HOUSEHOLD CONSUMPTION REPORT 2017

CENTRALE BANK VAN ARUBA

Household Consumption Report 2017[1]

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Centrale Bank van Aruba

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1 Introduction

This memorandum tracks the likely development of household consumption expenditures in 2016 and 2017 by analyzing a wide range of indicators. Household consumption expenditures (or private consumption), as defined in the System of National Accounts of 2008 (SNA 2008), comprise all expenditures incurred by resident households on consumer goods and services, including expenditure on durables such as motor vehicles and furniture, payments made by the government on behalf of households, and the imputed rent of owner-occupied dwellings. Both expenditures of Aruban households within Aruba and overseas are included. However, expenditures on fixed assets in the form of dwellings or on valuables are excluded.[4]

A comprehensive analysis of the developments in private consumption is challenged by the lack of statistics. The CBS has published consumer spending figures until 2011. For more recent years, we are depending on proxy indicators. Section 2 of this memorandum sketches the composition of consumption. Section 3 elaborates on developments in indicators of private consumption and provides an indicative measure for the relative change in these expenditures in the period under review. Finally, some concluding remarks are presented in section 4.

2 Composition of private consumption

When analyzing household consumption, it is important to look at its composition. There are different dimensions, like the origin of the goods and services (imported or domestically produced) and the type of products.

1) Imported versus domestically produced. Based on the National Accounts of 1999-2002, the share of imported goods and services in total private consumption is estimated at almost 25 percent, while the share of domestically produced goods and services in total household consumption is calculated at about 63 percent (see Table 1). This information should, however, be used with

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[4] Valuables are expensive durable goods that do not deteriorate over time, are not used in consumption or production, and are acquired primarily as stores of value. They consist mainly of works of art, precious stones and metals, and jewelry fashioned out of such stones and metals.

caution as the data is almost 15 years old and the distinction between imported and domestically produced goods and services is based on rough assumptions.

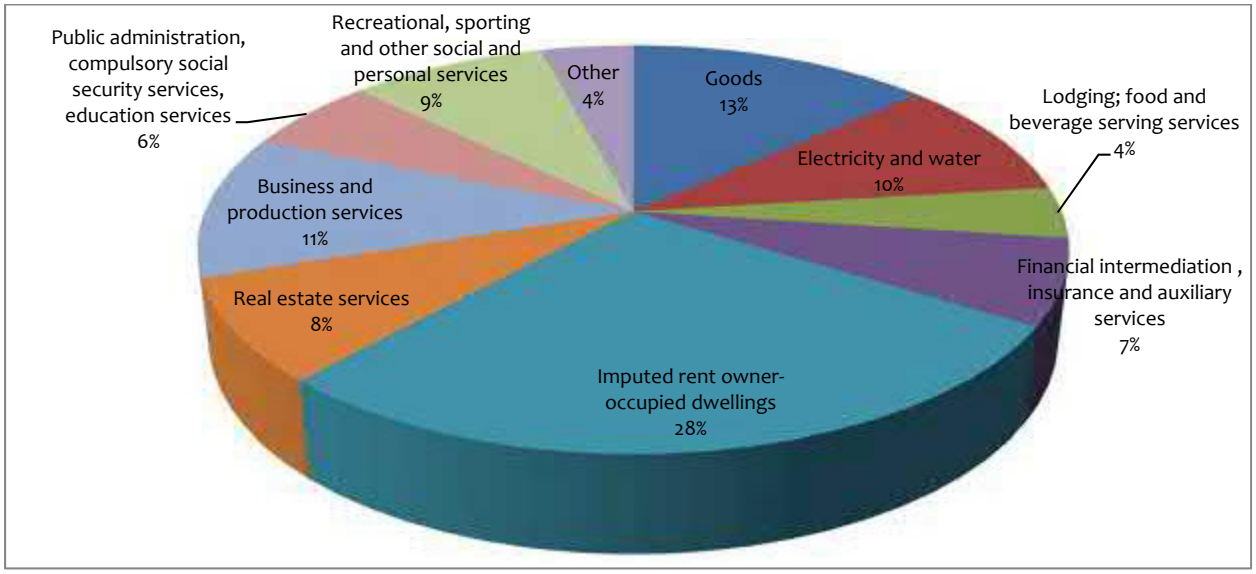
Table 1: Composition of private consumption by source 1999-2002 (average, in percentage)

	Average
Output of domestic industries (basic prices)	62.8
Imports of goods and services (basic prices)	24.9
Trade margin	9.2
Taxes less subsidies on products	3.1
Total (purchasers' prices)	100.0

Source: Authors' own calculations based on National Accounts 1999-2002

2) Composition of domestically produced consumption goods and services. A large part of the domestic part of household consumption comprises 'imputed rent for owner occupied dwellings' (see Chart 1). This component, together with 'real estate services', is driven largely by the housing stock (type/age of building, floor space etc.).[5]

Chart 1: Composition of domestically produced consumption of goods and services (at purchasers' prices) in 2002



Source: Authors' own calculations based on National Accounts 1999-2002

[5] The CBA conducted a household survey in 2017, where households were asked to report their general spending patterns. Based on the results, households spent around 20 percent of their monthly income on groceries and 11 percent on electricity and water (Utilities). Based on data from the utility companies, we estimate that households purchased Afl. 68.6 million worth of water and electricity in 2017.

3 Indicators of private consumption

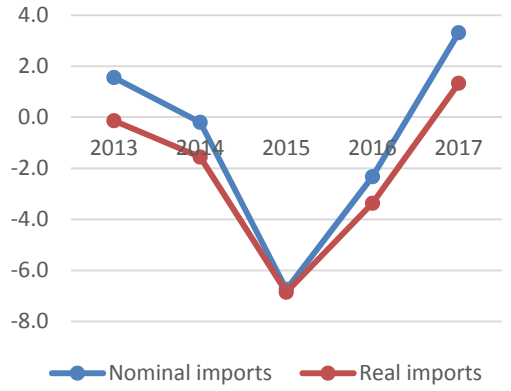
In this section, several indicators that provide a notion of the developments in private consumption are analyzed. These indicators are (a) merchandise imports, (b) retail sales, (c) utilities consumption, (e) consumer confidence, and (f) household disposable income and savings.

3.1 *Merchandise imports*

After falling for two years in 2015 and 2016, merchandise imports (excluding free-zone imports) increased in 2017, by Afl. 103.6 million or 5.3 percent (see Chart 2). After applying the nonoil imports deflator used in the CBA macro-economic model, the growth amounted to 3.3 percent.

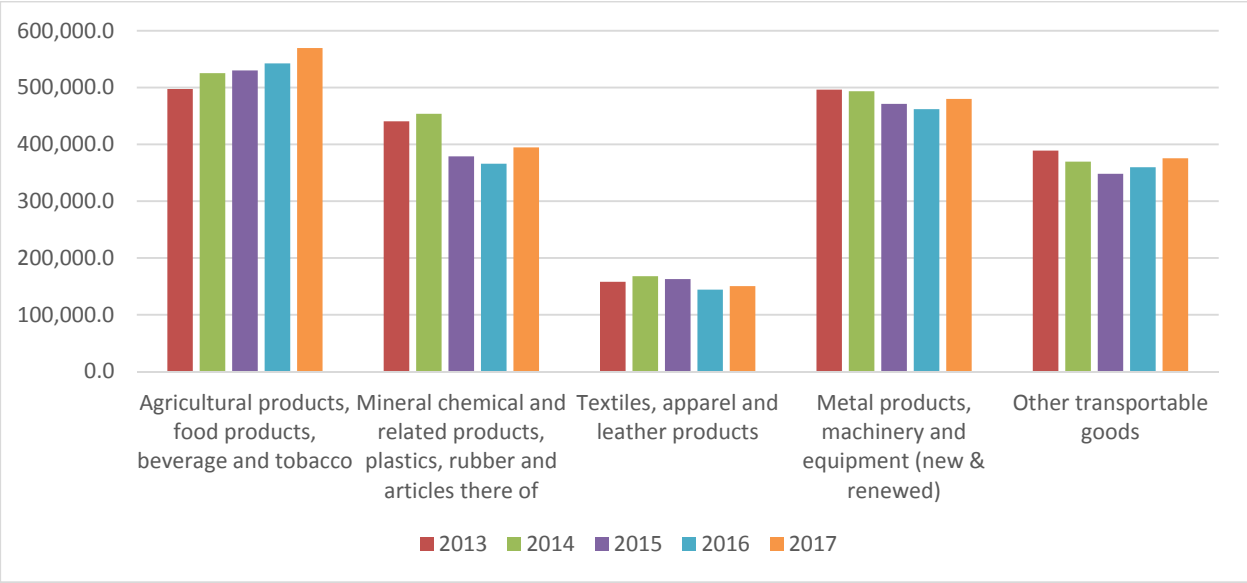
'Agricultural products, food products, beverage and tobacco' and 'other transportable goods' experienced expansions in 2016 and 2017, while the categories 'mineral, chemical and related products, plastics, rubber and articles thereof', 'textiles, apparel and leather products' and 'metal products and machinery and equipment (new & renewed)' also grew in 2017 after recording a contraction in 2016 (see Chart 3).

Chart 2: Merchandise imports (excluding free zone, percentage change)



Source: Central Bureau of Statistics.

Chart 3: Merchandise imports by product categories (excluding free zone)



Source: Central Bureau of Statistics.

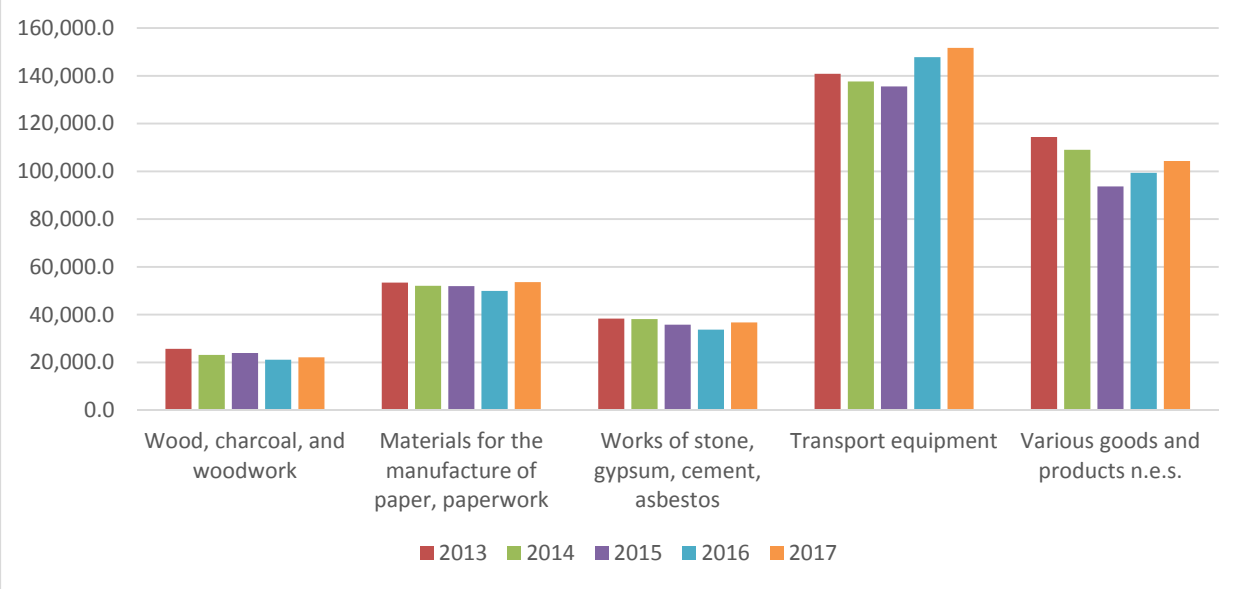
The largest increase was in the categories 'mineral, chemical and related products, plastics, rubber and articles thereof' (Afl. 28.6 million or 7.8 percent), which was a significant turnaround from 2016, when there was a decline (Afl. 12.9 million or 3.4 percent). This category is mostly related to

construction and other business activities. Another significant rise was recorded in 'agriculture products, food products, beverage and tobacco' (Afl. 27.2 million or 5.0 percent), continuing its upward trend. When correcting with the nonoil imports deflator, the resulting growth is Afl. 12.8 million or 3.0 percent.

Moreover, the category 'metal products, machinery and equipment (new and renewed)' expanded by Afl. 18.1 million or 3.9 percent, reflecting an Afl. 17.0 million rise in 'machinery and electrotechnical equipment (new and renewed)'. The latter is mostly related to business intermediate use. Additionally, imports of 'optical instruments, apparatus and equipment' contributed to the increase. The aforementioned upswings were in part offset by lower imports for 'base metals and derivated works'.

The category 'textiles, apparel and leather products' recorded an increase of Afl. 6.1 million or 4.2 percent in 2017, a significant turnaround after slumping by Afl. 18.5 million or 11.4 percent in 2016. After deflating by the nonoil imports deflator, the 2017 increase is Afl. 2.5 million or 2.2 percent.

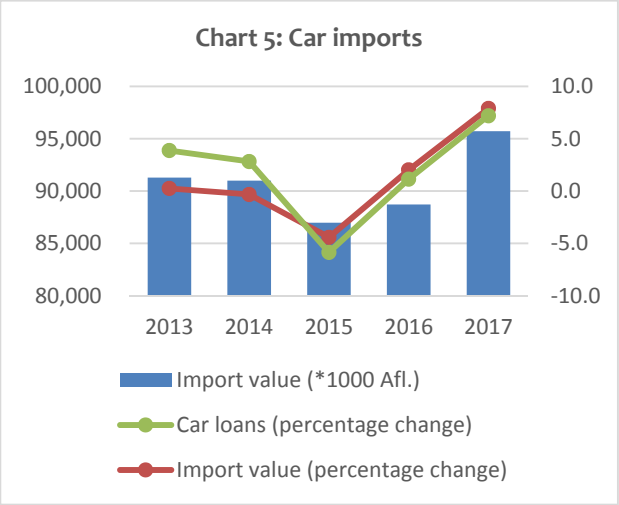
Chart 4: Imports of 'other transportable goods'



Source: Central Bureau of Statistics

The category 'other transportable goods' recorded an increase of Afl. 15.7 million or 4.3 percent for a second consecutive year, reflecting growth in 'transport equipment', 'materials for the manufacture of paper, paperwork', 'works of stone, gypsum, cement, asbestos', and 'various goods and products n.e.s.' The latter is in general classified as 'valuables' and is not part of private consumption (see Chart 4).

All in all, developments in merchandise imports predominantly showed evidence of upward movements in private consumption.



Source: Central Bureau of Statistics, Centrale Bank van Aruba.

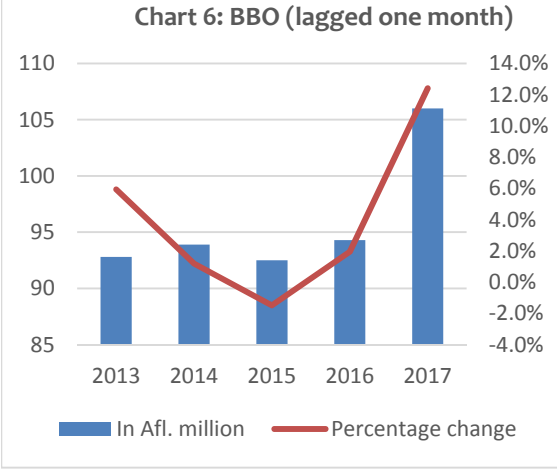
Next, we zoom in on imports of consumer durables, as these comprise goods that are specifically bought by households.[6] We have excluded the imports of these goods by firms. In Table 2, the aggregated data per main category as well as the imports of passenger cars are presented. According to these data, imports of consumer durable goods jumped up by 10.3 percent in 2017, after falling by 4.5 percent in 2016. The growth in 2017 was reflected in all categories, but particularly in the imports of passenger cars. It is noteworthy that the imports of passenger cars surged by 7.9 percent in 2017, while the outstanding amount of car loans dropped by 0.7 percent (see Chart 5). This may have been due to the import of right-hand-drive vehicles, which generally are not financed through the commercial banks.

Table 2: Imports of (selected) consumer durables (in thousands Afl.)

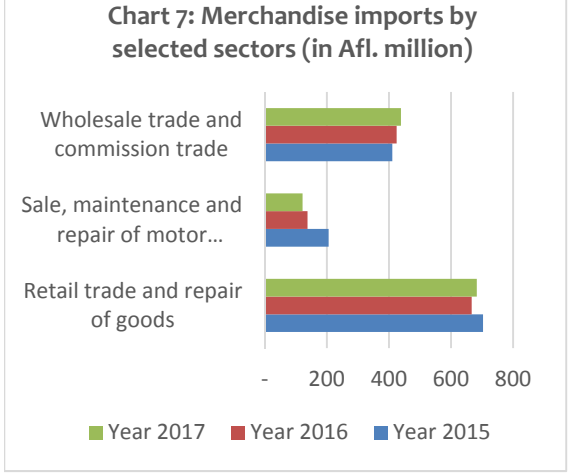
	2013	2014	2015	2016	2017
Household and kitchen appliances [1)]	64,372	57,749	61,441	57,756	61,730
Telephones, sound & television recorders and reproducers [1)]	40,398	45,434	43,224	37,904	42,783
Furniture, mattresses and bedding articles [2)2)]	46,328	47,198	40,793	37,548	42,068
Toys, games and sports equipment [1)]	19,630	19,506	16,824	16,245	19,069
Cars [3)]	91,287	90,992	86,991	89,078	95,727
	262,014	260,878	249,274	238,531	261,378

1) Excluding imports by big companies, Construction, Hotels & Restaurants, Manufacturing.
2) Only imports by 'Real estate, renting & business activities' and individuals.
3) Harmonized commodity group codes 87.03 and 87.04. Excluding imports by big companies, car rentals, Hotels & Restaurants, and the category 'vrijstelling'.

[6] We selected the following products from the merchandise trade statistics of the CBS: 'households and kitchen appliances', 'telephones, sound & television recorders and reproducers', 'furniture, mattresses and bedding articles' and 'toys, games, and sports equipment').



Source: Tax Department.



Source: Central Bureau of Statistics

3.2 *BBO and imports trading sector*

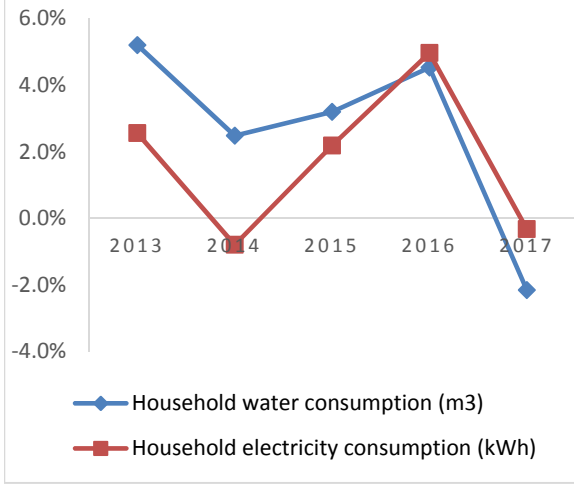
A significant proportion of consumer goods are purchased at supermarkets and other retail stores (almost 38 percent; excluding electricity, water and gas). In the absence of statistics on retail trade, two indicators are used to gauge the advances in retail sales, i.e., BBO and imports by the trade sector, recorded by the Tax Department and the CBS, respectively.

BBO rose by 12.4 percent in 2017, compared to 1.9 percent in 2016, which followed a 1.4 percent increase in 2015 (see Chart 6). The developments in BBO not only reflect private consumption, but also tourism, business and investment activities. However, when the contribution of tourism in BBO is estimated and subsequently excluded, the development does not differ significantly for 2017, i.e., a growth of 12.2 percent. The growth figures for 2015 and 2016 showed a larger variation with a decline of 2.2 percent and an increase of 7.7 percent, respectively. The trend in BBO is impacted also by collection of tax arrears.

Chart 7 shows merchandise imports (excluding free zone) for three selected trade sectors. Imports of these sectors together increased by Afl. 14.1 million or 1.2 percent in 2017, after falling by Afl. 90.9 million or 6.9 percent in 2016.

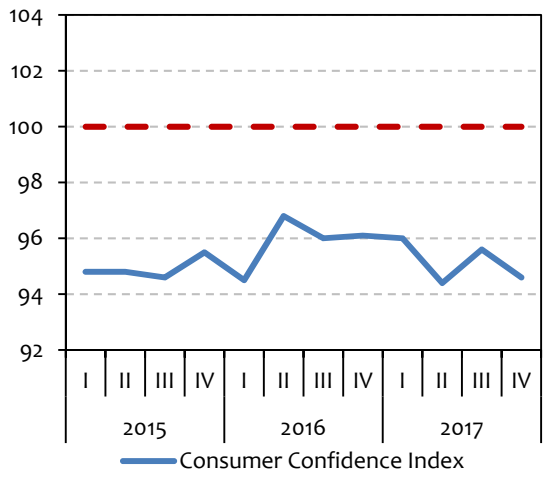
All in all, these retail sales' indicators indicate an increase in retail sales.

Chart 8: Water and electricity consumption (percentage change)



Source: Utilities Aruba N.V.

Chart 9: Consumer Confidence Index



Source: Centrale Bank van Aruba

3.3 *Utilities consumption*

According to Chart 1, utilities (water, electricity and gas) consumption account for about 10 percent of domestically produced private consumption. In this section, we look at water, electricity, and gas consumption.

In 2016, household electricity usage (in kWh) and household water consumption (in m^3) grew by 5.0 percent and 4.5 percent, respectively (see Chart 8). Gas consumption fell by 1.3 percent. When weighing the mentioned changes in the three components (water, electricity, and gas) with their weights in the Consumer Price Index, total utilities consumption rose by 3.6 percent in 2016.

In contrast, in 2017 both electricity use (in kWh) and water consumption (in m^3) by households decreased by 0.3 percent and 2.2 percent, respectively. Meanwhile, gas consumption went up by 3.2 percent. On balance, total utilities consumption fell by 0.9 percent, when taking into account the relative weights.

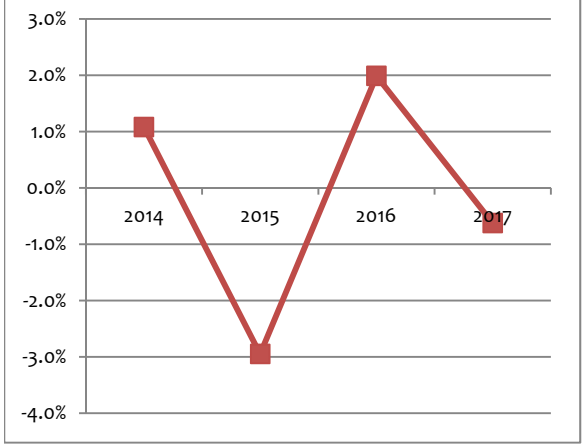
3.4 *Consumer Confidence*

The consumer confidence index shows a mixed picture (see Chart 9). On average, in 2016 the consumers were less negative than in 2015. In 2017, a larger number of respondents perceived a worsening in the expected government financial position and in the (current and expected) business and economic conditions. On the other hand, fewer consumers reported a worsening in their personal financial position. Likewise, fewer respondents indicated an improvement in their personal financial position. Meanwhile, more respondents believed that it would be harder to find a job in 6 months, and thought it would be unsuitable to take out a loan, mortgage or buy a car.

3.5 *Household disposable income, saving and lending*

Other important factors in determining the development of private consumption are disposable net income, saving or dissaving, and credit used by households for consumption purposes. Disposable income consists of wages, net income of unincorporated businesses, net property income, and current transfers received (such as, pension income and tax restitutions). On the other hand, there are some factors that mitigate the income available for consumption, such as social premiums, taxes on wage income, and money sent abroad in the form of remittances. Saving is the part of the disposable income that is not spent on consumption. If consumption exceeds disposable income, there is dissaving or lending. This section describes how these variables developed during the period 2015-2017.

Chart 10: Employment growth
(percentage change)



Source: Directie Arbeid en Onderzoek Labor force surveys 2013-2017

Total *employment* fell by almost 3 percent in 2015, grew the following year and returned to a decline in 2017 (see Chart 10). According to available data, estimated *gross wages* fell by Afl. 46.9 million, then grew by Afl. 30.7 million and fell by Afl. 10.0 million in 2015, 2016 and 2017 respectively.[7]

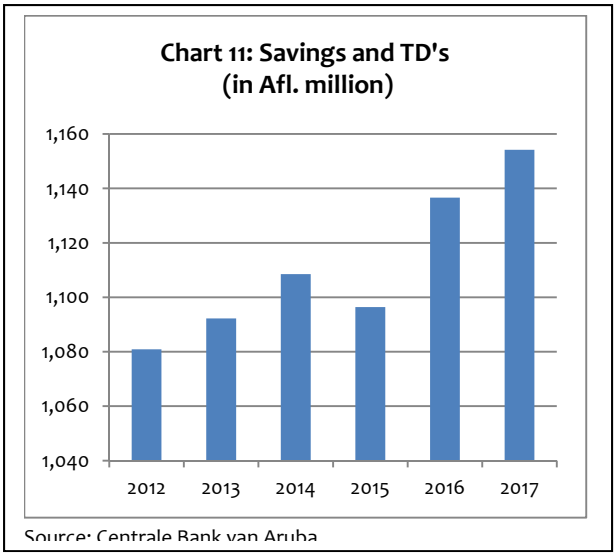
Available data with respect to *current transfers* indicate that, first, restitutions of wage tax and social premiums by the government dropped from Afl. 10.1 million in 2014 to Afl. 3.9 million in 2015. Restitutions turned around in 2016 and grew by Afl. 21.4 million. In addition, balance of payments statistics show that the amount of workers' remittances did not differ significantly between 2015 (Afl. 113.9 million) and 2016 (Afl. 110.8 million), but went up in 2017 (Afl. 124.1 million). Second, pensions paid by the SVB and the APFA increased by, respectively, Afl. 3.2 million and Afl. 7.3 million in 2015. These figures did not change significantly in 2016 with increases by Afl. 3.8 million for SVB pensions and Afl. 2.1 million for APFA pensions. Finally, the AZV collected Afl. 82.8 million in 2015 and Afl. 117.7 million in 2016 on the BAZV.

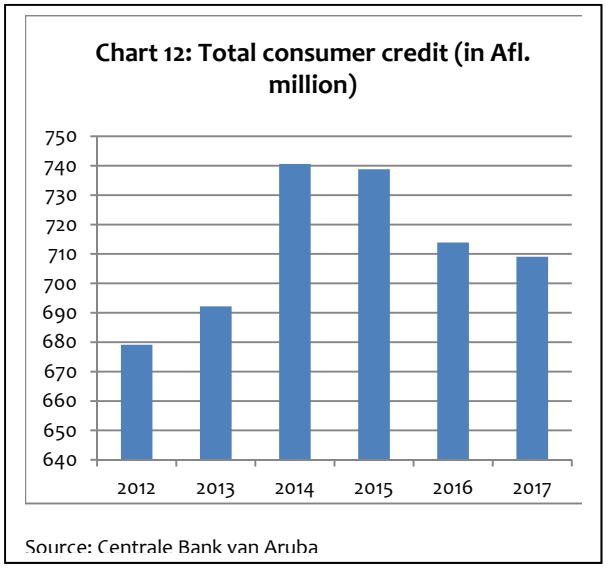
In 2015, the AZV premium was reduced to counter the BAZV. This reduction resulted in an estimated Afl. 15 million made available for consumption (2017 figures not available yet). On balance, the introduction of the BAZV reduced the spending power of consumers in 2015-2017.

[7] Calculated using the 2010 census median monthly wage and the number of employees based on DAO's labor force survey.

In order to determine the development of saving, dissaving, and lending, we look at savings deposits and consumer credit.

The CBA's monetary statistics point out that households returned to relatively higher savings (including interest earned)[8] in 2016 and 2017, after a decline in 2015 (see Chart 11). Additionally, the amount held in demand deposits increased by Afl. 35.3 million in 2016 and Afl. 0.7 million in 2017. Finally, consumer credit has been on a declining path since 2014 (see Chart 12).





On balance, taking into account the aforementioned factors, the estimated disposable income available for consumption shows an increase of Afl. 43.5 million in 2016 and Afl. 34.0 million in 2017 (see Table 3). First, wages contributed positively in 2016 and 2017, while restitutions rebounded in

2016 (at the time of writing, data was not yet available for 2017). Another positive contribution came from pensions paid by the SVB and the APFA. Furthermore, the decrease in the AZV premium added to disposable income by about Afl. 15 million in 2015, whereas the introduction of the health tax in December 2014 and later the increase in the BAZV by 1 percentage point in mid-2015 lowered disposable income in 2015 and 2016. The effect of the introduction of the BAZV on disposable income would have dissolved in 2017. In addition, workers' remittances rebounded strongly in 2017 after falling the year before. It should be noted that this measure of disposable income is not complete, as it does not include net income of unincorporated businesses, while net property income is partially included (i.e., interest earned on saving and time deposit).

Taking into account the development of saving and deposit accounts and of consumer credit, according to our calculations, income, savings, and credit used for consumption fell significantly in 2016 (- Afl. 27.2 million), and declined to a lesser extent in 2017 (-Afl. 19.2 million).

[8] Afl. 16.4 million in 2016 and Afl. 17.0 million in 2017 were earned interest.

Table 3: Estimated changes in components disposable income available for consumption in 2015, 2016 and 2017

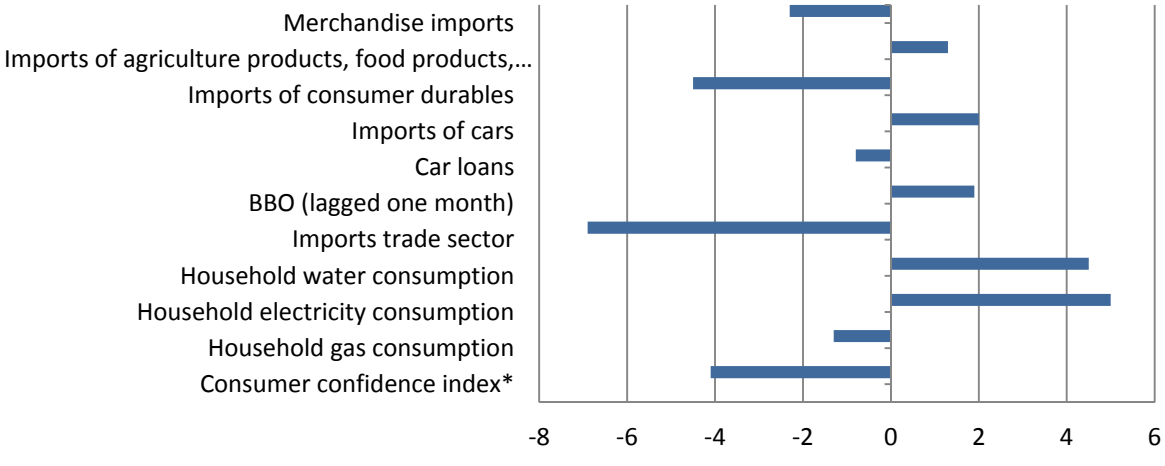
	Change 2015	Change 2016	Change 2017
Wages (change)	-46.9	+30.7	-10
Restitutions	-6.2	17.5	
Pension payments SVB[9]	+3.2	+3.8	+3.8
Pension payments APFA[10]	+7.3	+2.1	+2.1
Decrease AZV premium	+15		
Worker's remittances	-4.6	+2.6	-13.5
minimum wage increase estimation			+2.8
Interest earned on savings and time deposits	+16.6	+16.4	+17.0
Disposable income	-15.6	+73.1	+2
Savings and time deposits	+12.0	-40.1	-17.5
Demand deposits	-17.8	-35.3	+0.7
Net change in consumer credit	-1.8	-24.9	-4.8
Disposable income used for consumption	-23.2	-27.2	-19.2

Source: Authors' calculations.

4. Concluding remarks

In this paper a wide range of indicators of household consumption are reviewed and their development reported for 2016 and 2017, respectively. Most indicators were negative for 2016. Primarily, the disposable income of households used for consumption is estimated to have declined substantially, particularly related to the saving behavior of consumers (see Charts 15 and 16).

Chart 13: Summary indicators of private consumption 2016 (percentage change)



*Average index in 2017 minus 100

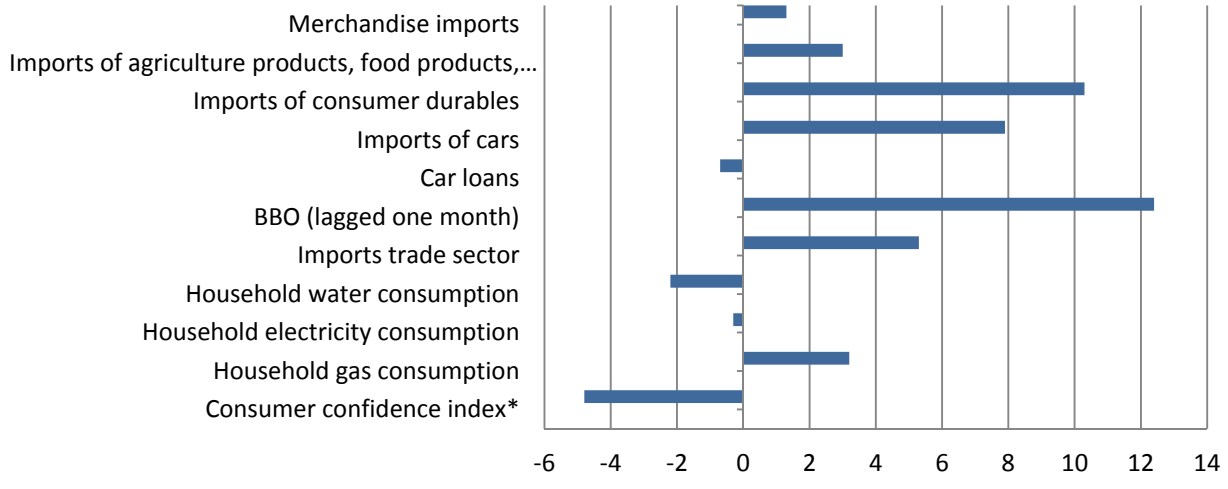
Source: CBA, CBS, Tax Department, Utilities

However, some indicators showed a different picture (see Charts 13 and 14). In particular, the imports of agriculture and food products increased, indicating a pick-up in household consumption.

[9] Taken from the annual report of SVB.
[10] Taken from the APFA annual report.

Meanwhile, household consumption of utilities (water and electricity) also went up, as did BBO revenue, while consumer confidence was less negative but still reflected a pessimistic view of consumers.

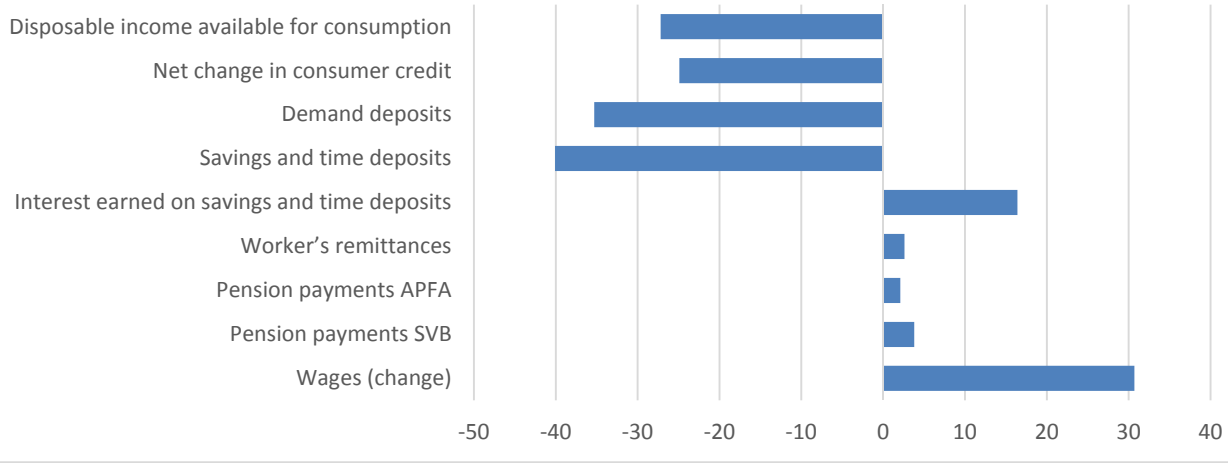
Chart 14: Summary indicators of private consumption 2017 (percentage change)



*: average index in 2017 minus 100.

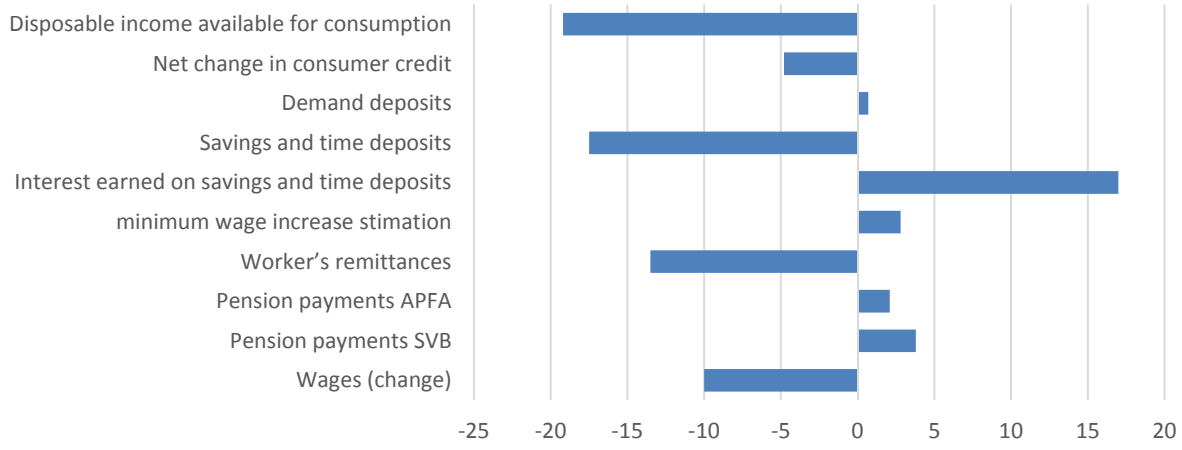
Source: CBA, CBS, Tax Department, Utilities.

Chart 15: Summary of changes in various indicators related to housheold disposable income 2016 (in Afl. million)



Source: CBA, APFA, SVB.

Chart 16: Summary of changes in various indicators related to housheold disposable income 2017 (in Afl. million)



Source: CBA, APFA, SVB.

It is likely that the negative performance in the tourism sector and a deteriorated private investment climate in 2016 had a negative impact on household consumption. The indicators pointing toward an increase in consumption are limited in number. The components of the estimated disposable income suggest that the public decided to save instead of spend in 2016.

Several disposable income indicators for 2017 were also negative with disposable income used for consumption on balance recording a decrease.[11] The main factor for this decline was the development employment, which pulled down the estimated overall income from wages in 2017. On the other hand, other indicators for private consumption were largely positive in 2017. Particulary, BBO receipts, and the imports of consumer durables and cars recorded significant gains.

Recommendations

We conclude that more indicators of consumption are needed. Further efforts should be geared towards setting up a framework for recording point of sale data of credit and debit cards. This data would provide valuable information about the spending patterns of both tourists and, particularly relevant for domestic consumption, residents. The Statistics Department together with the Research Department and the IT Department have already started a project to gather this data through the commercial banks. The project has been temporarily put on hold due to capacity constraints, but should be resumed as soon as resources are available.

Another area where insights into the consumption patterns could be broadened is in car sales data and car imports data. Currently, the CBA receives monthly car sales information from the Aruba Car Dealers Assoaciotion (ACDA). The CBA could work with the ACDA to receive a more detailed breakdown of this

[11] The disposable income used for consumption is calculated by estimating disposable income and subtracting savings and time deposits and the net change in consumer credit.

data, which would give a better view of cars sold to consumers, businesses, and the government. Combined with car imports data received from the CBS, which also includes the import of second hand cars, it should enable us to estimate more acurrately, the purchase of cars by consumers.

Finally, the CBA should aim at reaching a MOU with the Sociale Verzekeringsbank Aruba (SVB), whereby the CBA would receive wage data periodically. This would be very beneficial in estimating private consumption. This would enable the CBA to follow the development of the number of jobs in the economy along with the wages paid, and would be very useful in estimating disposable income.