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Original article

Consumer credit use: a process model and literature review

Crédit à la consommation : modèle de processus et revue de littérature

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Abstract

By taking on a consumer viewpoint, we apply a process framework to our review of varied literature on consumer credit use, and introduce a process model. This conceptual model relates credit use to other consumer decisions, and is comprised of three main parts: (a) processes before credit take up, (b) processes at credit take up, and (c) processes after credit take up. In the literature review and the subsequent discussion section, frequent shortcomings of, and gaps in, research on consumer credit use are identified and implications for future research are derived.
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Résumé

En prenant une perspective de consommateur, nous présentons un modèle de processus, qui constitue un cadre pour notre aperçu bibliographique de l'usage du crédit à la consommation. Ce modèle conceptuel relie l'usage de crédit à d'autres décisions de consommateur, et consiste en trois parties principales : (a) les processus avant que le crédit ne soit contracté ; (b) les processus pendant que le crédit est contracté ; et (c) les processus après que le crédit a été contracté. Dans l'aperçu bibliographique puis la discussion du problème, les fréquents points faibles et lacunes de la recherche sur l'usage de crédit à la consommation seront identifiés ainsi que les implications pour la recherche future qui en sont dérivées.
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Keywords: Consumer credit; Credit user behavior; Credit user characteristics

Mots clés : Crédit à la consommation ; Attitude des consommateurs ; Caractéristiques des emprunteurs

1. Introduction

> Modern man drives a mortgaged car over a bond-financed highway on credit card gas.
> Earl Wilson

Consumer credit use is rising. This trend has been noticed by numerous researchers and resulted in a flood of empirical findings. However, research has often concentrated on particular aspects of the phenomenon. Despite manifold findings, an overall picture has not yet emerged. Even definitions of the term consumer credit are varying. This article provides a common frame by suggesting to view consumer credit use as a long-term process. The authors focus on consumer credit use from the perspective of the credit user and develop a phenomenological process model. A comprehensive literature review along with the model is provided. A discussion of shortcomings of previous research and suggestions for future research conclude this article.

Indebtedness and bankruptcy in private households as a result of growing consumer credit use are rapidly increasing in Western societies. In the United States, household debt is at a record high (Maki, 1999), while less people possess saving accounts (Merskin, 1998); the volume of outstanding consumer credit in France has doubled between 1990 and 2003 (COFIDIS, 2004); in the UK and Germany this growth has even been exceeded (e.g. Brown et al., 2005); and in the new member states of the European Union, consumers longing for Western

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living standards are increasingly ready to use credit (Babeau, 2004).

Credit use has become socially acceptable (Merskin, 1998; Watkins, 2000; Weller, 1997), and consumers rely on credit arrangements (Estelami, 2001). Driving forces of consumer behavior in Western societies are hedonic values (Gourgé, 2001; Schulze, 1996) as well as an increase in present-orientation (Wood, 1998). Both promote credit use for the acquisition of consumer goods. Consequently, credit use no longer means investing in one's personal future, but rather has made it acceptable and accessible for acquiring luxury goods, cars, vacations, and other services (e.g. Lunt and Livingstone, 1992; Norton, 1993). For example, 82% of US citizens stated that it was acceptable for them to use consumer credit for the purchase of cars (Engel et al., 1993). In addition, post-modern societies support the rise of compulsive consumption (Neuner et al., 2005; Tokunaga, 1993), which is facilitated by increasing credit availability. Credit use by private households has various consequences on social, psychological, economic, and political levels. Accordingly, research on credit use has become an expedient undertaking.

2. Definition of consumer credit

The Columbia Encyclopedia ("The Columbia Encyclopedia," 2001) defines credit as "granting of goods, services, or money in return for a promise of future payment." Consumer credit is a kind of credit that is defined as "credit obtained [by private households] to finance any purchase other than property (Guardia, 2002, p. 2)". Consumer credit is a broad term comprising all kinds of installment credit (e.g. credit cards) as well as non-installment credit except mortgage debt (i.e. mostly loans for real estate secured by real estate). Home equity loans (i.e. loans used for other purposes than real estate, but secured by a lien on a home), thus, fall under the definition of consumer credit.

Although the theoretical definition of consumer credit is quite clear, concepts in people's minds are not. Viaud and Roland-Lévy (2000) report a common differentiation between credit and debt. The term credit is used to describe financing of necessary acquisitions (e.g. car, house) and carries a positive connotation. The term debt is used to describe borrowing money for non-essential consumer goods and has ambivalent connotations. Sometimes similar differentiations are useful in scientific research. For example, Lea (1999) also distinguishes between credit and debt. However, he defines 'credit' as deferred payment on agreed terms, 'debt' as a buyer's deferred payment without an agreement between buyer and seller, and 'problem debt' as debt that is not repayable in the foreseeable future. In this article, the term consumer credit will be used for all forms and degrees of consumer indebtedness except mortgage credit. Apart from the fact that the term debt is often used synonymous to credit, at least three arguments support the use of the overall term consumer credit. First, Lea's definition allows describing debt as a possible phase or result in the process of credit use. Second, credit users, debtors, and problem debtors show similar patterns of personality and situational characteristics, although they differ in magnitude (Lea et al., 1993; Lea et al., 1995; Webley and Nyhus, 2001). Third, in most cases debt is a short-term problem (Webley and Nyhus, 2001), meaning that 'debtors' are usually returning into ordinary credit users within a short period of time (see also Canner and Luckett, 1991).

3. Credit use: development of a conceptual process model

Purchasing a good on credit differs from other purchases in that the good is payable during and/or after consumption. Though this subjoins additional aspects to the purchase process, consumer credit use has mostly been investigated as if it were a one-shot payment event like most purchases. Instead of dissipating credit use into single aspects (e.g. characteristics of the typical credit user), as has been the usual practice, we propose to view credit use as an overall process, starting from the first consideration of a good and finishing with the end of the payback period. This process view allows us to identify steps in the process not yet sufficiently investigated and establish a phenomenological link between credit use and related phenomena like one-shot purchases and saving.

In an attempt towards a process perspective, we design a conceptual model that highlights essential steps in credit use. We develop a framework that describes processes of purchase decisions in the private household, in particular credit use, and that allows the integration of diverse phenomena of consumer behavior as already proposed by Garcia (1980) and to position isolated empirical findings on credit use. In order to develop such an integrative conceptual framework, we draw on (a) Kirchler's (1989; Kirchler et al., 2001) model of purchase decisions within the private household, on (b) process information gathered in three expert interviews with a bank employee, a consultant of an advisory service for indebted people, and an expert of a credit counseling institution, and on (c) previous findings as reported in the subsequent literature review. The conceptual model specified below is an attempt to integrate the above mentioned sources and resulted from a workshop involving six economic psychologists.

Two horizontal lines split the model into three major parts of the credit process: part I contains all processes before actually deciding for credit use. Part II deals with processes related to the actual take up decision, and part III contains processes after actual credit take up (i.e. the repayment period). The model acknowledges that any kind of economic behavior is influenced by various personal characteristics (e.g. attitudes towards credit) and situational circumstances (e.g. financial situation) which might interact in many ways and be influenced by credit behavior itself. These factors are assumed to affect all steps of the process model (Fig. 1). It also has to be emphasized that decisions do not necessarily develop strictly in a linear sequence as the model might suggest. People may sometimes decide in the presented order, but they may also jump back or forward, or skip some steps entirely. This is especially true for spontaneous credit use, like spontaneous pur-

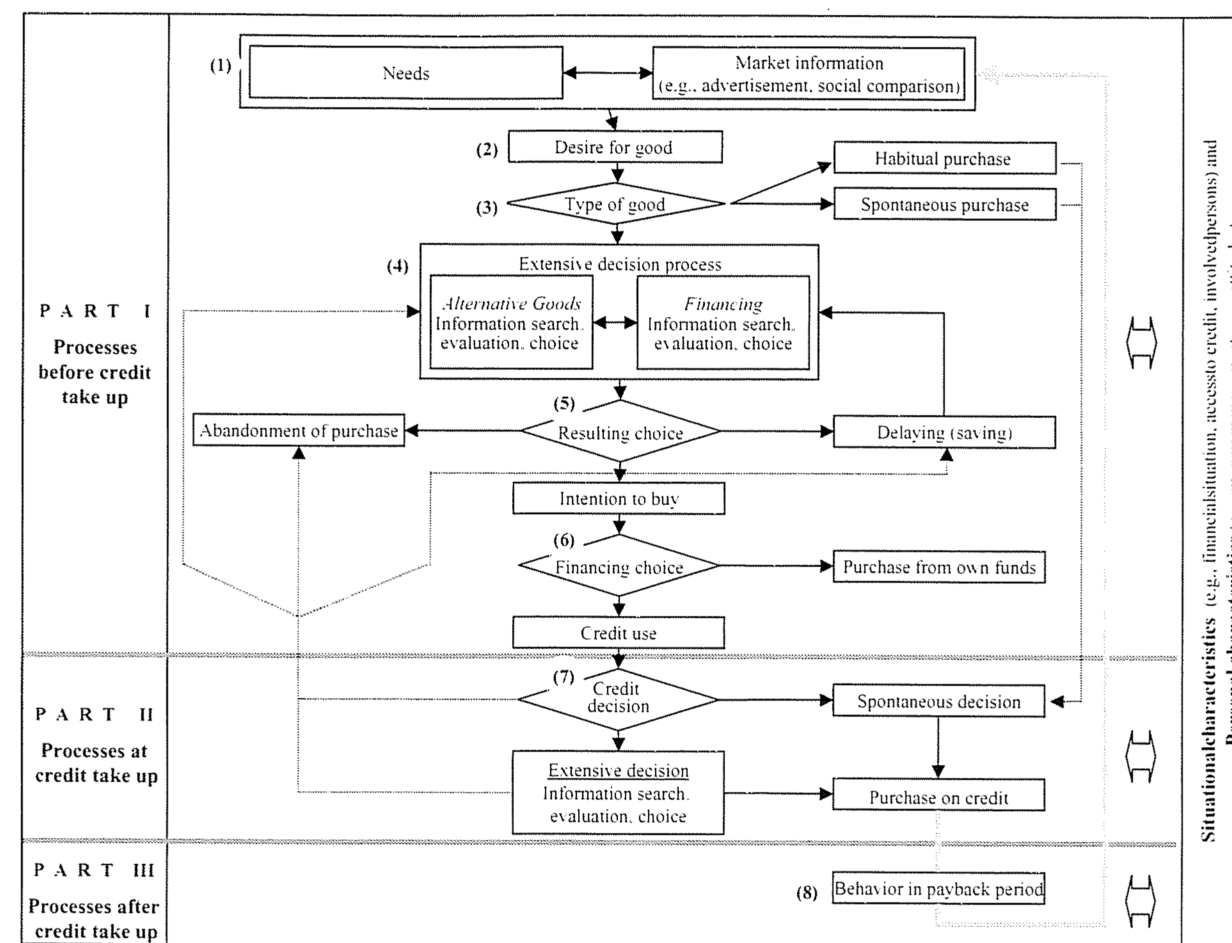

Fig. 1. A process model of credit use and its relation to other consumer behaviors.

chases by credit card. Also, being in arrears as a sub case of consumer credit use is not explicitly pointed out in the model.

3.1. Part I: processes before credit take up

(1) Following Kirchler's (1989) purchase decision model, we assume that individuals or groups (e.g. families) have various needs for products and services over their life-cycle, varying from everyday consumption products to services and expensive products such as cars. Needs for a good may originate from one's socialization, one's lifestyle, etc., and be stimulated by market information in the broader sense, such as advertisements or information through social contacts and comparisons with peers.

(2) The concurrence of needs and market information leads to the desire for a certain good.

(3) Depending on the type of good (amount of expenses, social visibility, etc.), decision processes may vary in terms of intenseness. Kirchler (1989) distinguishes three different types of purchases. (a) If the desire for a good is fulfilled immediately, purchases are made spontaneously. (b) If purchases regard frequently bought goods, habitual purchases are likely. The first two types of purchases do not require an extensive search for information. Credit use for these types of purchases is usually only exerted if payment is made by credit cards or if people are in arrears (see the doted line to spontaneous credit decision). (c) In situations when explicit information search, option comparison and deliberation are carried out the term *extensive purchase decisions* is used.

(4) Extensive decision processes often occur for rarely bought or expensive goods where no behavioral 'script' is developed (Kirchler, 1989). It is also mostly in these purchase decisions that affordability matters. The decision process therefore may involve two interacting sub-decisions (cf. Dhar and Nowlis, 2004): the choice of a preferred good and the choice of a preferred method of financing.

(5) The resulting overall choice may take three basic forms: (a) people may finally decide that the desired product is not affordable and/or needed and completely forgo the purchase; (b) they may also decide to wait and save until the desired good becomes affordable and then restart the decision process; finally, (c) people may want and/or need a good immediately and intend to buy.

(6) If people decide to buy, the purchase can be carried out by using one's own funds. In case one's own financial resources do not last or are not used (e.g. borrowing may appear to be cheaper, more convenient, or more reasonable than using one's own funds; see Katona, 1975), people may consider taking on credit. This decision will largely depend on personal characteristics, as well as on situational circum-

stances. Another influencing factor may be the internal evaluation of credit use, which not only depends on anticipated installments and pleasures of consumption, but also on the imagination of possession.

3.2. Part II: processes at credit take up

(7) The decision to borrow money does not necessarily lead to the signing of a credit contract immediately. Depending on various personal and situational factors (e.g. a friend drops by and advises against the planned purchase) it is possible that a person decides to reconsider alternatives, to delay, or to forgo the planned purchase. In those cases where a person adheres to the decision to raise a credit, two alternatives remain. In the first alternative, the decision can be made and executed spontaneously (e.g. a person signs a previously offered contract combining purchase and credit). In this case, credit use and purchase happen nearly simultaneously. Purchases on credit card, or implicit credit use by late payment can be classified as spontaneous credit decisions. We use the term decision although people do not necessarily decide to indebt when purchasing on credit card. Depending on the way people think about payment with credit cards, they might also classify it as purchases from their own funds. In the second alternative, the signing of a credit contract may result from a more or less extensive decision process (e.g. taking up a bank credit). Information can be searched, credit alternatives can be evaluated, and a choice can be made accordingly. An extensive decision can assume different shapes, for example households may simply head to the house bank instead of comparing offers. The information search carried out in these cases is rather limited, yet it is not a spontaneous credit decision. An extensive decision process does not necessarily lead to actual credit use either. As people consider and gather information they may also come to the conclusion (a) to save instead of indebting, (b) to restart the search for a suitable good, or (c) to abandon the planned purchase. Again, internal evaluation processes and personal and situational factors might play a role in the final decision.

3.3. Part III: processes after credit take up

(8) The last process step in Fig. 1 illustrates the main characteristic of a credit-financed purchase. Transactions (payment of installments) go on after the actual purchase. This step therefore may consist of more than one sub-phase. Repayment does not necessarily have to be perceived the same way across the whole payback period. Financial difficulties may temporarily occur. The fact that credit users have to deal with a trade-off between the (short-term) pleasure of the credit-financed good and the pain of credit rates on-going to the distant future is an important aspect of credit use which distinguishes credit decisions from other economic decision processes. Again, behavior and events during the payback period may influence the internal evaluation of a credit, depending on personal and situational characteristics.

4. Credit use: a literature review

The model presented was constructed in response to certain shortcomings and frequently assumed simplifications of research on consumer credit use. It is not meant to constitute or lead to a new theory of credit use, but rather to highlight its immanent process nature and demonstrate that credit use is connected to other consumer decisions (partly in response to Webley's 1995 discussion of Van Veldhoven and Groenland's, 1993 model of saving behavior, in which no such connection is drawn). Moreover, the model presented not only symbolizes the usefulness of a process perspective, but also reflects existing research agendas. This section provides an overview of empirical findings on consumer credit use from a consumer perspective. The structure of the overview is based on the three major parts of the process model, thereby highlighting which parts of the credit process have achieved minor attention. A description of general characteristics of consumer credit users concludes the literature review.

Research on credit use from a private household perspective (irrespective of macroeconomic effects, firm, creditor, or market perspective) has been undertaken mainly by economic psychologists, social psychologists, and economists. In psychology, research on credit use has mainly focused on subjective concepts of credit (e.g. Ranyard and Craig, 1995), individual characteristics of credit users (e.g. Webley and Nyhus, 2001), excessive use of credit (e.g. Lea et al., 1993), and the somewhat related issue of compulsive buying (e.g. Dittmar, 2000; Dittmar and Drury, 2000; Hanley and Wilhelm, 1992). In the microeconomic theory of the household, credit use was initially neglected (Herendeen, 1974). Recently, economists have become interested in credit use as co-varying with interest rates and household income. For example, mainstream neoclassical economics have analyzed credit use under the premises of maximizing utility by consuming in advance (e.g. life-cycle hypothesis of Modigliani, 1966, 1986)—irrespective of type and use of credit, personal characteristics of credit takers (e.g. attitudes), or situational circumstances (Frederick et al., 2002). Another research focus, which we will only mention, deals with the relationship between liquidity constraints and credit use on shorter time horizons than the life-span (e.g. Bacchetta and Gerlach, 1997; Cox and Jappelli, 1993; Guell and Burkett, 1994; Ludvigson, 1999). New forms of credit (e.g. credit cards or store cards) elicited interest in economics as well as in psychology (e.g. Hayhoe et al., 1999; Qi and Yang, 2003; Xiao et al., 1995). However, while psychologists aim to describe the use of credit cards as dependent on personal characteristics, attributes, and motives, economists focus on the integration of observed behavior into the general economic framework (e.g. Brito and Hartley, 1995)—often taking an entirely theoretical perspective (e.g. Fan et al., 1993).

4.1. Research relating to processes before credit take up

On the one hand, literature on processes before credit take up deals with people's motives and reasons to use consumer credit, and on the other hand, indicates that people's willingness to use credit may be influenced by external factors, like available credit limits.

A wide range of motives for consumer credit use has been identified, and "it is not true that installment buying is resorted to only when it is unavoidable" (Katona, 1975). Keynes (1936/1997) already tried to identify why people consume sometimes even more than their incomes allow. He came up with the following six main motives: enjoyment, extravagance, short-sightedness, miscalculation, ostentation, and generosity. Keynes did not go into detail with these motives, but simply listed them. Later on, empirical support was especially strong for the motive of ostentation and the related disposition to make social comparisons. A series of studies showed that *social comparison* leads to higher readiness to take up credit (e.g. Livingstone and Lunt, 1991; Roland-Lévy and Walker, 1994), whereas it has no effect on the amount of credit taken (Livingstone and Lunt, 1992). Those in debt more often expressed their social identity and maintained their social relations through consumption (e.g. Bernthal et al., 2005). As Viaud and Roland-Lévy (2000, p. 430) put it, credit allows "access to a valorized identity". This relationship between credit use and social comparison was already proposed by Duesenberry's (1949) 'relative income hypothesis'. He argued that households make comparisons with other people's consumption. If they (are able to) consume less compared to other households, they try to overcome this gap in consumption by borrowing. Strong empirical support for this argument comes from studies at the household level as well as from studies on a macro level. People being in a favorable position vis-à-vis their reference group had lower time preferences (i.e. they were less present-oriented and discounted future events less) and were less susceptible to credit use (e.g. Groenland and Nyhus, 1994), and in countries with high income inequalities, social comparison supposedly induced low-income households to balance these inequalities by increasing their borrowing (Morgan and Christen, 2003).

Whereas Keynes primarily concentrated on motives within the credit user, Norton (1993) postulated two broad reasons that are closely related to the concrete use of credit. He distinguishes between credit use in order to (a) maintain (see also Davies and Lea, 1995; Sidime, 2004) and to (b) improve one's lifestyle. Most causes mentioned by other authors fit well into this rough categorization. For example, Walker and Parker (1988) state four main reasons for credit use. Three of them can be subsumed as maintenance of lifestyle (to safeguard savings, to even out demands on income, and to deal with financial crises or adversity) and one reason can approximately be subsumed as improvement of lifestyle (to take advantage of special circumstances). Which motive prevails was shown to depend on socio-demographic characteristics. Low-income families used consumer credit more often in order to make ends meet and maintain their lifestyles than did higher income groups (e.g. Croden, 2000; Morgan and Christen, 2003), as did US minorities, who often used credit for items of daily life that quickly depreciate in value (Sidime, 2004). Credit use in order to maintain one's lifestyle thus resembles an income substitute.

Two motives for using consumer credit do not fit into any of the previous classifications. First, sometimes people decide to use credit (although their liquid assets would permit them to buy in cash) because committing to an installment plan with fixed rates provides a means of self-control and leaves an already laboriously acquired savings (possibly earmarked for another purpose) untouched (Katona, 1975). Most people perceive this motive and the according behavior as cautious or intelligent (Katona, 1975). Second, credit is often used to translate expectations into effective demand. Students often borrow money because they expect higher future incomes (Davies and Lea, 1995), optimistic consumers were shown to borrow roughly double the amount as comparable pessimistic consumers did (Brown et al., 2005; Van Raaij and Gianotten, 1990), and the Index of Consumer Sentiment was shown to predict movements in the rate of installment buying (Katona, 1975).

Additional motives and reasons exist for using credit cards. One reason specific for credit card usage concerns the valuation of time. Those who considered their time most valuable were most likely to have credit cards because it enabled them to use less time-consuming shopping services (Kinsey, 1981). Another credit card specific reason is convenience (e.g. Durkin, 2000). Credit card use for reasons of convenience accounts for about one-third of credit card users in the United States. It is especially pronounced for households with a higher family age and it is positively correlated with income (e.g. Courtless, 1993). Conversely, credit cards are also used as a regular source of revolving consumer credit. This motive was mostly found for lower class people and people with positive credit attitudes (e.g. Slocum and Mathews, 1970).

Apart from people's motives to use credit, it was shown that the propensity to use credit can be increased by external stimuli. One of the most puzzling findings is the effect of *credit availability* on willingness to use credit. Credit availability in terms of credit limits as well as in terms of credit offers at the point of purchase were shown to influence credit use. Although it seems intuitive that people experiencing an increase in credit limits due to increased income are automatically less in need for credit, the reverse was found. In a series of studies using both experimental and survey data, Soman and Cheema (2002) were able to illustrate that higher credit availability led to increased spending (Gross and Souleles, 2002; Soman, 2001). The authors explain this relationship by the implicit association of the size of the credit limit with the size of the future earnings potential. This association is supposed to be restricted to people without credit experiences and to people believing in the credibility of the credit process. In line with this argumentation, previous experiences as well as lower credibility of the credit limit (in terms of signaling future income) were able to extinguish the effect of credit limit on spending tendencies (Soman and Cheema, 2002).

Credit availability was also shown to affect behavior at the point of purchase. Feinberg (1986) demonstrated that the mere

existence of credit card signs is able to increase the amount that people estimate that they are going to spent and to decrease decision time. In fact, tipping (Feinberg, 1986), dollar volumes spent in department stores (Hirschman, 1979), and willingness to pay in an auction for event tickets (Prelec and Simester, 2001) were significantly larger if people paid by credit card than if they paid in cash. However, these findings might be restricted to credit cards. Field surveys with catalogues showed that simply offering installment billing decreases perceived product quality and demand compared to no such offering (Anderson and Simester, 2001).

Another phenomenon influencing people's willingness to use credit relates to the theory of mental accounting (Thaler, 1985), which assumes that people keep track of their financial activities by building mental accounts. Karlsson et al. (1997) used scenarios that manipulated the source of money usable for consumption (income, income increases, and/or savings), saving motives (saving for a buffer or for a desired goal), and consumption motives (replacement or purchase of something desired for a long time). Participants were asked to indicate their propensity to pay for a certain product either in cash or by installment plan. The propensity to use credit was greater if people had to use savings, and if saving and consumption motives were incompatible (e.g. saving for a buffer but spending on a long-desired goal).

Summing up, existing research focuses primarily on motives and the external factor of credit availability. Many other processes that occur before credit take up have not yet been investigated (to a satisfying degree). To us, it seems that the most prominent gaps in the literature on part I of the process model concern studies on the influence of external factors apart from credit availability (e.g. word of mouth) and studies on cognitive processes involved in deciding about credit use (e.g. approach–avoidance conflicts).

4.2. Research relating to processes at credit take up

Literature on processes at credit take up can be classified in three categories, addressing (a) how people believe the take up process proceeds, (b) how they perceive the credit and its components, and (c) how they behave during the take up process.

Dauten and Dauten (1976) investigated how people believe that bank loan officers decide about credit applications. They confronted 150 lay people and 20 bank loan officers with 25 profiles of fictitious loan applicants. Participants were asked to estimate whether a loan officer (from a bank or a finance company) would grant a loan or not. Results showed differences between lay people and professionals regarding estimates of rejection rates and criteria used for the decision. Lay people estimated that banks would reject 28% and finance companies 12% of the loan applicants. In contrast, loan officers estimated that banks would reject 17% and finance companies 27% of the applicants. Furthermore, lay people appeared to believe that loan officers would consider fewer variables in evaluating credit applications than they actually did (see Andersson, 2004 for similar findings regarding loans for small firms). Loan officers considered the number of dependents, the time on current job, and the time at current address more often than lay people thought them to do.

Instead of investigating beliefs about loan officers, Ranyard and Craig (1995) examined people's perceptions and representations of a credit at credit take up. Based on stimulus material, they conducted interviews with 13 credit-experienced adults in order to find out if people use a *dual accounting system* for evaluating and mentally representing installment credit. Dual accounting[1] proposes that people consider two perspectives at the same time: the recurrent effects of repayment and the total costs related to the credit. A content analysis yielded support for the hypothesis of a dual accounting system at the time of deciding for a credit. It is argued that dual accounts help to improve mental representations of credit use and to increase decision quality while keeping the cognitive load—compared to an integrative overall evaluation—low. Webley (1995) questions whether it suffices to evoke natural mental representations in hypothetical situations and to use a small convenience sample. Nevertheless, a subsequent process tracing study with 96 credit-experienced adults found some additional support for a dual accounting system (Ranyard et al., 2006).

Also relevant at the time of credit take up are perceptions of credit components. The component that has achieved most attention is loan duration. Lewis and van Venrooij (1995) conducted a questionnaire study to investigate whether people are able to estimate the correct duration of fixed loans. Results showed systematic underestimations of loan duration which were most pronounced for low individual repayments (see also Overton and MacFadyen, 1998). If information about the total amount of interest charged (Lewis and van Venrooij, 1995) or the amount of monthly interest (Overton and MacFadyen, 1998) was added, estimates for credits with low repayment amounts significantly improved. Additionally, Overton and MacFadyen (1998) report that a time delay in repayment increased the misperception of loan duration. There are similar findings for flexible loans, where borrowers usually are not informed about loan duration (Ranyard and Craig, 1993). Underestimation of loan duration was higher if (a) repayment amounts were low, (b) loan durations were long, (c) information on the officially required annual percentage rate (APR) was provided, and if no information was given on (d) average monthly interest charges, or (e) total interest charges.

Overall, people perceived the task of estimating loan durations as difficult and were not confident in their estimates (Ranyard and Craig, 1993). However, people using different methods (e.g. guessing versus calculating) yielded different degrees of accuracy. Formal methods (e.g. mental arithmetic) delivered more accurate estimates than guessing (Overton and MacFadyen, 1998). Methods used and accuracy of estimation varied according to information presented (e.g. total interest charges, see Ranyard and Craig, 1993), education (economic

[1] This term was chosen in analogy to the theory of mental accounting (Kahneman and Tversky, 1984; Thaler, 1985) which assumes that people keep track of financial activities by forming and evaluating mental accounts.

students performed best, see Overton and MacFadyen, 1998), and credit experience (inexperienced performed worse, see Lewis and van Venrooij, 1995). It seems that correct estimations can be learned.

Closely related to the study of estimated loan duration is the study of discount rates applied by consumers in order to evaluate a credit offer (i.e. how much future events are discounted). Discount rates applied by consumers differ from those used by financial markets and provide implicit information on how different credit components add to the perception of a credit. Experimental studies found that small credits provoked significantly higher discount rates than large credits, immediate installment payments induced higher discount rates than distant payments, and delays in payment time led to a decline in discount rates (Estelami, 2001). Discount rates also differed due to different presentations of a credit. This is, (a) whether a credit was presented as lump sum (aggregate) or as periodical installments (disaggregate) and (b) whether amounts had 'psychologically' odd (e.g. $199) or even endings (e.g. $200) mattered. Different ways of presentation interacted such that in case of even endings, discount rates for disaggregate amounts were a little smaller, while in case of odd endings, discount rates for disaggregate amounts were much smaller than for aggregate amounts (Estelami, 2001). Summarizing his previous research Estelami (2001) concludes that more information about a credit offer may also lead to information overload, provoke cognitive simplification strategies, and result in a loss of accuracy in consumer perception. If and how information about different credit components is presented, influences whether strains are anticipated correctly or not. Also, factors apart from actual credit components matter. Different layouts of credit offers (e.g. use of photos and tables) or calls before offering a credit significantly influenced the probability of loan take up (Bertrand et al., 2005).

Apart from beliefs and perceptions, people's actual behavior during the credit take up process matters. Especially well investigated is people's search behavior for credit offers. In 1976, Dauten and Dauten reported a study by George Day (1972) who found that only 27% of credit users recalled searching for credit information prior to credit use, and that just 20% considered other credit sources than the one used. Since then the situation does not seem to have changed significantly. In 1992 about 20% of credit users indicated that they had considered searching (Chang and Hanna, 1992) and in 2003, just one third of households having a credit card had compared offers before application (Hilgert et al., 2003). However, credit card users believed that it were easy to obtain information (Durkin, 2000). The most important sources of information reported were the house bank and personal contacts (e.g. Kaynak and Harcar, 2001). If credit card users were informed by personal contacts, they were likely to compare more offers (Hogarth et al., 2000). Furthermore, the probability of search was reported to increase with loan size, the amount of previously occurred debts, income, educational level, and for credit novices (Chang and Hanna, 1992; Drecnik Worden and Sullivan, 1987). If people were previously rejected for credit the likelihood of search decreased because consumers reacted to this experience by heading to the most promising creditor (Drecnik Worden and Sullivan, 1987). Those most likely to shop for credit were young, single people and people having easily realizable assets (Drecnik Worden and Sullivan, 1987). The first group of people has enough time to compare offers, while the second group has to justify using credit. In the case of credit cards, it was shown that the amount of features compared (e.g. interest rates) increased the amount of credit card offers compared (Hogarth et al., 2000) and that interest rates are becoming more important as a criterion (e.g. Durkin, 2000). Consumers were shown to be sensitive to incentive campaigns of auto finance companies, but to neglect previously searched information on interest rates. Credit card users with high balances seem to be an exception to that (Taehyung et al., 2005). In the end 'credit shoppers' (i.e. those who searched) focused on the affordability of the monthly rate. Thus, they were equally likely to borrow at favorable conditions as non-shoppers (Drecnik Worden and Sullivan, 1987). Overall, credit users frequent failure to search or switch may be due to the perception of high search and switch costs (Canner and Luckett, 1992). Whether these costs still apply in times of almost universal Internet access remains an open question. However, searching for information does not necessarily impact behavior.

There is only one study explicitly tracing how people compare different credit offers. Ranyard et al. (2006) found that participants focused on APR and total cost when choosing between different credit sources. Further, most participants were shown to actively compare different options and to decide by using simple heuristics. If people had to choose repayment plans they focused on trade-offs between repayment amounts, loan duration, and total cost.

Credit use also bears the risk of becoming unable to repay. One form of credit behavior at credit take up is thus the application of risk management strategies. For a sample with different levels of credit experience and a variety of occupations, theoretical risk management strategies were examined (Ranyard et al., 2001). Results showed that behavior was consistent with a two-dimensional threshold model. If a risk exceeded both a threshold of loss probability and a threshold of loss value, risk defusing operators (e.g. credit risk insurance, planning for a worst case scenario) were activated. In many cases, a denial of risks, due to small borrowed amounts or short loan durations, was observed. When deciding about a credit risk insurance, information search focused on the key attributes costs and conditions. Furthermore, people with experience in taking credit risk insurance (except for those who had made unsuccessful claims) and people who had already experienced payment difficulties were more likely to accept insurance (Ranyard et al., 2001).

Investigating search behavior is an interesting research venue. Yet, it is only relevant for those consumers who do not take up credit on impulse. Berthoud and Kempson (1992) report that 8% of consumer credit decisions are made on the spur of the moment (excluding credit cards and other sources of revolving credit where higher rates can be expected). If with

or without search for information and deciding on how to deal with credit risks, at some time people are usually prepared to take up the credit. Nearly half of credit users do this by taking a creditor they already have experiences with (e.g. Berthoud and Kempson, 1992). In addition, there is some evidence on which source of credit is used by whom. The most common sources of consumer credit are credit or store cards (accounting for about 10% of total household debts, see Morgan and Christen, 2003), followed by bank overdrafts, loans from friends or relatives, bank loans, mail order catalogues, and finance or other companies (Livingstone and Lunt, 1992)[2]. Income is the most important indicator for which source of credit is used (Berthoud and Kempson, 1992). The smaller the loan and the higher existing debts, the more likely consumers use a "high rate" credit source, like finance companies (Drecnik Worden and Sullivan, 1987). While middle income groups mainly use so called 'mainstream commercial credit' (e.g. bank overdrafts, bank loans) to borrow high amounts, low-income groups, especially single parents, frequently borrow small amounts from the 'alternative credit market' at high interests (e.g. pawnbrokers) or from relatives and friends (e.g. Croden, 2000). Credit behavior of low-income families owning houses resembles higher income groups. They primarily use credit cards, overdrafts, and bank loans, whereas low-income tenants (who are often single parents with the lowest incomes) rely disproportionately on loans from finance companies and relatives or friends (Bridges and Disney, 2004). Across all groupings of consumers, the largest component of consumer credit is automobile financing (e.g. Courtless, 1993). However, different sources of credit are used for markedly different purposes (Berthoud and Kempson, 1992).

Summing up, literature on processes at credit take up is varied and covers many aspects. However, some possibly important aspects have not yet (sufficiently) been researched. The most promising further studies deal with peoples' mental processes during credit take up, with peoples' risk perception, with other peoples' influence, and with the role of opportunity costs (i.e. do people think about what else they could do with the installment rates; how do these thoughts influence behavior).

4.3. Research relating to processes after credit take up

Studies on processes after credit take up focus on (a) how people perceive their actual consumer credit, (b) what they know about their credit, and (c) how they behave during the payback period.

Not much is known on how people perceive a credit and its components (utility drawn from the credit-financed good and disutility associated with on-going payments) over time. Despite the lack of any empirical evidence, Kirchler (2003) assumes that credit users might not correctly anticipate the decrease in the experienced pleasure derived from the credit-financed good. Thus, credit users might at the same time experience decreasing pleasure and increasing strains as the payments go on. In order to deal with this hedonically unsatisfactory status, they may be tempted to borrow again, and thus slide into problem debt.

Messinis et al. (2002) propose a quite different effect of credit on behavior. They suggest that consumer credit allows consumers to break with previous consumption habits (i.e. the consumption level consumers need in order to derive a certain level of utility), thereby assisting consumers in becoming more forward-looking and independent from the past. This influence of consumer credit on consumer behavior has partly been supported by aggregate US data. In addition, most people (credit users and non-users) agreed that credit encourages to buy things not really needed (Berthoud and Kempson, 1992).

If it comes to empirical investigations at the individual level, Prelec and Loewenstein's (1998) idea of 'double-entry mental accounting' offers probably the most comprehensive account of consumers' credit behavior and credit perception before and during the repayment period. This theory assumes reciprocal interaction between the pleasure derived from consumption and the pain associated with paying. It predicts strong debt aversion because as long as a good is not fully paid off, pleasure of consumption would be attenuated by painful thoughts about the remaining payments. This prediction is supposed to hold as long as payment and consumption are mentally coupled, that is, they are mentally perceived as one unit. Purchases on credit cards provide a means for decoupling consumption from payment because payment is timely separated from consumption and because a credit card bill usually contains several items, which complicates the attribution of the pain from the overall bill to single items (see also Gourville and Soman, 1998). The theory further predicts that loan payments become progressively less burdensome because the outstanding debt balance and the associated pain are frequently shrinking more quickly than the consumption utility. In addition, it predicts that credit financing would mostly be accepted for long lasting goods that do not (or slowly) depreciate in utility, so that the pain of paying can always be buffered by the utility derived from the remaining good. Overall, Prelec and Loewenstein's (1998) theory of double-entry mental accounting has found support in a series of experiments. However, empirical evidence for its (long-term) predictions concerning consumer credit use is scarce, and the theory has not yet been tested in a longitudinal study with real credit users. Furthermore, the theory does not explicitly consider the indirect emotional costs of credit use (cf. DeVaney and Lytton, 1995). However these costs may be important to consumers. Consumer credit users were shown to be less likely to report complete psychological well-being than non-users or persons with mortgage debts (Brown et al., 2005).

Some studies deal with additional aspects of credit users' credit perception. For example, it was shown that not all sources of debt are perceived as equally cumbering. Prelec and Loewenstein (1998) asked 88 people to judge which form of debt would feel best to purge, if it were offset by an unexpected income. Canceling credit card bills was indicated as being most satisfying—even more than paying off parking tickets. Furthermore, actual credit users were shown to perceive credit differently from what a rational analysis of credit use would suggest. They frequently believed that monthly payments were all that matters (e.g. Emmons, 2004) and that credit was an alternate form of income (e.g. Norton, 1993). Credit users seldom recognized that they were borrowing money (Katona, 1975), but framed credit use as delayed payment or as an agreement to gradually pay in the future. Beggan (1994) discovered one possible reason for this (mis)perception. He investigated the hypothesis that people prefer gain frames in decision making. He reasoned that if gain frames really were predominant in spontaneous consumer framing, then they should also occur in situations where money is paid without a concrete counter-value, like in credit repayment situations. In four small sample studies with students, Beggan showed that the majority of participants viewed paying back a loan as a gain rather than a loss. The effect was even more pronounced if the loan was for oneself rather than for another person. When imagining taking out a loan (or when really taking out a loan) participants shifted their reference points to the state of being in debt, any action leading out of debt was subsequently perceived as a gain. Although relatively small samples were used and the loan was simplified by repaying only the amount taken up, these findings may lead to further fruitful research on people's perceptions of credit use.

How people perceive their credit(s) and which aspects they consider most important is reflected in their knowledge about their credit(s). Most people knew how much they had to pay every month and the relation between their credit payments and their income (Katona, 1975). This information was used to maintain an overview of the financial situation. However, people do not seem well informed about the costs of credit use. About two-thirds knew neither which interest rates would be reasonable nor how much charges ought to be paid (Katona, 1975) or how much interest they actually paid (Berthoud and Kempson, 1992). Katona (1975) speculated that consumers are simply not interested; their concern is with the monthly rate drawn from their accounts. Yet, knowledge on interest rates might have improved since Katona's study, as Durkin (2000) found that the awareness of APRs by credit card holders has increased sharply since the 1970s. However, comparing two nation-wide surveys (1979 and 1989) shows that ignorance of interest rates seems to be a long-term phenomenon (Berthoud and Kempson, 1992). A majority of credit card users seem to face a different and maybe even more important knowledge problem. They frequently underestimate past spending already few minutes after purchasing (Soman, 2001; Srivastava and Raghubir, 2002).

Credit use also might have an influence on peoples money management. Credit users have been shown to worry and think more about money than non-users (e.g. Hayhoe et al., 1999). They utilized more flexible money management strategies (possibly masking lack of control) than non-users (Livingstone and Lunt, 1992), they managed their financial resources on shorter time horizons, and they used more but simpler money-control techniques than non-users while still finding it more difficult to control their expenditures (Hayhoe et al., 1999; Webley and Nyhus, 2001). However, it remains an open question whether these strategies result from or cause credit use.

Finally, there is also a bulk of studies focusing on repayment behavior. The overall picture shows that a vast majority of people expects to be able to keep up repayments (Berthoud and Kempson, 1992) and actually repays debts in an orderly and timely fashion, keeping consumer default rates quite small (e.g. DeVaney and Lytton, 1995; Lawrance, 1995). Even for low-income families, persistence of defaulting on credit payments or being in arrears was shown to be closer to an exception than to a rule (Bridges and Disney, 2004). Frequent reasons for late payment were overextension by taking on too much credit, unforeseen life events (e.g. health problems), and in few cases, forgetting about the payment (Canner and Luckett, 1991). If consumers experienced payment difficulties, they usually paid as soon as possible, cut back on other types of spending, tried to increase their income (e.g. work more), tried to get financial support from other sources (e.g. family), and sought to advance their financial knowledge (Canner and Luckett, 1991; Hayhoe et al., 1999). From the small part of consumers experiencing payment difficulties only about 12% took no action in response to payment difficulties (Canner and Luckett, 1991).

Repayment performance differs across sources and uses of credit and socio-economic characteristics of credit users. The best overall repayment performance was observed for home equity loans, the worst for non-credit card installment debt (Canner and Luckett, 1991)—especially if used to make ends meet or to pay off old debts (Berthoud and Kempson, 1992). Rent arrears were the most common source of debt (Berthoud and Kempson, 1992). If credit was raised from finance companies, stores or dealers (Sullivan and Fisher, 1988), or used for household durable goods (Van Staveren, 2002), repayment performance was worst. Persons experiencing repayment troubles were often shown to be younger than 35 years (e.g. Canner and Luckett, 1990, 1991), be more likely to belong to a minority (e.g. Sullivan and Fisher, 1988), have a lower level of education (e.g. Groenland and Nyhus, 1994), be less likely to belong to a household with a fulltime employed household head (e.g. Lown and Rowe, 2002), be more likely to have a blue collar job (Sullivan and Fisher, 1988), have lower incomes than other users of consumer credit[3] (e.g. Lea et al., 1993; 1995), be less certain about their future income and have more varying incomes (Webley and Nyhus, 2001), use more sources of credit and budget by the week (Berthoud and Kempson, 1992), be less likely to own their homes (e.g. Bridges and Disney, 2004), possess less consumer goods (Berthoud and Kempson, 1992), have more children than the average credit user (e.g. Lown and Rowe, 2002), be less often in a partnership (e.g. Shepard, 1984;

[2] In a representative British study of Berthoud and Kempson (1992) mail order catalogues were more frequent.

[3] For the subgroup of credit card users, there were no income differences between those experiencing payment problems and those not (Tokunaga, 1993).

Webley and Nyhus, 2001), be more likely to be separated or divorced[4] (Canner and Luckett, 1991), and be more likely to have been turned down for credit before (Canner and Luckett, 1990).

Furthermore, people with repayment troubles were shown to come more often from a family in which money was used as reward and immediate spending was approved (e.g. Webley and Nyhus, 2001). Such individuals were also found to place less value on achievements, have lower self-direction, enjoy shopping less, and be more disappointed if standards of living do not improve than persons who do not face repayment troubles (Livingstone and Lunt, 1992). Indebted people were shown to have less control about their spending and to give less priority to repaying than non-indebted people[5] (Berthoud and Kempson, 1992). Heavily indebted people also seem more likely to be obese and have other health problems (Drentea and Lavrakas, 2000; Webley and Nyhus, 2001). However, the methodology used does not allow to deduce if (a) less healthy people are more likely to indebt, (b) debts cause health problems (Webley and Nyhus, 2001 consider this as probable), or (c) the relation found is due to the mediating influence of socio-economic differences between those facing repayment troubles and those who are not.

Unsurprisingly, there are also indications that people who experienced significant life events or changes in circumstances are less able to repay on time (e.g. Canner and Luckett, 1991). However, it probably depends on the nature of the life event as to whether it will negatively influence credit use. For example, indebted households having a baby (signaling a significant life event) had increased feelings of coping less well with the financial situation while simultaneously practicing better financial management and repaying orderly (Walker, 1996). In addition, people experiencing many adverse life events displayed less risk-seeking tendencies, less sensation-seeking tendencies, and more anxiety about money (Tokunaga, 1993). Furthermore persons who blamed external disasters for the necessity of credit use repaid more than those associating credit use with internal factors (Livingstone and Lunt, 1992). In order to identify which (combination of) life events actually affect repayment performance and in which way requires additional research.

Credit card users experiencing payback problems can be characterized by some additional features. They showed low scores in money retention while often viewing money as a source of power and prestige; they displayed a low sense of self-worth; they had lower risk-seeking and sensation-seeking preferences (Tokunaga, 1993); and they were more likely to use credit cards for showing off than credit card users without repayment problems (Bernthal et al., 2005). In addition, they were less likely to come from a family with problem debts or with positive credit attitudes (Tokunaga, 1993). One possible explanation offered by the author is that problem debtors may never have learnt how to use credit in a positive way. For students' use of credit cards, parental influence might be important in another way, as well. Parental involvement in the acquisition of credit cards led to lower credit card balances, whereas parental involvement after students acquired credit cards led to higher outstanding balances—possibly because students relied on their parents to get them out of the red (Palmer et al., 2001).

One force counteracting repayment troubles is financial literacy: the higher one's financial literacy, the more sophisticated are one's financial and money management practices (Hilgert et al., 2003) and the less one believes in consumer myths (Emmons, 2004). Compared to modest credit users, heavy credit users seemed to know this and to look for more information in order to deal with their (problem) debts, while at the same time they were less able to remain calm and to handle their situation (e.g. Livingstone and Lunt, 1992). There are two forms of knowledge that were shown to positively influence credit repayment performance: knowledge about credits in general (Hilgert et al., 2003) and knowledge about one's own credit terms and status in particular (Bowers, 1979). However, one cause for low financial literacy is lack of experiences with credit, which is a natural shortcoming for many young credit users. Young credit-inexperienced people were even shown to frequently believe that interests were not charged at all (Lewis and van Venrooij, 1995). Nevertheless, financial literacy as well as money management can be improved by personal experiences or by help and advice from friends and family (other sources had less effects) (Hilgert et al., 2003). However, knowledge about the personal credit situation may not be equally useful in all situations. It may be especially useful in situations of financial uncertainty, whereas it may play a minor role in situations of overall stability in life (Bowers and Crosby, 1980).

Summing up, several aspects of the processes after credit take up—the most prominent being repayment performance—have been investigated. Although repayment performance is well investigated the contribution of interactions between the diverse factors leading to repayment troubles is not yet sufficiently clear (cf. Berthoud and Kempson, 1992). However, repayment performance is not the only behavior that ought to be of interest in the third part of the process model. Equally important are behaviors and behavioral intentions originating from experiences with credit use. For example, not much is known on the possible influence of credit use on daily routines or on purchase behavior. Apart from behaviors, mental processes during the repayment process (possibly directly leading to certain behaviors), and the influence of external factors (like reactions from friends) seem worth further analysis.

[4] Whether the loss of a partner and the supplementary reduction in income leads to heavily using credit and repayment problems or whether this is causing bad credit performances is not clear. There is support for both possibilities. Investigations on causes of chronic over-indebtedness in Austria indicate that divorces or break ups often lead to female over-indebtedness (Kamleitner, 2005), and results of a small sample study on credit card use among low-income consumers suggest that being married provides stability in life, which is adjuvant for good repayment performances (Bowers and Crosby, 1980).

[5] Whether this resulted from adoption to the debt-situation or caused debts remains unclear.

4.4. *Research relating to personal and situational characteristics*

Investigations on characteristics of consumer credit users usually face problems which must be kept in mind when results are interpreted. First, measurements of credit use and debt are heterogeneous, which may lead to different classifications of debtors and non-debtors. Second, psychological variables are important in the description of credit users. However, they were included in the research on credit and debt rather late (cf. Livingstone and Lunt, 1992; Zhu and Meeks, 1994). Existing research indicates that the prediction of credit use can be significantly improved by adding psychological variables (cf. Webley and Nyhus, 2001) though this has been neglected in many studies. Third and most important, characteristics comprise diverse situational (e.g. income) and personal (e.g. psychological traits) components. These components frequently interact and often hamper (causal) interpretations. Nevertheless, these interactions are an immanent feature of credit use. As shown above credit use has many facets. Different people take on credit for different reasons and from different sources. No single credit user characteristic sufficiently explains these differences. Therefore, it is necessary to analyze patterns of characteristics (cf. Berthoud and Kempson, 1992).

Most direct evidence of the differential picture of consumer credit comes from attempts to summarize several characteristics and to identify classes of credit users. The mere existence of classifications illustrates that one class of credit users might not exist but that there are several subgroups of credit users. However, classifications are still rare. One of the few examples is provided by Viaud and Roland-Lévy (2000). They used semi-structured interviews with families of different social classes with varying degrees of indebtedness in order to identify differences in financial activities. Four types of households differing in saving and credit behavior were identified: (a) "fragile borrowers" and (b) "prodigal households" save little while borrowing often. However, they show the same behavior for different reasons. Fragile borrowers try to uphold their lifestyle by using credit which is their only way to acquire capital, whereas prodigal households are unwilling to delay gratification and prefer immediate satisfaction. Similarly (c) "prudent households" and (d) "accumulating savers" show the same behavior (save much, rarely use credit) for different reasons. Prudent households save in order to become able to acquire property in the future, whereas accumulating savers save because they already acquired what they needed.

Another classification of households comes from Gunnarsson and Wahlund (1997). Using cluster analysis, they found six classes of households differing in terms of financial strategies. None of the six classes was completely debt free, but the class of "contractual savers", which represented 22% of the sample, was most prone to credit use. These households used different types of loans and credits; they had mainly liquid financial instruments; and they had a debt-to-asset ratio of 4.2, whereas the other classes' ratios ranged from 0.28 to 1.3. However, contractual savers did not differ from other classes in terms of income or occupation, although they had the largest number of children and believed more than others that borrowing was necessary in order to make ends meet. Finally, they had high rates of time preference and were more apt to prefer immediate consumption than other households.

Although these classifications are significant contributions towards a better understanding of credit user characteristics, they fail to include all characteristics worth consideration while including some characteristics that are of descriptive but not of explanatory value. We summarize factors that were thought to be of explanatory value along a simple distinction between "need" and "want" factors. This distinction strongly resembles Norton's (1993) motives for credit use (maintain and improve one's lifestyle). "Need" factors favor credit use because the goods bought on credit help to fulfill a person's basic requirements. Primarily these are situational characteristics such as a sudden drop in income. "Want" factors favor credit use because credit enables realization of diverse wants. Primarily these are personal characteristics like credit attitudes. "Need" and "want" factors signal different motives for credit use. The distinction thus does not necessarily correspond to a distinction between personal and situational characteristics although this may often be the case. Further, it is occasionally possible that one factor may be a "need" factor for one person while it is a "want" factor for another person. For example, previous credit experience may be both a "need" factor and a "want" factor. It might signal that a person needs another credit to get rid of old debts or that a person wants another credit because of positive previous experiences. In addition, factors influencing credit availability are to be considered. These are mostly straightforward, for example local credit supply, and are thus not dealt with here.

"Need" factors become prevalent when people cannot make ends meet or have increased needs due to their situation. One such factor is income. People with low-income are more in need for consumer credit use. However, they are also more likely to be turned down (Zhu and Meeks, 1994). Overall, there does not seem to be a difference in disposable income between credit users and non-users[6] (e.g. Livingstone and Lunt, 1992) although sources and purposes of credit use (e.g. Berthoud and Kempson, 1992) and amounts borrowed (e.g. Groenland and Nyhus, 1994) differ across income groups. Savings are a related factor signaling need for credit. Here the relationship is as expected. Credit users have fewer saving than non-users (Livingstone and Lunt, 1992).

Important other "need" factors are situational circumstances apart from income. People who experienced adverse life events (Canner and Luckett, 1991; Tokunaga, 1993), changed jobs recently (Berthoud and Kempson, 1992), are young (e.g. Drentea and Lavrakas, 2000; IfS, 2004), or live in a partnership (Berthoud and Kempson, 1992) were shown

[6] The relation between income and credit use seems to have changed in the last decades. In 1975 primarily middle and upper-middle income groups used credit (Katona, 1975; for a similar development in credit card usage see Durkin, 2000).

to use credit more; supposedly because they are more in need than other people.

"Want" factors are factors that signal an individual's general propensity to use credit. These are mostly personal characteristics that might result from a person's disposition, socialization, or other experiences apart from actual needs. The probably best investigated "want" factor is credit attitude. Across all forms of credit, credit users were shown to have more positive attitudes towards credit and debt than non-users (e.g. Davies and Lea, 1995). It was even observed that if credit use increased in a society, people also became more in favor of credit use (Katona, 1975). However, this observation was not confirmed in later studies (Berthoud and Kempson, 1992; Godwin, 1997). Attitudes were predictive of never using credit (Livingstone and Lunt, 1992) and of the amount of credit sources used (Berthoud and Kempson, 1992) whereas they did not predict how far people were in debt (e.g. Zhu and Meeks, 1994). Attitudes were also related to the "need" factor of age. Younger people had more positive attitudes (e.g. Lawrance, 1991).

Xiao et al. (1995); Hayhoe et al. (1999) argue that attitudes towards credit cards have to be considered in terms of affective, cognitive, and behavioral facets. Though students held positive overall attitudes towards credit cards, behavioral attitudes (e.g. intention to use credit cards) were not as positive as the other components (Hayhoe et al., 1999; Xiao et al., 1995). It may also be too simplistic to generalize results on credit attitudes across different uses of credit (see Viaud and Roland-Lévy, 2000). For some goods, like automobiles, most people considered it right to use credit, whereas for other goods, like vacations, it was mostly deemed wrong (e.g. Engel et al., 1993). Overall, the relationship between credit use and attitudes is complex and the causality of the relationship is not completely clear (cf. Katona, 1975). There are indications that credit attitudes are not only cause of credit use (Livingstone and Lunt, 1992) but also a means of accommodating to incurred debts (e.g. Webley and Nyhus, 2001).

A second "want" factor that has been considered important is self-control. Credit users described themselves as buying things on impulse, as liking to reward themselves with purchases, and as finding themselves drifting according to old habits (Livingstone and Lunt, 1992). They showed low scores in money retention (Hayhoe et al., 1999); they spent their money with less deliberation (e.g. Berthoud and Kempson, 1992); and they were less likely to exert behavioral self-control (more likely to be obese, to drink and to smoke) than non-users (Webley and Nyhus, 2001). Differences in self-control might also explain why credit users have fewer children than non-users (Livingstone and Lunt, 1992) or why African Americans (Sidime, 2004) and Mexican Americans (Medina et al., 1996) are more prone to credit use than Anglo-Americans—especially concerning credit cards. Children cause parents to exert self-control and to act more cautious and conservative, whereas African and Mexican Americans had lower scores in money retention. Besides, self-control seems related to credit attitudes. Students' attitudes towards credit cards were more positive, if they experienced an external locus of control (Davies and Lea, 1995). Furthermore, the more people owed, the more they had an external locus of control (Livingstone and Lunt, 1992; Tokunaga, 1993). Yet, there was an astonishing difference within credit users. The more debts people incurred, the less likely they were to reward themselves with purchases or to enjoy shopping (Livingstone and Lunt, 1992). All told, self-control seems to be influential both before credit use and during repayment.

Apart from self-control people's value systems seem to matter. Those who are prone to social comparison and materialistic gain seem to be more prepared to use credit (Merskin, 1998; Walker, 1996) and hold more favorable credit attitudes (e.g. Watson, 2003). Materialistic people value objects for the money needed to purchase them rather than for the satisfaction the objects yield (Watson, 2003). This makes motives to spend more urgent than motives to save (Richins and Dawson, 1992). Consequently, higher incomes are desired, saving may be repeatedly postponed, and use of credit increases (Richins and Rudmin, 1994; Watson, 2003). For example, Berthoud and Kempson (1992) showed that people possessing many consumer goods (supposedly indicating materialism), were especially prone to credit use.

Another "want" factor is people's experience with credit use. Both direct experience of credit use (Livingstone and Lunt, 1992) as well as indirect experience of credit use (through parents) (Tokunaga, 1993) were shown to increase the probability of credit use—possibly through their positive influence on credit attitudes (cf. Kaynak and Harcar, 2001; Xiao et al., 1995). More generally, if money was used as reward and immediate spending was approved in the family, the propensity of credit use increases (Hayhoe et al., 1999).

The literature also considered other "want" factors. One of them is risk aversion, which was shown to lower willingness to use credit (Dahlback, 1991) whereas it did not differentiate between people with different degrees of indebtedness (Livingstone and Lunt, 1992). Also, time preference in terms of being more present-oriented and discounting future events was sometimes found to be related to credit use (e.g. Groenland and Nyhus, 1994; Webley and Nyhus, 2001). In addition, if household heads were relatively less emotionally stable, less meticulous, more agreeable, and more autonomous, the likelihood of credit use increased (Nyhus and Webley, 2001).

The factors listed so far (need: income and savings, age, life events, partnership; want: attitudes, self-control, values, experience, risk aversion, time preference) are probably the most important ones in determining propensity to and processes of credit use. Presumably these factors will not simply sum up for each person's propensity to use credit but nearly always interact in various ways. For example, Berthoud and Kempson (1992) showed that neither income nor age alone were able to explain debt while in combination they were. It is also difficult to partial out single factors because they often co-occur. For example, many factors were shown to relate to credit attitudes. Also, time preference was shown to co-occur

with "need" factors (e.g. younger and low-income households; Groenland and Nyhus, 1994; Lawrance, 1991). The economic explanation for this relation is that for wealthy people and poor people consumption does not provide equal utility. As a result it seems easier to postpone consumption for wealthier people leading to them having lower rates of time preference (Fisher, 1930). Even more complicated are influence patterns of age as a determinant of credit use. Age may not only be important with regard to young people's higher needs (e.g. Katona, 1975) who use credit for consumption smoothing over the life-cycle (Modigliani, 1966). It may also be due to generational differences in credit attitudes (e.g. Norton, 1993) or result from an increase in credit supply (cf. Berthoud and Kempson, 1992). Downward shifts in the average age of credit card users support these last explanations (Kinsey, 1981; Kaynak and Harcar, 2001).

Further, a look on "need" and "want" factors reveals that many typically relevant factors like gender or education are still missing. This is because they do not seem to be of direct importance. For example, although the difference between the sexes is usually not pronounced (Grohs, 2003; Mooslechner and Brandner, 1992; Webley and Nyhus, 2001), mostly men take on credit (e.g. Davies and Lea, 1995) (credit cards being an exception; e.g. Hayhoe et al., 1999). However, gender itself does not seem to be influential but covaries with other characteristics. Women usually have lower incomes which directly affects their creditworthiness and credit limit (Van Staveren, 2002). Men have more positive credit attitudes (e.g. Xiao et al., 1995). Men are more impatient (Lawrance, 1991) and less risk-averse in the financial domain (Prince, 1993; Weber et al., 2002). Men still often dominate financial decisions within households (Meier et al., 1999), and women budget their money more carefully and self-controlled (Tang et al., 2002).

Similar arguments apply to the relation between educational level and credit use. Here, the evidence is mixed. Some studies (e.g. Nyhus and Webley, 2001) found that credit users had a higher educational level than non-users, whereas others (e.g. Livingstone and Lunt, 1992) found no such difference. Credit availability as well as credit attitudes, which were sometimes shown to be more positive for highly educated people (e.g. Zhu and Meeks, 1994), might have been possible moderators behind. Other factors that are either not or not directly influential for credit use are socio-economic status (Livingstone and Lunt, 1992), health (Drentea and Lavrakas, 2000), and place of living (Kinsey, 1981). Finally, there are some more characteristics that appear to matter but only in terms of the amount borrowed. Households with household heads employed full time (e.g. Zhu and Meeks, 1994), with high housing costs (Berthoud and Kempson, 1992) and with multiple bank accounts (Livingstone and Lunt, 1992) seem to (be able to) borrow more.

The distinction between "need" and "want" factors as drawn here highlights that credit use can neither be pinned down to personal nor situational characteristics alone but results from a complex interplay of various factors. We posit that this distinction also might be of theoretical and practical value. Different combinations of "need" and "want" factors may lead to differences across the credit process. For example, a person with high "need" factors may feel the burden of a loan stronger than a person with high "need" and high "want" factors. Further, it would be of interest to investigate whether "need" factors enhance "want" factors over time. It seems possible that a change in one factor might lead to changes in other factors. Any such dynamic would make static credit user classifications less meaningful. The fact that credit experience can enhance attitudes indicates such dynamic relationships between factors.

In sum, dealing with all meaningful interactions and dynamics of diverse factors, and with their differential impact on the credit process seems worthwhile further investigation. Literature on personal and situational characteristics of credit users is vast, indicating its appeal in research studies. However, the literature has mostly focused on descriptions of selective factors although co-occurrences and interactions seem to be of importance and although these factors are meaningful only because of their relation to different motives. In addition, the empirical approach has been static while the phenomenon probably is not. Several aspects seem worthwhile undergoing further analyses. These are (a) clarifications of causal relations between characteristics at different steps in the credit process, (b) disentangling studies on previously mixed or unclear findings (e.g. relationship between education and credit use) by identifying possible moderators or mediators, (c) identification of possibly related characteristics that have not yet been investigated (e.g. adherence to norms), and (d) the admittance of dynamics and additional variables in credit user classifications.

5. Discussion

Consumer credit use has dramatically risen, accounting for a major factor in the growing consumer bankruptcy filings (Sullivan and Fisher, 1988). The scientific community has responded to this by vast amounts of research on the topic. However, the research has mostly focused on small, particular aspects of the phenomenon while neglecting the process character of credit use. By presenting a conceptual process model, this article stressed the character of credit use, and reviewed the current literature with regard to the three major parts of the consumer credit process: processes before, processes at, and processes after credit take up.

The literature review has shown which research questions have already been addressed, including: people's motives and reasons to use consumer credit; selected factors influencing people's willingness to use credit; beliefs about the process of credit take up; particular aspects of credit perception; people's knowledge about their own credits; selected behaviors during and after credit take up; the most dominant forms and sources of consumer credit; and above all, characteristics of certain credit users.

There are some limitations of previous research that make it difficult to integrate results of the different studies and

ought to be considered in future research. First, some studies —especially studies dealing with credit perceptions—do not distinguish between consumer and investment credit. Thus, whether findings apply to both forms of credit equally has still to be investigated. Second, common standards of how to measure and define consumer credit use have yet to be developed. Third, studies on consumer credit use were conducted on a household as well as on an individual level. In this paper, we presented findings from both levels of analysis, but there are indications that credit use is determined primarily at the individual level (Brown et al., 2005). Fourth, though there are already notable exceptions (especially research on repayment troubles), previous studies (especially on credit cards) mostly used student or low-income samples. The average adult consumer credit user has rarely been investigated. Fifth, most studies explicitly dealing with credit perceptions and credit behavior were carried out in laboratory settings with non-credit users. Sixth, the 'typical' credit user—as studies using classifications indicate—might not exist. Generalizations made may only be valid with limitations. Seventh, several studies may have been biased because credit users seem less likely to return questionnaires (Webley and Nyhus, 2001). Eighth, credit use is not independent from credit offers—thus, whenever studying consumer credit use it has to be acknowledged that this might also partly reflect creditors policies (Kidane and Mukherji, 2004; Norton, 1993). Finally, most research on credit use comes from the United States where use and availability of consumer credit are more extensive than in other parts of the world (Huls, 1993). All findings of the literature review whether they come from the United States or not, may be culturally biased and there is still little research on the possible extent of such a bias. Katona (1975) was among the first to consider cultural differences in credit use. He compared credit use in the United States with credit use in Germany. Striking differences in the extent and way that credit was used were found. In addition, Huls (1993) reported clear differences between European countries due to different degrees of familiarity with different forms of credit, and Kaynak and Harcar (2001) report significant differences in credit card use within the European Union. Cultural acceptability of credit use and its influence on behavior seem to be a considerable force, and yet has been largely ignored in the existing research.

Apart from the common disregard of cultural influences, the literature review has identified major gaps in research on consumer credit use. Two aspects have, in particular, been commonly neglected: (a) cognitive aspects involved in credit use and (b) a process perspective of credit use. Concerning cognitive aspects the need for further research has already been acknowledged. Soman and Cheema (2002) as well as Tokunaga (1993) stated that decision-making processes are a neglected aspect in research on credit use and that "a surprisingly sparse amount of research" (Soman and Cheema, 2002, p. 33) has been conducted. Currently, exceptions to this include a few studies on estimations of loan duration, inferences from credit limit, and mental accounting aspects. Cognitive processes thus remain an auspicious field for future research.

Even more neglected than cognitive processes, with which it is inseparably linked, is the promising avenue of using a process perspective to investigate credit use. As Webley and Nyhus (2001, p. 424) put it "our natural history of debt is currently a very static one." Nearly all of the sources mentioned in the literature review analyzed credit use in a static way, this is they observed credit users at one particular point in the credit process (notable exceptions are Prelec and Loewenstein (1998) and some studies focusing on problem debtors). However, it is seldom acknowledged that the findings, though they were drawn only from one process step, may not be generalized across the whole credit process. Furthermore, many essential steps in such a process, like the initial decision between taking on a credit, saving, and abandoning a purchase, have rarely been investigated. Implementing a process view enables us to analyze how credit use is experienced by the credit taker during the entire credit process. This allows our research to draw detailed implications, which may hold more validity for use in marketing and public policy. Additionally, applying a process perspective automatically enhances the ecological validity and counters frequent limitations like inappropriate samples.

Translating a process perspective into study designs can be accomplished through longitudinal studies on credit use, as proposed by Webley and Nyhus (2001). We appreciate and strongly support this proposal, but we believe that it does not go far enough. Measuring at different points of time does not seem sufficient as long as the dynamics inherent to the credit process itself are not acknowledged. A process view should not only be applied when going into the field but also before when theorizing about consumer credit use. There are several future challenges for research on consumer credit use. Strengthening a process perspective will serve as a major key to achieving them.

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