ONLINE PRICE NOWCASTING BULLETIN

NOVEMBER 2018

ONLINE PRICE NOWCASTING BULLETIN

NOVEMBER 2018

I. Data Coverage

We collect the data on a daily basis, starting from April 2018. Each observation is considered as the price of one item in one day. By the end of November 2018, we have collected daily data of nearly 7 million items, across 50 websites. Data are categorized according to the official Consumer Price Index basket structure, provided by the General Statistics Office of Vietnam.

1. Data coverage, by subcategories

Category	Number of goods	Percentage
Household equipment and appliances	2,292,898	33.01%
Garment, hats and footwear	1,268,839	18.27%
Culture, entertainment and tourism	1,019,761	14.68%
Transportation and communication	535,123	7.70%
Food, foodstuffs and services	160,459	2.31%
Medicine and health-care services	118,882	1.71%
Education	91,211	1.31%
Housing, electricity, water, fuels and building materials	27,602	0.40%
Beverage and tobacco	19,934	0.29%
Other goods and services	1,293,239	18.62%
Not classified	117,774	1.70%
Total	**6,945,722**	**100.00%**

Of the data collected, approximately 33% are categorized as *Household equipment and appliances*. The two groups *Garments, hats and footwear* and *Culture, entertainment and tourism* also account for a large proportion of the data collected (18.27% and 14.68%, respectively). Only 1.7% of the goods collected cannot be classified and are omitted from our statistics.

2. Data coverage, by websites

No.	Websites	Number of goods	Percentage
1	Lazada	5,569,319	80.18%
2	Shopee	281,080	4.05%
3	Adayroi	332,970	4.79%
4	Sendo	230,480	3.31%
5	Vatgia	124,673	1.79%
6	Yes24	107,999	1.55%

7	Tiki	96,656	1.39%
8	Meta	17,471	0.25%
9	Vuivui	15,009	0.21%
10	Chopp	13,237	0.19%
	Others	156,828	2.25%
	Total	**6,945,722**	**100%**

Across 50 websites, *Lazada.vn* accounts for the most number of items (more than 5.5 million items). *Adayroi.com* has the second most number of items (332,970 items). *Shopee.vn* – a market platform that connects buyers and sellers – has 281,080 items (accounts for approximately 4% of all items collected)

II.   Online Price Index

1. Calculation

The Online Price Index (OPI) each week is calculated as:

$$I^t = \sum_{i=1}^{n} W_i \times dp_i^t$$

And for each category i that contains s types of items:

$$dp_i^t = \left(\prod_{j=1}^{s} \frac{p_j^t}{p_j^{t-1}} \right)^{\frac{1}{s}}$$

3. Online price index by subcategories

We calculated the Online Price Index (OPI) for 4 subcategories in the Consumer Price Index (CPI) basket structure: (a) *Food, foodstuffs and related services;* (b) *Garments, hats and footwear;* (c) *Household, equipment and appliance;* and (d) *Culture, entertainment and tourism.* The indexes are aggregated on weekly level, starting from week 14 to week 47 (from April 2nd to November 25th, 2018), where the CPI for week 14 is set as 100. We compares our OPI with the official CPI, provided by the General Statistic Office of Vietnam, from April to November 2018. The CPI are aggregated on a monthly basis, with the index for March is set as 100.
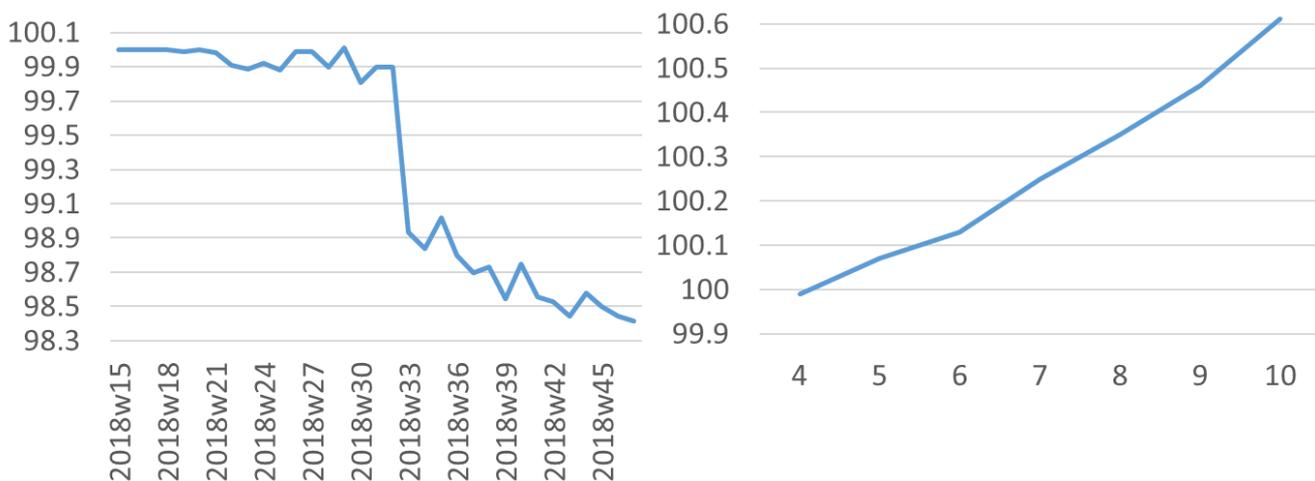
a. Food, Foodstuffs and related services
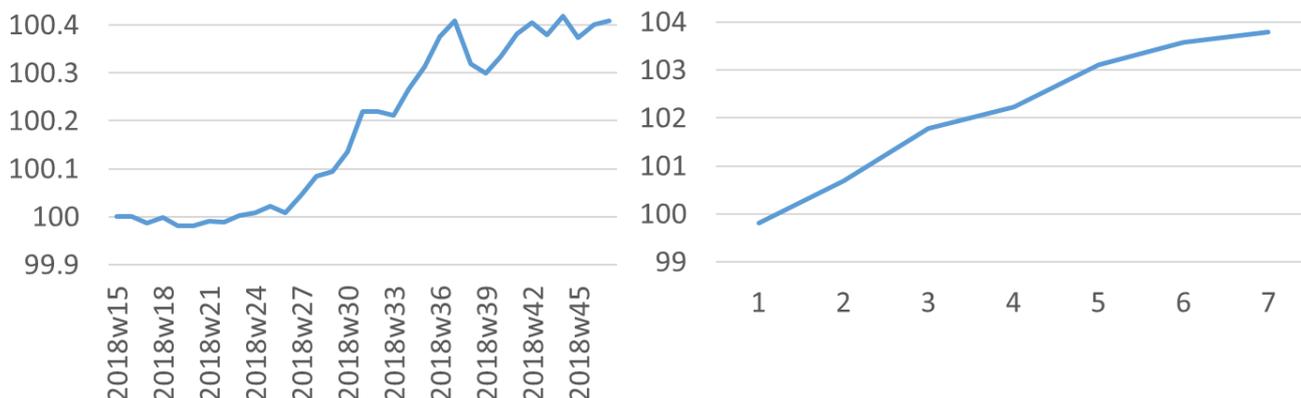
Online Price Index
(week 14=100)

Consumer Price Index
(March = 100)

There are upwards changes in Online Price Index (OPI) for *Food, foodstuffs and related services* during the time span from Week 15, 2018 (from April 9th to April 15th) to week 47 (November 19th to November 25th). This trend is similar to the changes of CPI in *Food, foodstuff and related services* from April to the end of October. The size of changes differs greatly, however. While CPI record a change of nearly 4 percent in from April to October, OPI increases for only 0.4 percent. This shows that posted food prices do increase, but for much less amount than in traditional markets.

### a. Garments, Hats and Footwear

Online Price Index
(week 14=100)

Consumer Price Index
(March = 100)

Unlike the case of *Food, foodstuff and related services*, the OPI of subcategory *Garments, hats and footwear* shows a decrease of 1.5 percent during this period, especially during week 32 (From August 6th to August 12th), when OPI decreased nearly 1 percent. This trend contrasts with equivalent CPI during the same time period, where CPI for this subcategory increase for 0.6 percent. This implies that online sellers' behavior are independent from traditional sellers' pricing.

b. Household Equipment and Appliance

Online Price Index
(week 14=100)

Consumer Price Index
(March = 100)
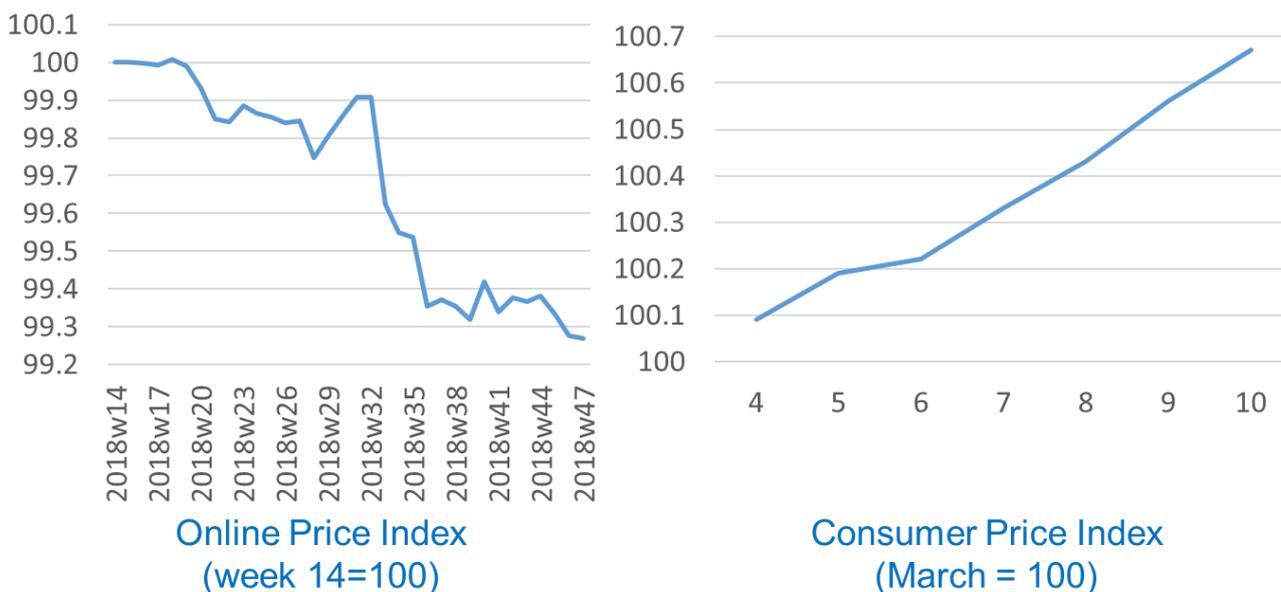
For subcategory *Household equipment and appliance*, OPI decreased approximately 0.7 percent, while and CPI increased for 0.6 percent. OPI for this subcategory briefly increased (nearly 0.02 percent) during the time of week 29 to week 31 (From July 16th to August 5th), then fell heavily in the next two week (from August 6th to August 19th).

c. Culture, Entertainment and Tourism

Online Price Index
(week 14=100)

Consumer Price Index
(March = 100)
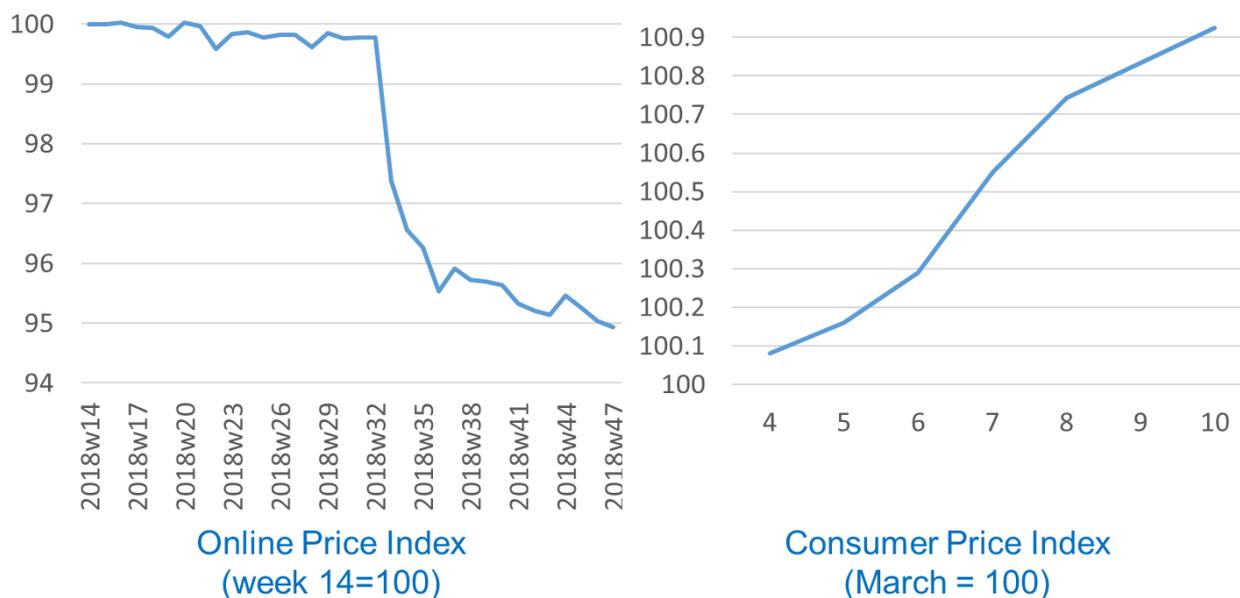
For *Culture, entertainment and tourism*, the results are similar to that of subcategory *Garments, hats and footwear* and *Household equipment and appliance*. OPI for this subcategory gradually decreased in the observed weeks, except for week 32-33 (from August 6th to August 19th), where it dropped approximately 4 percent. On contrary, CPI of the same group slowly increased for a total of 0.8 percent in the same time period.

Appendix A.   Price observation during Black Friday

1.   Data description

Using the data collected, we exanimate the pricing behavior of online sellers during the Black Friday campaign (November 23rd, 2018).

- Time period: 01/11/2018 – 25/11/2018

- 1.355.644 observations/day

- Collected over 20 online commerce websites

4.   Daily Online Price Index across all online platforms (November 1st=100)
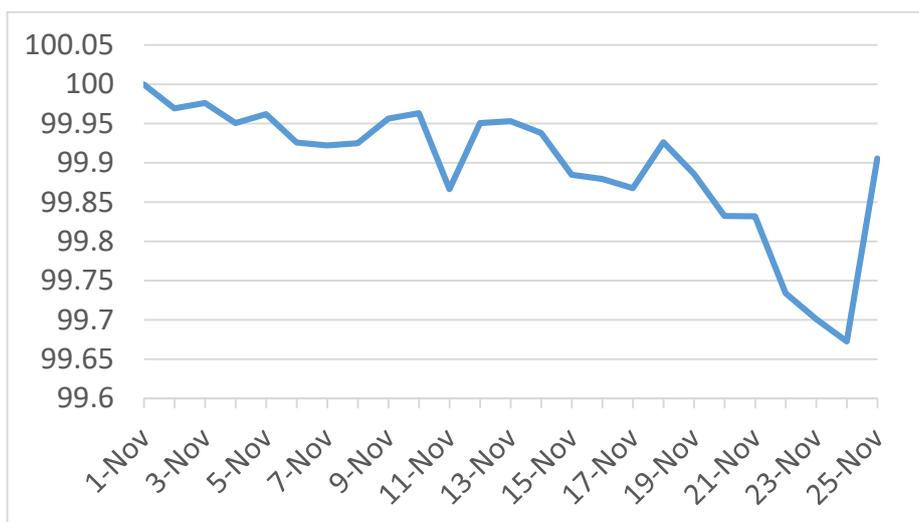

The chart above illustrated the daily Online Price Index during the first 25 days of November. As we can see, online sellers decreased the posted price not only during the day of Black Friday (November 23rd) but for the whole week prior to the campaign day. During this week (from November 18th to November 23rd), prices decreased approximately 0.2 percent. After the day of the campaign, prices quickly rose and are back to the original level on November 25th.

5. Percentage of price changes on online platforms during Black Friday (day on day, %)
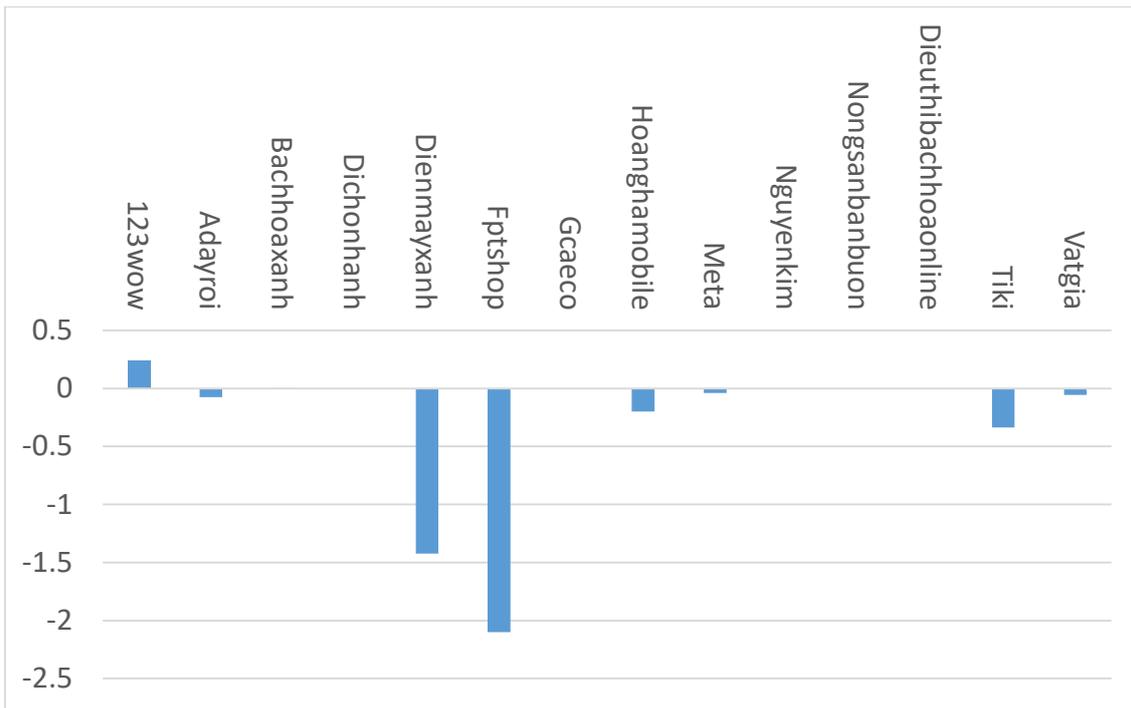
During Black Friday, *Dienmayxanh.com* and *Fptshop.com.vn* are the two websites that mostly reduced their posted prices (by 1.4 percent and 2 percent, respectively). Compare to *Dienmayxanh.com* and *Fptshop.com.vn*, other online sellers put much smaller sales, or did not change prices significantly. By examining the websites and their products, the data imply that smartphones and electronics devices sellers tends to reduce prices the most on Black Friday.

6. Percentage of price changes on online platforms during Black Friday, grouped by commodity subcategories (day on day, %)
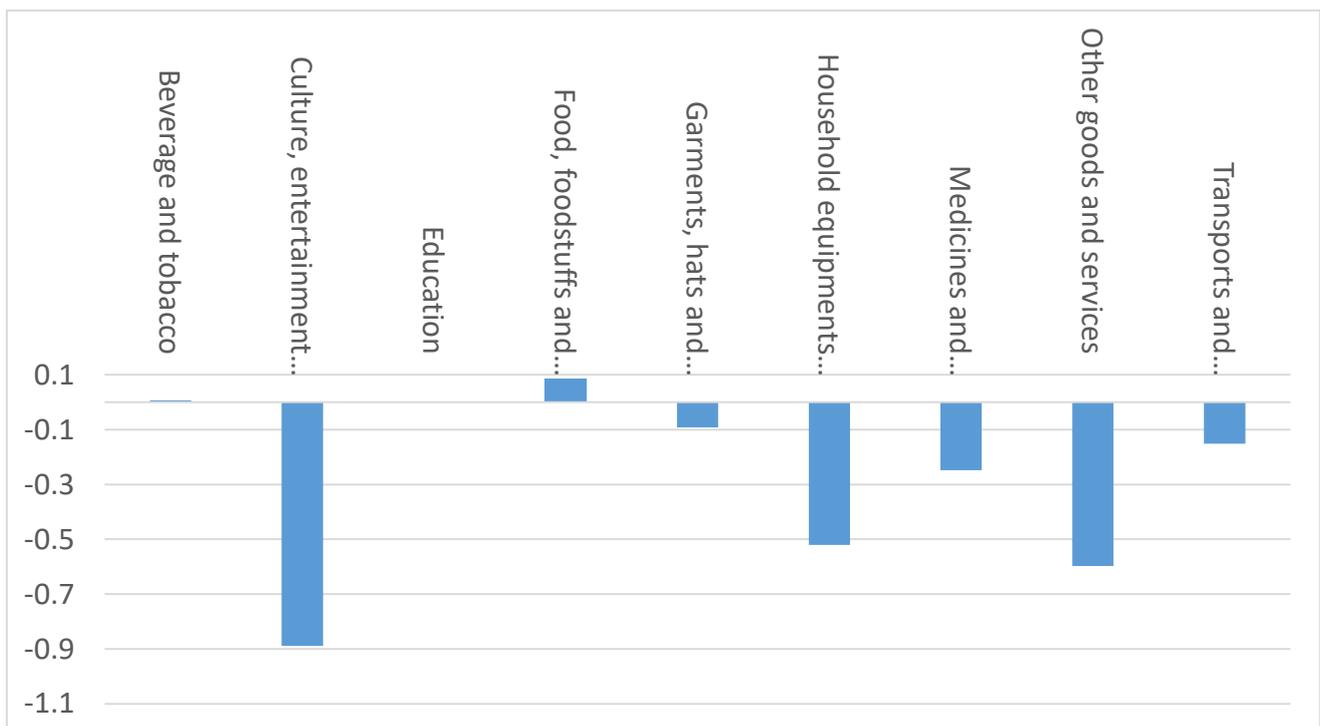
When we group price changes on Black Friday by their commodity groups, *Culture, entertainment and tourism* is the group with the most decrease in prices (approximately 0.9 percent reduction). Other notable group of commodity with price decrease are *Household equipment and appliances* (approx. 0.5 percent prices reduction) and *Other goods and services* (approx. 0.6 percent prices reduction). The group *Education* and *Beverage and tobacco* do not significantly changes their prices. *Food, foodstuff and related services* prices still increase, regardless of the campaign.

VEPR

CÁC BÀI NGHIÊN CỨU KHÁC

VMM18Q4 Viet Nam Quarterly Macroeconomic Report, Quarter 4 - 2018

VMM18Q3 Viet Nam Quarterly Macroeconomic Report, Quarter 3 - 2018

VMM18Q2 Viet Nam Quarterly Macroeconomic Report, Quarter 2 - 2018

PD-07: Evaluation of the Law on Public Debt Management of Vietnam and some Policy Implications

PD-06: Minimum Wages in Viet Nam: Preliminary Observations

PD-05: A brief on impacts of Brexit on the World Economy and Vietnamese Economy

WP-18: Development characteristics of SME sector in Vietnam: Evidence from the Vietnam Enterprise Census 2006-2015

WP-17: The 19th National Congress of the Communist Party of China: Preparation for a New Era