Working Paper

Household indebtedness in Curaçao

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By Lennie Pau[1]

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Abstract

The motive for this paper is obtaining an indication of the level of household debt in Curaçao and shedding light on the developments thereof in the period 2000 to 2017. The assessment is based on some household financial and income indicators, e.g., consumer credit, mortgage loans, and disposable income, as well as the nation's total income, measured by its gross domestic product (GDP). Using the indicator debt-to-income ratio, Curaçao's household indebtedness was estimated at about 88% on average in the period 2000 – 2017. This means that for every NAf.100 of disposable income, households typically had NAf.88 worth of debt obligations. Household debt was also estimated relative to the size of the economy, and was found to have been about 60% of GDP in the 2000 – 2017 period.

JEL Classification Numbers: G510, G530

Keywords: household debt, consumer lending, financial literacy, debt sustainability, financial stability.

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1. Introduction

Throughout the years, it has been frequently commented that Curaçao's household debt is increasingly high, which has raised concerns about the indebtedness/debt sustainability of the household sector (de Volkskrant, 2007; Romero, 2007; Knipselkrant Curaçao, 2013; Extra, 2017). However, since the actual size and composition of Curaçao's household debt has yet to be determined, there has so far been little to no evidence backing this widespread belief. Therefore, the motive for this paper is to obtain an indication of the level of household debt in Curaçao and to shed light on its developments in the period 2000 to 2017. In this paper, the assessment of indebtedness/debt sustainability is based on household macro data and/or indicators. The conclusions on household indebtedness derived here are not applicable to corporate indebtedness, as the latter topic is beyond the scope of this paper.

Following the definition of the Organization for Economic Cooperation and Development (OECD), "household debt comprises all the liabilities that require payments of interest and principal by households to creditors at a date or dates in the future" (OECD, 2019). According to (Baker, 2014; Bunn, 2014; Lau Anderson, Duus, & Jensen, 2014), there is a positive correlation between household balance sheets[2] and their consumption. (Lombardi, Mohanty, & Shim, 2017) have shown empirically that debt boost consumption growth in the short-run, mainly within a year. However, when household debt-to-GDP ratio surpasses the threshold of 60%, the negative effects on consumption tend to strengthen in the long-run. Over-indebted households are more susceptible to credit constraints, and shocks to income (employment), interest rate and asset prices, thus in the event of a recession, these households are more likely to reduce their consumption and deleverage than others (Du Caju, Rycx, & Tojerow, 2016; Frechette, 2017). Spending is held back because of

[2] Household balance sheets provide an overview of individual households' assets and liabilities.

increased uncertainty about these households' ability to meet debt repayments. A study by (Sutherland, D; Hoeller, P, 2012) found that a debt overhang by households can extend and worsen recessions. Moreover, when households are over-indebted, financial institutions could be directly and indirectly exposed to credit risks (Zabai, 2017). On overall, elevated levels of household debt therefore pose a threat to macroeconomic and financial stability.

In addition to having negative effects at the aggregate level, high debt levels may also inflict social and psychological costs on households. In some cases, there is an issue of debt bondage where the indebted person is forced to give up his/her bankcard to a third party, as a sort of collateral, and thereby perform all kinds of acts that are illegal, e.g., prostitution and drug smuggling. If over-indebted households are unable to repay their debt, it is slowly but surely going to affect their overall quality of life. Most of the time, there is neither energy nor attention for the children's education or to function optimally in the society. Gradually and in many cases, this adds to more social problems to the family. Faced with major debt problems and unable to service them, households are very likely to find themselves dealing with physical and/or physiological health problems through anxiety, stress and depression (Gathergood, 2012; Calmes & Juliet-Pablo, 2019).

Given the possible negative ramifications of household over-indebtedness, it is crucial that the actual size and composition of Curaçao's household debt is established. The remainder of this paper is structured as follows. Section 2 explains why individuals borrow money, and presents the factors leading to indebtedness or over-indebtedness. Section 3 estimates and analyzes the household debt level in Curaçao and its development over time. A comparison between Curaçao's household debt as a percentage of GDP and that of selected countries is also presented. Section 4 discussed the explanatory variables for the household debt in Curaçao. Then, concluding section 5 offers some recommendations.

2. Reasons for household borrowing

Borrowing money against expected future income allows people to smooth their consumption over time. The following may be reasons to borrow from friends, family, banks, and/or non-banks:

1. To expand monthly budgets when short on cash.
2. To purchase a house.
3. To purchase a car.
4. For household repairs, home improvements and renovations.
5. For special occasions, such as vacations, birthdays, weddings, and Christmas.
6. To cover unexpected expenses, such as medical bills or costs related to accidents.

It is not uncommon for people to borrow money with the intention to make repayments over time, but for some this can become an easy trap that leads to over-indebtedness. Racking up debt can become a problem when one's budget becomes so stretched that he/she is unable to meet financial obligations. There are a number of ways people may end up indebted or over-indebted. The most common ones are discussed in Box 1.

Box 1
Common causes for indebtedness or over-indebtedness (Dratch, 2017; Lemke, 2018)

1. **Reduced income:** this could be due to a loss of employment or retirement.
2. **Little or no savings:** some people lack emergency money for unforeseen expenses.
3. **Financial illiteracy:** financially illiterate people often end up in debt, simply because they do not know how to properly manage their budget. Also, they may not know how to effectively save or invest money for when it might be needed in the future.
4. **Divorce:** in this day and age, many families need two incomes to support their lifestyle. Changing from a dual-income to a single-income arrangement, can be tough on both parties. After a divorce, most of the time one person is left with more debt than the other.
5. **Poor health/medical expenses:** people that are too sick to work may receive sickness payments, but these are generally only a part of their regular income. Besides receiving a pay cut, these people might have to deal with burgeoning health expenses.
6. **Increased cost of living:** some people can find themselves in debt as a result of their annual pay increases lagging behind compared to the rising cost of living.
7. **Keeping up with the "Joneses":** some people find themselves in debt because they spend beyond their means on things they see that other people have.
8. **Use of credit cards and hire purchase (HP):** the increased availability of credit cards and the ability to buy items on HP makes it easy for people to make purchases without having to first save for them. In the end, people often get stuck with huge debts without having any notion of how they are going to pay these off.
9. **Gambling:** this form of entertainment can easily become addictive for some, and if left unchecked may lead to depletion of assets and/or over-indebtedness.

In Curaçao, predatory lending, financial illiteracy, and spending outside one's means are the commonly mentioned reasons for personal/household indebtedness or over-indebtedness (UNDP, 2018). Unfortunately, the body of literature on both personal and household debt in Curaçao is limited and mostly outdated. The main reasons for personal/household debt problems in Curaçao were listed by (Copra, 2004; Kolf, 2007; UNDP, 2018; Calmes & Juliet-Pablo, 2019):

1. Divorce/separation: causes many to experience a drop in financial resources and in the standard of living.
2. Poor money management and spending habits: spending outside one's means and failing to pay bills on time, resulting in an accumulation of debt.
3. Cultural and socially acceptable behavior and attitude with regard to debt: irresponsible borrowing behavior, for example, taking out a loan to pay off another loan, which would ultimately lead to debt spiraling out of control. Also, the personal attitude of shifting one's own problems to another, such as the government is going to solve my problems for me.
4. The lack of a central credit control registry that records all lending, e.g., a credit bureau: consumers could easily borrow from different institutions at the same time without the other creditors having any knowledge of it. There is no control on irresponsible lenders, such as payday loan organizations, coupon creditors, and non-registered lenders (loan sharks).[3] Loans are often extended without confirming whether the borrower can afford to redeem the principal and pay the interest. These lenders charge usurious rates and most of the time the customers are encouraged to take out a second and third loan. With payday loan lenders, the pay cheque of the poor household is usually used as guarantee for a loan at exorbitant rates of interest to pay off debt or buy items that were before unaffordable.
5. Income drop: due to job loss, illness or retirement. People out of a job usually suffer a decrease in income, which may leave them unable to pay their bills. Mass lay-offs of public servants at the end of the 20th century led many households into financial problems (BNA,

3 Non-registered lenders are individuals who are not registered with the Centrale Bank van Curaçao en Sint Maarten (CBCS) and they tend to extend high interest unsecured credit to consumers. This is an informal credit market practice.

1999). In addition, the privatization of the state-owned company United Telecom Services (UTS) in March 2019 and the bankruptcy of the national airline Inselair in February 2019 have inflicted financial hardship on some of the middle-class households.

6. Insufficient income to meet basic needs, as the low wage workers (working poor) in Curaçao must survive on a minimum wage-income or less. In 2017, the working poor makes up of about 50% of the income group "Poor."
7. The passing of the main caregiver: the person who contributes to the household income passes away without leaving behind mitigating measures, such as a testament, pension or insurance for those left behind.
8. Constraints to consolidate debts: it is difficult to find a commercial bank willing to assist in the consolidation of debt if it appears that the individual also has debts with a known loan shark.
9. Debt bondage: the person is forced to give up his/her bankcard to a third party, as a sort of collateral, and thereby perform all kinds of acts that are illegal, e.g., prostitution and drug smuggling.
10. Drugs, alcohol, and gambling abuse: when these habits become uncontrollable, people can get themselves in major financial difficulties.

The UNDP project and report was a joint effort between the Government of Curaçao and the UNDP in Latin America and the Caribbean. This report provides insights into poverty, which could be altered into plans for action, for poverty alleviation. In this report, one of the areas that require further investigation is the household indebtedness. In order to assist vulnerable households afflicted by high debt in Curaçao, it is essential to examine the following: (1) the level of household indebtedness; (2) the source of most debt; and (3) to what extent do usurious loans threaten their income/wealth/poverty level. One of the main conclusions drawn from Copra's research is that

Curaçao lacks comprehensive debt relief legislation that deals with individuals who suffer from debt problems. Meanwhile, Kolf researched a sample of the female population at the 'Bureau vrouwenzaken' (BVZ)[4] in Curaçao. He argues that Curaçao needs an integral framework that solves the debt problems of households but did not elaborate on it.

A rising concern is that some civil servants involved in debt counseling are also suffering from debt problems. Thus, personal debt issues are also within the government that are responsible for policies and intervention. This could put a constraint on policy implementation; therefore, attention should also be paid to this group of people (Calmes & Juliet-Pablo, 2019).

3. Estimating the size of Curaçao's household debt

Three indicators that are commonly used to assess household indebtedness/debt sustainability are: (1) debt-to-income ratio, defined as household debt relative to its disposable income; (2) debt service-to-income ratio, defined as the household's loan repayments relative to its disposable income; and (3) debt-to-assets ratio, defined as the household's debt level relative to its assets. In many cases, the debt-to-income ratio (1) is often used as an indicator to assess a country's household indebtedness. Some argue that using only this is not necessarily the most appropriate benchmark to determine household debt sustainablity because it provides an incomplete perspective of household financial vulnerability (Debelle, 2004; Frechette, 2016). The level of debt relative to income does not necessarily indicate that a household is unable to service its debt. A household is financially vulnerable when it does not have the capacity to service its debt. Moreover, a debt level is unsustainable when a household has not accrued enough buffers, i.e., financial[5] and/or non-

[4] BVZ is the Department for Women Affairs. This department is involved in the development of women in Curaçao.
[5] Household financial assets consist of currency and deposit securities, life insurance reserves, equity and investment fund shares, and other financial assets (OECD, 2019).

financial[6] assets that they could sell to help smooth unexpected adverse effects. Therefore, the authors (Debelle, 2004; Frechette, 2016) consider the other 2 previously mentioned indicators (the debt service-to-income ratio (2) and the debt-to-asset ratio (3)), as better to assess whether the household borrowing/debt level is too high.

In the case of Curaçao, due to data constraints, however, only the debt-to-income ratio (1) can be used to obtain an indication of the household indebtedness/debt sustainability, based on available financial and income indicators of households. The data needed to determine indicators (2) and (3) are currently not available. This assessment would require household balance sheet information, e.g., household finances and consumption/asset and liabilities. It is therefore not possible at this time to obtain an overall assessment of household indebtedness and measure the risk that it may be posing to financial and macroeconomic stability in Curaçao.

Beside additional macro level data, micro and/or disaggregate dataset containing specific information on the household sector, i.e., demographics is needed to address the issue of household indebtedness. The micro and/or disaggregate dataset is able to shed light on the way debt is distributed across households. Since households are very diverse in terms of income, assets, gender, and demographics, economic shocks affect each household in a different way (Tudela & Young, 2005).

In this paper, the aggregate financial and income data of households from the Centrale Bank van Curaçao en Sint Maarten (CBCS) and the Central Bureau of Statistics (CBS) have been used to determine the debt-to-income ratio (1) in the 2000-2017 period. More specifically, the total amount

[6] Household non-financial assets consist of residential structures, land, other buildings and structures, consumer durables, and non-produced assets (OECD, 2016).

of loans extended to individuals by insurance companies,[7] commercial and non-commercial banks[8] serve as an indicator of household debt. The CBCS collects these data, which include details on loans extended to individuals for the purchase of housing and other assets (e.g., cars and household durables), as well as unsecured debt (e.g., current account overdraft and credit cards). However, these data tend to underestimate the level of total household debt, as (1) there are limited consumer credit debt data on the coupon credit market and trade accounts payable;[9] (2) some microcredit institutions do not report in a timely manner; and (3) the pension funds' and student loans' data have not been included. A word of caution: there is a shadow economy, which we do not have any information, thus we do not know its size and it could be large. One example is the non-registered lenders, which are an informal credit market practice. The gross disposable income for households & non-profit institutions serving households (NPISH), which is registered by the CBS, serves as a proxy for household income.

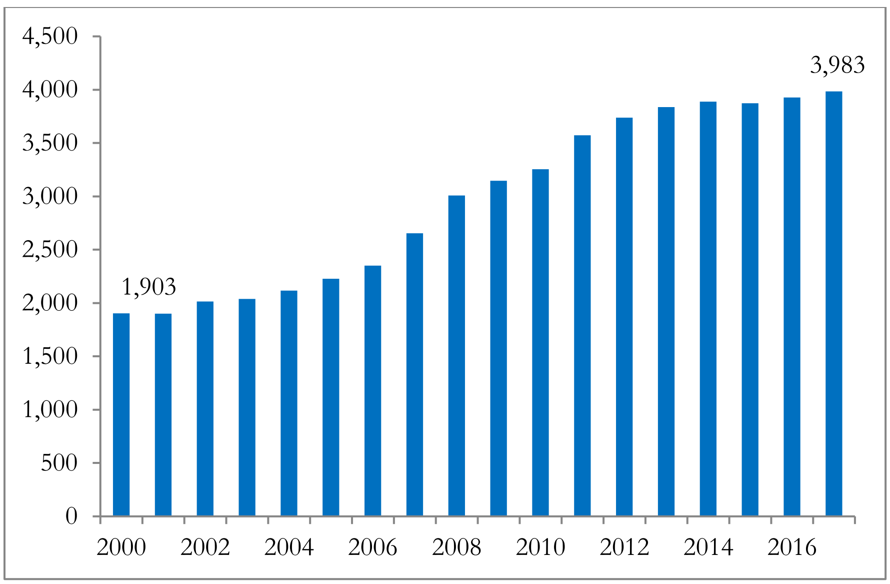
Figure 1 shows the growth in household debt in Curaçao. With the exception of slight contractions in 2001 and 2015, household debt has been rising since 2000 but stabilized somewhat in 2016 and 2017. Following the global financial crisis in 2008, banks around the world reduced their credit extension signficantly despite the accomodative monetary policy. Still, the credit extension in Curaçao did not slowdown, as households continued borrowing and building up debt. The deteriorating trend in the international reserves and import coverage caused by the worsening of the

[7] Endowment life insurance is a term life insurance with a savings program. Loans against this life insurance are an advance against the cash value of the policy.
[8] Non-commercial banks comprise of credit unions, other credit institutions, coupon creditors, and microcredit institutions.
[9] Trade accounts payables are credit received by suppliers of goods and services, e.g., electronic stores, household appliance stores, and among others. This includes the hire purchase (HP), which is defined as 'the purchase and sale on installment, whereby the parties agree that the sold property does not transfer ownership by single delivery, but only by fulfilling the suspensive condition of full payment of what the buyer owes under the contract of sale' (article 1557h of Civil Code book 7A).

current account deficit led the CBCS to implement a temporary credit measure[10] in March 2012 - February 2013. As a result of this measure, the credit providers reduced their lending, with the commercials banks in particular extending fewer loans. In overall, household debt, however, continued to expand but at a slower pace from 9.8% in 2011 to 2.6% in 2013.

Over the past 17 years, household debt more than doubled, as it rose from NAf.1,903 mln ($1,063 mln) in 2000 to NAf.3,983 mln ($2,225 mln) in 2017 (Figure 1). The overall growth in household debt was mainly led by residential mortgages.

Figure 1. Evolution of household debt in Curaçao (NAf. mln) in 2000 - 2017



Source: Centrale Bank van Curaçao en Sint Maarten (CBCS).

On average, mortgages comprised a larger share of the total household debt (64%)[11] throughout 2000 – 2017 (Figure 2).

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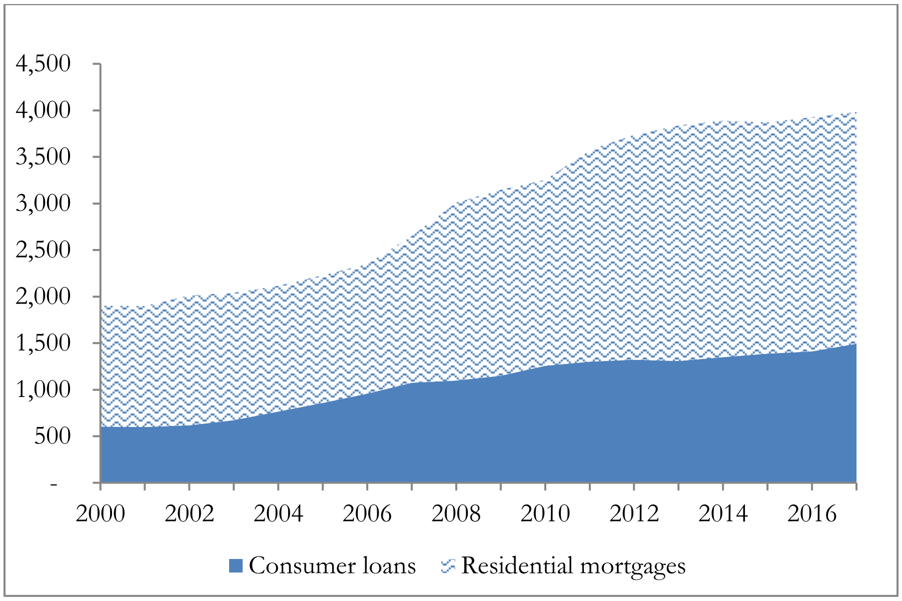
[10] To address the high current account deficit, the rapid credit growth, and declining trend in reserves, a temporary credit freeze was imposed from March 2012 to August 2012. This credit measure was eased but prolonged from September 2012 - February 2013 (CBCS, 2012).

[11] Some households finance their consumption of durable and non-durable goods by borrowing against their house equity, therefore the entire value of the mortgage loans is not necessarily destined for the purchase of housing.

Figure 2. Decomposition of household debt in Curaçao (NAf. mln) in 2000-2017



Source: CBCS.

According to (D'Alessio & Iezzi, 2013), in literature, there is no common definition for household indebtedness and how it is measured. Therefore, to obtain different aspects of over-indebtedness in their study on the European household indebtedness, (Du Caju, et al., 2016) employed three set of indicators with a benchmark ratio: (1) debt-to-income ratio over 100%; (2) debt service-to-income ratio over 30%;[12] and (3) debt-to-asset ratio over 75%.

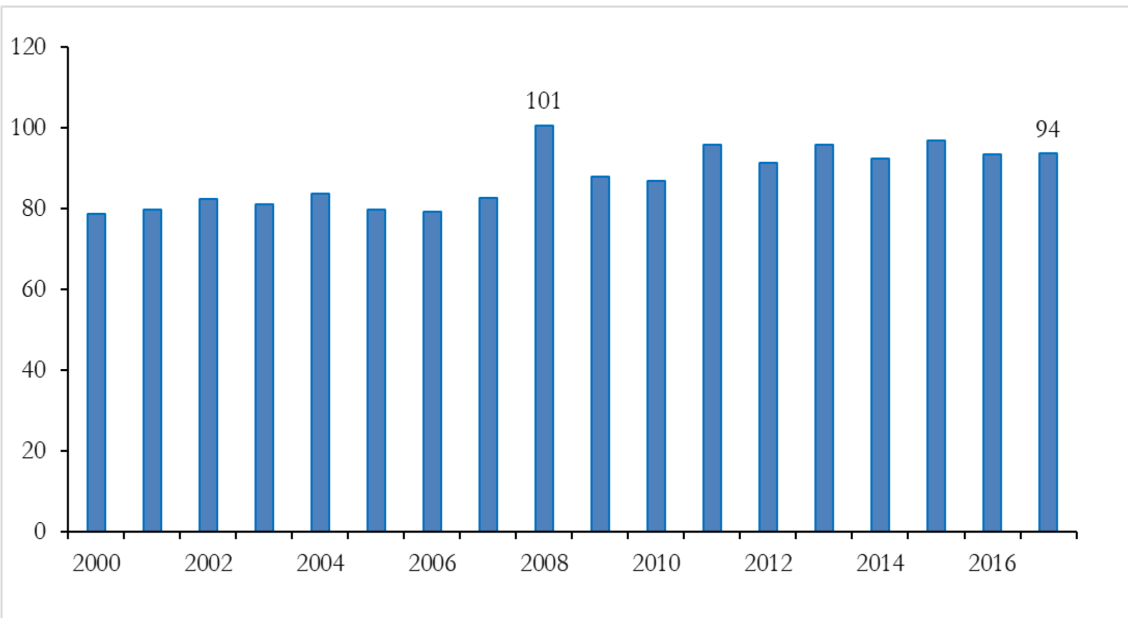
As aforementioned in the case of Curaçao, to make a complete assessment that incorporates all three ratios, however, additional household financial data is needed. The debt-to-income ratio of households averaged at about 88% in the period 2000 – 2017, triggered by its increase from 79% to 94%[13] over this timespan (CBS, 1991 - 2016; CBCS) (Figure 3). In other words, the amount of debt

[12] Threshold is based on the repayments equal to or above 30% of monthly income for indebted households. Household's repayment costs consist of mortgages and other unsecured loans, e.g., car loans, consumer and installment loans and loans from friends, relatives, employers, etc.

[13] CBCS. Note: Curaçao household debt data for the period 1997-2009 are estimates, as Bonaire is included. Disposable income for households & NPISH data for 2017 is a forecast estimate.

obligations a typical household had for every NAf.100 of disposable income climbed to NAf.94 by the end of 2017. Although the threshold of 100% was not exceeded in 2017, there is reason for concern, since as aforementioned, the debt-to-income data ratio might underestimate the level of total household debt. In any case, the prospect that the debt-to-income ratio of households in Curaçao could be over 100% indicates that households are vulnerable especially to financial distress due to interest rate, income (employment), and/or asset price shocks.

Figure 3. Curaçao household debt-to-income ratio (%) in 2000 – 2017



Sources: CBCS and CBS.

In the midst of the financial crisis in 2008, the household debt-to-income percentage jumped from 83% in 2007 to 101%, triggered by the vast increase in the demand for mortgage credit. In contrast to the global economic decline, Curaçao experienced a relatively stable macroeconomic development during this time, where real GDP grew and unemployment levels were down. Furthermore, high oil and food prices caused consumer price inflation to soar to 6.9% in 2008 (BNA, 2008), which may have contributed to the increase in the demand for credit and the value of the loans.

As aforementioned, the debt service-to-income ratio of Curaçao's household sector cannot be measured because of a lack of additional household financial data. Nonetheless, the CBCS implemented the provisions on preventing overextension of credit (POC provisions) to credit institutions in 2015. The aim of the POC provisions is to prevent consumers from being over-extended with credits and encourages prudent credit extension practices. Prior to extending the credit, the credit institutions are required to obtain sufficient information about the credit-worthiness of the borrowers' financial condition. The threshold or the amount an individual can borrow cannot exceed the total debt service ratio (TDSR) of 37%. According to the POC provisions, the loan request has to comply with the TDSR, which is expressed as the ratio of the monthly housing expenses plus all other debt service, including car payments, student loans, and credit cards to the gross monthly income.

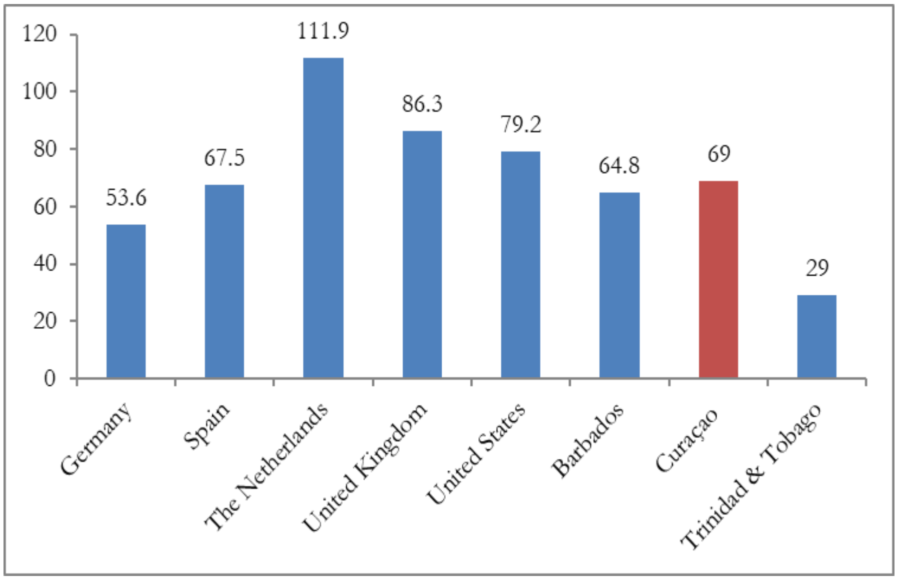
Some financial development studies reveal the threshold in financial deepening.[14] Empirical analysis performed by the IMF on selected countries shows that the maximum positive impact on long-term GDP growth is attained when the household debt-to-GDP ratio is in the range between 36% and 70% (IMF, 2017). As household debt levels continue to rise, the positive effect on GDP growth starts to abate and eventually becomes negative. Meanwhile, (Lombardi, Mohanty, & Shim, 2017) estimated threshold is somewhat higher, they claim that the negative long-run impact on GDP growth starts to increase after the household debt-to-GDP ratio surpasses 80%. In the short-run, higher borrowing could smoothen consumption and raises investments in financial and non-financial assets. Thus debt encourages consumption, investments, and GDP growth, but as households continue to accumulate debt and as it reaches a limit above, which more debt starts dragging down the economy. Households that are highly indebted are financially vulnerable to

[14] Financial deepening is defined as increasing the supply of financial services to all levels of society, which stimulates economic growth.

macroeconomic shocks which in turn could lengthen the recessions. Consequently, the long-run negative effects of debt outbalance their short-term positive effects.

To assess a country's household, financial sector, and economic vulnerability, it is important to compare household indebtedness across time and across countries. For this purpose, household debt as a percentage of GDP is considered the best indicator, because GDP data is more easily and timely available than gross disposable income data. How Curaçao's household indebtedness fares compared to selected countries is illustrated in Figure 4. Assessing the size of Curaçao's household debt through a comparison with countries of similar size and income level allows for a broader perspective. Unfortunately, with the exception of Barbados and Trinidad & Tobago, there is limited information on household debt from countries in the region. Curaçao has some similarities to Barbados with respect to the economy and income level and coincidentally Curaçao's household debt as percentage of GDP of 69% also was more comparable to that of Barbados (64.8%) in 2015 than the other countries shown.

Figure 4. Household debt-to-GDP ratio of selected countries (%) in 2015



Sources: CBCS, CBS, Central Bank of Barbados, Central Bank of Trinidad & Tobago, and Tradingeconomics.com.

In 2015, Curaçao's household debt-to-GDP ratio was more than double than that of Trinidad & Tobago's (29%). Curaçao seemingly fared better than certain developed countries, namely the Netherlands, the United Kingdom, and the United States. Nevertheless, Curaçao's household debt-to-GDP ratio at 69% indicates that it was on the upper part of the threshold interval (between 36% and 70% of GDP) of positive long-term GDP growth. This implies that when household debt rises beyond 70% of GDP, GDP growth turns negative. Similar to many of these countries, the majority of the gain in Curaçao's household debt was led by mortgage credit. In many of the advanced economies, credit borrowing by households has increasingly expanded in the last several decades, triggering household debt to soar. These countries' household debt was largely due to mortgage credit, the result of low interest rates, rising real estate prices, financial liberalization of the economy, and financial innovations in the credit market.

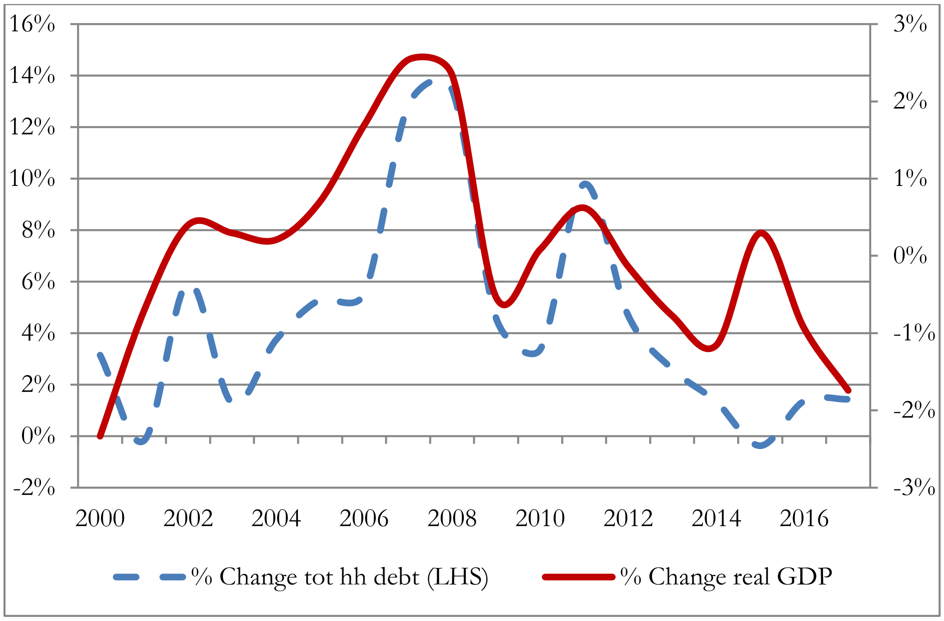
4. Explanatory variables for Curaçao's household debt

The macroeconomic performance has an impact on the demand for and supply of household debt. More specifically, changes in economic activity, unemployment, and interest rates influence both the borrowers' and lenders' behaviors. On the demand side, given a growing economy and with expectations of steady employment and higher income, households are more confident in taking on debt and therefore are more inclined to raise their demand for credit and increase consumption (Davies, 2006). On the supply side, in times of economic growth, financial institutions are more willing to lend, as there are more creditworthy borrowers.

By contrast, during recessionary periods, households cut back on spending and borrowing because they are uncertain of their income prospects. Furthermore, financial institutions could limit their credit by tightening their lending criteria in the course of economic decline. Instead of using interest rates to limit credit extension, financial institutions prefer to perform credit rationing (Craigwell & Kaidou-Jeffery, 2010). Especially when households are already over-indebted, lenders are also less forthcoming.

In Curaçao, economic activity, inflation, the unemployment rate, and the population aged 25 – 34, may be the main reasons for the household indebtedness. Figure 5 reveals that a gain in real GDP growth in Curaçao appears to have a positive effect on household debt in the 2000 - 2017 period. By contrast, during real GDP contractions, households seem to reduce their borrowing and spending, thereby lower their household debt. However, the year 2015 jumped the trend in the relationship between real GDP growth and household debt. Curaçao's real GDP showed a slight improvement, whereas growth of consumer credit contracted, resulting in lower household debt, which was largely owed by fewer mortgages extended by the commercial banks.

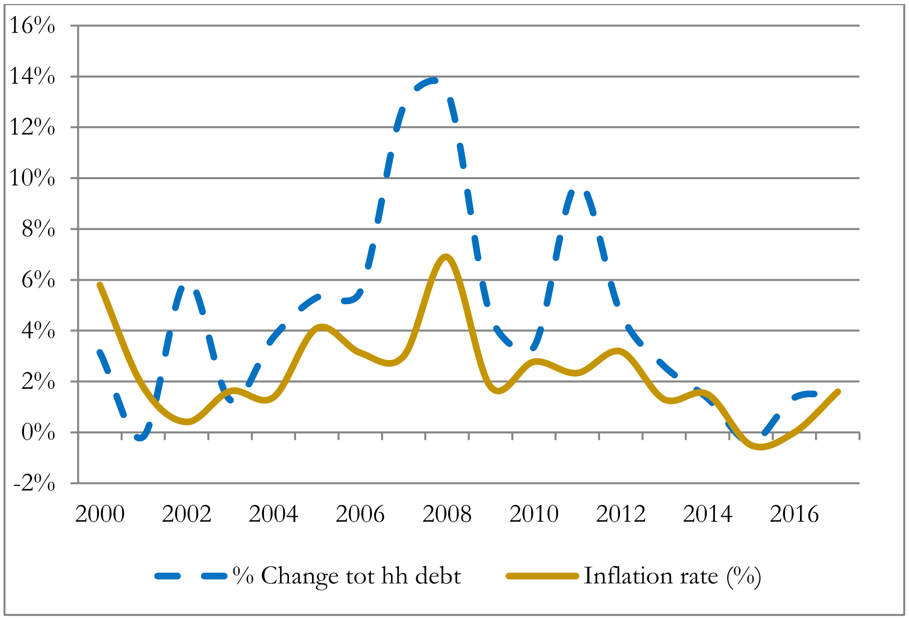
Figure 5. Household debt and real GDP (% change) in 2000 – 2017



Sources: CBCS and CBS.

During periods of deflation, borrowers usually lose because the real value of debt obligations is rising. By contrast, the real value of debt repayments would be declining during inflationary periods. When world oil prices go up, they will be transmitted into higher domestic prices of goods and services, which in turn raise the value of loans demanded from financial institutions. In addtion, given higher prices, consumers may raise their demand for credit to compensate for the loss of purchasing power, especially if their wages have not gone up in a similar fashion. Figure 6 indicates a positive relationship between the inflation rate and household debt in Curaçao. This was very obvious in 2008, when the inflation rate shot up 6.9%. With the exception of the year 2002, inflation rate was almost zero, while household debt rose by 6.0%. This was caused by a rise in mortgages extended by both the commercial banks and insurance companies.

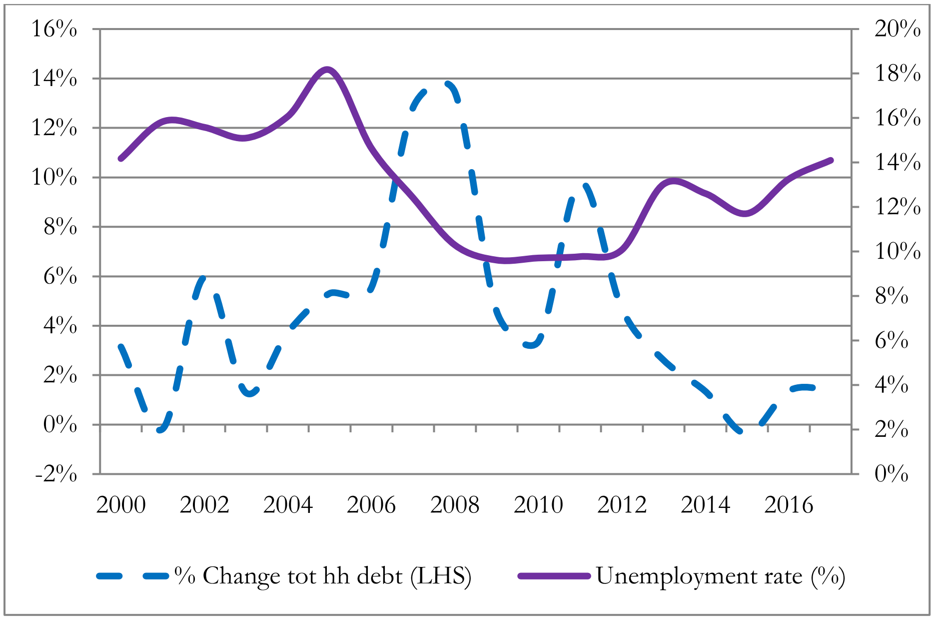
Figure 6. Household debt (% change) and inflation rate (%) in 2000 - 2017



Sources: CBCS and CBS.

Usually both consumers and credit institutions become more risk-averse during a time of uncertainty. As a result, consumers are less willing or unable to borrow and credit institutions are less willing to extend credit or willing only at a higher rate of interest (Carter, Moore, & Jackman, 2012). This suggests that during periods where unemployment rises, credit growth slows down or contracts. Thus, there should be a negative relationship between the unemployment rate and household debt. Nevertheless, this cannot be concluded for Curaçao in the period 2000 – 2017, as shown in Figure 7. In some years of high unemployment rate, household debt did not appear to contract. Furthermore, the rate of unemployment was relatively stable during the period 2009 – 2012 while the household debt fluctuated.

Figure 7. Household debt (% change) and the unemployment rate (%) in 2000 - 2017

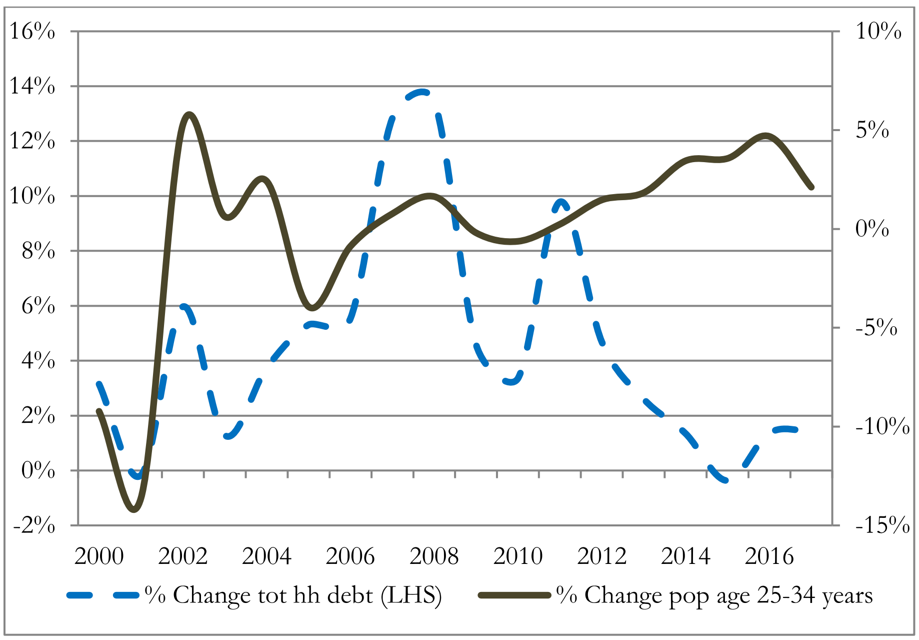


Sources: CBCS and CBS.

The life-cycle hypothesis of consumption predicts that demographic characteristics, e.g., the age structure determines the borrowing behavior of households (Ando & Modigliani, 1963). In order to smooth consumption, younger households borrow against future income. Thus, they are more likely to have more debt, as they expect their future income to rise and aim to use the higher income to pay off debt. On the other hand, middle-aged households repay their debt, save more for their retirement and have a lower propensity to spend, and eventually draw down their savings after retirement.

Thus, according to literature, there should be a positive relationship between the population aged 25 - 34 and household debt. In contrast to the life-cycle hypothesis of consumption, with the exception of the years 2001, 2002, 2008, and 2010, the changes in the population segment aged 25 – 34 did not lead to the expected changes in Curaçao's household debt. In the late 1990s, to address the financial economic crisis in the Netherlands Antilles, the expenditure reduction measures adopted by the government were to decrease the government apparatus through lay-offs, and privatization. This resulted in a massive lay-off of civil servants, which was followed by a vast migration to the Netherlands, reducing the Curaçao population numbers in the period 1999 - 2002 (BNA, 1999, 2000; CBS, 2010). This led to a decline in the population aged 25 – 34 in 2001 and may have resulted in the contraction in household debt.

Figure 8. Household debt and population aged 25 - 34 year old (% change) in 2000 – 2017



Sources: CBCS and CBS.

An empirical analysis has been conducted to determine the relationship between the main factors (real GDP, inflation, the unemployment rate, and the population aged 25 – 34) and the household debt in Curaçao. However, no empirical relationship was found because:

1. Limited number of years (not enough observations). Thus, data are insufficient to support/not support the economic theory.
2. The variables are non-stationary. This has statistical consequences, as the results obtained may be spurious, which may indicate that there is a relationship between two variables while

there is not.

Thus, given the current data, it is not possible to do an empirical research because no conclusion can be drawn from the results.

5. Concluding remarks and recommendations

This study sheds some light on the indebtedness of Curaçao's households by using some financial and income indicators for the period 2000 - 2017. With the exception of slight contractions in 2001 and 2015, the indicators show that Curaçao's household debt has been rising over the past 17 years. Household debt rose from NAf.1,903 mln ($1,063 mln) in 2000 to NAf.3,983 mln ($2,225 mln) in 2017, more than double the size. The explanatory variables real GDP, inflation rate, the unemployment rate, and population aged 25 - 34 have been used to determine the rise/decline in Curaçao's household debt. Given the figures, it appears that there is a positive relationship between the variables real GDP, inflation rate, and the household debt. Meanwhile, the relationship between the other variables and household debt cannot be found for Curaçao in the period 2000 – 2017.

Curaçao's household debt assessed relative to the size of the economy (GDP) was estimated to be on average about 60% of GDP in the 2000 – 2017 period. Whilst household debt-to-GDP ratio reached 71% in 2017, indicating that it exceeded the threshold interval (between 36% and 70% of GDP) of positive long-term GDP growth (IMF, 2017).

Due to data constraints, the indicator, namely debt-to-income ratio was used to estimate the indebtedness of households in Curaçao. The estimated debt-to-income ratio in Curaçao was on average about 88% in the period 2000 – 2017. Household debt-to-income ratio has fluctuated throughout 2000 - 2017, peaking at 101% in 2008 and stabilizing at about 94% in 2017. This means that for every NAf.100 of disposable income, households typically had debt obligations of NAf.94 in

2017. The debt-to-income ratio indicates that Curaçao's household debt burden is approaching the benchmark of 100%, which makes the households susceptible to financial distress caused by interest rate, income (employment), and/or asset price shocks.

These household debt-to-GDP and household debt-to-income ratios might be underestimated because of the incomplete financial dataset from the formal sector. In addition, there is no information about the informal sector, thus the size is unknown. Given the current indicators, e.g., household debt-to-GDP and household debt-to-income ratios, Curaçao's household and the economy are vulnerable to adverse shocks. Expectations are that the household debt level will continue to rise, but what would happen if disposable income and GDP do not expand? Under these circumstances, it could pose a threat to macroeconomic and financial stability.

In order to limit the household debt in Curaçao, it is suggested to do the following: (1) promote financial literacy through advertisements and education programs in schools and communities. Various stakeholders, such as the government, financial service providers, regulators, and consumer advocates should join forces in promoting financial literacy, financial inclusion, and strengthening consumer protection; (2) adopt a consumer protection law to protect consumers from over-crediting and/or become a victim to abusive practices; (3) establish a consumer credit counseling agency that counsels consumers with financial problems and advises them on how to manage their money and debt; (4) adapt the existing legislation and regulations so the over-indebted households can rely on debt restructuring via a credit bank; and (5) develop a central credit control registry that records all lending, e.g., a full-fledged private credit bureau that is compliant with international quality standards and the local legal framework.

Currently, it is only possible in obtaining an indication of the household indebtedness/debt sustainability in Curaçao. Data limitations present a major obstacle to perform a wider and microdata-based analysis of trends in household indebtedness/debt sustainability in Curaçao. In order to obtain household balance sheet information and micro and/or disaggregate dataset, a detailed household financial and budget surveys must be conducted. With this information, the other two household debt sustainability indicators (e.g., debt service-to-income ratio and debt-to-asset ratio) could be determined. In addition, the connection between household characteristics and indebtedness/over-indebtedness could be examined. Since households are highly diverse, it is essential not only to examine the macro but also the micro and/or disaggregate dataset of the household sector because aggregate numbers conceal the diversity within the sector. As households are dissimilar, shocks to the household sector are likely to have a different impact on each household.

It is important to identify the size of the household debt and to get deeper insight of the households' financial susceptibility to indebtedness, as it could have repercussions for the financial stability and economic growth. Hence, it is crucial to perform a more in depth and further research on the topic *household indebtedness* when more data becomes available.

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