services,

property acquired or leased, distance travelled according to the locomotion systems in use, values in one word, goods or wealth, according to the generic term that will be preferred to designate the universality of things that are likely to be exchanged and to have a price. (d'Avenel 1894–1926, vol. 1: 7)

It is noteworthy that d'Avenel avoided using any formalisation of his estimates and that his explanation of the *pouvoir de l'argent* (“power of money”) appealed to readers’ intuition without providing many of the details that an economist would like to know. As far as one can deduce, d'Avenel used a Paasche price index because “this mode of measuring the power of money has, over all those employed to date, the advantage of encompassing almost all values and giving them a weight in proportion to their number and price” (d'Avenel 1894–1926, vol. 1: 13).

Unfortunately, d'Avenel did not provide any figures on how he weighted the prices nor for the series he used. D'Avenel's words prove that he was aware of the debates about the index numbers that began to be known and implemented in various European countries (Mitchell 1915). The index numbers used to measure the purchasing power of money have a long history, and Alfred Sauvy claims that Jean Bodin had already hinted at some baskets of goods in this context (Sauvy 1952: 88). This approach is more recognisable in Dutot's *Reflexions* (1738) but it was in 1859 following Newmarch's *History of Prices* that *The Economist* began to publish series of index numbers. These index numbers were related to wholesale prices; consumer price indexes did not appear before the turn of the century. It is therefore admissible that the concept was not very common outside some economic circles. Thus, at the beginning of the 1890s, the index number theory was not well known, so it is understandable that d'Avenel did not bother his readers with such “details”. It is possible that he was more precise in his discussions with the *ASMP*, and especially with Émile Levasseur, who almost immediately used d'Avenel's results in his own published work. However, despite all the

compliments Charles Gide paid in his review of d'Avenel published in *The Economic Journal*, he was still perplexed.

But how are we to sum up wants or enjoyments? This is what puzzles us. Moreover the author makes no allusion to index numbers, nor to any of the means which have been proposed for estimating the variations in value of the standard (Gide 1895: 408).

In short, the prices expressed in gold francs in d'Avenel's price series are reliable, despite (as explained in section 5) some weaknesses regarding the sources (especially the lack of continuous series) and risky averages (see Simiand 1932 for a detailed assessment). However, his purchasing power of money, which allowed the comparison over time of wealth or living standards, is much less relevant because he did not provide the details of how he estimated his consumption baskets.⁹

4. An original figure in high society

By the time his work on prices came out, d'Avenel had been regularly writing articles for the *RDDM*, where his last article was published in 1937. The *RDDM* was a literary, cultural and current affairs magazine launched in Paris in 1829 with the purpose of “establishing a cultural, economic and political bridge between France and the United States” – in other words, the Old Monde and the New. At the end of the century, Ferdinand Brunetière pushed the journal far away from its original focus to establish it as an elite liberal vehicle of haute culture. Among its authors were many historians, including François Guizot and Augustin Thierry, along with economists such as Louis Wolowski and Paul Leroy-Beaulieu and statistician Alfred de Foville. Most of the authors were rather conservative, but there was also a geographer and famous anarchist, Élisée Reclus. Unsurprisingly, the content of the *RDDM* was advertised in many foreign journals.

⁹ Care should also be taken with volume 5 of the history of prices, as d'Avenel explains (p. 350) that from that point on he would automatically apply an adjustment for the purchasing power; however, that adjustment applied only to the text while the tables were still expressed in gold francs.

D'Avenel continued publishing his work. He first presented his ideas in the *RDDM*, whose board he eventually chaired, and then published them in the form of books. He published more than one hundred different books, but the same content was frequently republished. In the quantification presented in the introduction, we focused on books and left out his articles because his books were most frequently cited. For instance, the *Revue d'économie politique* (1899, 3: 326) made a detailed (and positive) report on d'Avenel's book *Le mécanisme de la vie moderne (first series, second edition)*. Moreover, many of his articles for the *RDDM* actually came from his main work on the history of prices. We counted nearly one hundred of d'Avenel's articles in the *RDDM*.¹⁰ But in addition to articles, it seems that he wrote most of the "Chronique de la quinzaine" (the editorial of the *RDDM*) between May 1893 and March 1894. He stopped writing the "Chronique" a few months before the start of the Dreyfus affair.

D'Avenel and his second wife also received elite members of society in her salon, the hours of which were indicated in the newspaper *Le Figaro*, and he is even depicted in Marcel Proust's third volume of *A la recherche du temps perdu*.¹¹ Despite the part played among the fin-de-siècle French literary elite by the *RDDM* (known as an *anteroom* of the French Academy), d'Avenel never managed to join the *Académie Française*, the *ASMP* or the *Collège de France*.¹² It is surprising that while occupying a prominent place in the Parisian fin-de-siècle circles, his academic achievements were rather limited. Indeed, he always remained an amateur without an academic position.

The one post he was never able to obtain was a teaching position at Harvard University, where he lectured on the history of France during the winter of 1907 as a visiting professor.

¹⁰ The *RDDM* is available through JSTOR, although it can be difficult to distinguish his articles from his "Chronique de la quinzaine". Most of the *RDDM* is also now digitised on Gallica.

¹¹ "Whenever there's a famous man in the room you're sure to find him sitting with her. Evidently that must be the lion of the party over there. It can't always be M. de Borelli, of course, or M. Schlumberger or M. d'Avenel" (Proust 1919: 43–4).

¹² The archives of the Académie have kept many applications but there is no record of the ballots, which were secret.

He had been invited by the Cercle Français to give the Hyde Lectures,¹³ funded by James H. Hyde, the very Francophile heir of The Equitable Life Insurance Society.¹⁴ Hyde personally suggested candidates to Charles Eliot, the famous president of Harvard University. During his journey in the United States, the *New York Times* dedicated a full-page article, complete with a large picture, to Georges d'Avenel, entitled "French Social Historian, Greatest Authority on Prices and Cost of Living, Reconstructs a Living Past Out of Dry-as-Dust Statistics" (*New York Times*, 3 March 1907).

This lack of official recognition in France can be explained by the profound debates his claims set off among both politicians and academics and which left him frequently alone to defend his side. He was a viscount in favour of the French Republic, a Catholic in favour of the separation of church and state and an inspired historian rejected by academia. A descendant of the ancient feudal nobility, he depicted its decay beginning in the 17th century and opposed the monarchy. In his first editorial for the *RDDM*,¹⁵ he clearly explained his political preferences for the moderate republicans taking the side of the French Republic. D'Avenel consistently stuck to this position, which explains the animosity from the Action Française movement, especially after he criticised Charles Maurras in *Le Figaro*. D'Avenel's position was important enough for Maurras to reply vehemently with a 12-page pamphlet entitled "The Ballad of the Viscount" in which he called d'Avenel a "degenerate" (*Gazette de France*, 6 February 1902). An activist of the Action Française, Léon Daudet (son of famous novelist Alphonse Daudet), later offered later a piquant portrayal of d'Avenel:

When you meet a solid and jovial fellow, with a bright complexion, a husky voice, a sparkling vest, sometimes the colour of a cauldron and sometimes the colour of a

¹³ Among the lecturers, the authors of *Revue des Deux Mondes* received the lion's share.

¹⁴ Unfortunately, the Harvard archives did not record who attended these lectures, but several future researchers in economic history were PhD students at the time.

¹⁵ D'Avenel, G. d'. "Chronique de la quinzaine." *Revue des Deux Mondes* (1829–1971) 117, no. 3 (1893): 705–18. <http://www.jstor.org/stable/44762583>.

gentleman's plum, decorated with gold, who laughs loudly and sprays, who quotes the price of a leg of lamb in the 12th century and that of butter under Charlemagne, who shamelessly interrupts, chatters incessantly and makes himself laugh in front of mirrors, you will know that you are in the presence of the Viscount d'Avenel, perpetual candidate to the Academy. (Daudet 1914: 441–2)

This rejection by the monarchists was not integrated by the republicans. When d'Avenel published a paper in *La République française*, a newspaper founded by Léon Gambetta, he was referred to as a “well-known royalist writer”. D'Avenel reacted by writing a letter to the editor, Joseph Reinach, on July 1890, in which he outlines his uncomfortable situation:

I am far from protesting against opinions which have long been my own. Today, having lost faith and hope in the future of the royalist party, I have only charity left, towards my former political co-religionists. I prefer on occasion not to be considered attached to a party to which I now belong only by memory.¹⁶

More broadly, d'Avenel was able to provoke rejection from the full political spectrum as he claimed the vacuity of politics and political decisions. He rejected the idea that political changes, especially the French Revolution, were a causal factor affecting people's living standards; on the contrary, he insisted on the continuity between the old regime and the 19th century for the majority of the population. He proudly asserted in his introduction to *Découvertes d'histoire sociale* that:

Economic developments have been independent of political or social changes, both in the Middle Ages and in modern times or today. This is the dominant fact that will emerge from this book. (d'Avenel 1910a: 10)

Half a century later, Jean Fourastié, who also built price series, would use such an opposition to coin the expression *Les Trente Glorieuses* (“The Glorious Thirty”), the “invisible revolution” that improved the life of the French people more than any political revolution ever

¹⁶ Correspondance et papiers de Joseph Reinach. > I -- Correspondance > I-XXXV Correspondance générale. > II Appell-Aynard. Manuscrits NAF 13528.

had. The term *Trente Glorieuses* echoes *les Trois Glorieuses*, a three-day protest leading up to the 1830 revolution. But at the turn of the 20th century, it was a sacrilege for republican historians to claim that the French Revolution or the Third Republic had not allowed improvements. D'Avenel's writings were practically an insult for those involved in politics:

“Bread” is what they would like rather than laws; “bread” meaning more welfare with more leisure. However, the deputy does not know how to go about it. He has only laws and no “bread” to hand. If we try to make “bread” with laws? This is the question that arises for the charlatans and the naive. (d'Avenel 1899: xv)

As a Catholic, his favourable stance on the separation of church and state created a second uncomfortable situation. He proposed a project in which the church would receive public debt according to the value of its properties that had been nationalised during the French Revolution instead of being financed by the French State (d'Avenel 1890). A now overlooked aspect of the 1905 debate on the separation of church and state was the principle that, since the two actually separated before the French Revolution, the state became responsible for funding churches as compensation for the nationalisation of church properties. This project had been discussed by Rouxel in the *Journal des économistes*.¹⁷ Fifteen years later, despite the lack of financial compensation of the church following the 1905 law of separation, d'Avenel had praised it. His first “Chronique de la quinzaine” in the *RDDM* called on Catholics to rally to the French Republic. The editorial was published during the political crisis caused by the Panama Scandal before the first elections following the encyclical letter *Au milieu des sollicitudes*, where the Pope invited French Catholics to accept the Third Republic.

Those of us who were born into these hereditary illusions and lost them on the great path of life cannot throw the stone at the faithful who have preciousely preserved them. But also those faithful who, since Charles X's departure for exile, have not once looked up at

¹⁷ Rouxel, *Revue critique des publications économiques de langue française*, p. 185 et suivantes, Nr. 8, Août 1890. The *Journal des économistes* argued repeatedly for the separation of church and state. See for example the article published in September 1872, Nr. 81, Séparation de l'Eglise et de l'Etat, par l'abbé ***, pp. 310–47.

heaven, on the eve of a national holiday – Saint Philip, 15 August, 14 July – without wishing it to rain the next day, cannot blame those who finally want to wish good weather and rejoice in it, to put up some flags and light some lamps – without believing that lit lamps are exclusively responsible for the happiness of a people – those who no longer want to live in a systematic opposition, a sad state of mind that leads to constantly assuming, predicting, alas! maybe hoping for some upcoming disaster. (d’Avenel 31 May 1893: 708)

The “rallied” Catholics were simultaneously considered as traitors by the Royalists and with suspicion by the Republicans. D’Avenel maintained his defence of the 1905 law in 1921 in two articles for the *RDDM*, claiming that Roman Catholicism benefitted from this law. His argument was based on the quantification of religious beliefs and practices (number of seminarians per department, alms per capita, Sunday Easter communicants, Sunday mass attendance) and he offered general conclusions. Such an exercise precedes Gabriel Le Bras’s religious sociology. It illustrates d’Avenel’s application of his quantitative approach to understand the behaviour of his contemporaries. But while faithful to his approach of the history of mentalities (see below), he was at odds with André Siegfried (1913: 20), who asserted that “the limestone produced the teacher and granite the priest”. Asking a question that clearly echoed Siegfried’s, d’Avenel wondered “if the God of the Gospel is exclusively rural, he is more pleasant to the mountains than to the plains and less so to the land of vines than to the land of cattle” (d’Avenel 1921) but he denied pure determinism, stressing the complexities and the historical variations of the relationship between religion and socio-economic factors. D’Avenel was thus a controversial public figure. His reception by the academic world was hardly more serene.

5. Reception of d’Avenel’s history of prices by historians and economists

The reception of d’Avenel’s work has also been debated in the academic world. Economists were extremely positive about it while two prominent academic historians wrote hostile

comments that were only partially grounded in scientific weaknesses. Émile Levasseur, who likely played a key role in determining the choice of the questions for the Count Rossi Prize as he was eager to use the answers in his *Histoire des classes ouvrière*, wrote a long report for the *ASMP* on the Count Rossi Prize celebrating d'Avenel and his research.

A scholar to whom general history is familiar and who has original views on the social state of the past; the figures are commented on by an economist who has the right sense and the severity of the price lists is occasionally enlivened by a writer who is not lacking in humour. The author's eight volumes – in-folio of prices, which numbered about 58,000 – constitute the most extensive and orderly collection we had on the subject". (Levasseur 1892: 395)

Of course, Levasseur conceded that "no doubt such a vast work cannot be perfect", but he asserted that d'Avenel had provided a "great service to economic history". Levasseur was obviously stunned by the volume and quality of the data gathered by d'Avenel, who was awarded 9,000 francs (€17,000 at the current rate of the Napoleon coin) for the two Count Rossi Prizes.

The leading French historical journal at the time, *Revue historique*, published a recension that was also very positive. The author of the review, Éloi Castelot (Anvers, 1844–London, 1919), was a Belgian diplomat, historian and economist. He studied history in France at the École des Hautes Études, published papers in the *Journal des économistes* and wrote articles in Inglis Palgrave's *Dictionary of Political Economy*. As a polyglot, he translated books from Russian, German and English into French. He was thus perfectly able to compare d'Avenel's work not only with current references in France but also in Europe.

However, it is likely that none of our historians or economists will repeat as a whole the gigantic task of stripping and extracting several myriads of documents and calculating modern equivalents of infinite weights and measures – varying like the sands of the sea from time to time and from place to place. (Castelot 1896: 128)

D'Avenel's work was also well received in Germany. In 1893, Wilhelm Lexis wrote an article on the history of prices for the first edition of the *Handwörterbuch der Staatswissenschaften*. Among the references, significant space was afforded to Levasseur and d'Avenel.¹⁸ In 1895, Georg Wiebe published his study on the inflation of the 16th and 17th centuries and set off a debate that is still raging, as historians of early modern Europe continue to disagree over the causes and chronology of the "price revolution" (Finkelstein 2006: 25). In his study, Wiebe admits that he had not read d'Avenel's books and knew only Levasseur's report and the tables already published. He expressed reservations about the use of data from the 12th to the 15th centuries, as the quality of the items (especially houses) had changed dramatically, but he was content to use d'Avenel's figures for the following centuries (Wiebe 1895).

William Shaw put forward criticism founded on legitimate concerns in a review published in *The English Historical Review* in 1896 regarding the method of converting prices expressed in old currencies into modern values. As d'Avenel (1896c) explained in a response published in the same journal at the end of the year, he rejected the idea that ordinances on *livre* values had any actual effect on private transactions. These debasements only allowed the state to reimburse its debt and to pay its providers in devalued money. D'Avenel provided several items of proof regarding this lack of effect: most of the ordinances were not accompanied by a new coin mint, overly frequent (sometimes within two weeks) and contradictory ordinances, the lack of changes in observed prices and the few devalued coins collected (6%) among the gift to the Hospice de Paris after the "main nominal falsification of history" realised in 1360.

It would be foolish to believe that the administrations of the Middle Ages, which resembled ours, like a cart resembles a railway, which had practically no budget, no civil servants, were able to easily, and above all promptly, pass coins from their mints into the pockets of private individuals in Paris and the provinces, with whom they hardly

¹⁸ Lexis probably relied on Levasseur's report because it is doubtful that he had access to a copy of d'Avenel's books. However, in the second edition, published in 1898–1901, Lexis quoted various data from the two first volumes of d'Avenel's 1894 book.

communicated, cash which everyone looked down on, nor were they able to bring in any more cash to which the crowds were attached. (d'Avenel 1892b)

This view was supported by Simiand (1932: 127), and Boyer (1963) agreed.

Despite this initial support and regular academic contradiction, the work of d'Avenel was soon harshly criticised by two historians, although mainly for unfounded reasons. A first major attack came from Charles Seignobos (1854–1942), an academic historian, leader of the *école méthodique*, which emphasised the importance of documentation and criticism of sources. Unsurprisingly, Seignobos (1896a) reproached d'Avenel for not being thorough enough with his sources. In response, d'Avenel noted that, unlike Thorold Rogers, he at least had meticulously provided all sources. He also addressed criticisms about several dozens of specific cases in detail (d'Avenel, 1896a). Finally, in a second round of responses (d'Avenel, 1896b) and Seignobos (1896 b and c) the irreconcilability of the two approaches was clear when Seignobos rejected the issue itself saying that it was unnecessary to look for prices for the whole of France over several centuries if it implied relying on secondary, non-historically verified sources (see Tandler 2013) while d'Avenel (1895) rejected Seignobos's method: "There is a very learned school, which extracts treasures from the depths of libraries, but it is generally reluctant to make use of them. (...) For fear of making this text lie by making it speak, they prefer to see it remain silent. However, if it remains silent, we will know nothing." (d'Avenel 1895: IV).

According to Simiand (1932), Seignobos succeeded in making the administration withdraw the official nature of the publications of his volumes after volume III. Nevertheless, for Demade (2011: 18), this criticism was mainly the result of professional historians fighting against an "enlightened amateur" that benefitted from state legitimacy, since his work was published by the *Comité des travaux historiques et scientifiques*. Beyond this conflict of

authority, Republican professional historians were also fighting against a supposed political opponent due to his social origin.

Henri Hauser (1866–1946), a famous scholar and the PhD supervisor of Fernand Braudel, was also extremely hostile to d'Avenel's work. Commenting in 1910 on the publication of *Les Riches depuis 700 ans*, he mocked the conversion into gold francs of a dowry from 1262 and the revenue of an 18th-century Member of Parliament (Hauser 1910: 157). He also rejected both d'Avenel's claim of an economic evolution free of any political influence, asserting that it was too excessive a view, and his theory of a growing inequality of wealth (Hauser 1910: 159). Twenty-five years later, Hauser still held a highly negative view of d'Avenel's work, describing him as a “magician” (Hauser 1936: 75). For years, d'Avenel's work suffered from an ambiguous reputation, mainly due to the inconsistency of his sources and these initial negative reactions. Moreover, decades later, Hauser became the leader of the French team in William Beveridge's undertaking to write a history of prices, so he carried this animosity, even if his own achievements did not surpass those of d'Avenel.

At the same time, economists seem to remain more favourable, as shown by this review of d'Avenel's book *Le mécanisme de la vie moderne* published in the *Revue d'économie politique*:

With the skill he is known for, the know-how, the sagacity, the incisive and lively style that characterises him, the Viscount d'Avenel gives us in the present volume a succinct, though detailed, account of the great manifestations of the industrial progress achieved by the novelty stores, the iron industry, the food stores, the credit establishments and the winemaking industry. (*Revue d'économie politique*, 1899, n°3: 326)

In a mitigated review of d'Avenel (1895), the historian of medieval history Charles Petit-Dutaillis (1896) made probably a correct assessment of the divergences of views between economists and historians of the time:

It is obvious indeed that, in spite of the warnings from historians, economists will exploit his work extensively, without checking it; they are already talking a lot of nonsense when they speak of the present time; it is pitiful to see that they are so easily given the opportunity to say the same about the past.

From the 1930s, a new generation of historians started to revisit d'Avenel's work. François Simiand (1932) offered a detailed comparison of multiple existing statistical price series, reaching the conclusion about d'Avenel's series (including averages) that "with a certain amount of caution, both in the use of the data and in the formulation of the results, one can use his figures" while rejecting the study of d'Avenel's estimated purchasing power of money over time and any of his historical analysis.

In his doctoral thesis, Ernest Labrousse investigated the evolution of prices in the 18th century. Although he heavily criticised d'Avenel's methodology, especially the lack of details on his calculation of averages and the exclusion of outliers, he could not help but admit that:

His results are much better than his methods. . . . Nevertheless, Mr d'Avenel's work will remain a unique bibliography of printed sources, as the first and most extensive collection of French prices, whose secular and cyclical directions he expresses approximately.
(Labrousse 1932: 1–16)

Then came the golden age of building histories of prices with the International Scientific Committee on Price History (Crandall 1964). Unfortunately for the posterity of d'Avenel's work, the French representative was once again the same Henri Hauser who was so very hostile to d'Avenel decades before. Beveridge (1965), likely influenced by Hauser's negative view, stated that d'Avenel's work was "so unsatisfactory as to be nearly useless" (see Demade 2011).¹⁹ Ironically, Hauser, as the French representative for the International Scientific

¹⁹ This quote is taken from an unpublished memorandum from 1929 with which Beveridge launched the Committee's project ("Memorandum on Suggested History of Prices and Wages (4.3.29)", in: Report 1). The characterisation of d'Avenel's work as "nearly useless" would be repeated in W. H. Beveridge, "Preface", in *Prices and Wages in England from the Twelfth to the Nineteenth Century*. Vol. 1: Price Tables: Mercantile Era, W. H. Beveridge (ed.), 2nd edition, London, Cass, 1965, p. XLVIII.

Committee on Price History, had to present results that broadly confirmed the works of Simiand but also of d'Avenel.

The post–World War II generations of historians not only used d'Avenel's data but also referred to his analyses. For example, Fernand Braudel used d'Avenel's data in his review article (co-authored with Frank C. Spooner) about the evolution of prices from the 15th to the 18th century. Similarly, in her contribution to the *Histoire économique et sociale de la France* edited by Ernest Labrousse and Fernand Braudel, Adeline Daumard (1980) used data from d'Avenel (1918) to document the changes in wealth caused by World War I. Braudel (1987) quoted d'Avenel to explain the end of serfdom and the rise of perpetual renting (*cens*) at a time when land was abundant and people scarce, so human labour was more in demand than land. Eventually Braudel, the leader of the *Annales*'s third generation, paid him a tribute in the middle of the 1980s:

Criticised mercilessly and ironically yesterday by university historians, the Viscount of Avenel regained our trust when we realised that our price curves, with all the precautions from homogeneous and long series, finally joined, more or less, those he had deduced from scattered sources. In any case, who does not recognise his prodigious knowledge? ... His approach to approximate orders of magnitude where we have insufficient figures is, however, ingenious. (Braudel 1988, Part 2: 46–47).

This tribute was actually a limited one because d'Avenel paved the way for the *Annales* school. Recently, Tandler (2013: 23) asserted that the *Annales* were “in the tradition of, but with limited reference to, pioneering French historians of the economy Georges d'Avenel and Natalis de Wailly”. We believe the filiation is stronger than just a tradition. D'Avenel's approach to history was actually very similar to that adopted by the *Annales*. He expressed several times what would be the credo of this school of thought: a rejection of traditional history, the “battle-history” that focused on the foam of the waves without seeing the sea (Braudel, [1949], 2017:26). Indeed, d'Avenel claimed earlier the same mantra “for a long

time our eyes have seen, in the past, only the bark of things”, and he treated very important political events as “miscellaneous facts of history” (d’Avenel 1895: preface). He repeatedly expressed this view, and late enough to be read by the *Annales* historians, as d’Avenel was still publishing books with a large audience in the 1920s and articles in the *RDDM* until 1937. For instance, the first sentence of d’Avenel’s *Les enseignements de l’histoire des prix* published in 1925 is “We are so made that the noisy history of a single character interests us more than the silent vicissitudes of a people”, an idea that could be read at the beginning of an *Annales* book. Both Lucien Febvre (1878–1956) and Marc Bloch (1886–1944) had adopted the same approach as d’Avenel when the *Annales* review was launched in 1929. For the *Annales* school as for d’Avenel, history as a mere collection of historical facts no longer held any interest. Unsurprisingly, in 1932 Febvre absolved d’Avenel of his possible weaknesses: “wrong figures, true curves”. Eventually, in the *Annales* journal in 1974, a collective article (whose authors included Paul Veyne and Maurice Godelier) discussing Karl Polanyi validated the relevancy of d’Avenel’s end point on cultural issues, declaring about his *Découvertes d’histoire sociale* (1910): “This old book contains many ideas whose fruitfulness the future was to prove: among others, that of the ‘cultural’ and indefinite character of needs, which is the serious core of the slogan ‘consumer society’”.

Despite the initial criticism received from historians, d’Avenel’s data were soon used by great economists, and they still are today. While Wilhelm Lexis was probably the first to refer to d’Avenel, Vilfredo Pareto introduced d’Avenel’s data in his *Cours d’économie politique* (published in 1897) in his theory on money and rent. In fact, Pareto was cautious with regard to the data and wrote that “these averages, given by Viscount G. d’Avenel, should only be considered as an approximation that we can accept for lack of anything better” (§356: 222). He nevertheless used d’Avenel’s data to develop his theories on rent (§775: 120), agricultural land (§778: 130) and urban land, and he referred to d’Avenel analyses regarding interest, the

value of land property and serfdom (§822). Valade (1990: 294) highlighted that Pareto's work was "teeming with notations" coming from d'Avenel. Marshall (1919: 668) appreciated d'Avenel's transformation of the value of wheat in various currencies into hectolitres of wheat expressed in silver or gold franc prices to allow comparisons and his treatment of human capital. Marshall also quoted (1919: 560) d'Avenel's Middle Age example of a prisoner that could be "served as a sort of negotiable bill of exchange, according to his ransom".

Following the development of statistical methods in economics, Albert Aupetit, a rare French disciple of Léon Walras (1901), used d'Avenel's series in his dissertation. After Aupetit, Irving Fisher also based statistical verifications on d'Avenel's series, despite mentioning that they were "uncertain" (Fisher 1911: 235–8). Fisher took into account the period from 1500 to 1900 and opened the door to studies on long waves. While visiting the United States, Ragnar Frisch wrote a long manuscript, "The Analysis of Statistical Time Series", which was widely circulated among American economists with the precious help of Wesley C. Mitchell, although it was never published (Freeman and Louçã 2001). In this manuscript, Frisch used d'Avenel's data on wheat prices from 1200 to 1800, calculating the ten-year average to support the existence of Kondratiev cycles (see Louçã 1998: 103–4).

In a review of d'Avenel ([1895]1927) published in the *American Historical Review* in 1928, as well as in a roundtable published in the *American Economic Review* in 1926, Abbott Usher, a father of American cliometrics, underlined the novelty of d'Avenel's 1894 work and the quality of the sources but also noted the weakness of the econometric treatment. Usher later wrote an article in 1930 published in the *Review of Economics and Statistics* concluding "that we cannot wisely undertake to convert the prices and currencies of earlier periods into approximate equivalents of modern currencies".

After World War II, d'Avenel's work fostered novel approaches to reconstitute macroeconomic indicators. Marczewski (1964), a French economist working on the rebuilding of national accounts, criticised some of the conversions proposed by d'Avenel but recognised the significance of the rough data made available. D'Avenel's work remains a valuable source of data. As Asselain (2012) explained:

There are very few estimates aimed at identifying basic trends at the national (or even regional) level, with an impressive chronological hiatus between the series from d'Avenel's two memoirs taken up by Émile Levasseur in 1893 and the estimates of agricultural areas, production and yields established almost a century later by Jean-Claude Toutain (1961).

Toutain's studies were focused on agriculture from the 18th to the mid-20th century and could be compared with the larger scope of d'Avenel's memoirs. French price history is not an active field, especially for the pre-1800 period mainly studied by d'Avenel. Jean Fourastié collected numerous price series from around 1900.²⁰ It is only recently that a major stride forward has been made by Ridolfi (2016), who acknowledges d'Avenel's history of prices as “the first attempt to write an extensive economic history of France relying on a consistent body of quantitative evidence”. Ridolfi uses d'Avenel's books to identify data sources for prices and wages and frequently compares his own results to d'Avenel's conclusions.

The series collected by d'Avenel constitute a wonderful database which is still used, especially to measure the level of prices (e.g. Phelps Brown and Hopkins, 1981), real estate prices (Friggit 2012) or more specific phenomena, such as the share of military spending in French State revenue at the beginning of the 18th century (Jacoby 1973: 25). With regard to inequalities, Maurice Allais (1974) qualified d'Avenel's research as a “very interesting and on the whole very judicious analysis of the evolution of personal fortunes”. Anna J. Schwartz

²⁰ A work that is still in progress, supervised by the Comité Fourastié: <https://stats.fourastie-sauvy.org/index.php?cmd=regroupementClasse>

used d'Avenel's series in her "Comparison of Rates of Change in Prices and Money Wages in Selected Countries at the Close of the Middle Ages" (Schwarz 1974: 247). The former editor of the *Journal of Economic History*, Philip Hoffman (2015) and his co-authors (Hoffman et al. 2002) used the prices of weapons, wines, firewood, candles and the much criticised 25-year averages in gold francs for clothing and shoes.

6. Original economic investigations

The merit of d'Avenel's work is that he not only provided a comprehensive price database but also introduced, or contributed to, original debates in economic thinking thanks to his integral empiricism. Schumpeter ([1954] 1981: 782) himself stressed that "d'Avenel had an eye for the wider implications for social and political history of prolonged and pronounced price changes." In fact, d'Avenel had an extraordinary talent for vividly describing economic life using his arid tables. He was an empiricist who stated that data made it possible to understand reality, claiming "I confess here, in all naivety, that what I discovered, I discovered in spite of myself" in the introduction of his *Découvertes d'histoire sociale* (d'Avenel 1910). D'Avenel assumed that his way of producing science was a more meaningful approach, and that his research "opposes the testimony of precise experiments and laws in some mechanical way that the men of yesterday have tried or undertaken against the imaginative concepts and the plans resulting from the pure reasoning of the men of today" (d'Avenel 1910: 3).

A major topic of his time, and one that is again today an issue of concern, was inequality. He called for investigations on gender-based inequalities in wages and observed significant variations over time and space (d'Avenel 1894–1926, vol. 3: 35–6): women earned 60% what men earned during his time; this figure was 75% in the Middle Ages. But the main inequality studied was wealth among the social classes. During the final decades of the 19th century, liberal economists held the commonplace view that inequality was decreasing, but this was

wishful thinking based on theories and backed only by very little solid evidence. For instance, Leroy-Beaulieu (1881) tried to provide evidence of this trend. In the last chapter of his book, he concluded that “[t]he previous chapters have shown that the distribution of wealth tends to be less and less unequal in modern societies”. D’Avenel used his method of historical data collection to document that “the 19th century, when equality in codes was established, saw an increase in inequality in wealth” (d’Avenel 1894–1926, vol. 5: 2). However, d’Avenel also found that wealth did not survive for long across generations, which contradicted one of Thomas Piketty’s views. It is indeed not incompatible to observe that wealth is not transmitted over many generations; meanwhile, at d’Avenel’s time, inequalities were growing, driven by recently created wealth. The lack of transmission of wealth across generations is also compatible with Clark (2014), who stresses the very high correlation of social status over generations. Indeed, according to Clark, “social competences” rather than wealth itself are transmitted, likely through genes, allowing this correlation to remain intact between distant generations, despite life accidents such as fortune disasters.

The *Journal des économistes* was eager to celebrate the first part of d’Avenel’s findings on inequality:

The conclusion of Mr d’Avenel’s study “is that there is *not a single rentier* in our country who is centuries old. The rentiers of the time of Saint Louis [Louis IX of France], those of the time of the English wars, those of the time of Francis I, are all more or less reduced to misery. By force of circumstance alone, they have been slowly and irretrievably stripped. All the fortunes are recent and have their origin in the work and industry of their present owners, or the fathers, grandfathers and at most the great-grandfathers of their present owners.” The rich are getting richer, and the poor are getting poorer. Yet another socialist legend that falls before the facts. (*Journal des économistes* 1892, Juillet Septembre, 102: 210)

For this crucial question of inequalities, d’Avenel also studied contemporaneous data. In a chapter entitled “Military Salaries, Remuneration of Magistrates and Priests” (d’Avenel

1894–1926, vol. 5, published in 1907 but completed in 1892), he introduced some considerations on the distribution of incomes, relegating the measure of aggregated wealth to a very dense appendix. He approximates the wealth of each social class using the statistics of the yearly flow of inheritances, which he multiplied by 35, a low approximation of the intergenerational time interval. Using the same methodology, the statistician Alfred de Foville found in 1893 that the total private wealth was around 225 billion francs, higher than the 174 billion calculated by d'Avenel. Several reasons explain the discrepancy between d'Avenel's and de Foville's estimates. D'Avenel was eager to propose figures that could not be considered as exaggerated. He first used 35 instead of 36 to estimate the generation time, but the major difference originates in the treatment of donations. D'Avenel considered only inheritances, most likely in order to focus on homogeneous data, while de Foville emphasised that:

We are careful to add donations to successions here because donations are, strictly speaking, only a derivation of this current of inheritance, the total importance of which we have to measure. Most inter vivos gifts can be considered as anticipated legacies or advancements of an inheritance: they are usually from parents who give their daughters an endowment, provide for their sons, etc. (De Foville 1893:12)

The difficulty in this type of measurement is still an issue today. While some have criticised Piketty's analyses due to the increase in single households among the poorest, which biases comparisons, d'Avenel was aware of this kind of effect and noted that among the richest, the chance to have two inheritances was higher (d'Avenel 1909a: 386). Once he determined the national wealth level, d'Avenel came to some original conclusions on the concentration of wealth among the various classes he distinguished:

The other half of French wealth – 45 per cent – belongs to less than one hundredth of the nation: 95,600 families alone own 78.5 billion. And, among these rich people, the shares are quite different; for 54,000 of them – having 250,000 to 500,000 francs – their total

wealth amounts to 19.5 billion francs; meanwhile, the 1,045 lords with fortunes exceeding 5 million together have about 14 billion in wealth. (d'Avenel 1894–1926, vol. 5: 83)

D'Avenel did not bother his readership with the technical subtleties of the Pareto law but used a striking device to illustrate the concentration of wealth by focusing on the top 1% and the top 1‰. According to our best knowledge, no other author had focused on the top 1% before the National Bureau of Economic Research (NBER) introduced the 1% statistics at the end of the 1930s. This early work on inequalities was mentioned by Cameron (1958). It is noteworthy that d'Avenel pinpointed not only the top 1% but also the top 1‰, emphasising that the social pyramid does not have a regular form but rather is tapered. D'Avenel's publication was released after Pareto's *Cours d'économie politique* devoted to the distribution of wealth. D'Avenel's figures perfectly support the development of Pareto on the shape of the social “pyramid”.

Another original topic investigated by d'Avenel was human capital. The notion of human capital and attempts to quantify it were not totally new in late 19th-century France. De Foville (1890), for instance, estimated the revenues produced by French human capital at 15 billion gold francs in 1889. But in 1894, d'Avenel analysed “human society”, introducing a theory of “personal capital” (d'Avenel 1894–1926, vol. 5: 125–6):

Human society, viewed through the lens of its interests, consists of “shareholders” and “bondholders”. All human beings, without exception, perhaps without knowing it [...] own capital and invest in it. Some have acquired or inherited *material* capital (money, land, any property); all receive by birth *personal* capital (strength, intelligence, various faculties).

D'Avenel introduced this original distinction between stockholders and bondholders of life according to the type of activities they were engaged in (d'Avenel 1894, vol. 5: 124–5). The industrialists and merchants appear to invest their human capital as “shareholders of life”, and

thus are exposed to more good or bad luck than civil servants of any rank with fixed incomes. D'Avenel assumes that this personal capital is more important than material capital, because without the latter the former would not develop very much. First, d'Avenel calculated that this capital generated two-thirds of the revenues of France at that time; he then provided an estimate of the different kinds of revenues coming from human labour and compared it to the return on the nation's assets.²¹ Second, "among all peoples and all times, those with personal capital end up gradually acquiring all the material capital of those peoples lacking a correct level of personal capital" (d'Avenel 1894–1926, vol. 5: 125).

D'Avenel used this theory to understand the wages and incomes for various professions and types of labour over the period from 1200 to 1800. D'Avenel (1894–1926, vol. 5: 125) explained that according to the period, different components of this human capital could be valued to a greater or lesser degree: for example, physical strength during the medieval period or financial expertise at the end of the Ancien Regime. He implicitly assumed that the incentives built in society (depending on various factors, from technology to institutions) helped explain which types of talents would be valued more than others.

Another of d'Avenel's central claims was that technical progress allowed a levelling of "enjoyments" without an equalisation of wealth (d'Avenel 1925): technical progress enabled a decline in prices, explaining the spread of products initially consumed only by the happy few towards the mass of workers. This analysis of "enjoyments" is one way to define what economists called utility. A famous French economist at the time, Georges-Henri Bousquet (1930: 32, 83), extensively quoted d'Avenel's analysis (*Le nivellement des jouissances*) about what the subsistence level of a population is (showing that what was appreciated as a critical

²¹ "The income from invested capital is in fact only a part, and the least, of the nation's general revenue: the 12 billion in salaries, workers' and farmers' wages, the 3 to 4 billion in annual profits of the patentees of commerce and industry, the 2 to 3 billion in salaries of the public and private sectors, and the fees of the liberal professions make up, each year, a sum that is certainly twice as large as the 9 billion in interest earned from movable property and land." (d'Avenel 1894, vol. 5: 84)

necessity at his time only recently become more available and was still unknown to the majority of the world population) and why the consumption of material goods was different from human satisfaction.

In his works, d'Avenel was eager to avoid entering into any theoretical debate with economists,²² but when he turned his attention to changes in large fortunes or mass consumption, he could not escape having his approach compared with some tenets of the neoclassical economists. Kenneth J. Arrow summarised very clearly that mainstream economics since the 1870s assume “methodological individualism”:

In the usual versions of economic theory, each individual makes decisions to consume different commodities, to work at one job or another, to choose production methods, to save, and to invest. In one way or another, these decisions interact to produce an outcome which determines the workings of the economy, the allocation of resources in short. It seems commonly to be assumed that the individual decisions then form a complete set of explanatory variables. A name is even given to this point of view, that of *methodological individualism*, that it is necessary to base all accounts of economic interaction on individual behavior (Arrow 1994: 1).

Totally at odds with the neoclassical approach, d'Avenel, in his two books – *Le mécanisme* and *Le nivellement* – developed an economic approach that emphasised the social dimension of consumption. He demonstrated over and over how ordinary citizens of his own day enjoyed a material life that only the very rich of the past were able to obtain. The consumer revolution had toppled that barrier. For example, in chapter III of d'Avenel 1913, “Serving the table – tableware and glassware”, d'Avenel described how the French – from millionaires to peasants – ate out of the same type of dish, whereas porcelain was reserved for the elites just a few centuries ago; the same was true for factory-made rugs, wallpapers, silk dresses and more. Although d'Avenel recognised the

²² Nevertheless, he compared his results with those of Léon Say, Paul Leroy-Beaulieu and Victor de Laveleye (especially in d'Avenel 1894–1926, vol.1)

lower quality of these mass-produced items, he claimed that technology made an “levelling of enjoyments” possible without a corresponding “levelling of incomes”. D’Avenel’s analysis of consumption contradicted mainstream economics, as he denied the existence of pre-existing “needs” with regard to social life once the subsistence level was reached. Here, d’Avenel touched on the fact that with mass consumption, it became difficult to distinguish what “natural needs” were.

What in itself is not natural is what we call our needs. Those which seem to us of first necessity are all artificial; most of them were formerly unknown and are still unknown for the three-quarters of the globe, where people remain closer to nature. We find it “natural” to have plates, socks and shoes and to travel in a country crisscrossed by roads. We are wrong – these are very extraordinary inventions. (d’Avenel 1909b: 125.)

The end result of d’Avenel’s studies – the changes in ways of life – has interested sociologists because he was a forerunner in identifying such phenomena. According to Paul Dudon, a Jesuit, d’Avenel wields “statistics like an engineer, caprices like a caricaturist, motives like a sociologist, and recollections like an historian” (quoted by Williams 1982: 95). D’Avenel advocated for his method as follows:

The figures would only be meaningless statistics if we did not specify the facts that these signs reveal to us and the laws that derive from them. Thus, in our view, the history of figures becomes the largest part of human history: that of their interests, of their private lives; the rest, public history, being of lesser consequence, although it appears more so. If it is true that today’s richest people are much richer, and above all much more numerous, than those of the past, what is the reason for this? How did this happen? What does this prove and what should the result be? What does wealth mean? (d’Avenel 1909a: 3)

D’Avenel showed that reaching a high level of consumption in terms of food or manufactured products did not make people happier: “humanity is basically indifferent to material progress”. This observation was recently noted by Hirata (2011) in his book *Happiness, Ethics and Economics*.

Since enjoyments become similar, what does wealth allow? D'Avenel's response is to own rare things and have more than others. "In the 'Mechanism' series d'Avenel often reminds his readers that wealth consists of the ability to possess, not beautiful or comfortable things, but rare ones" (Williams 1982: 102). D'Avenel is in some aspects similar to Thorstein Veblen, but he went further in establishing some links between his analysis of inequality and consumption:

If the mass of citizens does not appear to appreciate ... the new enjoyments with which the nineteenth century has endowed it, it is because the "money question" is not a question of enjoyment, but one of equality; a matter of self-respect and not at all one of pleasure. "To have money," isn't it basically "to have more money than others ...?" (d'Avenel 1910b: 257–8, as cited in Williams 1982: 103)

With this admission, the theory of social harmony through the levelling of enjoyments collapses.

D'Avenel accurately described the changes in consumption patterns induced by mass consumption and the diffusion of "luxury goods" to the masses at the turn of the century, which largely escaped mainstream economists of the time. His long lists of prices include many of these goods, from women's stockings to various kinds of furniture that gradually became standard consumption. His analysis of consumer behaviour far preceded James S. Duesenberry's *Income, Saving and the Theory of Consumer Behavior*, a book not widely reviewed at the time of its appearance in 1949 (see Mason 2000). However, Williams (1982: 231) regretted that d'Avenel was overly focused on the objects people owned and not enough on the actual owners and the differences in their mortality, education, health, manners, tastes, social contacts, leisure activities, and social and political power.

7. Conclusion

D'Avenel was a unique public figure in his time, and his originality is reflected in his work. Despite some success among the general public and having received early consideration from economists, he was highly criticised by two prominent historians. He was well aware that he had a unique way of comparing his approach to writing history to the new novels (literary realism) introduced by Stendhal and Guy de Maupassant:

The novelist of yesterday chose and told the story of the crises of life, the acute states of the soul and the heart; the novelist of today writes the history of the heart of the soul and the mind in its normal state. In the same way, I would say, "Is there a 'history of the *Faits divers* (minor events)' and a 'history of the *Faits constants*' (regularities)?" (d'Avenel 1910a: introduction)

One century later, after the success of the *Annales* school and the development of quantitative economic history, d'Avenel emerges as a crucial precursor. He produced series that are still used today. He also adopted a quantitative approach to historical problems that is now shared by many economic historians and introduced theories on economic life that appear very modern. Beyond his pioneering work in quantitative history, one could consider d'Avenel as an early deconstructionist on several topics that are still being debated, such as the role of material goods and politics in human welfare.

References

- Académie des sciences morales et politiques (1882) *Séances et travaux*. Paris: Félix Alcan.
- Maurice Allais (1974) Inequality and Civilizations, *Social Science Quarterly* 54.3: 508-524.
- Kenneth J. Arrow. (1994). Methodological Individualism and Social Knowledge. *American Economic Review* 84.2: 1-9.

Jean-Charles Asselain (2012) Histoire économique et quantification longue, 14ème Colloque de l'Association de Comptabilité Nationale.

<https://www.insee.fr/fr/information/2506363> (retrieved 03/04/2023)

Georges d'Avenel. (1878). *Les Évêques et archevêques de Paris depuis Saint Denys jusqu'à nos jours. Avec des documents inédits*. Tournai.

Georges d'Avenel. (1881). *Les Octrois en France et à l'Étranger*. Paris: Guillaumin.

Georges d'Avenel. ([1884] 1895). *Richelieu et la monarchie absolue: Tome 1. Le roi et la constitution; la noblesse et sa décadence*. Paris: Plon.

Georges d'Avenel. ([1884] 1895). *Richelieu et la monarchie absolue: Tome 2. La noblesse et sa décadence (suite) ; administration générale, finances*. Paris: Plon.

Georges d'Avenel. ([1887] 1895). *Richelieu et la monarchie absolue: Tome 3. Administration générale (suite), armée, marine et colonies, cultes, justice*. Paris: Plon.

Georges d'Avenel. ([1887] 1895). *Richelieu et la monarchie absolue: Tome 4. Administration Générale, Justice (Suite et Fin), Administration Provinciale Et Communale*. Paris: Plon.

Georges d'Avenel. (1890). La Réforme Administrative. III Les Cultes. *Revue des Deux Mondes* 99.2 : 332-69..

Georges d'Avenel. (1892a). La fortune mobilière dans l'histoire: I. Le pouvoir de l'argent, *Revue des Deux Mondes* 110.4 : 820-847.

Georges d'Avenel. (1892b). La fortune mobilière dans l'histoire: II. Les monnaies et le taux de l'intérêt, *Revue des Deux Mondes* 111.4: 782-817.

Georges d'Avenel. (1892c). La fortune mobilière dans l'histoire: III. Le crédit et la ruine des anciens capitalistes, *Revue des Deux Mondes* 112.3: 582-613.

Georges d'Avenel. (1893). Chronique de la Quinzaine, *Revue des Deux Mondes*, 117.4: 945-955.

Georges d'Avenel. (1893). La Propriété foncière de Philippe Auguste à Napoléon. *Revue des Deux Mondes* 115: 99-130.

Georges d'Avenel. (1894-1926). *Histoire économique de la propriété, des salaires, des denrées et de tous les prix en général depuis l'an 1200 jusqu'en l'an 1800*. 7 Volumes, Paris : Impr. nationale : [puis] E. Leroux.

Georges d'Avenel. (1895). *La fortune privée à travers les siècles*. Paris : Armand Colin (reprinted in 1927).

- Georges d'Avenel. (1896a). Réponse à Seignobos (1896a), *Revue critique d'histoire et de littérature* 13, 30 mars, 246-256.
- Georges d'Avenel. (1896b). Réponse à D'Avenel (1896b), *Revue critique d'histoire et de littérature* 19, 11 mai, 373-379.
- Georges d'Avenel. (1896c). Correspondence: *The English Historical Review* 11.43: 609-611.
- Georges d'Avenel. (1899). *Paysans et ouvriers depuis 700 ans*. Paris: Armand Colin.
- Georges d'Avenel. (1909a) *Les riches depuis 700 ans*. Paris: Armand Colin.
- Georges d'Avenel. (1909b). L'Évolution des dépenses privées depuis sept siècles. *Revue des Deux Mondes* 51: 106-132.
- Georges d'Avenel. (1910a). *Découvertes d'histoire sociale, 1200-1910*. Paris: Flammarion.
- Georges d'Avenel. (1910b). *Les Français de mon temps*. Introduction par Charles Sarolea. Paris: Nelson.
- Georges d'Avenel. (1913). *Le nivellement des jouissances*. Paris : Flammarion.
- Georges d'Avenel. (1918). La France économique après 1815. *Revue hebdomadaire* VII.3: 281-297.
- Georges d'Avenel. (1918). Les nouveaux riches, *Revue des Deux-Mondes* 46: 378-397.
- Georges d'Avenel. (1919). *L'évolution des moyens de transport: Voyageurs, lettres, marchandises*. Paris: Flammarion.
- Georges d'Avenel. (1920). *Découvertes d'histoire sociale, 1200-1920*. Paris: Flammarion..
- Georges d'Avenel. (1921a). L'Église Française : Après Quinze Ans de Séparation : I: Le Clergé. *Revue des Deux Mondes* 64.4: 820-847.
- Georges d'Avenel. (1921b). L'Église Française : Après Quinze Ans de Séparation : I: Les Fidèles, *Revue des Deux Mondes* 65.1: 137-151.
- Georges d'Avenel. (1925). *Les enseignements de l'histoire des prix*. Paris : Payot.
- Laurent Avezou. (2008). *Raconter la France. Histoire d'une histoire*. Paris: Armand Colin.
- Walter Benjamin. (2003). *The arcades project*. Cambridge: Harvard University Press.
- William H. Beveridge. ([1939]1965). *Prices and wages in England from the twelfth to the nineteenth century. Vol. 1: Price Tables: Mercantile Era*, 2e éd., London: Cass.
- Marjorie N. Boyer. (1963). Travel Allowances in Fourteenth-Century France. *Journal of Economic History* 23.1: 71-85.
- Fernand Braudel. ([1949] 2017). *La Méditerranée et le monde méditerranéen à l'époque de Philippe II. 1. La Part du milieu*. Paris : Armand Colin.
- Fernand Braudel. (1987). *Grammaire des civilisations*. Paris : Arthaud.

- Fernand Braudel. (1988). *L'identité de la France*, Volume 2, Part 2. Paris: Arthaud.
- Fernand Braudel, Frank C. Spooner (1967). Prices in Europe from 1450 to 1750, in *The Cambridge Economic History of Europe*, tome IV, Cambridge, At the University Press, pp. 376-486.
- Georges-Henri Bousquet. (1930) *Introduction à la science économique*. Paris : Giard.
- Rondo E. Cameron. (1958). Economic Growth and Stagnation in France, 1815-1914, *Journal of Modern History* 30.1: 1-13.
- Éloi Castelot. (1896). Review of d'Avenel, 1894, *Revue Historique* 61.1: 128-132.
- Béatrice Cherrier, Roger E. Backhouse. (2017). The age of the applied economist: the transformation of economics after 1970. *History of Political Economy* 49.5: 1-33.
- Martina Cioni, Giovanni Federico, Michelangelo Vasta (2022) Persistence studies: a new kind of economic history? *Review of Regional Research* 42: 227–248.
- Gregory Clark (2014). *The son also rises*. Princeton: Princeton University Press.
- Ruth Crandall. (1964). The International Scientific Committee on Price History. *Journal of Economic History*, 24.3: 381–388.
- Léon Daudet. (1914). *Fantômes et Vivants : Souvenirs des milieux littéraires, politiques, artistiques et médicaux de 1800 à 1905*. Paris : [s.n.].
- Adeline Daumard. (1980). La bourgeoisie française aux temps des épreuves. In Labrousse, E., Braudel, F. (ed.) *Histoire économique et sociale de la France*, t. IV. Paris : PUF, pp. 861-906.
- Julien Demade. (2018 [2011]). *Produire un fait scientifique. Beveridge et le Comité international d'histoire des prix*, Paris : Éditions de la Sorbonne.
- Claude Diebolt (2016). Clio's Contributions to Economics and History. *Revue d'économie politique*, 126.5: 971-989.
- Claude Diebolt & Michael Hauptert, Cliometrics: Past, Present, and Future, in: *Oxford Research Encyclopedia of Economics and Finance*, Oxford University Press, Oxford, 2021.
- Lucien Febvre. (1932). Chiffres faux, courbes vraies ? *Annales d'histoire économique et sociale* 4.18 : 585–586.
- Andrea Finkelstein (2006). *The grammar of profit: the price revolution in intellectual context*, Leiden Boston, Brill.
- Irving Fisher. (1911). *The purchasing power of money; its determination and relation to credit, interest and crises*, by Irving Fisher, assisted by Harry G. Brown. New York.
- Alfred de Foville. (1890). *La France économique: statistique raisonnée et comparative. Année 1889 Année 1889*. Paris: Armand Colin.

- Alfred de Foville. (1893). *La richesse en France et à l'étranger*. Paris: Berger-Levrault.
- Christopher Freeman and Francisco Louçã. (2001). *As time goes by. From the industrial revolution to the information revolution*, Oxford: Oxford University Press.
- Jacques Friggit. (2012). Évolution du prix de l'immobilier d'habitation de 1936 à 2012 en France et de 1200 à 2012 à Paris. Report, Ministère de l'écologie et du développement durable.
- Ragnar Frisch. (1927). *The Analysis of Statistical Time Series*. New York. Unpublished mimeo.
- Charles Gide. (1895). Review of d'Avenel (1895). *Economic Journal* 5.19: 406-410.
- Charles Gide. (1907). Economic Literature in France at the Beginning of the Twentieth Century. *Economic Journal* 17.66: 192-212.
- Henri Hauser. (1910). Review: Les riches depuis sept cents ans. Histoire économique de la propriété, des salaires et de tous les prix en général depuis l'an 1200 jusqu'à l'an 1800. Tome V by G. d'Avenel, *Revue Historique* 104.1: 156-159.
- Henri Hauser. (1936). *Recherches et documents sur l'histoire des prix en France de 1500 à 1800*. Comité scientifique international pour l'histoire des prix. Paris :Les Presses Modernes
- Henri Hauser. (1944). *La pensée et l'action économiques du Cardinal de Richelieu*. Paris: Presses Universitaires De France.
- Johannes Hirata. (2011). *Happiness, ethics and economics*. London: Routledge.
- Philip T. Hoffman, David S. Jacks, Patricia A. Levin, Peter H. Linder. (2002). Real Inequality in Europe since 1500. *Journal of Economic History* 62.2: 322-355.
- Philip T. Hoffman. (2015) *Why did Europe Conquer the World?* Princeton: Princeton University Press.
- Sara Horrell (2023). Household consumption patterns and the consumer price index, England, 1260–1869. *Economic History Review*. January: 1-28.
- Henry Jacoby. (1973). *The bureaucratization of the world*. Berkely: university of California Press.
- Vibha Kapuria-Foreman, Mark Perlman. (1995). An Economic Historian's Economist: Remembering Kuznets Simon. *Economic Journal* 105.433: 1524-1547.
- Ernest Labrousse. (1932). *Esquisse du mouvement des prix et des revenus en France au XVIIIe siècle*. Paris : PUF.

- Paul Leroy-Beaulieu. (1881). *Essai sur la Répartition des Richesses et sur la Tendance à une Moindre Inégalité des Conditions*. Paris: Guillaumin & Cie.
- Émile Levasseur. (1858). *La question de l'or*. Paris : Guillaumin.
- Émile Levasseur. (1892). Rapport sur deux concours pour le prix Rossi proposés pour l'année 1892. 1^o Histoire économique de la valeur et du revenu de la terre du XIII^e siècle au commencement du XVII^e, 2^o Histoire économique de la valeur et du revenu de la terre, au XVII^e et au XVIII^e siècle, in *Séances et travaux de l'académie des sciences morales et politiques*, Compte Rendu, 2^e semestre, pp. 349-419.
- Wilhelm Lexis, (1893), Zur Preisgeschichte, in *Handwörterbuch der Staatenwissenschaften*, Jena, Fischer, volume 5, pp. 251-9.
- Francisco Louçã. (1998). *The Years of High Econometrics: A Short History of the Generation that Reinvented Economics*. London: Routledge.
- Jean Marczewski. (1964). Quelques observations sur l'article de Monsieur Chaunu. *Cahiers Vilfredo Pareto* 2.3: 177-180.
- Roger Mason. (2000). The Social Significance of Consumption: James Duesenberry's Contribution to Consumer Theory. *Journal of Economic Issues* 34.3: 553-572.
- Jules Mazarin, edited by Adolphe Chéruel, Georges d'Avenel. (1893). *Lettres du cardinal Mazarin pendant son ministère : 7. Juillet 1655-Juin 1657*. Paris : Imprimerie nationale.
- Jules Mazarin, ed. Adolphe Chéruel, Georges d'Avenel. (1894). *Lettres du cardinal Mazarin pendant son ministère : 8. Juillet 1657- août 1658*. Paris : Imprimerie nationale.
- Jules Mazarin, ed. Adolphe Chéruel, Georges d'Avenel. (1906). *Lettres du cardinal Mazarin pendant son ministère : 9. août 1658-mars 1661*. Paris: Imprimerie nationale.
- Wesley C. Mitchell. (1915). *Index numbers of wholesale prices in the United States and foreign countries*. Washington, D.C: Govt. Print. Office.
- Vilfredo Pareto. (1896, 1897). *Cours d'économie politique*. Lausanne: Rouge.
- Charles Petit-Dutaillis. (1896) La Fortune privée à travers sept siècles, par le vicomte G. d'Avenel. *Bibliothèque de l'école des chartes* 57: 237-238.
- Henry Phelps Brown, Stella V. Hopkins. (1981). *A perspective of wages and prices*. London : Methuen.
- Marcel Proust. (1919). *À la recherche du temps perdu*. Tome III, Le coté Guermantes, Paris, Gallimard. English translation 1981, *Remembrance of things past*, Volume 2, The

- Guermantes Way, Translated by C. K. Scott Moncrieff and Terence Kilmartin, New York, Random House.
- Leonardo Ridolfi. (2016). *The French economy in the longue durée. A study on real wages, working days and economic performance from Louis IX to the Revolution (1250-1789)*. PhD Thesis. IMT School for Advanced Studies, Lucca.
- Leonardo Ridolfi. (2019). Six Centuries of Real Wages in France from Louis IX to Napoleon III: 1250–1860, *Journal of Economic History* 79.3: 589-627.
- Thorold Rogers. (1894). *Six centuries of work and wages: The history of English labour*. London: Swan Sonnenschein and Co.
- Thorold Rogers. (1921). *The economic interpretation of history: Lectures delivered in Worcester college hall*. Oxford, 1887-8. London: T. F. Unwin, Ltd.
- Thorold Rogers. (1866–1902). *A History of Agriculture and Prices in England from 1259 to 1793* 7 vols). Oxford : Clarendon Press.
- Alfred Sauvy. (1952). Variations des prix de 1810 à nos jours, *Journal de la société statistique de Paris*, 93 : 88-104.
- Léon Say. (1889). *Dictionnaire des finances*. Paris: Nancy.
- Joseph A. Schumpeter. ([1954] 1981). *History of economic analysis*, London: Taylor & Francis.
- Charles Seignobos, (1896a), Compte rendu d'Avenel, Histoire économique de la propriété, des salaires, des denrées et des prix ; La fortune privée à travers les siècles. *Revue critique d'histoire et de littérature*. N° 6 10 février 1896, 106-118.
- Charles Seignobos, (1896b), Réponse à D'Avenel (1896a), *Revue critique d'histoire et de littérature*. N° 13, 30 mars, 256-260.
- Charles Seignobos, (1896c), Réponse à D'Avenel (1896b), *Revue critique d'histoire et de littérature*. N° 19, 11 mai, 379.
- André Siegfried. (1913). *Tableau politique de la France de l'ouest sous la troisième république*. Paris: A. Colin.
- Anna J. Schwartz (1973) Secular Price Change in Historical Perspective, *Journal of Money, Credit and Banking* 5.1: 243-269.
- A. M. Shaw. (1896). Review of *Histoire Économique de la Propriété, des Salaires, des Denrées et de tous les Prix en général depuis l'An 1200 jusqu'en l'An 1800*. *English Historical Review* 11.41: 123-129.

- François Simiand (1932) *Recherches anciennes et nouvelles sur le mouvement général des prix du XVIe au XIXe*. Paris : Ecole Pratique des Hautes Etudes.
- Joseph Tendler. (2013). *Opponents of the Annales School*. London: Palgrave.
- Lisa Tiersten. (2001). *Marianne in the Market. Envisioning Consumer Society in Fin-de Siècle France*. Berkeley: University of California Press.
- Thomas Tooke, William Newmarch. (1838). *A History of Prices and of the State of Circulation*. London : Longman.
- Jean-Claude Toutain (1961) Le produit de l'agriculture française de 1700 à 1958. I Estimation du produit au XVIIIe siècle, *Cahiers de l'ISÉA*, 115.
- Anne-Robert-Jacques Turgot, Gustave Schelle (ed.). (1913). *Œuvres de Turgot et Documents Le Concernant. Vol. IV. Turgot, Ministre, 1774-1776*. Paris: F. Alcan.
- Abbot P. Usher. (1926). Supplement, Papers and Proceedings of the Thirty-eighth Annual Meeting of the American Economic Association. *American Economic Review* 16.1: 265-280.
- Abbot P. Usher. (1928). Reviewed Work(s): *Histoire de la Fortune Française: la Fortune Privée à travers Sept Siècles*, *American Historical Review* 34.1: 106-108.
- Abbot P. Usher. (1930). The General Course of Wheat Prices in France: 1350-1788, *Review of Economics and Statistics* 12.4: 159-169.
- Bernard Valade. (1990). Pareto. *La naissance d'une autre sociologie*. Paris : PUF.
- Gustave Vapereau. G. (1893). *Dictionnaire universel des contemporains & supplément*. Paris: Hachette.
- Paul Veyne, Marc Augé, Maurice Godelier, Georges Duby, Claude Meillassoux, John V., Antoinette Murra Fioravanti-Molinié. (1974) Débat (sur la réciprocité). *Annales. Economies, sociétés, civilisations*. 29.6, 1974: 1358-1380.
- Natalis de Wailly. (1857). *Mémoire sur les variations de la livre tournois depuis le règne de Saint Louis jusqu'à l'établissement de la monnaie décimale*, Paris: Imprimerie royale.
- Georg Wiebe (1895). *Zur Geschichte der Preisrevolution des XVI. und XVII. Jahrhunderts*, Leipzig, Duncker und Humblot.
- Rosalind H. Williams. (1982). *Dream worlds: Mass consumption in late nineteenth-century France*. Berkeley: University of California Press.
- Jean-Claude Yon. (2010). *Histoire culturelle de la France au XIXème siècle*. Paris: Armand Colin.