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Original Research Article

Consumer Attitude towards Preserved Food in Rural and Urban Areas of Fayoum, Egypt

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Abstract: As the food preservation industry is considered one of the most important food industries in Egypt with relative importance equal to 21.27% of the total cumulative number of establishments and relative importance of 20.37% of the total value of industrial production. It's essential to understand the consumption patterns for each preserved food category and each population category. This article aims at identifying the consumption patterns of preserved food in the rural and urban areas of Fayoum Governorate and what are the consumers' attitudes towards it. A survey was designed and data collected by one-on-one interviews with a sample of 200 households, 100 from each area. Data tabulated and analyzed using simple statistical approaches. It's found that the majority of consumers allocates 15%-30% of their incomes to purchased preserved food. Households including working-women are buying more preserved food. In urban areas, consumers tend to buy more canned and frozen food than those in rural areas. It's also found that preserved meat, chicken and fish are demanded less than other canned and frozen food. The great majority of consumers in both areas tend to shape their preferences based on taste as a first priority. Other preferences such as packaging and labeling for each food group vary between rural and urban areas.

Keywords: Consumption patterns, consumer attitudes, consumer preferences, preserved food, frozen food, canned food, Fayoum.

I. INTRODUCTION

Food is an essential pillar in peoples' lives, as it is one of the most important elements for survival. Preserved food is becoming popular for use around the world and humanity has used several methods of preserving food since ancient times. According to Riddervold and Ropeid (1988), these methods were primitive and did not achieve the goal except to a limited degree. However, they are considered the base for the development that has been reached at the present time. The nineteenth century is considered the starting point for this aspect as scientists began to invade this field and reveal various spoilage factors and means of treating and eliminating them over time (Alhaddad, 1976).

Over time; the share of processed and preserved food products in the total world food consumption increased. Parallel to this increase; diversified products have been introduced and considered as progress indicator not only in the agricultural sector but also in other sectors according to the Arab Organization of Agricultural Development (2000). It has also been considered as a good indicator for proper nutrition in a country in which it is produced. Hence, preserved food is consumed in large proportions in developed societies and less proportions in developing societies. The food preservation industry is, also, achieving economic purpose of promoting, developing, and enhancing the horticultural sector where the excess production of vegetables and fruits are processed and packed into non-perishable products and thus extend their consumption season throughout the year. This process increases the benefit of the commodity to the consumer (Riddervold and Ropeid, 1988).

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In Egypt; the food preservation industry is considered one of the most important food industries, especially at the present time when the areas dedicated to growing vegetables and fruits have increased. The means of manufacturing and preserving food vary from drying to freezing and canning. The pre-prepared and semi-prepared processed food products are very essential to price stability of vegetables, fruits, and other commodities. It also contributes to the development of the national economy through the exploitation of the resources available in society. Accordingly, the coordination between the industrialization plans and agricultural production plans is very essential for the advancement of the food industry in Egypt. The preserved food industry, in Egypt, ranked first with 8,143 establishments, with relative importance 21.27% of the total cumulative number of establishments operating in manufacturing industries until 2019. While it is ranked second at 312.6 billion pounds, with relative importance 20.37% of the total value of industrial production (Egypt Ministry of Trade and Finance, 2018).

In recent years, the production and consumption of preserved food in Egypt have increased where the value of local consumption during the period from 2008 to 2017 increased from 32 billion USD to 45 billion USD, respectively. The benefits are more impactful with the continued increase of the population especially when considering the increasing number of working women who spend less time in kitchen work and the possibility of demanding vegetables and fruits all year around. The impact also increases with the consumption awareness campaigns and the relative increase in incomes (USDA, 2020).

Unclear understanding of the consumption patterns in a community is a major barrier to fulfill the community needs. Businesses owners and decision makers are always faced with several challenges including but not limited to; precise estimates of the nutritional needs of the community members, to what extent the community is self-sufficient of the products that fulfill the needs, the per capita share of the produced preserved food, the spending on each food group and how it's related to incomes of the community members, how demand evolves over time, and how suppliers react to these changes. This vague vision makes it difficult to business owners and decision makers to plan. This situation is not only applicable to the food processing sector but also extended to the agricultural sector. Hence, the study of the consumption patterns in rural and urban areas would be of great benefit.

The study aims at identifying the consumption patterns of preserved food in the rural and urban areas of Fayoum Governorate. More specifically; it aims at; characterizing and categorizing the final consumers of preserved food in both territories of Fayoum, estimating the percentage of households consuming preserved, the interest in purchasing certain kinds of preserved food, spending on different preserved food groups, identifying the purposes and motivations for purchasing preserved food, to what extent the preserved food can replace fresh food, how final consumers react to the increasing supply of preserved food, and the main problems when consuming preserved food.

II. METHODOLOGY

The study relied on descriptive economic and statistical analysis methods in presenting and analyzing data and information related to the research in addition to the rules and principles of economic theory.

Two types of data were relied upon; secondary data and primary data. Secondary data collected from different sources including; Ministry of Industry, Central Agency for Mobilization and Statistics, Ministry of Agriculture, and the Federation of Food Industries. Primary data generated from a well-designed questionnaire form for consumers of preserved food in both rural areas of Fayoum and Fayoum city. The questionnaire included a set of questions that reflects the study objectives.

A sample of 200 households that consume preserved food was surveyed; 100 respondents from Ibshaway District representing the rural area and 100 respondents from Fayoum City representing the urban area. The respondents were randomly selected, as there are no official data on the income levels of consumers in the study areas. Data collected via one-on-one interviews using the previously designed questionnaire during two seasons; summer and winter.

III. RESULTS AND DISCUSSION

In this section, the results will be presented as a comparison between the two areas of the study. For consistency reasons, results of the rural area will be presented first followed by the results of the urban areas. Results in this section are calculated based on 72 and 90 respondents whom families are consuming preserved food in rural and urban areas.

1. The monthly household incomes

The monthly income of the families in the rural areas was found to range from a minimum of 1,500 EGP and a maximum of 10,000 EGP and average of 3,783 EGP. The respondents were classified according to the level of income (in EGP) into 5 categories; less than 2,000, 2,000 – less than 4,000, 4,000 – less than 6,000, 6,000 – less than 8,000, and more than 8,000. It's shown in table 1, that 81% of the respondents have incomes between 2,000 and 6,000 EGP.

In the urban areas; monthly income of the families in the rural areas was found to range from a minimum of 2,000 EGP and a maximum of 15,000 EGP and average of 5,187 EGP. The respondents were classified according to the level of income (in EGP) into 5 categories; less than 2,500, 2,500 – less than 5,000, 5,000 – less than 7,500, 7,500 – less than 10,000, and more than 10,000. It's also shown in table 1, that 81% of the respondents have incomes between 2,500 and 7,500 EGP.

Table-1: Income levels of the families in Fayoum rural and urban areas 2019-2020

Territory	Level of income (EGP)	# Households
Rural areas	Less than 2,000	5
	2,000 – less than 4,000	48
	4,000 – less than 6,000	33
	6,000 – less than 8,000	11
	More than 8,000	3
Urban areas	less than 2,500	4
	2,500 – less than 5,000	43
	5,000 – less than 7,500	38
	7,500 – less than 10,000	8
	More than 10,000	7

2. Spending on preserved food

It was found that those with low incomes consumed less quantities of preserved food, while the upper-middle- and high-income group included most consumers of preserved food.

Table No. (2) data indicates that there is a direct relationship between the level of income and consumption of preserved food as, in general, the higher the level of income, the greater the percentage allocated to spending on preserved food saved from the expenditure on food in general.

Table 2 also indicates that most of households purchasing preserved food (70.4% and 71.1% in rural and urban areas respectively) dedicate 15% - 30% of their incomes to spending on preserved food. Remarkably, 24.5% of households in urban areas spend more than 30% of their incomes on preserved food compared to 11.3% in rural areas.

Table-2: Income levels of the families in Fayoum rural and urban areas 2019-2020

Spending on preserved food	Rural areas	Urban areas
Less than 15%	18.3	4.4
15% - less than 30%	70.4	71.1
More than 30%	11.3	24.5

3. Consumption of preserved food in households with employed women

The field study revealed that the families including working women led to an increase in the demand for preserved foods such as canned foods and frozen foods to reduce the efforts of women in home work.

It's found from the results of the study survey that 58.3% of the rural households purchasing preserved food include employed women while 42.7% of them don't. In urban areas, 72.2% of the households purchasing preserved food include employed women and the rest (27.8%) don't.

4. Purchasing preferences for preserved food

4.1. Canned food

Canned food is demanded by households in both rural and urban areas in Fayoum. Apparently from figure 1 that shows the percentage of households consuming canned food that the demand for canned food is high in urban areas and range from 59% (for tomato paste), 68% (for tuna), 68% (for juice), to 85% for (for jams). In rural areas, tuna and salmon are the most consumed canned food (63% of households) followed by juices (59%), jams (48%), and tomato paste (35%). In general demand for canned food is higher in urban areas than in rural areas.

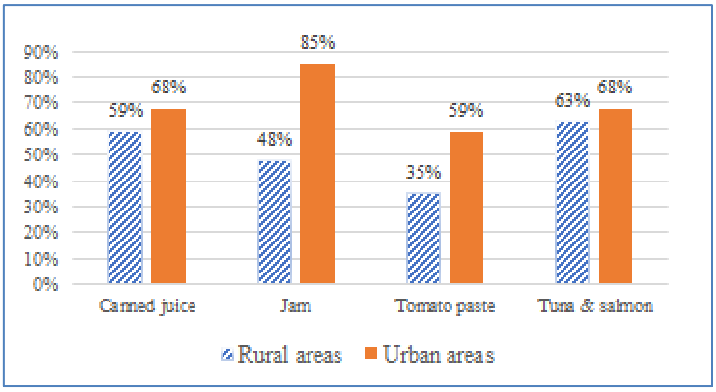

Fig-1: Percentage of households consuming canned food

5. Frozen food

Frozen food includes; frozen vegetables (mallow, okra, and peas), frozen chicken (breasts, legs, and fillet), frozen quail, frozen fish (mackerel), and frozen meat (kofta, burger, ground meat, and Brazilian meat).

The results show that only 36.6% of the households (out of the households consuming preserved food) in the rural areas purchase frozen food while the majority (63.4%) don't prefer to buy it. Meanwhile in urban areas, the majority (72.2%) tend to purchase frozen food while 27.8% don't buy frozen food.

Figure 2 shows the percentage of families consuming frozen food in both rural and urban areas. Out the households consuming frozen food, frozen vegetables are the most consumed by 52% and 71% of the households in rural and urban areas respectively followed by frozen chicken which is consumed by 46% and 51% of the households. Frozen meat and fish are consumed by fewer households.

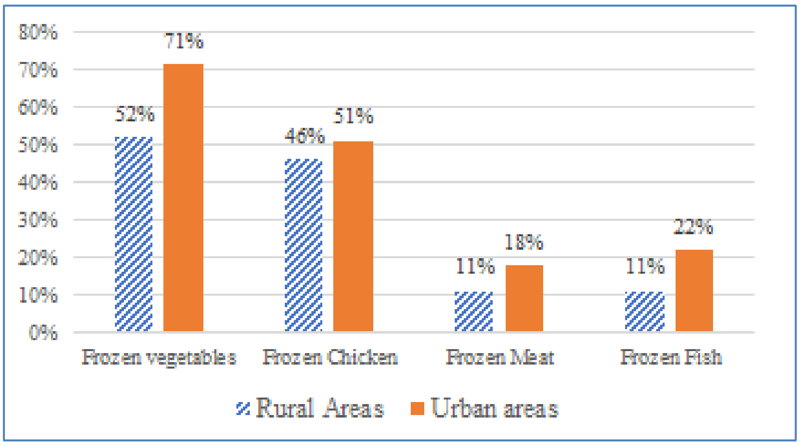

Fig-2: Consumption of frozen food in rural and urban areas

The reasons and barriers for which households do not prefer frozen food as stated by the respondents are:

- The availability of fresh food as a better replacement as reported by 69% and 39% of the respondents in rural and urban areas respectively.
- The low trust in frozen food as reported by 65% and 71% of the respondents in rural and urban areas respectively.
- Low quality of frozen food as believed by 27% and 19% of the respondents in rural and urban areas respectively.
- Higher prices are also reported as a barrier for consuming frozen food as reported by 15% and 12% of the respondents in rural and urban areas respectively.

6. Reasons for purchasing preserved food

The percentages indicated in this section are calculated as a percentage of the total households consuming preserved food. The respondents indicated several reasons for purchasing preserved food. Seemingly as shown in figure 3, preserved food is highly used as supplementary food together with the ordinary food as believed by 55% and 72% of the households in rural and urban areas respectively. Remarkably, only 6% and 16% of the total sample respondents in both areas respectively consider preserved food as a complete meal while the rest of them consider it as supplementary food.

It's also used during travels and trips by 29% and 40% of the households in both areas respectively. Food used for this purpose includes; canned fish, jams and dairy products. It's not common for households to prepare complete meals out of preserved food. Only 6% and 16% of the households use preserved food to prepare complete meals in both areas respectively. In some cases (14% and 24% respectively), preserved food is used during work hours. This includes mainly jams and dairy products. Other usage includes; desire to change the type of food, present food to guests and during emergencies.

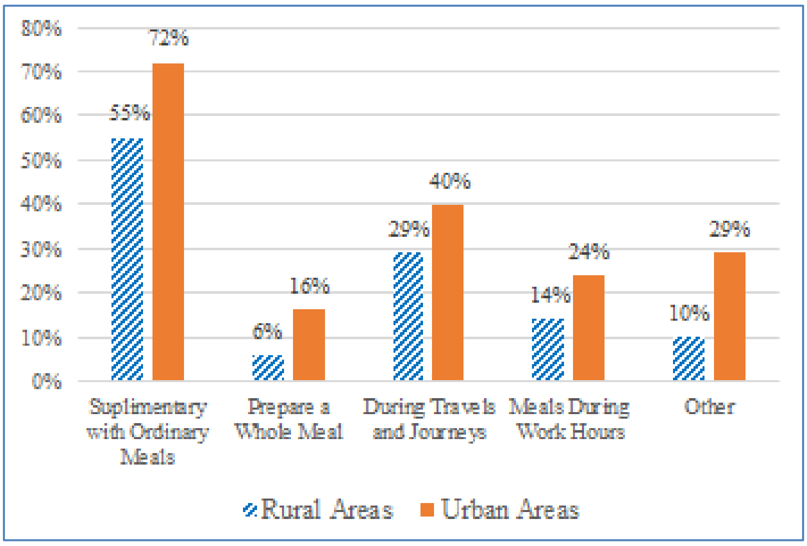

Fig-3: Reasons for purchasing preserved food

7. Consumer Preferences for Purchasing Preserved Food

This section provides insight into the motivations for which households purchase certain types of preserved food. The majority of households purchasing preserved food are loyal to specific brands. The results show that 58% and 71% of them in both areas respectively buy only their trusted brands and the rest can buy whatever brands available in the market.

The households' preferences when purchasing certain brands of preserved food vary. Table 3 shows the factors based on which consumers prefer specific brands. As expected, taste is major factor where 81% and 92% of households prefer brands based on taste. Surprisingly, 97% and 96% of households in both areas respectively prefer brands based on quality versus only 45% and 48% of them prefer brands based on price. Other factors affecting the purchase decisions are listed in table 3.

Table-3: Income levels of the families in Fayoum rural and urban areas 2019-2020

Preferences Criteria	Rural areas	Urban areas
Price	45	48
Quality	97	96
Taste	81	92
Pack size	21	37
Easy to use pack	47	52
Label	19	38
Variation of products	31	48
Trade mark	40	65

8. Consumers' Perception Towards Prices of Preserved Food

In general, the majority of consumers consider prices of preserved (canned and frozen) food high. Figure 4 shows the consumers' perceptions towards the prices of preserved food. Only 19% and 21% of consumers in both areas consider the prices of frozen food reasonable compared to 34% and 38% in canned food. The rest of consumers consider prices whether high or very high.

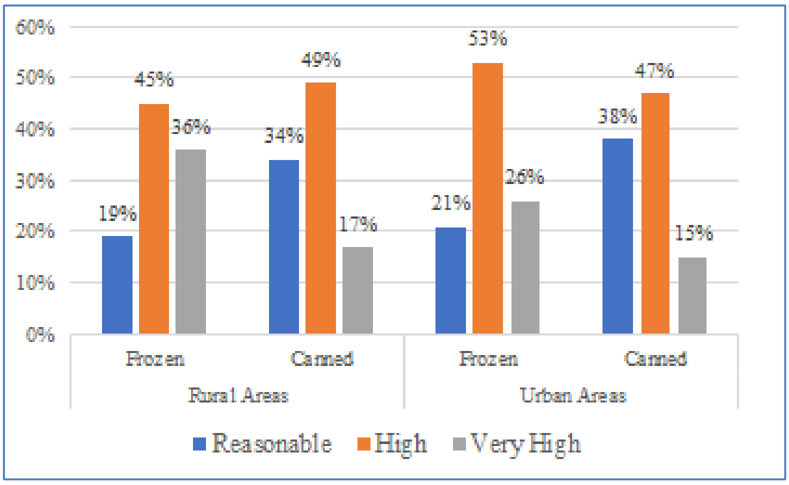

Fig-4: Consumers' perception towards prices of preserved food

9. Consumers' Preferences for Packaging of Preserved Food

The consumers of canned food, as shown in table 4, in both rural and urban areas showed a tendency towards plastic packs for juice against glass packs. Unlike juice, consumers of jams preferred glass packs. The consumers in both areas showed almost equal tendency towards glass and metal packs. The majority of consumers also preferred glass packs for dairy products against plastic and other kinds of packs. See As for frozen food consumers, table 5 shows very high tendency to use plastic packs for all kinds of frozen food including; vegetables, meat, chicken and fish against other kinds of packs.

Table-4: Consumers' preferences for packaging of canned food

	Juice		Jam		Tomato Paste		Dairy Products		
	Plastic	Glass	Glass	Metal	Glass	Metal	Glass	Plastic	Other
Rural area	70%	30%	85%	15%	51%	49%	61%	34%	5%
Urban areas	74%	26%	93%	7%	51%	49%	66%	28%	6%

Table-5: consumers' preferences for packaging of frozen food

	Vegetables		Meat		Chicken		Fish		
	Plastic	Other	Plastic	Other	Plastic	Other	Plastic	Metal	Other
Rural areas	97%	3%	81%	19%	85%	15%	80%	13%	7%
Urban areas	96%	4%	87%	13%	89%	11%	77%	15%	8%

Source: compiled and calculated from the study survey.

10. Consumers' Preferences for Labeling of Preserved Food

The preferences for labeling by the consumers of preserved food, as shown in table 6, are mainly focused on production date, brand name and price. This focus is occurred by consumer of both areas. Meanwhile, consumers pay less attention to ingredients, size or weight and how to use the product. Consumers in urban areas, as noticed from the results, pay a little more attention to brand names and ingredients than those in rural areas.

Table-6: Consumers' preferences for labeling of frozen food

	Production Date	Brand Name	Price	Ingredients	Size or Weight	How to Use
Rural areas	91%	78%	65%	36%	28%	17%
Urban areas	94%	89%	67%	59%	33%	31%

11. Sources of Information about Preserved Food

The sources of information about preserved food, shown in figure 5, varies between TV, social media, road banners, newspapers and radio. In both areas TV is considered the primary source of information. Social media also is considered a main source in urban areas where 62% of consumers use it to get information while the percentage in rural areas is lower (39%). Road banners also is used by 22% and 31% of consumers in both areas. Other sources (newspapers and radio) are rarely used as souce of information about preserved food.

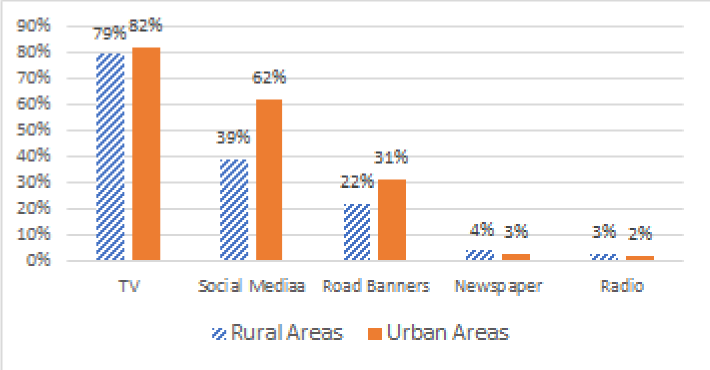

Fig-5: Sources of information about preserved food

12. Problems of Purchasing Preserved Food

The frequency of problems stated by consumers of the preserved food are shown in figure 6. The main concern for consumers in both areas is the existence of preservatives in food. Commercial fraud and quality of products are also considered main concerns.

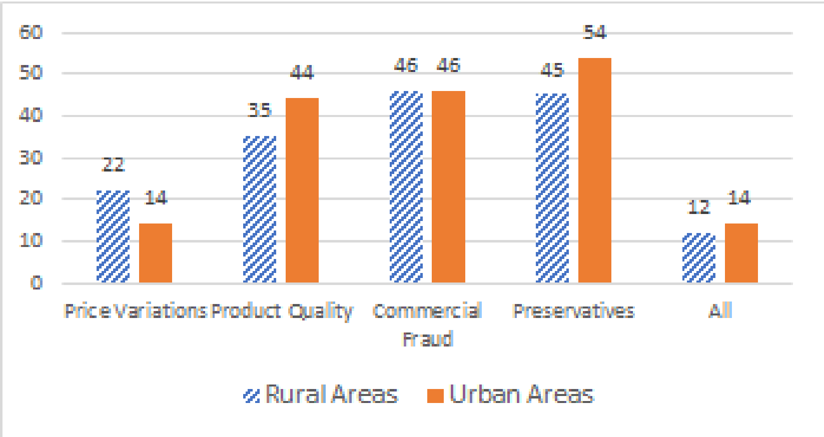

Fig-6: Problems of purchasing preserved food

IV. CONCLUSION

The majority of households that purchase preserved food in both areas dedicate 15%-30% of their incomes to be spent on purchasing preserved food. Big portion of the remaining households dedicate up to 30% of their incomes to preserved food. This result is consistent with the results found by Sharaf (1998).

Working women usually cause the demand for ready-to-use food to increase. In this research’s results; 58% and 72% of households in both areas include working women which clarifies the increased demand for preserved food. The results are consistent with Said (2010).

In general, households in urban areas tend to buy more canned and frozen food than those households in rural areas. It’s also noted that preserved meat, chicken and fish are demanded less than other canned and frozen food. This might be explained by cultural considerations where the great majority of households in both areas consider preserved food as supplementary food that can be used in trips or in work and not a complete meal. These results are consistent with Sharaf (2015).

Several factors and consumer preferences usually affect the consumers’ perception towards certain kind of food especially preserved food. Similar to the statements by Ebidata (2000). It’s found that 97% and 96% of households in both areas respectively chose food based on taste as a first factor and, of course, based on some other factors. These results are not consistent with Filiep, Zuzanna and Wim (2013).

Certain packaging is preferred than other by the interviewed households. In general glass is preferred for canned food and plastic is preferred for frozen food. TV commercials are the main source of information for preserved food. The major concerns of the consumption of preserved food are the use of preservatives in food and the commercial fraud.

V. REFERENCES

1. Riddervold, A., & Ropeid, A. (Eds.). (1988). Food Conservation: Ethnological Studies. Prospect Books, London, UK.
2. Alhaddad, A. (1976). Analytical Study of the Consumption Patterns for Preserved Food. Master These, Assiut University, Egypt.
3. Arab Organization of Agricultural Development. (2000). Arab Food Security. Arab Magazine for Food Industries, 21-2.
4. Egypt Ministry of Trade and Finance. (2018). Trends of Transformative Industries in Egypt. Egypt.
5. United States Department of Agriculture (2020). Retail Foods. USDA, Cairo Office, Egypt.
6. Sharaf, N. (2015). A comparative study about the consumption of red meat and its substitutes in rural and urban regions in Egypt according to (1981/82), (1991/92) family budget survey. *Mansoura University Journal for Agricultural Sciences*, *21*(2).
7. Said, M. (2010). Economic Study of the Preserved Food Industry in Egypt. Egyptian Journal for Agricultural Economics, 20(4).
8. Ebidat, M. (2000). Agricultural Marketing. Wael Publishing and Distribution, Oman, Jordan.
9. Filiep, F., Zuzanna, P., & Wim, V. (2013). European consumer perceptions and barriers for fresh, frozen, preserved and ready-meal fish products. *British Food Journal, 115*(4).