Journal of Business Research 145 (2022) 535–551

Contents lists available at ScienceDirect

Journal of Business Research

journal homepage: www.elsevier.com/locate/jbusres

Consumer over-indebtedness: A review and future research agenda

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ARTICLE INFO

Keywords:
Credit
Debt
Consumer over-indebtedness

ABSTRACT

Consumer over-indebtedness has increased globally in recent decades, along with consumer credit. This article presents a systematic literature review on the topic of consumer over-indebtedness, consolidating extant knowledge, identifying broad patterns, and establishing future directions for this fast-growing research domain. We develop a comprehensive analysis and integrative review of the topic, analyzing 136 articles published in 76 journals over 50 years (from 1969 to 2019) across the academic disciplines of Economics, Marketing, Finance, Psychology, and Social Sciences. We present a framework for organizing the literature streams, theories, and main variables related to consumer over-indebtedness. Finally, we identify inconsistencies and under-researched areas, suggesting a future research agenda relevant to academics, practitioners, and policymakers.

1. Introduction

"Debt has become a persistent feature of household balance sheets at every stage of life" (Lusardi and Mitchell, 2013)

In recent decades, the world economy has seen a dramatic increase in consumer debt levels. In the United States, from 2001 to 2007, household debt, including mortgage debt and credit card debt, doubled to $14 trillion (Shiller, 2013) and reached $14.3 trillion in the first quarter of 2020 (Federal Reserve Bank of New York, 2020). At the same time, 55% of US households are savings-limited, meaning they can replace less than one month of their income through liquid savings (The Pew Charitable Trusts, 2015). Four million households are behind on their repayments in the UK, and an additional 1.5 million households struggle to pay their bills and loans (Arrowglobal, 2019). In 2015–16, around 29% of households in Australia were classified as over-indebted (Australian Bureau of Statistics, 2018). In Brazil, where more than 61 million consumers are indebted and in arrears, roughly 30 million are considered over-indebted (da Costa, 2018). This increase in credit and over-indebtedness has raised concern about its economic and social impacts on the sustainability of households' finances and the well-being of consumers and their families (d'Alessio & Iezzi, 2013). The concern is even more significant in the face of global economic crises such as the one prompted by the Covid-19 pandemic when consumers' income and expenses are subjected to severe and unexpected shocks. A phenomenon of growing importance, over-indebtedness is not only a social issue that affects a large number of people facing extreme difficulty in their lives but also a potential problem for creditors and the stability of financial systems (d'Alessio & Iezzi, 2013) (see Fig. 1).

The objective of this study is to conduct a systematic review of the literature on consumer over-indebtedness, defined as a situation in which consumers hold excessive and problematic debts, reporting persistent difficulty paying their debts and living expenses and finding their debts to be a heavy burden. We consolidate current knowledge on this phenomenon, identify broad patterns in scientific inquiry, and develop an agenda for future research. Understanding the academic research trajectory on over-indebtedness is essential for providing direction to this fast-growing research stream (Paul & Criado, 2020). Only systematic reviews covering the outcomes of over-indebtedness, such as mental and physical health problems, were published in the past (Turunen & Hiilamo, 2014; Fitch et al., 2011; Richardson et al., 2013). Paul et al. (2021) identify the reasons for writing a literature review. Based on their work, this review is strongly justified by the following reasons: (1) there is a substantial body of work in the domain; (2) no systematic literature in the domain exists; (3) no review of the domain exists in high-quality journals; (4) there are identified gaps and inconsistencies in the current literature (Paul et al., 2021). The present study is the first to develop a comprehensive and integrative literature review on consumer over-indebtedness. In addition to systematically mapping the literature on this important theme, we develop a framework that integrates research streams and synthesizes all antecedents and outcomes identified in prior research. Finally, we develop suggestions for a future research agenda and provide research questions whose answers may fill the gaps in under-researched topics. This study offers insights for

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https://doi.org/10.1016/j.jbusres.2022.03.023
Received 15 May 2021; Received in revised form 7 March 2022; Accepted 10 March 2022
Available online 17 March 2022

consumers, academics, industry practitioners, and policymakers (Snyder, 2019).

2. Methodology

2.1. Review design

This is a structured theme-based review on consumer over-indebtedness with the support of the "six Ws" framework (Callahan, 2014; Paul and Criado, 2020; Paul et al., 2021). Following previous reviews (Rosado-Serrano et al., 2018; Keupp & Gassmann, 2009; Terjesen et al., 2016; Canabal and White, 2008; Södergren, 2021), four steps were adopted to conduct a comprehensive search for selecting and analyzing the pertinent literature. In the first step, we did a keyword systemic search in the following online databases: (1) EBSCO Host, (2) Emerald, (3) JSTOR, (4) ProQuest Databases, (5) Science Direct, (6) Scopus, (7) SpringerLink, and (8) Web of Science. The search was carried out using the following keywords: indebtedness + consumer(s), over-indebtedness + consumer(s), over-indebtedness + consumer(s), and financial distress + consumer(s). A paper was included if these keywords appeared in its title, subject terms, abstract, or author-supplied keywords. The search was restricted to peer-reviewed papers written in English and published in academic journals, resulting in 996 articles. In the second step, a procedure for the exclusion of articles was conducted in three stages (See Appendix A for a summary): (1) we excluded all articles that overlapped across databases (406 articles); (2) we conducted a qualitative analysis of the titles and abstracts of the remaining 590 articles and excluded those that did not fit the objective criteria of the search selection (articles in languages other than English or from journals that were not peer-reviewed) or which had little or no relation to the theme of consumer over-indebtedness (329 articles); and (3) to guarantee the quality of journals, we excluded all articles published in journals that were not listed on the Academic Journal Guide of the Association of Business Schools (ABS) list (142 articles). In the third step of the systematic search, we included 17 additional articles cited in our included articles (snowballing) based on their level of importance, connection, and contribution to the review. In the last step, with a final sample of 136 articles (listed in Appendix B), we developed a system of classification based on the different streams of research found in the literature and according to the review structure and framework described below.

2.2. Review structure

The use of frameworks in reviews contributes to making them more "informative, insightful and impactful" (Paul, Merchant, Dwivedi, & Rose, 2021, p. 337). We follow Callahan's (2014) "six Ws" of literature review methods (who, when, where, how, what, and why), as adapted by Rosado-Serrano et al. (2018) and Xie, Reddy, & Liang (2017), to structure the analysis and the review (Paul & Criado, 2020; Paul et al., 2021).

2.2.1. Who (who conducted the search for data)

The search was conducted by the first author, then a doctoral student, with the supervision of the second author and support from a research assistant.

2.2.2. When (when were the data collected)

Some discussions of this paper were part of the first author's doctoral work carried out between 2017 and 2021. The data were collected in the first semester of 2019, and the analysis was made in 2019 and 2020.

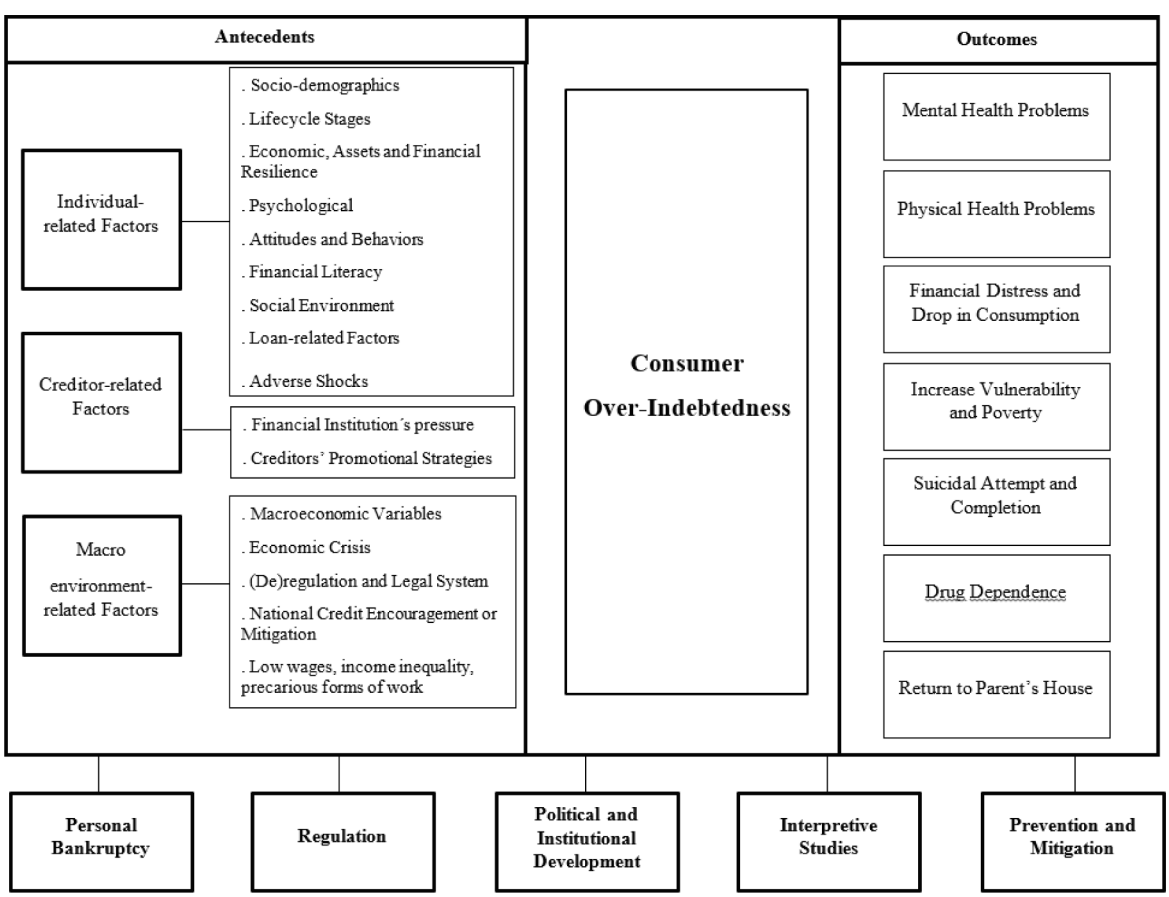

Fig. 1. Framework of the streams of literature on consumer over-indebtedness.

2.2.3. What do we know about consumer over-indebtedness

In section 3 (Findings), we present a summary of the academic research done on the theme of consumer over-indebtedness. We approach and discuss the different definitions and measurements of consumer over-indebtedness used in the literature, its antecedents, and outcomes, as well as its diverse streams of research, journals, and years of publication. We classify the articles in the following streams of literature: antecedents (47 articles), outcomes (18), personal bankruptcy (16), regulation (21), political and institutional development (11), interpretive studies (7), and prevention and mitigation (16).

2.2.4. Why should people need to know more about consumer over-indebtedness

Consumer over-indebtedness is a phenomenon with high social and economic impact for consumers and their families, and it brings concerns for practitioners, regulators, and policymakers. Despite attempts de implement public policies to avoid and mitigate this phenomenon, it continually grows and persists. The body of research done on this field does not yet show a high convergence on its understanding, showing an opportunity to uncover its untapped potential and promote improved theory development. In Section 3.2.3, we present and discuss the main theoretical underpinnings of this literature. We show the limitations and the divergence of the approaches utilized to highlight the need for further attention to the theoretical underpinnings of this field.

2.2.5. Countries of data collection and methodologies in prior research (where and what research has been done)

In Section 3.2.1.4 (Classification by countries of data collection), we show the different national and regional contexts in which the research on consumer over-indebtedness was conducted and discuss the implications of cultural and geographic concentration of the studies. In Section 3.2.1.5 – Classification by methodologies used in prior research, we exhibit the most widely used methods in consumer over-indebtedness studies and their contribution to the understanding of the phenomenon under study.

2.2.6. How can this review help fill the gaps in the literature and provide a guide for future research?

Finally, in Section 4 – Discussion and Directions for Future Research, based on a thorough and critical evaluation of prior studies, we identify and discuss the gaps and under-researched areas found in the literature and present directions for a research agenda to overcome these gaps and strengthen our understanding of consumer over-indebtedness.

3. Findings

3.1. Consumer over-indebtedness: Definitions and measurement

3.1.1. Definitions

Consumer over-indebtedness is a complex, multi-dimensional phenomenon for which there is no consensual definition in the literature. Table 1 presents the various definitions of over-indebtedness used in the articles of this review and their respective authors.

It is worth noticing that not only scholars but also different countries and governments work with unique definitions of it. According to the UK Money Advice Service, for example, "over-indebted individuals are those that answer either: (1) I find keeping up with bills and credit commitments a heavy burden; (2) I have fallen behind on, or missed payments in three or more months out of the last six months (consecutive or not)"(Money & Pensions Service, 2018, p. 8). In Germany, it is defined as a situation in which household income, "in spite of a reduction of the living standard, is insufficient to discharge all payment obligations over a long period of time" (Haas, 2006). In France, "an individual is considered over-indebted when, with well-meaning intentions, he/she is unable to meet the obligations coming from debts obtained for non-professional reasons" (d'Alessio & Iezzi, 2013).

Table 1
Definitions of over-indebtedness and their sources.

Author(s)	Consumer over-indebtedness and related concepts
Betti et al. (2007)	Over-indebted households: Those that expressed difficulty or serious difficulty in making debt payments, including credit debt, mortgage payments, and hire purchase installments as recorded in household surveys.
Brennan & Gallagher (2007)	Over-indebted consumers are those unable to pay their current credit repayments and other commitments without reducing expenditure below normal minimum levels.
Bricker & Thompson (2016)	Households in financial distress are those facing bankruptcy, foreclosure, being denied credit, late payment to bills, and a high payment-to-income ratio (SCF). Source: SCF (Survey of Consumer Finances)-FED
Chamboko et al. (2017)	Financial distress is a state of physical or mental strain that includes worries about financial matters, with indicators of financial distress including failure to pay debts in time, receiving notices from collection agencies, issuing checks with insufficient funds to cover them, and falling behind on the payment of bills. Source: Prawitz et al., 2006
Xiao & Yao (2014)	Consumer debt delinquency is an indicator of financial ill-being and refers to late debt payment behavior in which the consumer is 60 or more days late in his debt payments. Source: Bucks et al., 2009
Patel et al. (2012)	Occurrence of unmanageable debt and financial difficulty (demonstrating the manifestation of over-indebtedness). Unmanageable debt and financial difficulty sub-categories: (1) unreasonable harassment by creditors; (2) severe difficulties managing money; (3) being threatened with legal action to recover money owed; (4) having a county court judgment; (5) repeated penalty charges by banks or utilities; (6) repossession of the home (from owned housing category); (7) being several mortgage payments in arrears, and (8) being several rent payments in arrears (from the rented housing category). Source: Money Advice Trust
Schicks (2014)	Sacrifice-based over-indebtedness: a microfinance customer is over-indebted if he/she is continuously struggling to meet repayment deadlines and structurally has to make unduly high sacrifices related to his/her loan obligations. Source: Schicks, 2013
Townley-Jones et al. (2008)	Chronic debtors are those who are financially overcommitted, that is, unable to meet debt repayment demands and other normal costs of living expenses

However, despite the differences in the definitions, some dimensions are common among them: economic (amount of debt to repay), temporal (medium- to long-term), subsistence (basic expenses that have to be met ahead of the repayment of debts), and psychological (the distress caused by over-indebtedness) (d'Alessio & Iezzi, 2013).

3.1.2. Measurement of consumer over-indebtedness

Several indicators or proxy variables are used to measure consumer over-indebtedness based on objective measurements or individual self-reported subjective measurements. Betti et al. (2007) summarize the main indicators of consumer indebtedness used by various organizations as (1) total stock of debt or debt per capita; (2) proportion of households with net liabilities; (3) consumption–income ratio; (4) debt-income ratio; (5) debt–asset ratio; (6) number of bankruptcies/arrears; (7) rate of credit delinquencies; (8) average liabilities per bankruptcy; and (9) number of households self-reporting to be over-indebted. Table 2 presents measures of over-indebtedness used in the studies of this review. If the authors of the studies used measures of possession of debts that implied some kind of excessive debts, we kept the variables of their studies in the Table.

3.2. Consumer over-indebtedness: An overview of the literature

3.2.1. Classification of studies

3.2.1.1. Classification by ABS discipline. The search showed that 46.3% of the articles were published in journals classified under the discipline

Table 2
Measures of over-indebtedness used as dependent variables.

Author	Dependent variables
Achtziger et al. (2015)	Current Debts
Aristei & Gallo (2016)	Mortgage Arrears Intensity
Baek & Hong (2004)	(1) Installment debt (2) Credit card debt
Betti et al. (2007)	Over-indebted households
Bricker & Thompson (2016)	Financial distress (Source: Survey of Consumer Finances, US Federal Reserve Board)
Chamboko et al. (2017)	Financial distress (Source: Prawitz et al., 2006)
Gathergood (2012)	Over-indebtedness (measured as a delinquency on debt)
Gutiérrez-Nieto et al. (2017)	Over-indebtedness (Source: Gathergood, 2012b)
Jacobs & Smit (2010)	Level of indebtedness
Xiao & Yao (2014)	Debt delinquency (Source: Bucks et al., 2009)
Majamaa et al. (2019)	Debt problems (debt judgments in court)
Meyll & Pauls (2019)	Over-indebtedness on uncollateralized debt (Source: Gathergood, 2012b)
Oksanen et al. (2015)	Debt problems
Ottaviani & Vandone (2011)	Holding debt (participation in the debt market)
Patel et al. (2012)	Occurrence of unmanageable debt and financial difficulty (demonstrating the manifestation of over-indebtedness) (Source: Money Advice Trust)
Ponchio & Aranha (2008)	Possession of an installment plan
Prawitz et al. (2013)	Felt constraint: cannot make ends meet Felt constraint: material needs
Robson et al. (2017)	Holding debt (unsecured personal loan from a bank, credit card, payday company, or family and friends)
Ryan & Maynes (1969)	(1) Debtor households "in some trouble" (2) Debtor households "in deep trouble"
Schicks (2014)	Sacrifice-based over-indebtedness
Stone & Maury (2006)	Hold unsecured personal debt
Townley-Jones et al. (2008)	Chronic debtors
Wang & Xiao (2009)	Credit card indebtedness
Watson (1998)	(1) Spending Tendency Scale (Sources: Heslin & Frey, 1996; Davies &d Lea, 1995) (2) Scale of Attitude Toward Debt (Sources: Heslin & Frey, 1996; Davies & Lea, 1995)
Webley & Nyhus (2001)	Debt status: debtors and mild debtors (an index was developed) (Sources: Lea et al., 1993; Tokunaga, 1993; Van de Geer, 1993)
Xu et al. (2017)	Financial distress (no utility payment, no phone service, no mortgage/rent payment, or past year worried food depleted)

of economics, 15.4% in marketing, and 9.5% in finance. Fewer publications are classified under social sciences (8.0%) and psychology (7.3%). Other ABS disciplines account for less than 1% of each of the total articles analyzed. These results, as shown in Table 3, evidence the interdisciplinary nature of consumer over-indebtedness as a research theme.

3.2.1.2. Classification by journal. The articles reviewed were published in 76 different journals, as shown in Table 4, with 12 journals publishing 52.9 % of articles. The Journal of Consumer Policy represented 21.3% of all the publications, followed by the Journal of Economic Psychology (6.6%), the International Journal of Consumer Studies (5.8%), and the Journal of Family Economic Issues (3.6%). Of those included in the review, 64 journals had only one publication each about consumer over-indebtedness. This analysis reveals high levels of interdisciplinarity and fragmentation of publications, raising concerns of a potential lack of research synergy (Snyder, 2019) (see Tables 5-7).

3.2.1.3. Classification by year of publication. To provide a historical view of the literature, we classified the articles based on their year of publication, as shown in Fig. 2 (without any constraint in years). We identified a low-activity, medium-activity, and high-activity phase of research. The low-activity phase goes from 1969 to 1995. In 27 years, only eight articles were published on the topic and no more than one per year (average of 0.3 articles/year). Between 1997 and 2010, in the medium-activity phase, there was a considerable increase in publication. Thirty-seven articles were published in these 14 years (average of 2.64 articles/year). From 2011 to 2019, in the high-activity phase, 91 articles were published (average of 10.1 articles/year) and with publications every year, demonstrating a marked increase in interest in the theme.

3.2.1.4. Classification by countries of data collection. Among all articles involving any kind of data collection, 46.1% collected data from European countries and 29.6% from the US. If cross-cultural studies involving Europe, the US, and/or Canada are included, 76.9% of the articles are from these regions, revealing high geographic concentration. There is an under-representation of Latin America (7.6%), Africa (6.5%), Asia (3.2%), Oceania (2.1%), and the Middle East (0), obscuring a global picture of the phenomenon and its potential regional variations. At the same time, this may reflect a lack of synergy in knowledge generation and sharing on this important topic. Another possibility is that the phenomenon could not be important enough in some countries to attract the attention of scholars, or perhaps this under-representation could be due to a tradition of publications in outlets not written in English and/or classified by ABS. The keyword choices could also be an explanation since alternative keywords could be more prevalent in different countries.

3.2.1.5. Classification by methodologies used in prior research. Most articles included in this review are quantitative studies (59.5%), primarily based on surveys and secondary data. These studies are normally concentrated on the measurements of antecedents and outcomes of over-indebtedness. Only 7.3% are qualitative, and 2.2% employ mixed methods. 42 (30.8%) are conceptual articles, generally covering the topics of regulation, personal bankruptcy, political and institutional development, and prevention and mitigation.

Table 3
Articles classified by ABS discipline.

ABS area classification	No.	ABS area classification	No.
Economics, Econometrics and Statistics	63	Sector Studies	1
Marketing	21	Business and Economic History	1
Finance	13	Operations Research and Management Science	1
Social Sciences	11	Information Management	1
Psychology (General)	10	International Business and Area Studies	1
No ABS	12	Public Sector and Health Care	1

Table 4
Articles classified by journal.

Journal name	No.	Journal name	No.
Journal of Consumer Policy	29	Journal of Business Ethics	2
Journal of Economic Psychology	9	International Journal of Social Economics	2
International Journal of Consumer Studies	8	Journal of Consumer Research	2
Journal of Family Economic Issues	5	International Journal of Bank Marketing	2
Social Science & Medicine	5	Journal of Consumer Affairs	2
Journal of Financial Services Marketing	3	Others	64
Politics & Society	3		

Table 5
Countries and continents of data collection.

Continent	No.	Country of Data Collection	No.	Authors
Europe	42	UK	16	Bridges & Disney (2010); Brown & Woodruffe-Burton (2015); Brown et al., (2005); Brown et al., (2017); Finlay (2006); French & McKillop (2016); Gathergood (2012a); Gathergood (2012b); Ironfield-Smith et al., (2005); Lea et al., (1993); Lea et al., (1995); Patel et al., (2012); Reading & Reynolds (2001); Richards et al., (2008); Robson et al., (2017)
		EU	6	Kösters et al., (2004); Anderloni et al., (2012); Aristei & Gallo (2016); Di Giulio & Milani (2013)
		Italy	4	Ottaviani & Vandone (2011); Achtziger et al., (2015); Keese & Schmitz (2014); Meyll & Pauls (2019)
		Germany	4	Stolper & Walter (2017); Marsellou & Bassiakos (2016)
		Greece	2	Pastrapa & Apostolopoulos (2015); Camões & Vale (2014)
		Portugal	2	Lopes & Frade (2012); Majamaa et al., (2019)
		Finland	2	Oksanen et al., (2015); Karacimen (2014)
		Turkey	2	Mazibaş & Tuna (2017)
		Netherland	1	Webley & Nyhus (2001)
		Spain	1	Gutiérrez-Nieto et al. (2017)
		Estonia	1	Kukk (2018)
		Iceland	1	Garðarsdóttir & Dittmar (2012)
USA and Canada	28	USA	27	Baek & Hong (2004); Bigus & Steiger (2006); Bricker & Thompson (2016); Burtch & Chan (2018); Collins & Schmeiser (2013); Dellande et al., (2016); Dettling & Hsu (2018); Drentea & Lavrakas (2000); Drentea & Reynolds (2012); Drentea (2000); Han & Li (2011); Kim & Wilmarth (2016); Dellande et al., (2016); Lusardi & Tufano (2015); Moorman & Garasky (2008); Murthi et al., (2019); Poddar et al., (2015); Prawitz et al., (2013); Ryan & Maynes (1969); Shen et al., (2014); Stone & Maury (2006); Sweet (2018); Sweet et al., (2013); Wang & Xiao (2009); Xiao & Yao (2014); Xu et al., (2017); Zhang & Kim (2019)
		Canada	1	Bergerès et al., (2015)
Latin America	7	Brazil	5	Abrantes-Braga & Veludo-de-Oliveira (2019); Cordeiro et al., (2019); Da Silva et al., (2018); Pereira & Strehlau (2016); Ponchio & Aranha (2008)
		Mexico	1	Seira et al. (2017)
		Chile	1	Hojman et al. (2016)
Africa	6	South Africa	3	Jacobs & Smit (2010); Meniago et al., (2013); Naicker & Kabir (2013)
		Ghana	1	Schicks (2014)
		Zimbabwe	1	Chamboko et al. (2017)
		Swaziland	1	Erasmus & Mathunjwa (2011)
Oceania	2	Australia	1	Townley-Jones et al. (2008)
		New Zealand	1	Watson (1998)
Asia	3	Malaysia	2	Loke (2015); Loke (2016)
		India	1	Kanz (2016)
	3	UK and Taiwan	1	Lo & Harvey (2011)
Cross-cultural		USA and EU	1	Huls (1992)
		Germany, UK and USA	1	Brown & Taylor (2008)

3.2.2. *Streams of literature*

Following prior reviews, we classified the literature according to different streams of research. We first classified the articles in the streams of antecedents and outcomes that represent 47.7% of the articles in the review. For the additional streams, to guide our classification, we attempted to identify the most frequent topics and themes in common (Keupp & Gassman, 2009; Rosado-Serrano et al., 2018; Dabić et al., 2020; Hao et al., 2019). We classified the literature according to the following streams: antecedents (47 articles), outcomes (18), personal bankruptcy (16), regulation (21), political and institutional development studies (11), interpretive studies (7), and prevention and mitigation studies (16).

3.2.2.1. *Antecedents*

3.2.2.1.1. Individual-related factors. 3.2.2.1.1.1. Socio-demographic

Several studies use socio-demographic variables as antecedents of over-indebtedness. There is total convergence of the results regarding age: younger groups are consistently found to belong disproportionally to the group of the (over-)indebted (Townley-Jones et al., 2008; Oksanen et al., 2015; Ponchio & Aranha, 2008; Betti et al., 2007; Jacobs & Smit, 2010; Di Giulio & Milani, 2013; Stone & Maury, 2006; Majamaa et al., 2019; Aristei & Gallo, 2016; Patel et al., 2012; Gathergood, 2012b) and older people are under-represented (Aristei & Gallo, 2016; Majamaa et al., 2019). There is also high convergence among results related to single parents with children: they are more likely to be (over-) indebted (Townley-Jones et al., 2008; Anderloni et al., 2012; Betti et al., 2007; Patel et al., 2012; Gathergood, 2012b). The presence and number of children at home also increase the likelihood of over-indebtedness for other types of families (Lea et al., 1995; Oksanen et al., 2015; Ottaviani & Vandone, 2011). Concerning other marital statuses, Townley-Jones et al. (2008) found evidence of a greater likelihood of over-indebtedness for single adults, and Majamaa et al. (2019) found greater likelihood among the single and divorced and less likelihood for the married and widowed. There is also evidence that higher levels of education tend to correspond to lower levels of over-indebtedness (Oksanen et al., 2015; Aristei & Gallo, 2016; Di Giulio & Milani, 2013; Bricker & Thompson, 2016; Majamaa et al., 2019; Gathergood, 2012b). Individuals that live in less-developed regions were shown to have more difficulties with repayment (Aristei & Gallo, 2016; Di Giulio & Milani, 2013). Long-term illness and disability were also shown to portend a greater likelihood of over-indebtedness (Patel et al., 2012). There is also evidence of higher risk for individuals of lower socioeconomic status (Oksanen et al., 2015; Schicks, 2014) and those with prior convictions for property crimes (Oksanen et al., 2015). Some older studies tend to associate over-indebtedness with poverty, but the more recent ones show that it can reach across classes, including those with high socioeconomic status. Regarding gender, the results are mixed. In four studies, men were more likely to be indebted (Meyll & Pauls, 2019; Jacobs & Smit, 2010; Majamaa et al., 2019; Shicks, 2014); in one study, women were more likely (Lea et al., 1995), and in one there were no significant differences between men and women (Ponchio & Aranha, 2008).

3.2.2.1.1.2. Lifecycle stages

Two articles reported studies showing positive correlations between family lifecycle stages and patterns of debt and delinquency (Xiao & Yao, 2014; Baek & Hong, 2004). In the study by Xiao & Yao (2014), young couples with children aged seven or older, middle-aged singles

Table 6
Widely used methods in consumer over-indebtedness studies.

Methods	Articles	Data Collection and Methods	Qty	Authors
Quantitative	81	Survey	37	Achtziger et al., (2015); Anderloni et al., (2012); Bricker & Thompson (2016); Di Giulio & Milani (2013); Drentea & Lavrakas (2000); Drentea (2000); Erasmus & Mathunjwa (2011); Finlay (2006); French & McKillop (2016); Garðarsdóttir & Dittmar (2012); Gathergood (2012b); Gutiérrez-Nieto et al., (2017); Han & Li (2011); Jacobs & Smit (2010); Keese & Schmitz (2014); Finlay (2006); Lea et al., (1995); Loke (2015); Lopes & Frade (2012); Lusardi & Tufano (2015); Meyll & Pauls (2019); Oksanen et al., (2015); Ottaviani & Vandone (2011); Pastrapa & Apostolopoulos (2015); Ponchio & Aranha (2008); Prawitz et al., (2013); Reading & Reynolds (2001); Robson et al., (2017); Ryan & Maynes (1969); Schicks (2014); Shen et al., (2014); Stone & Maury (2006); Sweet (2018); Townley-Jones et al., (2008); Watson (1998); Xiao & Yao (2014); Xu et al., (2017)
		Secondary Data	11	Bergerès et al., (2015); Betti et al., (2007); Burtch & Chan (2018); Chamboko et al., (2017); Collins & Schmeiser (2013); Dellande et al., (2016); Leicht (2012); Majamaa et al., (2019); Marsellou & Bassiakos (2016); Mazibaş & Tuna (2017); Murthi et al., (2019)
		Secondary Data (Survey)	11	Aristei & Gallo (2016); Baek & Hong (2004); Bridges & Disney (2010); Brown & Taylor (2008); Brown et al., (2005); Camões & Vale (2014); Hojman et al., (2016); Kanz (2016); Kim & Wilmarth (2016); Loke (2016); Patel et al., (2012)
		Secondary Data (Panel)	4	Dettling & Hsu (2018); Gathergood (2012a); Kukk (2018); Sweet et al., (2013)
		Panel Data	4	Drentea & Reynolds (2012); Moorman & Garasky (2008); Webley & Nyhus (2001); Zhang & Kim (2019)
		Econometric Modelling	6	Bigus & Steiger (2006); Chatterjee & Gordon (2012); Dell'Ariccia & Marquez (2006); Gordon (2017); Nakajima (2012); Ryoo & Kim (2014)
		Experiment	4	Da Silva et al., (2018); Lo & Harvey (2011); Poddar et al., (2015); Seira et al. (2017)
		Review	3	Fitch et al., (2011); Richardson et al., (2013); Turunen & Hiilamo (2014)
		Time Series	1	Meniago et al. (2013)
Qualitative	10	Interviews	7	Brown & Woodruffe-Burton (2015); Brown et al., (2017); Cordeiro et al., (2019); Naicker & Kabir (2013); Pereira & Strehlau (2016); Bernthal et al. (2005); Peñaloza & Barnhart (2011)
		Case Study	3	Burton (2017); Richards et al., (2008); Rodford (2009)
Mixed Methods	3	Survey And Interviews	2	Karacimen (2014); Wang & Xiao (2009)
		Focus Groups, Interviews, and Survey	1	Abrantes-Braga & Veludo-de-Oliveira (2019)
Conceptual	42	Review	39	Aldohni (2017); Braucher (2006); Brennan & Gallagher (2007); Chancellor & Lyubomirsky (2011); DeVaney & Lytton (1995); Eng (2008); Ferretti (2010); Fišerová & Paseková (2016); Ford (1990); Fuller (2015); Graver (1997); Griffiths (2007); Hallsworth (1991); Hoffmann (2012); Huls (1992); Huls (1993); Huls (1997); Fišerová & Paseková (2016); Ironfield-Smith et al., (2005); Kösters et al., (2004); Linna (2015); Livshits (2015); Mak & Braspenning (2012); Mak (2015); Marron (2012); Méndez-Pinedo (2015); Nield (2015); Niemi (2012); Niemi-Kiesiläinen (1997); O'Neill (2006); Raijas et al., (2010); Ramsay (1997); Ramsay (2012); Schelkle (2012); Stolper & Walter (2017); Takalo (2019); Trumbull (2012); Whitford (1997); Ziegel (1997)
		Editorial or Presidential Address	3	Demirgüç-Kunt (2014); Micklitz (2012); Micklitz (2013)

with children under 15, and with children aged 15 or older were the three groups with a higher likelihood to be delinquent. Old married couples without children had the lowest likelihood of being delinquent. Younger households, as well as those with children, were shown to have a higher probability of being delinquent.

3.2.2.1.1.3. Assets and financial resilience

In general, the studies provide evidence that lower incomes correspond to greater over-indebtedness (Lea et al., 1995; Townley-Jones et al., 2008; Betti et al., 2007; Stone & Maury, 2006; Aristei & Gallo, 2016; Schicks, 2014). For two studies, however, income level was not

Table 7
Theories and models used in consumer over-indebtedness.

Theories Type	No.	Theories	No.	Authors
Life Cycle Theories	11	Life-Cycle-Permanent-Income Model (Modigliani, 1966; Friedman, 1957)	4	Betti et al., (2007); Meniago et al., (2013); Oksanen et al., (2015); Ottaviani & Vandone (2011)
		Life-Cycle-Permanent-Income Model (Modigliani, 1966; Friedman, 1957) + Behavioural Features	2	Baek & Hong (2004); Camões & Vale (2014)
		General Equilibrium Life-Cycle Model Of Huggett (1996) + The Version Of The Gul-Pesendorfer Preferences That Features Temptation And Self-Control(Krusell, Kuruscu, And Smith, 2010)	1	Nakajima (2012)
		Life-Cycle Models	1	Dettling & Hsu (2018)
		Life-Cycle Hypothesis (Modigliani And Brumberg, 1954); Life-Cycle Categories(Du And Kamakura, 2006)	1	Xiao & Yao (2014)
		Life Cycle Theory(Ando And Modigliani, 1963)	1	Kim & Wilmarth (2016)
		Life-Cycle Bankruptcy Model	1	Gordon (2017)
Other Theories	13	Theory Of Market Anomie (Kardtedt And Farrall, 2006) And Institutional Anomie Theory(Rosenfeld And Messner, 1997; Messner And Rosenfeld, 2010)	1	Lopes & Frade (2012)
		Abc-X Model Of Family Stress Theory	1	Prawitz et al. (2013)
		Theory Of The Gift(Mauss, 2003)	1	Pereira & Strehlau (2016)
		Corporate Social Responsibility(Strategic Stakeholder Management Theory)	1	Griffiths (2007)
		"Ability-To-Pay Theory" Theory Of Default (Jackson And Kaserman, 1980)	1	Aristei & Gallo (2016)
		Gift Giving(Mauss, 1925, 1967; Chea, 1988; Belk And Coon, 1993; Sherry, 1983)	1	Cordeiro et al. (2019)
		Theory Of Temporal Choices(Ortendal And Sjoberg, 1979); Multiple Mental Account System (Thaler, 1985; Ranyard And Craig, 1995); Theory Of Psychological Accounts (Kahneman And Tversky, 1984)	1	Erasmus & Mathunjwa (2011)
		Household Production Models(Becker, 1965; Bryant, 1990) + Systems Approach To Financial Management(Deacon And Firebaugh, 1988)	1	Moorman & Garasky (2008)
		Consumer Compliance Theory(Dellande & Gily, 1998)	1	Dellande et al. (2016)
		Money Demand Models (Attanasio Et Al., 2002)	1	Di Giulio & Milani (2013)
		Theory Of Income Distribution(Kaldor, 1956) + Veblenian Pecuniary Emulation	1	Ryoo & Kim (2014)
		Rationalism, Behaviorism, And Ortega-Y-Gasset (1961) Formula: "I Am Myself Plus My Circumstance"	1	Gutiérrez-Nieto et al. (2017)
		Theories Of Sensitization And Habituation (Groves And Thompson, 1970; Hughes And Higgins, 2010; Rankin Et Al., 2009)	1	Shen et al. (2014)

Note: 81 articles used constructs, concepts, and/or variables, and 39 did not specify any theoretical underpinning.

significant (Jacobs & Smit, 2010; Patel et al., 2012). Higher incomes are also shown to reduce financial vulnerability (Anderloni et al., 2012); however, the highest-income households are predicted to have more debit and credit cards (DiGiulio & Milani, 2013). Having more wealth and assets also seems to decrease the likelihood of over-indebtedness. Having more financial assets is associated with less consumer debt (Baek & Hong, 2004), and more wealth reduces financial vulnerability (Anderloni et al., 2012). Debtors have fewer economic resources and more uncertain incomes (Webley & Nyhus, 2001; Shicks, 2014). Homeowners or individuals purchasing a home are less likely to be chronic debtors (Townley-Jones et al., 2008) while living in rented accommodation increases financial vulnerability (Lea et al., 1995; Anderloni et al., 2012; Gathergood, 2012b; Patel et al., 2012). However, Ottaviani & Vandone (2011) show that people with higher net wealth are more likely to hold debt because they have greater access to credit. Work status has also been shown to influence over-indebtedness. Debtors are more likely to be employed part-time, self-employed, or unemployed (Lea et al., 1995; Ottaviani & Vandone, 2011; Gathergood, 2012b), and employed or retired individuals exhibited lower levels of arrears (Aristei & Gallo, 2016). Overall, economic factors are important for the prediction of who is and who remains for a longer time in debt (Webley & Nyhus, 2001).

3.2.2.1.1.4. Psychological

Several studies seek to explain the phenomenon of over-indebtedness using psychological variables such as impulsivity, self-control, compulsive buying, and materialism. Poor self-control is strongly associated with over-indebtedness (Gathergood, 2012b; Achtziger et al., 2015; Webley & Nyhus; 2001). Da Silva & colleagues (2018) found an association between lack of self-control and cognitive reflection and debts but only among low-income individuals. Low self-control leads to compulsive buying, which in turn leads to debts (Achtziger et al., 2015). Consumers with less self-control use more high-cost credit and tend to be more exposed to financial shocks (Gathergood, 2012b). Impulsive individuals are more subject to financial vulnerability (Anderloni et al., 2012) and show a higher association with consumer credit but not mortgage (Ottaviani & Vandone, 2011). Students with credit card balances exhibited a greater tendency toward impulsive buying even though impulsive buying did not appear to be a significant predictor of credit card indebtedness (Wang & Xiao, 2009). Individuals with greater present-time orientation have also been shown to be more likely to go into and remain in debt (Webley & Nyhus, 2001). Other studies approach the association between materialism and over-indebtedness, showing mixed results. Materialism is associated with participation in installment plans (Ponchio & Aranha, 2008) and with more favorable attitudes toward spending and debt (Watson, 1998). However, it is not associated with different levels of debt (Watson, 1998). Gutiérrez-Nieto et al. (2017) call attention to experts' opinion that individuals tend to imitate others in their materialistic goals. Xu et al. (2017) provide

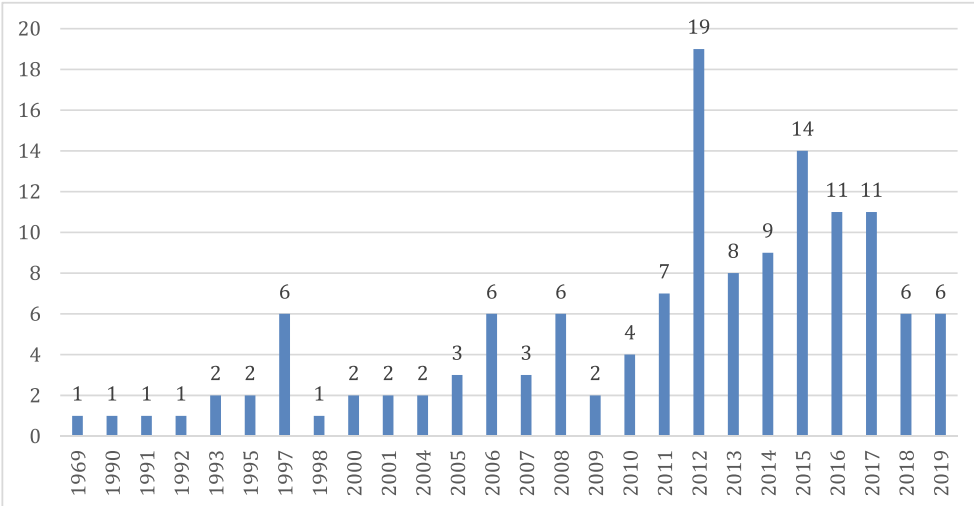

Fig. 2. Number of publications per year.

evidence of genetic and environmental influences on financial distress. Finally, those high in neuroticism and low in ability experience greater financial hardship (Xu et al., 2017), with genetic influences on financial outcomes being mediated by cognitive and non-cognitive abilities.

3.2.2.1.1.5. Attitude and behaviors

Attitude towards debt is associated with indebtedness (Webley & Nyhus, 2001). Having a negative attitude towards credit is negatively related to the probability of having consumer debt (Baek & Hong, 2004). Willingness to borrow is associated more with the decision to borrow and less with the amount of borrowing (Baek & Hong, 2004), and expectation (e.g., of future income) is associated with indebtedness (Webley & Nyhus, 2001). Demonstrating prudence and caution in spending and payment practices was found to be a significant factor in predicting lower levels of consumer debt (Baek & Hong, 2004).

3.2.2.1.1.6. Financial literacy

Analyses of financial literacy, financial education, and financial knowledge as antecedents of debt offer mixed results. Lusardi & Tufano (2015) found that individuals with lower levels of debt literacy usually transact in high-cost manners, pay higher fees, and use high-cost borrowing. They also found low levels of debt literacy in their sample of the US population (about one-third), with worse results for minorities and more vulnerable populations. Other studies also showed that financial literacy reduces household vulnerability (Aristei & Gallo, 2016), and poor financial literacy is positively associated with over-indebtedness (Gathergood, 2012b; Schicks, 2014). Experts also tend to blame over-indebtedness on the lack of financial literacy among individuals (Gutiérrez-Nieto et al., 2017). In a study testing numeracy and money management skills as key components of financial literacy and their effects on consumer debt and household net worth among credit union members in socially disadvantaged areas, French and McKillop (2016) found that money management skills are important determinants of financial outcomes, but numeracy has almost no role to play. Superior money management helped to reduce debt-to-income levels and high-cost credit and to decrease the number of lenders. On the other hand, in a study assessing the literature to evaluate whether financial education can improve financial literacy and financial behavior, Stolper & Walter (2017) found disappointing results and a lack of evidence of the effectiveness of financial education in changing behavior. Two other studies similarly showed that having a higher education degree, greater financial knowledge, and prudent financial behavior and attitude does not necessarily translate to better financial management (Loke, 2016), and financial knowledge does not prevent an individual from getting into financial distress (Loke, 2015).

3.2.2.1.1.7. Social environment

Where there is more social acceptance of indebtedness and more indebted people around, individuals are more likely to be indebted (Lea et al., 1995). If one adult in a household is experiencing debt problems, the likelihood that other adults in the same household will also experience debt problems is higher (Patel et al., 2012). Social comparison can also contribute to over-indebtedness when it generates status-driven expenditures (Lea et al., 1995). The economic socialization of individuals also plays a role in the phenomenon (Lea et al., 1995), as parents' attitudes, usage, and views of credit influence individuals' financial decisions (Lea et al., 1995; Stone & Maury, 2006). At the same time, social support can provide resources for the (over-)indebted to overcome the situation. Social support decreases the likelihood of indebtedness, as illustrated by Wang & Xiao (2009), who found that students who have social prompts and adequate support have a lower risk of holding credit card debt.

3.2.2.1.1.8. Loan-related

Types of loans, their characteristics, and purposes are related to the risk of over-indebtedness. For instance, individuals taking out instant loans have an increased likelihood of experiencing debt problems (Majamaa et al., 2019), credit limit and the number of credit cards affects the amount of one's consumer debt (Baek & Hong, 2004), and repayment problems are more likely when borrowers have rescheduled their debt terms (Aristei & Gallo, 2016). At the same time, household debt-servicing (i.e., the ratio of a debt installment payment to income) is one of the most significant determinants of household vulnerability (Anderloni et al., 2012), and households with education-related debt are more likely to have been late paying bills, to be denied credit, and to have high payment-to-income ratios (Bricker & Thompson, 2016). In microfinance, the risk of over-indebtedness is higher for borrowers with low returns on their investments and for borrowers who use their loans for non-productive purposes (Schicks, 2014). The purposes of loans are also found to be strongly related to over-indebtedness (Meyll & Pauls, 2019).

3.2.2.1.1.9. Unexpected adverse shocks

Several studies highlight the immense bearing of unexpected adverse shocks or life-altering events on the occurrence of unmanageable debts and financial difficulty, affecting both incomes and expenses. Individuals can experience a drop in or loss of income, generally linked to job loss and unemployment (Anderloni et al., 2012; Gutiérrez-Nieto et al., 2017; Townley-Jones et al., 2008; Aristei & Gallo, 2016; Patel et al., 2012; Schicks, 2014; Stone & Maury, 2006). They can also experience unexpected increases in their expenses, which can be linked

to poor physical or mental health for themselves or other members of their household (Aristei & Gallo, 2016; Patel et al., 2012; Townley-Jones et al., 2008). The studies also mention domestic discord, divorce or relationship problems, and problems with neighbors (Patel et al., 2012; Townley-Jones et al., 2008). Students, in particular, can experience adverse shocks associated with transitional periods, such as moving out from managed accommodation or returning from placement, thereby becoming more susceptible to debt (Robson et al., 2017).

3.2.2.1.2. Creditor-related factors. Two studies analyzed the effects of factors related to creditors that can influence consumer over-indebtedness. Gutiérrez-Nieto et al. (2017) demonstrate that the pressure of financial institutions can contribute to individuals' over-indebtedness. They argue that competitive pressure in the market can lead the financial industry to irresponsible lending. At the same time, low interest rates and higher credit limits can also attract customers initially and later leave them over-indebted (Gutiérrez-Nieto et al., 2017). Similarly, Murthi et al. (2019) provide evidence that consumers are attracted by low-APR (annual percentage rate) offers and then transfer balances and use revolving credit. Some of them are unable to pay off the amount at the end of the promotion period and become over-indebted. Low promotional APRs increase the well-being of needy customers in the short term but can encourage overcommitment and may lead to over-indebtedness later on (Murthi et al., 2019).

3.2.2.1.3. Macroenvironmental-related factors. Some studies demonstrate that factors related to the macroenvironment, such as macroeconomic variables, economic crises, and the efficiency of the legal system, are associated with higher levels of over-indebtedness. For example, household debt in South Africa can be associated with positive changes in house prices, inflation, GDP, household consumption expenditures, and household savings, while household income and prime rates are negatively associated with household debt (Meniago et al., 2013). Economic crises can also create adverse shocks that affect over-indebtedness (Aristei & Gallo, 2016; Gutiérrez-Nieto et al., 2017). The deregulation and liberalization of financial markets, as well as reduced governmental support and weakened welfare state, low wages, income inequality, and precarious forms of work can also contribute to over-indebtedness (Majamaa et al., 2019; Nield, 2015; Niemi-Kiesiläinen, 1997; Karacimen, 2014; Ryoo & Kim, 2014; Braucher, 2006; Leicht, 2012). National financial systems can also operate policies of credit encouragement in which lenders and policymakers push for credit expansion to accelerate economic growth and as an alternative to expanding the welfare state (Trumbull, 2012; Fuller, 2015; Dell'Ariccia & Marquez, 2006).

3.2.2.2. Outcomes. Several studies show evidence of the association of holding debt or being over-indebted with worse physical and mental health (chiefly anxiety, stress, anger, and depression). Heads of households who have outstanding (non-mortgage) credit and who have higher amounts of such debt are significantly less likely to report full psychological health and well-being (Brown et al., 2005; Gathergood, 2012a). Both credit card debt and debt-related stress are associated with health, and the debt-income ratio is significantly associated with worse physical health and self-reported poor health (Drentea & Lavrakas, 2000). Anxiety increases with the ratio of credit card debt to income and with being in default (Drentea, 2000), and debtor status is often associated with mental health problems (Drentea & Reynolds, 2012; Fitch et al., 2011; Richardson et al., 2013). Accumulating either student loan or credit card debt increases psychological distress among young people and families with children (Zhang & Kim, 2019; Bridges & Disney, 2010). Several studies also report associations between indebtedness and depression (Reading & Reynolds, 2001; Turunen & Hiilamo, 2014; Richardson et al., 2013). The symptoms of stress and depression can nevertheless vary over time. Depressive symptoms are higher for those who have been persistently over-indebted, mainly with unsecured debt, but these symptoms vanish as debt levels fall (Hojman et al., 2016). Debt stress for short-run debtors is more than twice that of long-run debtors, and there is evidence that the stress could reduce over time (Shen et al., 2014). Gathergood (2012a) highlights a potential social norm effect whereby individuals with problem debt who live in regions with higher bankruptcy rates experience less deterioration in their psychological health. Indebtedness is also related to suicidal attempts and completion (Richardson et al., 2013; Turunen & Hiilamo, 2014), problem drinking, drug dependence, and neurotic and psychotic disorders (Richardson et al., 2013). Sweet (2018) provides evidence that individuals who internalize neoliberal discourses of self-blame by viewing their debt as a form of failure have higher blood pressure and body composition, more debt-related symptomatology, and worse emotional and psychological health. Overall, these results suggest that debt is an important socio-economic determinant of health (Sweet et al., 2013). Kukk (2018) calls attention to another kind of outcome: a substantial short-term drop in spending after the experience of facing financial difficulties. Even when debt repayment problems are resolved, spending becomes lower than before and continues to decrease as long as the problems last. Another outcome is parental cohabitation among indebted young adults. Young adults facing debt problems return to their parents' house as a smoothing mechanism to handle borrowing constraints (Dettling & Hsu, 2018). Individuals who reported more economic pressure also reported higher financial distress and less hopefulness (conceptualized as a combination of agency and planning to achieve goals) (Prawitz et al., 2013), and individuals with a more internal locus of control reported less financial distress and more hopefulness. Gutiérrez-Nieto et al. (2017) also reported the consequences of increased poverty and decline in individual welfare for borrowers. Anderloni et al. (2012) reported increased levels of financial vulnerability that can be experienced, for example, by individuals' inability to face monthly expenses, arrears in paying bills, and difficulties in shopping for food or paying the rent.

3.2.2.3. Personal bankruptcy. The stream on personal bankruptcy discusses its various models, suggestions for improvements in its functioning, country-level differences, and the profiles of consumers filing for bankruptcy. Ramsay (1997) identifies three models of consumer bankruptcy: (1) bankruptcy law as a response to deviant behavior; (2) bankruptcy as a consumer protection; and (3) bankruptcy as a social welfare law. Behind these bankruptcy models, there is a tension between a social welfare approach and the prevention of negative influences on the perceived obligation to pay one's debts (Graver, 1997). Ultimately, the controversies are resolved at the discretion of the courts, whose judgments diverge across situations (Graver, 1997). Some critics argue that consumers could abuse the system and file for bankruptcy unnecessarily, but Moorman & Garasky (2008) have found a significant correlation between filing for bankruptcy and having prior financial problems. Ziegel (1997) similarly demonstrates a strong correlation between the number of consumer bankruptcies and growth in consumer credit, rejecting the arguments that going bankrupt has become too easy and that bankrupt consumers could have paid a substantial part of their debts before filing for bankruptcy.

3.2.2.4. Regulation. Behind the discussions on regulation, there are ideological perspectives on both sides of the credit equation. Nield (2015, p. 139) identifies "neo-liberal notions of rational decision-making within mortgage markets." This can be encountered, for example, in the affirmation by Kösters et al. (2004) of the importance of enabling consumers to protect themselves by providing them with appropriate advice and information, and that bank regulation is the wrong instrument for achieving this. Similarly, some critics of legal intervention argue that competitive markets will achieve better welfare results (Mak et al., 2012). Some scholars affirm the existence of two paradigms: a neoliberal "law and economics" theoretical paradigm and a "law and society" paradigm (Aldohni, 2017). In the former, the regulatory ideology prioritizes the market over society and prevents

regulators from interfering with avoiding predatory practices among the credit providers. In the "law and society" paradigm (which follows from Karl Polanyi's concept of embeddedness), the regulation seeks to prioritize the interest of society and not subordinate it to the economy. In the UK, there has been a shift toward this paradigm, which is more attentive to the vulnerability of consumers and which is not only regulatory but also ideological. Other scholars call attention to an underlying ideology in European consumer law that information can empower consumers and support them in making decisions fully conscious of the risks being taken (Mak et al., 2012), ignoring all the heuristics and biases preventing optimal decision-making even among consumers with a good level of financial knowledge and skills. Some authors discuss the corporate social responsibility of the suppliers in the consumer credit industry and defend that only regulation and intervention can overcome the problems that arise from the demands of "shareholders for profits, competition in the free market and consumers' own folly in demanding immediate gratification and readily accepting additional credit as a means of financing their consumption" (Griffiths, 2007, p. 230). Other articles discuss the role of credit registries (Ferretti, 2010), the use of credit markets for promoting homeownership and its consequences (Schelkle, 2012), and the regulation of short-term consumer credit (Takalo, 2019). Another stream of literature on regulation highlights recommendations for changes to the regulatory framework. For instance, there are calls for the development of new measures to reflect an appropriate balance of responsibility across stakeholders (borrowers, lenders, and the state) (Nield, 2015) and for improvement in regulation to ensure consumer protection (Mak et al., 2012) taking into consideration that consumers often do not have sufficient financial literacy and are likely to make bad decisions regarding financial products (Mak et al., 2012). These calls for regulation are aimed at closing the gap between intensive attempts to open up the credit market and the detrimental consequences of doing so for consumers (Micklitz, 2012). A growing number of studies point to the importance of responsible lending, or "policy aimed at ensuring responsible behavior of participants in the financial market – including both lenders and borrowers – particularly focused on preventing over-indebtedness of borrowers, which is given shape through various regulatory mechanisms and which may also be pursued through other legal means, such as remedies in private law, or non-legal means such as education" (Mak, 2015, p. 413). The call for responsible lending is also a call for more responsibility on the part of credit providers (Nield, 2015) and typically requires that lenders verify the affordability and suitability of a loan for the borrower, assess the impact of future changes in interest rates (stress tests), and ensure that the borrower has a feasible repayment strategy (Mak, 2015). Two articles address an unsuccessful initiative to create a Responsible Lending Index for the UK credit industry (Richards et al., 2008; Rodford, 2009). Finally, a subset of articles focuses on Europe-specific issues such as consumer insolvency tourism (Hoffmann, 2012), the possibility of creating a single European market for consumer credit (Ferretti, 2010), the indexation of consumer credit contracts (Méndez-Pinedo, 2015), a common approach to over-indebtedness of consumers (Huls, 1993), the approach to debt adjustment and consumer insolvency systems (Ramsay, 2012; Niemi, 2012), and the potential merger of the instruments of debt relief and debt collection (Huls, 2012).

3.2.2.5. Political and institutional development. This stream of literature seeks to explain developments in the credit market and household indebtedness and its consequences in different countries using either a historical, social, political, or institutional approach. For example, Eng (2008) explains the historical growth of consumer credit in Australia during the twentieth century, Fuller (2015) shows that household indebtedness is nearly universal among developed economies, and countries have different approaches to encouraging or mitigating credit use, and Hallsworth (1991) calls attention to the importance of credit availability to retail performance in the UK. Trumbull (2012) discusses the historical factors that influenced US lenders and policymakers to push for expanded credit access to the working class. Another stream of studies highlights the correlation between income and employment insecurity (wage stagnation, low wages, unstable jobs) and over-indebtedness and increased vulnerability (Leicht, 2012). Studies on specific national credit market developments show a high initial consumer acceptance of credit use followed by over-indebtedness as a consequence of credit over-extension and consumers' financial illiteracy (Burton, D., 2017; Naicker & Kabir, 2013; Erasmus & Mathunjwa, 2011).

3.2.2.6. Interpretive studies. This stream of the literature shows, for example, the influence of emotions on consumers' decision-making and irrational decisions (Brown and Woodruffe-Burton, 2015). In a study of high-cost credit, Brown et al. (2017) note how consumers with access to multiple credit sources can migrate from cheaper and better types of credit to more expensive ones. Two articles analyze the social bonds among people in the credit context. They show that continuous indebtedness can change the structures of social relationships, for example, reinforcing or breaking social bonds (Pereira & Strehlau, 2016) and that the practices of borrowing and lending amongst family friends can be a "blessing (when the extension of financial help to important others alleviates financial vulnerability by negotiating the marketplace) or a curse (when extension of financial help to others leads to one's financial constraints)" (Cordeiro et al., 2019, p. 25). Three studies use a sociocultural approach to understand the consumption of credit and debt. In a review article, Marron (2012) states that over-indebtedness represents a threat to the neoliberal prerogative of individual autonomy and seems to evidence the failure of the self-government of the individual. Bernthal et al. (2005) approach the possession and use of credit cards as lifestyle facilitators. The authors identify two lifestyle trajectories: one leading to freedom and the other leading to constraint. They understand that credit card practices can be related to an "Achieving Lifestyle" or to a "Coping Lifestyle" in the debtors prison. Peñaloza & Barnhart (2011) analyze the consumption of credit and debt from the perspective of a sociocultural production of meanings in the social and market domains. The authors identify that the use of credit/debt was normalized in the US and map its meaning trajectories, meaning patterns, and cultural production in configuring consumers as consuming subjects.

3.2.2.7. Prevention and mitigation. These articles discuss topics and tools that could be used to protect consumers from over-indebtedness and, in case they become over-indebted, how their situation might be managed, mitigated, and/or relieved. Four main topics are discussed. First, it is the possibility of developing and using predictive models to anticipate over-indebtedness before it occurs and monitors the situation to avoid it worsening. These models could be, for example, models of expenditure and over-indebtedness (Finlay, 2006), well-being-related scales to identify the financially ill-prepared and/or candidates for delinquency (Abrantes-Braga & Veludo-de-Oliveira, 2019), and models and financial ratios to identify and monitor insolvent households (DeVaney & Lytton, 1995). The second is the effectiveness of information disclosure. While one study shows evidence that additional information on credit card receipts could reduce overall spending (Poddar et al., 2015), a second one found no positive evidence for additional disclosure of interest rates (Seira et al., 2017). Third, on the one hand, materialism and over-consumption are damaging for the individual because of hedonic adaptation that can lead to overspending and indebtedness (Chancellor & Lyubomirsky, 2011). On the other hand, the virtue of thrift could help individuals gain greater affective benefit through spending less money (Chancellor & Lyubomirsky, 2011). Fourth is the potential mitigation of debt-related problems through, for example, money advice services and debt management programs, highlighting the importance of the cultural dimensions of these

programs (Dellande et al., 2016), the requirement of quality standards for these services (Brennan & Gallagher, 2007), and the positive effects they could generate for consumers (Collins & Schmeiser, 2013). Other studies approach the possibility of providing additional funds for the over-indebted via government assistance (Kim & Wilmarth, 2016) or crowdfunding (Burtch & Chan, 2018), both showing evidence of positive results. Kanz (2016) assesses the effectiveness of debt relief in rural households in India, showing that it generated a persistent reduction in household debt but also reporting ineffectiveness in stimulating new investments as intended by the relief program.

3.2.3. *Theoretical underpinnings*

The dominant conceptual framework (used in 13 articles) in this literature is the lifecycle–permanent income hypothesis (Friedman, 1957; Ando & Modigliani, 1963), according to which borrowing and saving are critical mechanisms for maximizing utility across time periods (Dettling & Hsu, 2018). Consumers use borrowing and savings to smooth their consumption over time: "The rationale is that income is generally low in an individual's early working life and tends to rise over time. At the start of their working life, individuals expect higher future income receipts, thus financing the purchase of assets to raise consumption over the level offered by current income. Nearing the end of their working lives, individuals increase savings levels in preparation for retirement when spending will be greater than earning" (Ottaviani & Vandone, 2011, p. 754). Thus, young people have low income and savings and consequently borrow more, middle-aged people save more and old people spend more during retirement (Oksanen et al., 2015). The lifecycle–permanent income hypothesis is based on assumptions of a rational consumer: a far-sighted planner with unrestricted access to consumer credit (Betti et al., 2007), and also stable economic growth, working careers, and low levels of unemployment (Oksanen et al., 2015). There is evidence of the explanatory power of the lifecycle approach (Webley & Nyhus, 2001). At the same time, it is roundly criticized for both its assumptions and results. One of the critiques is that the behavior of individuals deviates systematically from the "rational choice" model of standard economic theories (Ottaviani & Vandone, 2011). A second critique concerns the absence of any uncertainty regarding future income, although this variable was later introduced in the model (Betti et al., 2007). The assumptions that individuals can maximize their utility and smooth their lifecycle consumption are also criticized (Xiao & Yao, 2014). Other critics of the model found an almost parallel pattern between the household's income and consumption stream over the lifecycle (Baek & Hong, 2004). It has also been criticized because it fails to consider the presence of children in households, liquidity constraints, and prudence or precautionary savings (Baek & Hong, 2004). However, over time, new versions of the lifecycle model have been enriched with such variables as uncertainty, precautionary savings, the impatience of consumers, and borrowing constraints (Camões & Vale, 2014). The lifecycle–permanent income hypothesis with all its received improvements seems to be necessary but not sufficient to explain over-indebtedness. No other theory received comparable treatment; the other 11 articles applied each other, its own chosen theory.

4. Discussion and directions for future research

In this section, we focus on what we need to know to advance the knowledge about consumer over-indebtedness and provide a future research agenda (Paul & Criado, 2020). The availability and consumption of credit, in general, are linked with over-indebtedness and have increased markedly in the period analyzed here. The phenomenon under study is by all appearances a contemporary one, with studies emerging in the 1990s, increasing slowly in the first decade of the 2000s and more rapidly thereafter as a response from academia to an issue with an important impact in society. This raises the question of whether over-indebtedness is a consequence of the growing usage of credit, which is

Table 8
Directions for future research.

Stream	Proposed Future Studies and Research Questions
Antecedents	(Q1) How and which creditor-related factors affect over-indebtedness? (Q2) How and which macroenvironment-related factors affect over-indebtedness? (Q3) How do the structures and culture driving the supply of credit affect over-indebtedness? (Braucher, 2006) (Q4) To what extent are the problems related to over-indebtedness also a consequence of the "go-to-market" strategy of financial institutions and creditors in general? (Murthi et al., 2019) (Q5) (Longitudinal studies) How do debts accumulate over time beyond safe limits? (Linna, 2015) (Q6) How does the availability of credit limits affect over-indebtedness? (Murthi et al., 2019) (Q7) If made entirely aware of the risks, would consumers still pursue the same level of credit? (Mak & Braspening, 2012) (Q8) How to quantitatively establish the indicators in which "good" credit starts to become "bad" credit? How to establish the threshold for consumers? (Q9) What are the determinants of debt-based living? (Majamaa et al., 2019) (Q10) Meta-analysis: considering socio-demographic, economic and financial, behavioral and psychological antecedents, as well as credit-related factors and macroenvironment-related factors, what is the individual and overall impact of them on consumer over-indebtedness?
Outcomes	(Q11) What are the determinants of recovery from over-indebtedness and the return to the market as active economic agents?
Theoretical Underpinnings	(Q12) Development of new models that take into consideration a combination of consumer-related, creditor-related, and macroenvironment-related factors (Q13) Development of new models that take into consideration a multi-product and multi-banked consumer (Livshits, 2015; Naicker & Kabir, 2013)
Methods	(Q14) Understand the causal effect of antecedents on over-indebtedness and the effect of over-indebtedness on specific outcomes. (Q15) More cultural studies to understand the influences of cultural contexts beyond the US and consumers' related meanings and experiences on over-indebtedness (Micklitz, 2012) (Q16) More studies from Asia, Africa, the Middle East, Oceania, and Latin America, since those regions are under-represented in the over-indebtedness investigations
Personal Bankruptcy	(Q17) How can personal bankruptcy models be optimized in a way to provide consumers with credit and sustainable economic rehabilitation? (Q18) How do countries differ in terms of the efficiency of bankruptcy models?
Regulation	(Q19) Systemic approach for regulation considering all stakeholders (creditors, consumer/debtors, collectors, credit bureaus, financial planners and advisors, legislators, governments) (Aldohni, 2017) (Q20) Regulation aiming at achieving credit sustainability with responsible lending and consumer credit affordability (Q21) How much responsibility for bad decision-making should lie on consumers themselves? (Mak & Braspenning, 2012) (Q22) How much responsibility should lie with creditors and financial institutions? (Nield, 2015) (Q23) Development of proposals for more customer-centric regulatory regimes (risk management for individual consumers) (Q24) Specific regulation for most vulnerable groups (e.g., first-time buyers, young people, low-income earners, low-educated, single parents, those at high-risk, debt consolidators, retired people) (Mak & Braspenning, 2012)
Prevention and Mitigation	(Q25) Comparison between different kinds of interventions to assess the effectiveness of each one (Aldohni, 2017; Kim & Wilmarth, 2016) (Q26) How could mechanisms of self-insurance, market

(*continued on next page*)

Table 8 (*continued*)

Stream	Proposed Future Studies and Research Questions
	insurance, informal insurance, and social safety networks work to prevent over-indebtedness problems? (Betti et al., 2007) (Q27) How different rehabilitation measures, such as debt relief, differ in terms of effectiveness.

assumed in many of the articles we analyze here, and whether a credit system that minimizes over-indebtedness could be conceived. Additional research on the relationship between credit usage and over-indebtedness might lead to a more nuanced understanding of how consumers make use of credit and support the development of sustainable credit systems with controlled and manageable levels of default, likely leading to lower levels of indebtedness. We organize our recommendations for future studies to advance the literature in the following topics: antecedents, outcomes, theoretical underpinnings, methods, personal bankruptcy, regulation, and prevention and mitigation, with the main proposed studies and research questions summarized in Table 8.

4.1. Antecedents

One of the important contributions of this study is to show that most research on the antecedents of over-indebtedness is based on the theoretical assumptions that over-indebtedness is only associated with individual-related factors. This may be due to a longstanding dominant paradigm of the rational and maximizing consumer, however cognitively impaired, which also contributes to the assumption that the responsibility lies with consumers. Due to this research focus, knowledge accumulated on the individual-related antecedents is now quite substantial. At the same time, the influence of creditor-related and macroenvironment-related factors is under-researched. For instance, relatively little is known about consumers who fall into problem debt due to the increasing availability of financial products and instant loans (Majamaa et al., 2019). Future studies should seek to further our understanding of creditor-related and macroenvironment-related factors affecting over-indebtedness. *How and which creditor-related factors affect over-indebtedness? (Q1). How and which macroenvironment-related factors affect over-indebtedness? (Q2).* And given that individual-related factors are more associated with the demand for credit (Braucher, 2006), future research on credit- and macroenvironment-related factors could shed light on the following question: *How do the structures and culture driving the supply of credit affect over-indebtedness? (Q3)* (Braucher, 2006). Such research might also investigate the roles and responsibilities of creditors, regulators, and governments regarding over-indebtedness. Some scholars highlight that banks make more money with the "revolvers" than with the "transactors" or convenience users (Murthi et al., 2019). The question that arises is: *to what extent are the problems related to over-indebtedness also a consequence of the "go-to-market" strategy of financial institutions and creditors in general? (Q4).* (Over)indebtedness is a process in which debts and problems accumulate over time, but most of the studies conducted are based on cross-sectional analysis. Patel et al. (2012) reported that after three years, 49.3% of problems with debt and financial issues persisted. Relatively little is understood about the trajectory of individuals into and out of bankruptcy (Ramsay, 2012). Future studies should conduct longitudinal studies to investigate *how debts accumulate over time beyond safe limits (Q5)* (Linna, 2015). Many scholars indicate the importance of early prevention to avoid over-indebtedness. Examining the process of debt accumulation from the early to late stages may generate insights into how to treat over-indebtedness while it is still manageable and what to do later when it becomes practically unmanageable. There is evidence that higher credit limits encourage customers to borrow a larger amount of money (Murthi et al., 2019). Future studies might further explore the impacts of credit limits and the effects of their availability on over-indebtedness from the perspective of both creditors and consumers, bringing the question: *How does the availability of credit limits affect over-indebtedness? (Q6)* (Murthi et al., 2019). It is not clear in the literature whether consumers are aware of all the risks involved when they borrow on credit and become over-indebted and if they are, in fact, willing to take these risks (Mak & Braspenning, 2012). *If made entirely aware of the risks, would consumers still pursue the same level of credit? (Q7).* Credit is considered by some scholars to be a double-edged sword (Betti et al., 2007). Future studies should seek to quantitatively differentiate between "good" and "bad" credit and, at the same time, establish the threshold(s) and indicators where it starts to be risky and very risky for consumers. *How to quantitatively establish the indicators in which "good" credit starts to become "bad" credit? How to establish the threshold for consumers? (Q8).* Debt too often leads to a vicious circle, with indebtedness through the use of unsecured credit by more vulnerable populations and based on basic needs leading to over-indebtedness. These consumers are usually trying to complement their income with credit to make ends meet (Richards et al., 2008). Many studies highlight that this debt-based living (Majamaa et al., 2019) tends to lead to very negative outcomes. Future studies should attempt to answer the question: *What are the determinants of debt-based living? (Q9)* (Majamaa et al., 2019). They could concentrate on this kind of credit to this segment to better understand the conditions in which it occurs and possible ways to avoid the dysfunctional use of credit and its negative outcomes. We have also discussed the socio-demographic, economic and financial, behavioral, and psychological characteristics of individuals that characterize the over-indebted subjects, as well as the credit-related factors and the macroeconomic elements that can impact over-indebtedness. However, we do not know which of all these factors plays a more relevant role in increasing the probability of being over-indebted. A meta-analysis would provide such information since the main aim of meta-analysis is to aggregate all the determinants of a phenomenon, run the analyzes including the entire set of studies and examine the impact of these specific studies. *Meta-analysis: considering socio-demographic, economic and financial, behavioral, and psychological antecedents, as well as credit-related factors and macroenvironment-related factors, what is the individual and overall impact of them on consumer over-indebtedness? (Q10).*

4.2. Outcomes

Concerning the outcomes of over-indebtedness, (over)indebted individuals face physical and mental health problems, financial distress, drops in consumption, increasing vulnerability, and risk of experiencing poverty. Depression, which seems to be commonplace among the (over-)indebted, is a leading cause of disability, undermining well-being and generating economic costs (Hojman et al., 2016). There are reports that almost 80% of defaulters do not recover or file for bankruptcy within a 2-year period, exhibiting a persistent state of default (Livshits, 2015). Future studies might focus on an understanding of the individual in this specific situation to evaluate the lived experience and the possibility of overcoming the associated problems. We anticipate that the individual in this situation is not the rational, maximizing consumer theories prompt us to consider. This brings the question: *What are the determinants of the recovery from over-indebtedness and return to the market as active economic agents? (Q11).* Another outcome of over-indebtedness seems to be the exclusion of consumers from the market, at least temporarily, suffering disturbing consequences. This is an important negative externality of the credit market. Future studies might consider ways to monetize and calculate the costs of market exclusion and its negative effects on individuals and their families. Policymakers could then assess ways to factor those costs and effects into the credit system.

4.3. Theoretical underpinnings

As we have seen, no single set of characteristics is sufficient to

explain over-indebtedness due to its complexity and multifaceted form. To advance our understanding of the phenomenon, *we recommend the development of new theoretical models that take into consideration a combination of consumer-related, creditor-related, and macroenvironment-related factors (Q12)*. At the same time, future studies should also address in more detail individuals' use of credit and their relationships with creditors. Studies and models have persistently focused on only one type of credit and one creditor. However, individuals simultaneously use different types of credit products, both secured and unsecured (Livshits, 2015). Individuals interact with multiple creditors, and those in debt distress are generally multi-banked (Livshits, 2015; Naicker & Kabir, 2013). Thus, *we suggest the development of new models that take into consideration multi-product and multi-banked consumers (Q13)*.

4.4. Methods

Regarding methodologies, a combination of different research strategies is needed to get a complete picture of over-indebtedness (Lea et al., 1995). To this end, we have three suggestions for future studies. First, *we suggest research designs (*e.g.*, experiments) to understand the causal effect of antecedents on over-indebtedness and the effect of over-indebtedness on specific outcomes (Q14)*. Most of the studies analyzed in this review have found only associations and not causality between dependent and independent variables. Second, we suggest *more cultural studies to understand the influences of cultural contexts beyond the US and consumers' related meanings and experiences on over-indebtedness (Q15)*. Cultural and qualitative studies could shed light on consumers' experiences and perspectives, as well as on the concrete social circumstances in which over-indebtedness is embedded to put a human face to the phenomenon as experienced by consumers (Micklitz, 2012). Third, we suggest *more studies from Asia, Africa, the Middle East, Oceania, and Latin America, since those regions are under-represented in the over-indebtedness investigations (Q16)*. This would allow for more cross-country comparisons and contribute to the diversification of studies and the generalization of results.

4.5. Personal bankruptcy

Some studies on personal bankruptcy note that, even after the discharge of debts or even a fresh start, consumers may not fully recover from over-indebtedness. At the same time, some types of products, contracts, and/or debts are not part of the discharge or the fresh start. There is a need for rehabilitation programs that bring former debtors back to active citizenship (Linna, 2015). This brings the question: *how can personal bankruptcy models be optimized in a way to provide consumers with credit and economically sustainable rehabilitation? (Q17)*. Studies along these lines could explore the cases in which personal bankruptcy was permanently overcome by consumers and work toward developing optimized bankruptcy models that give consumers permanent and sustainable solutions for the problems. At the same time, research on personal bankruptcy has not sufficiently covered its various practices and legislations in different countries, nor their respective outcomes. There are studies in our review comparing different systems in the European Union and between the EU and the US (usually with a higher level of sophistication in the more developed western countries), but not in a systematic way. Future research could attempt to answer the question: *How do countries differ in terms of the efficiency of bankruptcy models? (Q18)*. Developing economies could benefit from the experience of the advanced countries and devise better models for avoiding the problems already experienced in other jurisdictions.

4.6. Regulation

Scholars can support the work of legislators, regulators, and governments, for example, by comparing the different regulations, their underpinnings, and their results and efficiency, highlighting their pros and cons in diverse jurisdictions and developing best practices to provide insights to regulators in jurisdictions that are in the process of developing and improving current regulations. We suggest some principles for guiding the development and improvement of the current regulation. First, it is important to adopt a *systemic approach for regulation considering all stakeholders (creditors, consumer/debtors, collectors, credit bureaus, financial planners and advisors, legislators, governments) (Q19)*. An aspirational regulation should be based on principles and measures that maintain a viable business model for credit providers and other stakeholders without jeopardizing the protection of the borrowers (Aldohni, 2017). Second, *we propose the development of regulation aiming at achieving credit sustainability with responsible lending and consumer credit affordability (Q20)*. Responsible lending and credit affordability are important pillars of credit sustainability. These pillars have already been included in some regulations (e.g., mortgage in the UK), but we understand that they need to be fundamental pillars of the whole credit system in every country. At the same time, it is not enough simply to state the principles and neglect to provide any kind of enforcement. Hence, we suggest the development of measures for enforcement and real punishment of the players that do not follow the principles of credit sustainability, responsible lending, and credit affordability. Financial services should take greater responsibility for the suitability of the products and services they provide (Nield, 2015). For instance, in the credit card industry, the main source of revenue is interest on outstanding balances of customers who carry balances over time (Murthi et al., 2019). This raises the question made by Mak and colleagues (2012, p. 316), *"How much responsibility for bad decision making should lie with consumers themselves?"(Q21)*. And, by extension: *how much responsibility should lie with creditors and financial institutions? (Q22)* (Nield, 2015). As noted by Richards et al. (2008, p. 507), "The fundamental question of whose responsibility it is to ensure lending within limits remains unanswered." A third suggestion would be the *development of proposals for more customer-centric regulatory regimes (risk management for individual consumers) (Q23)*. Regulations, in general, tend to be centered on products, services, and contracts, ignoring that consumers use different secured and unsecured credit products offered by different creditors. Thus, taken individually, each credit contract with a specific creditor is feasible; however, considering the overall situation of having several credit products and several creditors, the consumer may already be over-indebted. A fourth suggestion would be *the development of specific regulation for most vulnerable groups (*e.g.*, first-time buyers, young people, low-income earners, low-educated, single parents, those at high-risk, debt consolidators, retired people) (Q24)*. These segments tend to use high-cost short-term credit for longer periods (Mak & Braspenning, 2012). The protection of these groups would involve the obligations of financial companies to warn and prevent vulnerable consumers from entering into overly risky agreements (Mak & Braspenning, 2012). Many consumers are living on credit, mainly low-income earners and young people (Majamaa et al., 2019). The most vulnerable consumers tend to use credit based on their needs, are the least prepared and educated to use complex financial services, and have the least resources to manage problems and consequences when they appear. We also recommend the development of potential measures to include consumers' interests in the regulation and supervision of markets and even product development. Several studies call attention to the limited rationality of consumers, their heuristics and biases, their myopia, lack of knowledge, lack of education and illiteracy (not only financial), and at the same time the growing number and complexity of financial products. We suggest the development of regulations guiding the creation of committees with the participation of representatives of society in general, such as consumer advocacy groups, academics, and consumer protection agencies. Such participants would be responsible for representing the voices of consumers/debtors in the regulation, compliance, and product development in committees with regulators, creditors, central bankers, etc. (Nield, 2015). This could be a way to improve the governance of the credit system. Meanwhile, some scholars have highlighted that the

credit industry needs debt levels to continuously increase to reach their profit targets, and thus this industry is built on pushing credit to consumers and avoiding more responsible lending practices (Ironfield-Smith et al., 2005). Future research should explore how to avoid, or at least maintain at a healthy level, the influence of the affected industries in combatting new changes in the regulatory environment based only on their interests (Braucher, 2006).

4.7. Prevention and mitigation

Niemi (2012) emphasizes three antidotes to the problem of over-indebtedness: prevention, alleviation of consequences, and rehabilitation. Concerning prevention and mitigation, several studies mention the importance of early interventions (Moorman & Garasky, 2008; Raijas et al., 2010; Kelly & McCann, 2016). *Future research could conduct a comparison between different kinds of interventions to assess the effectiveness of each one (Q25)* (Aldohni, 2017; Kim & Wilmarth, 2016). We expect that interventions pursued in the early stages of the process of over-indebtedness are more likely to be successful because, at this point, the debts have yet to accumulate drastically, and consumers may have more resources to manage the problem provided they receive enough support and appropriate guidance. Scholars might study different interventions related to monitoring the risk to consumers, providing warnings, and taking actions mainly in the early stages when the likelihood of avoiding problems is typically greater (Aldohni, 2017). Monitoring financial ratios, such as the debt-to-income ratio, is expected to be an important mechanism for assessing and keeping track of the level of risk to consumers (Kim & Wilmarth, 2016). Potential tools for avoiding the problem of over-indebtedness could also be tested. For example, as discussed by Betti et al. (2007): *how could mechanisms of self-insurance, market insurance, informal insurance, and social safety networks work to prevent over-indebtedness problems? (Q26)*. Regarding the deeper stages of over-indebtedness, scholars could study and compare different rehabilitation measures to assess their level of effectiveness, answering the question: *how do different rehabilitation measures, such as debt relief differ in terms of effectiveness? (Q27)*. Such studies would likely require partnerships with creditors, financial planners, and debt management programs that could, in exchange, benefit from the knowledge they generate.

5. Conclusion

This systematic literature review mapped the accumulated academic knowledge about consumer over-indebtedness since the topic's inception. Research on this theme has shown consistent growth over recent decades due to its noticeable impact on society, likely exacerbated by the Covid-19 pandemic. Based on a rigorous review process capturing 136 studies, we synthesized the main themes and findings of past research and developed an integrated framework for configuring the diverse streams of literature. We show that consumer over-indebtedness is an interdisciplinary, complex, and multifaceted phenomenon that no single set of characteristics is sufficient to explain. Problems associated with over-indebtedness seldom manifest in isolation; they are related to other problems such as unemployment and divorce, for example. We also show that the consequences of over-indebtedness for consumers can be very disturbing, destabilizing, and de-structuring. We identify trends in terms of the chosen journals, areas of research, methods, countries of data collection, variables of interest, and theoretical underpinnings. It is predominantly Euro-American literature and, foremost, a phenomenon-driven one for which we identified a growing body of evidence in certain areas, for example, in individual-related antecedents and outcomes of over-indebtedness, based on quantitative studies. We provided a range of suggestions and promising directions for the advancement of research on this important topic, including a call for more cross-cultural studies, with higher country-representativity complemented by more qualitative modes of inquiry. We also suggest new models taking into consideration consumers' multi-product and multi-creditor reality. We also call for more longitudinal studies to account for temporal effects, considering that debts (and certainly the most problematic among them) accumulate over time. Future models also need to consider a breadth of individual-related, creditor-related, and macroenvironment-related factors through a more systemic approach. Consumer over-indebtedness should be understood as a social risk that needs overarching solutions on numerous levels and across diverse disciplines. The advancement of research on consumer over-indebtedness can contribute to scholarship, consumer engagement, improved industry and practitioner insights, and responsible and responsive policy. To scholarship, the contribution can be cross-cultural, more systemic, and generalizable knowledge about the phenomenon, leading to richer theorization. To consumers, the contribution can be a healthier and more mature relationship with credit and debt in a way that generates welfare instead of destroying it. Creditors can benefit from having a better relationship with their customers and more manageable bottom-line results. Financial planners and debt management officers can offer more well-informed guidelines to their customers that will lead to better outcomes. Finally, regulators and policymakers can build better, healthier, and more sustainable credit systems benefiting society as a whole.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

The authors thank Daiane Scaraboto, Maribel Suarez and Tânia Veludo for feedback on earlier drafts of this paper, Manoela Begas for the support in the search process, and CAPES (Brazil) for partial financial support of this study.

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