The Vietnam urban food consumption and expenditure study

Factsheet 13: Highlighting behaviours of high-income households in Hanoi

In each preceding factsheet we have presented and discussed results from a survey sample of approximately 1000 households in Ho Chi Minh City, 700 households in Hanoi, 150 households in Lao Cai City and 150 households in Son La City. In this factsheet we introduce a second survey sample, obtained by returning to Hanoi in August 2017 to conduct the same survey but with high-income households only. The second wave of the survey obtained responses from 99 households with a gross monthly income of more than 15 million VND (approximately 673 USD; Table 1).

The oversampling of high-income households was done to provide a more precise estimate of the food expenditure and consumption patterns of the relatively small proportion of the population that is classed as ‘high-income’. Given our objective is to use our survey results to show the behaviour and preferences of households (and individuals) as well as overall patterns in food retail markets it was important that the survey captured and represented households spanning the range of income levels in urban Vietnam. This more accurate information about the behaviours of high-income households is also needed to contribute to forecasts of future changes in the retail landscape as household incomes continue to increase in urban Vietnam.

The results presented in this factsheet are based on the survey responses of 702 Hanoi households in the first wave of the survey combined with the survey responses of the 99 Hanoi households in the second wave of the survey. To include the oversampled high-income households in analyses we calculated sampling weights on the basis of the inverse of the probability of selection, and used these weights to calculate the results presented here.

What foods dominate monthly food expenditures?

Using the responses to questions in the expenditure module of the survey we calculated monthly expenditures for 92 food items. The 92 individual food expenditures values were summed to get total monthly food expenditures for each household. We then calculated expenditure shares for various food items or groups of foods by dividing the expenditures on food items (or groups such as fruit, vegetables, beverages etc.) by the household’s total monthly food expenditure. To address variations in household size and makeup, we ‘weight’ household expenditure by the number of adult male equivalents in the household.

In Factsheet 3 we explored the average share of expenditures dedicated to types of foods as well as changes in expenditure shares on different foods between different income groups. In Factsheet 3 we showed that meat and eggs attracted the largest share of food expenditures followed by vegetables and fruit. We also showed that higher income households had higher relative expenditures on more expensive or higher value food items, such as milk and milk products and some processed foods, compared to less expensive (inferior) food items, e.g. vegetables.

The addition of the 99 high-income households from the second wave of the survey to the sample accentuates these patterns (Figure 1). Households in the high-income group are...
dedicating relatively more of their food expenditures to food consumed away from home, beverages, milk and milk products and fruits and relatively less of their food budget on rice, pulses, nuts and beans, sugar, spices and sauces, oils and fats and vegetables, compared to lower income households (Figure 1). This shift is perhaps due to households ‘dietary upgrading’ and consumption of more convenience/processed foods as incomes increase in urban Vietnam. This is important to understand as although the proportion of the population in the high-income groups remains relatively low (Table 1), incomes are increasing and the proportion of the population in these high-income groups is growing.

Table 1. Share of households in each of the 10 gross monthly income categories and each of the four income groups used in analyses.

<table>
<thead>
<tr>
<th>Household gross monthly income (VND)</th>
<th>Percent of households in each income category#</th>
<th>Income groups (used in analyses)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First wave (n=702)</td>
<td>First &amp; second wave (n=801)</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>&lt; 1.5 million</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1.5 to 3 million</td>
<td>0.14</td>
<td>0.12</td>
</tr>
<tr>
<td>3 to 4.5 million</td>
<td>6.55</td>
<td>5.74</td>
</tr>
<tr>
<td>4.5 to 7.5 million</td>
<td>32.05</td>
<td>28.09</td>
</tr>
<tr>
<td>7.5 to 15 million</td>
<td>40.60</td>
<td>35.58</td>
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<tr>
<td>15 to 30 million</td>
<td>18.95</td>
<td>19.73</td>
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<tr>
<td>30 to 45 million</td>
<td>1.57</td>
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<td>45 to 75 million</td>
<td>0.00</td>
<td>3.12</td>
</tr>
<tr>
<td>75 to 150 million</td>
<td>0.14</td>
<td>3.25</td>
</tr>
<tr>
<td>&gt;150 million</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Where do consumers shop?

As well as a shift in the types of foods purchased, we also see a shift in shopping behaviours as incomes increase. As shown in Factsheet 4 the share of food expenditures spent at modern retail outlets such as supermarkets, minimarts, specialty stores, online shopping and phone orders increases as incomes increase. However, traditional outlets (such as wet markets) still account for the largest share of urban Vietnamese households’ monthly food expenditures.

Focussing on the combined sample from the first and second wave of the survey, the share of food expenditures at all types of modern outlets increased as incomes increased. The low-income group made 5% of their monthly food expenditures at modern outlets whereas the high-income group made 30% of food expenditures at modern outlets (Figure 2).

Excluding the additional high-income households from the sample the high-income group spent 16% of expenditures at modern outlets (Factsheet 4). This difference between the two samples could be attributed to a number of factors. Firstly, the high-income group in the second wave of the survey included more households at the upper end of the high-income group, e.g. gross monthly income of more than 30 million VND relative to the high-income group in the first round of the survey (Table 1). Secondly, although the proportion of the sample in the high-income group from the first round of the survey was representative of the population, the sample size was smaller (21% of the sample) than when the results of both waves were combined (30% of the sample). By increasing the sample size in the high-income group our results (Figure 3) may be more representative of the behaviours of high-income households.
As income growth is expected to continue, the share of food expenditures at modern retail outlets may continue to increase. Following this, potential changes in food retailing could threaten smallholder farmers’ market access if they are selling agricultural products through traditional markets.

Where do consumers buy different food items?
Factsheet 5 analysed where consumers purchase various types of food products in each of the four Vietnamese cities (Hanoi, Ho Chi Minh City, Lao Cai City and Son La City). In this factsheet we use the combined survey sample from the first wave and second wave of the survey to explore patterns in where households purchase different foods across income groups (Figure 3).

Regardless of income, the items most commonly purchased from modern outlets include: milk and milk products, beverages, sugar, spices and sauces, and processed food. However, the share of expenditures (on all food groups) made at modern outlets increases with income (Figure 3). For instance, households in the high-income group make a greater share of food expenditures at modern outlets, especially from supermarkets, compared to households in lower income groups. Reasons for this could include those discussed in Factsheet 6: food products sold at these outlets are perceived to be ‘of high quality’ and ‘safe to eat’. This behaviour may indicate that households in the high-income group are more concerned about these attributes (or have greater capacity to pay a premium for these products) and take this into consideration when choosing an outlet to buy certain foods.

Figure 1. Share (%) of food expenditure per adult male equivalent on different food types by income groups in Hanoi, Vietnam. See the tables in the appendix for breakdown of income groups and percentages of expenditure graphed here.
Figure 2. Share (%) of food expenditure per adult male equivalent at different food outlets by income groups in Hanoi, Vietnam. Blue shading is used to depict modern retail outlets and traditional retail outlets are indicated by neutral shading. The ‘Other’ category includes restaurants, hotels, cafes, bars, etc. See the tables in the appendix for breakdown of income groups and percentages of expenditure graphed here.

Figure 3 also shows that the share of expenditures on milk and milk products and oils and fats at modern retail outlets increases from less than 15% in the low-income group to more than 45% in the high-income group. On the other hand, meat and eggs, vegetables, fruit and rice are largely acquired from traditional markets regardless of income. One of the reasons for this could be that households prefer shopping for fresh meat, fish and seafood, fruit and vegetables at traditional outlets, mainly wet markets, because these outlets offer ‘food products that are fresh’, ‘low and flexible prices’. These reasons as well as more perceptions of retail outlets and motivations to shop at different outlets are presented in Factsheet 6.

It is worth noting an increase in the share of expenditures on beverages and food consumed away from home at minimarts and specialty shops as incomes increase. This result may reflect a misunderstanding of the difference between minimarts and specialty stores. That is because in the survey, specialty stores were defined as ‘small sized shops with clear external billboards signaling the offer of certified safe vegetables’. Perhaps for this purpose, it could be appropriate to combine the percentage of expenditures directed to the two outlets for all food groups, except vegetable expenditures.
Figure 3. Average percent of monthly food expenditure on different food types by outlet and income groups in Hanoi, Vietnam. Blue shading is used to depict modern retail outlets and traditional retail outlets are indicated by neutral shading. The ‘Other’ category includes restaurants, hotels, cafes, bars, etc. See the tables in the appendix for breakdown of income groups and percentages of expenditure graphed here.
Food safety drives Hanoi consumers’ food purchase decisions across income groups

In the survey, households were asked to indicate which (of 22 options) was the most important factor influencing their decision to buy food. A comparison of relative frequencies of the most commonly chosen factors by households in different income groups is presented in Figure 4.

Quality attributes such as **food safety**, **freshness** and **nutritional content** were the most commonly nominated as influencing households’ decisions to buy food across all income groups. However, freshness, nutritional content and origin did become more important as household income increased. Surprisingly, **diversity** and **production method** were nominated by relatively more households in the low-income group than the higher income groups (Figure 4).

The same question was asked again, but with a specific focus on six vegetables (cabbage, tomato, broccoli, water spinach, susu leaves and cai meo), four fruits (mango, plum, pear and peach) and four meats (shrimp, chicken, beef and pork).

The top ten most important factors chosen by households did not differ significantly between the three food groups (Figure 5). Overall, consumers in each of the income groups consider **food safety** as the main factor affecting their decisions to purchase these products. **Freshness** in the second most important reason, but not in all cases. For instance, **origin** is the second most nominated attribute considered by households (from all income groups) when buying fruit. This may reflect that the selected fruits have short growing seasons or relative small levels of local supply and/or are frequently imported from other countries.

<table>
<thead>
<tr>
<th>Factors influencing purchase on food</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food safety</td>
<td>57.4%</td>
<td>65.8%</td>
<td>52.5%</td>
<td>62.3%</td>
</tr>
<tr>
<td>Freshness</td>
<td>10.6%</td>
<td>10.0%</td>
<td>14.2%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>6.4%</td>
<td>8.2%</td>
<td>8.9%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>6.4%</td>
<td>2.3%</td>
<td>5.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Taste</td>
<td>4.3%</td>
<td>0.9%</td>
<td>7.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Price</td>
<td>2.1%</td>
<td>0.9%</td>
<td>0.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>2.1%</td>
<td>5.5%</td>
<td>7.4%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Diversity</td>
<td>8.5%</td>
<td>4.6%</td>
<td>2.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
<td>2.1%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Colour</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.9%</td>
<td>0.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*Figure 4. Share (%) of households that nominated the listed factors as important in purchase decisions for food in general in Hanoi (n=792), Vietnam. See Table 1 and A5 in the appendix for breakdown of income groups and percentages of expenditure graphed here as well as a breakdown of the factors included in the ‘others’ category.*
### Factors influencing choice in to buy

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food safety</td>
<td>41.8%</td>
<td>45.7%</td>
<td>38.8%</td>
<td>42.6%</td>
</tr>
<tr>
<td>Freshness</td>
<td>25.2%</td>
<td>22.8%</td>
<td>20.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>6.0%</td>
<td>10.2%</td>
<td>10.2%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>9.6%</td>
<td>5.8%</td>
<td>9.9%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Taste</td>
<td>4.3%</td>
<td>4.3%</td>
<td>7.3%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Price</td>
<td>1.8%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>6.4%</td>
<td>4.5%</td>
<td>6.4%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Diversity</td>
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<td>0.4%</td>
<td>0.6%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.4%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
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<td>0.3%</td>
<td>0.2%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Colour</td>
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<td>0.0%</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>3.5%</td>
<td>1.0%</td>
<td>0.7%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Never purchased this item</td>
<td>0.0%</td>
<td>3.8%</td>
<td>3.4%</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Fruit</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
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<td>31.6%</td>
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<tr>
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<td>11.7%</td>
<td>15.1%</td>
<td>12.4%</td>
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</tr>
<tr>
<td>Nutritional content</td>
<td>5.3%</td>
<td>6.6%</td>
<td>8.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>3.2%</td>
<td>1.7%</td>
<td>1.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Taste</td>
<td>11.7%</td>
<td>13.1%</td>
<td>18.5%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Price</td>
<td>2.7%</td>
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<td>1.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
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<td>19.1%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Diversity</td>
<td>1.6%</td>
<td>1.1%</td>
<td>2.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Brand</td>
<td>1.6%</td>
<td>0.9%</td>
<td>2.3%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
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<td>0.1%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Colour</td>
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<td>0.3%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Never purchased this item</td>
<td>0.0%</td>
<td>0.9%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
<tr>
<td><strong>Meat</strong></td>
<td></td>
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</tr>
<tr>
<td>Food safety</td>
<td>53.2%</td>
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<td>38.5%</td>
<td>45.6%</td>
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<tr>
<td>Freshness</td>
<td>14.9%</td>
<td>18.9%</td>
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<td>18.0%</td>
</tr>
<tr>
<td>Nutritional content</td>
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<td>12.6%</td>
<td>21.5%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>7.4%</td>
<td>5.1%</td>
<td>6.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Taste</td>
<td>3.7%</td>
<td>7.0%</td>
<td>5.5%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Price</td>
<td>3.7%</td>
<td>1.3%</td>
<td>2.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>5.3%</td>
<td>7.2%</td>
<td>8.1%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Diversity</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.5%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
<td>0.5%</td>
<td>0.2%</td>
<td>0.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Colour</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>1.1%</td>
<td>0.7%</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Never purchased this item</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**Figure 5.** Share (%) of households that nominated the listed factors as important in purchase decisions for selected vegetables, fruit and meat by income group in Hanoi (n=792), Vietnam. See Table 1 for breakdown of income groups and A6 and A7 in the appendix for a breakdown of percentages of expenditure graphed here as well as a breakdown of the factors included in the ‘others’ category. Notes: ¹Percentages are an average of responses across selected vegetables: cabbage, cai meo, susu leaves, tomato and water spinach. ²Percentages are an average of responses across selected fruits: mango peach, pear and plum. ³Percentages are an average of responses across selected meats: beef, chicken, pork and shrimp.
Appendix to Factsheet 13
Definitions and percentages used to generate graphs

Definitions of outlets

- **Hypermarkets and Supermarkets** (examples include Metro, Big C, Fivi Mart, Unimart, AC Mart).
- **Minimart** or convenience store (examples include 7-Eleven, Vinmart, Shop & Go, Circle K).
- **Specialty shops**: small sized shops with clear external billboards signalling the offer of certified safe, clean or organic vegetables (examples include Bac Tom, Big Green and Klever Fruit).
- **Online**: customers order food online and have their order delivered or prepared for collection.
- **Phone order**: customers order food over the phone and have their order delivered or prepared for collection.
- **Formal wet market**: a market formally established by the authorities.
- **Traditional family shop**: a small food shop run by a household that commonly sells processed foods and beverages.
- **A semi-permanent stand**: a retailer selling from a table, stand, cart, or stall that can be moved, but generally stays in one place during the day.
- **Informal street markets**: retailers sell to the public without having a permanent structure for the market.
- **Peddlers/mobile street vendors**: a retailer operating on foot, on a bicycle, or from a pick-up and sells both food and non-food items.

Table A1. Foods in different food groups used in analyses

<table>
<thead>
<tr>
<th>Food category</th>
<th>Types of foods included in category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>Rice</td>
</tr>
<tr>
<td>Food consumed away from home</td>
<td>Food and beverages consumed away from home</td>
</tr>
<tr>
<td>Vegetables</td>
<td>All fresh, frozen, dried and canned vegetables</td>
</tr>
<tr>
<td>Meat and eggs</td>
<td>Fresh pork, fresh fish and seafood, fresh chicken, fresh beef, fresh duck, fresh lamb, fresh mutton,</td>
</tr>
<tr>
<td></td>
<td>fresh veal, processed meat, dried meat, eggs</td>
</tr>
<tr>
<td>Pulses, nuts and beans</td>
<td>Beans (e.g. kidney, soya beans), pulses, nuts, tofu</td>
</tr>
<tr>
<td>Fruit</td>
<td>All fresh, frozen, dried and canned fruit</td>
</tr>
<tr>
<td>Processed cereals</td>
<td>Maize products, other grains and flour, pasta, noodles, bread, breakfast cereals</td>
</tr>
<tr>
<td>Sugar, spices and sauces</td>
<td>Sugar and sweeteners, salt, soya sauce, monosodium glutamate, chilli sauce, other sauces, spices and</td>
</tr>
<tr>
<td></td>
<td>seasonings (e.g. pepper, coriander, etc.)</td>
</tr>
<tr>
<td>Beverages</td>
<td>Bottled water, tea, coffee, fruit juice, soft drinks, alcoholic beverages, herbal drinks, infant formula,</td>
</tr>
<tr>
<td></td>
<td>nutrition drinks, vitamin drinks</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>Coconut oil, palm oil, lard oil, other cooking oils, coconut milk, fats, butter, margarine</td>
</tr>
<tr>
<td>Processed food</td>
<td>Instant noodles, cakes, biscuits, pastries, chocolate bars, ready-to-eat meals, quick prepare meals,</td>
</tr>
<tr>
<td></td>
<td>potato crisps and other snall food</td>
</tr>
<tr>
<td>Milk and milk products</td>
<td>Fresh, powdered, UHT and canned milk, other dairy products (e.g. cheese, cream, yoghurt, etc.)</td>
</tr>
</tbody>
</table>
Table A2. Percent of monthly food expenditure for each adult male equivalent on different food types by income groups in Hanoi, Vietnam.

<table>
<thead>
<tr>
<th>Foods</th>
<th>Low-income</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>7.1%</td>
<td>6.7%</td>
<td>5.9%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Processed cereals</td>
<td>2.5%</td>
<td>2.5%</td>
<td>2.4%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Pulses, nuts and beans</td>
<td>2.9%</td>
<td>2.4%</td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>1.8%</td>
<td>1.6%</td>
<td>1.5%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Sugar, spices and sauces</td>
<td>2.8%</td>
<td>2.5%</td>
<td>2.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>12.5%</td>
<td>10.8%</td>
<td>9.8%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Fruit</td>
<td>10.0%</td>
<td>8.6%</td>
<td>9.0%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Meat and eggs</td>
<td>38.8%</td>
<td>39.9%</td>
<td>39.1%</td>
<td>37.9%</td>
</tr>
<tr>
<td>Milk and milk products</td>
<td>4.0%</td>
<td>6.7%</td>
<td>7.4%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Beverages</td>
<td>6.1%</td>
<td>5.4%</td>
<td>7.1%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Processed foods</td>
<td>7.2%</td>
<td>7.1%</td>
<td>7.2%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Food consumed away from home</td>
<td>4.5%</td>
<td>5.9%</td>
<td>6.4%</td>
<td>8.4%</td>
</tr>
</tbody>
</table>

Note: Income groups are defined in Table 1.

Table A3. Share (%) of food expenditure per adult male equivalent at different outlets by income groups in Hanoi, Vietnam.

<table>
<thead>
<tr>
<th>Outlets</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket or hypermarket</td>
<td>2.3%</td>
<td>7.2%</td>
<td>7.3%</td>
<td>23.0%</td>
</tr>
<tr>
<td>Minimart</td>
<td>1.3%</td>
<td>1.6%</td>
<td>1.6%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Specialty shop</td>
<td>1.2%</td>
<td>0.9%</td>
<td>2.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Online shopping</td>
<td>0.2%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Phone order</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Formal wet market</td>
<td>24.3%</td>
<td>30.1%</td>
<td>30.2%</td>
<td>25.7%</td>
</tr>
<tr>
<td>Traditional family shop</td>
<td>12.9%</td>
<td>14.0%</td>
<td>12.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Semi-permanent stand</td>
<td>26.1%</td>
<td>22.8%</td>
<td>22.5%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Informal street market</td>
<td>25.9%</td>
<td>18.5%</td>
<td>16.1%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Peddlers</td>
<td>3.0%</td>
<td>2.0%</td>
<td>2.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
<td>2.9%</td>
<td>2.8%</td>
<td>5.3%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Note: Hypermarkets/supermarkets, minimarts (convenience stores), specialty stores, online shopping and phone orders are considered modern retail outlets; whereas the remaining outlets are considered traditional outlets. The ‘Other’ category includes restaurants, hotels, cafes, bars, etc. Income groups are defined in Table 1.
Table A4. Monthly food expenditure (thousands VND) for each adult male equivalent on different food types by income groups in Hanoi, Vietnam.

<table>
<thead>
<tr>
<th>Foods</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>103.34</td>
<td>111.73</td>
<td>105.33</td>
<td>136.93</td>
</tr>
<tr>
<td>Processed cereals</td>
<td>37.13</td>
<td>41.20</td>
<td>42.43</td>
<td>57.52</td>
</tr>
<tr>
<td>Pulses, nuts and beans</td>
<td>41.78</td>
<td>39.27</td>
<td>36.26</td>
<td>57.14</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>26.70</td>
<td>27.11</td>
<td>27.08</td>
<td>38.95</td>
</tr>
<tr>
<td>Sugar, spices and sauces</td>
<td>40.72</td>
<td>40.93</td>
<td>39.61</td>
<td>50.30</td>
</tr>
<tr>
<td>Vegetables</td>
<td>182.89</td>
<td>180.37</td>
<td>176.16</td>
<td>228.33</td>
</tr>
<tr>
<td>Fruit</td>
<td>145.77</td>
<td>142.81</td>
<td>161.13</td>
<td>338.46</td>
</tr>
<tr>
<td>Meat and eggs</td>
<td>567.64</td>
<td>664.15</td>
<td>701.20</td>
<td>1095.69</td>
</tr>
<tr>
<td>Milk and milk products</td>
<td>58.05</td>
<td>111.19</td>
<td>131.85</td>
<td>227.85</td>
</tr>
<tr>
<td>Beverages</td>
<td>88.76</td>
<td>90.33</td>
<td>127.70</td>
<td>219.75</td>
</tr>
<tr>
<td>Processed foods</td>
<td>105.06</td>
<td>117.92</td>
<td>129.93</td>
<td>199.91</td>
</tr>
<tr>
<td>Food consumed away from home</td>
<td>66.57</td>
<td>98.00</td>
<td>114.71</td>
<td>243.50</td>
</tr>
</tbody>
</table>

Note: Income groups are defined in Table 1.
Table A5. Share (%) of households that nominated the listed factors as important in purchase decisions for food in general in Hanoi (n=792), Vietnam.

<table>
<thead>
<tr>
<th>Factors influencing purchase</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food safety</td>
<td>57.4%</td>
<td>65.8%</td>
<td>52.5%</td>
<td>62.3%</td>
</tr>
<tr>
<td>Freshness</td>
<td>10.6%</td>
<td>10.0%</td>
<td>14.2%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>6.4%</td>
<td>8.2%</td>
<td>8.9%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>6.4%</td>
<td>2.3%</td>
<td>5.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Taste</td>
<td>4.3%</td>
<td>0.9%</td>
<td>7.8%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Price</td>
<td>2.1%</td>
<td>0.9%</td>
<td>0.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>2.1%</td>
<td>5.5%</td>
<td>7.4%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Diversity</td>
<td>8.5%</td>
<td>4.6%</td>
<td>2.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
<td>2.1%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Grade, Class</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Firmness/texture</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Expiry date</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Appearance</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Colour</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.9%</td>
<td>0.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Variety</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Package size</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other labelling info</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Note: Income groups are defined in Table 1.
Table A6. Share (%) of households that nominated the listed factors as important in choice decisions for selected vegetables¹ and fruits² by income group in Hanoi (n=792), Vietnam.

<table>
<thead>
<tr>
<th>Factors influencing choice</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetables</strong>¹</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food safety</td>
<td>41.8%</td>
<td>45.7%</td>
<td>38.8%</td>
<td>42.6%</td>
</tr>
<tr>
<td>Freshness</td>
<td>25.2%</td>
<td>22.8%</td>
<td>20.9%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>6.0%</td>
<td>10.2%</td>
<td>10.2%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>9.6%</td>
<td>5.8%</td>
<td>9.9%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Taste</td>
<td>4.3%</td>
<td>4.3%</td>
<td>7.3%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Price</td>
<td>1.8%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>6.4%</td>
<td>4.5%</td>
<td>6.4%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Diversity</td>
<td>0.0%</td>
<td>0.4%</td>
<td>0.6%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.4%</td>
<td>0.8%</td>
<td>1.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
<td>1.1%</td>
<td>0.3%</td>
<td>0.2%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Grade, Class</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Firmness/texture</td>
<td>0.0%</td>
<td>0.8%</td>
<td>0.4%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Expiry date</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Appearance</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Colour</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Variety</td>
<td>0.7%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Package size</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other labelling info</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>2.8%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Never purchased this item</td>
<td>0.0%</td>
<td>3.8%</td>
<td>3.4%</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Fruit</strong>²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food safety</td>
<td>45.2%</td>
<td>41.6%</td>
<td>31.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td>Freshness</td>
<td>11.7%</td>
<td>15.1%</td>
<td>12.4%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>5.3%</td>
<td>6.6%</td>
<td>8.1%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>3.2%</td>
<td>1.7%</td>
<td>1.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Taste</td>
<td>11.7%</td>
<td>13.1%</td>
<td>18.5%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Price</td>
<td>2.7%</td>
<td>0.7%</td>
<td>1.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>17.0%</td>
<td>16.6%</td>
<td>19.1%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Diversity</td>
<td>1.6%</td>
<td>1.1%</td>
<td>2.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Brand</td>
<td>1.6%</td>
<td>0.9%</td>
<td>2.3%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Production method (e.g. organic)</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Grade, Class</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Firmness/texture</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Expiry date</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Appearance</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Colour</td>
<td>0.0%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Smell</td>
<td>0.0%</td>
<td>0.1%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Variety</td>
<td>0.0%</td>
<td>0.7%</td>
<td>0.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Package size</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other labelling info</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Never purchased this item</td>
<td>0.0%</td>
<td>0.9%</td>
<td>0.6%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

Notes: ¹Selected vegetables (broccoli, cabbage, cai meo, susu leaves, tomatoes and water spinach). ²Selected fruits (mango, pear, peach and plum). Income groups are defined in Table 1.
Table A7. Share (%) of households that nominated the listed factors as important in choice decisions for selected meat\(^1\) by income group in Hanoi (n=792), Vietnam.

<table>
<thead>
<tr>
<th>Factors influencing choice</th>
<th>Low</th>
<th>Low-Middle</th>
<th>Middle-High</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food safety</td>
<td>53.2%</td>
<td>46.8%</td>
<td>38.5%</td>
<td>45.6%</td>
</tr>
<tr>
<td>Freshness</td>
<td>14.9%</td>
<td>18.9%</td>
<td>15.1%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Nutritional content</td>
<td>10.1%</td>
<td>12.6%</td>
<td>21.5%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Easy to prepare</td>
<td>7.4%</td>
<td>5.1%</td>
<td>6.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Taste</td>
<td>3.7%</td>
<td>7.0%</td>
<td>5.5%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Price</td>
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<td>2.7%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Origin (country or region)</td>
<td>5.3%</td>
<td>7.2%</td>
<td>8.1%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Diversity</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.5%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Brand</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.2%</td>
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</tr>
<tr>
<td>Production method (e.g. organic)</td>
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<td>0.2%</td>
<td>0.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Grade, Class</td>
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<td>0.0%</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Firmness/texture</td>
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<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Expiry date</td>
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</tr>
<tr>
<td>Appearance</td>
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</tr>
<tr>
<td>Colour</td>
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<tr>
<td>Smell</td>
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</tr>
<tr>
<td>Variety</td>
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<td>Package size</td>
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</tr>
<tr>
<td>Other labelling info</td>
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<td>0.1%</td>
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<tr>
<td>Other</td>
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</tr>
<tr>
<td>Never purchased this item</td>
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<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Notes: \(^1\)Selected meat (beef, chicken, pork and shrimp). Income groups are defined in Table 1.