Life-Cycle Hypothesis for Consumption Pattern Example from Indonesia

by Saida Zainurossalamia Za

Life-Cycle Hypothesis for Consumption Pattern: Example from Indonesia

Adi Wijaya[1], Saida Zainurossalamia ZA[2], Dio Caisar Darma[3]

Abstract

Human life is limited, just as in generating income, humans are limited by age. People's income varies systematically throughout his life and savings allow consumers to make income flexible so that users can be moved from the time when income is high to income is low (Modigliani, 1986). Based on the study of literature, the presentation is designed to see the development of the LCH theory that can be applied to the current level of consumption in Indonesia. In general, consumption patterns of Indonesian people were more dominant in food. However, expenditure per capita living in cities for non-food consumption is higher than those in rural areas. This indicates that the income from the villagers is relative to food. Those who tend to spend on non-food, usually very little can be saved from income. The LCH model has played a vital role in seeing developments in the aspects of spending on the Indonesian population. This is the main factor why the age and health level of the population in the village is higher, but those in urban areas have superior work productivity.

Keywords: *LCH, income, savings, consumption*

1. Introduction

Humans start making money at the age of about 15 years or more until 50-60 years. That is one of the most important reasons why an individual or society. In general, has different consumption behaviour over time (Muqorobin, 2002).

The standard life-cycle hypothesis (LCH) on savings and consumption, shows that consumption expenditure is determined by the lifetime resources of the consumer, which includes wealth, from shares, real estate, and other assets (Brumberg & Modigliani, 1954; Ando & Modigliani, 1957; Boivin et al., 2010).

The LCH is based on an interesting idea, that households do not make savings or reduce and eliminate desires based solely on their current income, but more than that also takes into account the expected circumstances in the future and is influenced by their past experiences (Ando & Modigliani, 1963; Danziger et al., 1982).

One of the main factors, that income varies during one's life is retirement. Darma et al. (2020) explain that most people plan to stop working at the age of 60-65 years and they argue that their income will fall when they retire. However, they do not want a large reduction in their standard of living, as measured by their consumption. To maintain consumption levels after retirement, people must have savings during their working years.

Consumption is an important part of one's life. Meeting the needs of life that must be met every day by humans can not be separated from consumption activities. Specifically in Indonesia, consumption expenditure can be one indicator to assess the level of the economic prosperity of individuals or households (BPS-Statistics of Indonesia, 2008).

Analysis of household consumption behaviour can be done with an approach based on income and expenditure in a cross-section to individual households within a certain period (Deaton, 1998). Meanwhile, consumption is defined as the act of using various commodities (goods and services) in order to satisfy needs. Consumption consists of government consumption and household/community consumption (Mankiw, 2012).

By looking at a number of considerations, we need to present the extent of the application of LCH to the consumption patterns of Indonesian people (urban and rural) in the next session.

2. Related Literature

2.1. Life-Cycle Hypothesis (LCH)

LCH theory emphasizes that individuals try to smooth consumption during their lifetime, borrow during low income, and save during high-income periods (Modigliani, 1961).

One line of criticism at LCH as the main part to emphasize imperfections in self-control. Two approaches to modelling self-control emerge, one emphasizing the inconsistency of time (Strotz, 1955, 1956; Schelling, 1984; Laibson, 1997). On the one hand, another states the existence of internal goods (Thaler & Shefrin, 1981, 1988; Gul & Pesendorfer, 2001; Fudenberg & Levine, 2006).

Suppose there is a consumer who expects to live (T) more years, has wealth (W), and hopes to earn income (Y) until he retires (R) years from now. The source of lifetime income of the consumer consists of wealth (W) and initial lifetime income of R × Y (it is assumed that the interest rate is zero, so there is no need to calculate the interest earned on savings). Consumers can divide their lifetime income by the remaining T years of life (Darma et al., 2020). It is assumed, that he wants to achieve the possibility of a smooth path of consumption during his lifetime, then it can be formulated:

$$C = (1/T)W + (R/T)Y \qquad (1)$$

where: C (consumption), W (wealth), R (years until retirement and remaining years of work), Y (income), T (remaining years of life).

If every individual in the economy has a consumption plan like this, then the aggregate consumption function is the same as the function of individual consumption. Life-cycle models of consumer behaviour can solve the conundrum of consumption. According to the LCH consumption function, the propensity to consume is average or average propensity to consume. Specifically, aggregate consumption depends on wealth and income, so the economic consumption function is formulated as follows:

$$C = aW + bY \qquad (2)$$

$$C/Y = a(W/Y) + b \qquad (3)$$

where: C (consumption), aW (marginal propensity to consume from wealth), bY (marginal propensity to consume from income).

The implication lies in Figure 1 which presents the relationship between consumption and income predicted [13] "LCH". However, it should be noted that the intercept of the consumption function, which shows what will happen to consumption if income ever falls to zero, is not a fixed value. However, it is aW's intercept, so it can be concluded if it depends on one's wealth level.
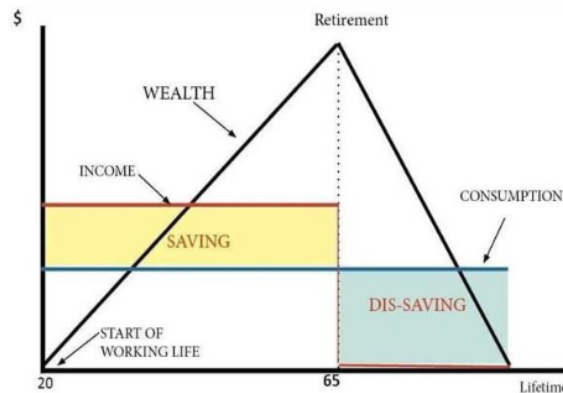
Fig. 1. Relationship of Consumption and Income
Source: Pettinger (2019)

Because wealth does not vary proportionately with income from person to person or from year to year, it will be found that high incomes correspond to low average trends when looking at data between individuals or over short periods. However, over a long time, wealth and income grow together, so the ratio of W / Y and average propensity to consume will be constant.
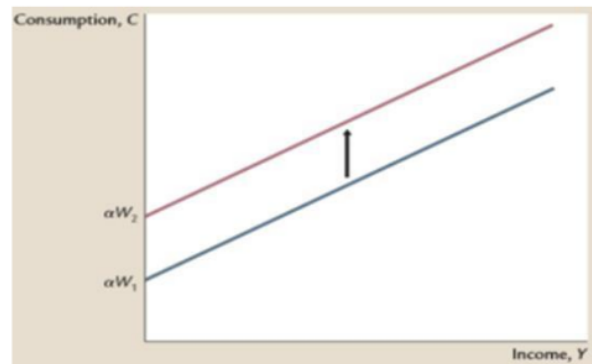
Fig. 2. Average Propensity to Consume
Source: Nada et al. (2014)

The second important line of criticism explores the limits of consumer sophistication to examine deficiencies in the knowledge and skills needed in sound financial planning (Bernheim, 1988, 1995, 1998; Gustman & Steinmeier, 2004, 2005; Lusardi & Mitchell, 2007, 2011, 2014; Lusardi et al., 2010).

In the long run, as wealth increases, the consumption function shifts upward, as in Figure 2. This upward shift prevents the tendency to consume average to fall with

increasing income. LCH has another prediction which is to predict that savings will vary over a person's lifetime. If someone starts growing up without wealth, then he will accumulate wealth during work and spend his wealth during the retirement year.

There are two factors why the LCH model cannot be applied, the first explanation being that parents worry about unexpected costs. Additional savings arising from uncertainty are called precautionary savings. Another factor is the possibility of getting sick and a bill for big health.

2.2. Household Consumption

Households that spend more proportion of food are usually households that are still at the subsistence level. While households that consume more for luxury goods and secondary needs are more prosperous households (Mor & Sethia, 2015).

Evolutionary economics is closely related to behavioural theories that discuss the behaviour of household consumption, but until now there are still few theories that discuss the field. Many shortcomings of neoclassical consumption theory were previously revealed (Nelson & Consoli, 2010; Witt, 2005).

In contrast to government consumption which is exogenous, household consumption is endogenous. The amount of household consumption is closely related to other factors that are considered to influence it. Therefore, the arrangement of theories and economic models produces an understanding of the relationship of consumption levels with other factors that influence them. Dumairy (1999) explained based on the allocation of its use the allocation of household consumption / per capita was classified into two groups of uses, namely expenditure on food and expenditure on non-use (see Table 1).

Table 1. Household Consumption by Usage Group

Food	Non-Food
1. Grains	1. Housing and fuel
2. Tubers	2. Various goods and services
3. Fish	▪ Body care ingredients (soap, toothpaste, perfume, etc.)
4. Meat	
5. Eggs and milk	▪ Readings (newspapers, magazines, books)
6. Vegetables	▪ Communication
7. Nuts	▪ Motor vehicle and Transportation
8. Fruits	▪ Maid and driver
9. Oils and fats	3. Education costs
10. Ingredients drinks	4. Health costs
11. Spices	5. Clothing, footwear, headgear
12. Other food ingredients	6. Durable goods
13. Prepared food	7. Tax and insurance premiums
14. Alcoholic drinks	8. The need for parties and ceremonies
15. Tobacco and betel	

Noted: This classification follows the publication of BPS-Statistics of Indonesia (1996)

In developing the theory, it feels useful to work with existing concepts, that individuals and households have a different set of desires that they want to satisfy through the purchase and use of certain goods and services (Ironmonger, 1972). An ideal proposition has been developed on alternative activities that can be used to fulfil desires (Lancaster, 1966).

The second obstacle revealed that household consumption activities are time-related. Some of the people, like a vacation, need a long time. This fact is inseparable from the

existence of certain flexibility as a constraint, or at least how to limit the range of household activities that can be managed. Less or more time can be spent sleeping and earning an income. They can rent various services, so that time and income constraints are not independent (Becker, 1962; Linder, 1970; Metcalfe, 2001; Steedman, 2001).

3. Methods

In this study, we use the literature study method (library research) through secondary data. Literature review plays an important role in this study. As in any academic discipline, the synthesis of knowledge is very intense and is needed to follow the collected literature, so that it can help researchers. A literature review is very influential in accordance with the problems and objectives of the study. With the information collected, it represents data (Brocke et al., 2009; Paré et al., 2015; Onwuegbuzie & Weinbaum, 2017).

Through this type of argumentative literature review. We try to selectively examine the literature to support or refute arguments. With the assumptions and patterns of some of the results of previous studies (disclosure of the LCH model) that have been there, it is interesting to do a comparison of studies. Although the main weakness of the argumentative literature review is the potential bias (Dudovskiy, 2016).

4. Discussion

The Indonesian population has experienced a demographic transition, with the declining birth and death rates having an impact on increasing the productive age population. This increase in the productive age population affects the occurrence of demographic bonuses and the opening of the window of opportunity in 2020-2030, when the dependency ratio experiences the lowest level (Adioetomo, 2013).

The things that can determine the amount of consumption expenditure. In this case, what is meant by consumption expenditure is household consumption expenditure. The dominant factor influencing the size of household consumption expenditure is household income itself.

What is presented in Table 2, reflects if the differences between the two areas are very different. As for rural areas, where the population prioritizes their living needs for food by 57.97%, the rest are non-food items ie 42.03%. The characteristics of rural areas known as producing areas (homogeneous) natural resources make the economic patterns of society tend to prioritize food needs, compared to the needs that are considered luxurious, so that rural communities in general have adequate levels of adequate nutrition, physical health, longevity, and good environment although sometimes education and infrastructure facilities are not as complete as in urban areas.

Household consumption has the largest portion of total aggregate expenditure given the large portion. hence household consumption has a great influence on economic stability. This diversity makes Aceh the region with the highest level of food consumption compared to non-food needs (56.55% compared to 43.45%). Meanwhile, in the same category of urban areas, the pattern of needs of the population of the Province of Bali which prioritizes food needs as much as 38.99%, the remaining 61.01% more to non-food.

For urban areas, the population in North Sumatra Province is still patterned on food needs (62.69%) rather than non-food (37.31%). Interesting if we look at recent developments, North Borneo is the youngest (34th) Province in Indonesia, precisely the flow of population expenditure tends to non-food needs (52.51%) compared to food expenditure (47.49%). The conclusion is that if the two regions (urban and rural) are combined, the structure of expenditure per capita in Aceh Province remains consistent with the type of food, which is 62.35% for non-food, around 37.65%. On the one hand,

this time there is DKI Jakarta Province whose population tends to consume non-food (59.81%) rather than distributing its income for food (40.19%).

Table 2. Percentage of Expenditure per Capita per Month for Food and Non-Food by Province, September 2019

Provinces	Urban		Rural		Urban + Rural	
	Food	Non-Food	Food	Non-Food	Food	Non-Food
Aceh	56.55	43.45	66.19	33.81	62.35	37.65
Nort Sumatera	51.93	48.07	62.69	37.31	56.19	43.81
West Sumatera	51.14	48.86	59.39	40.61	55.25	44.75
Riau	50.89	49.11	54.88	45.12	53.05	46.95
Jambi	52.14	47.86	58.38	41.62	55.95	44.05
South Sumatera	48.17	51.83	55.71	44.29	52.27	47.73
Bengkulu	43.53	56.47	55.81	44.19	50.96	49.04
Lampung	51.22	48.78	58.30	41.70	55.73	44.27
Bangka Belitung	50.76	49.24	54.43	45.57	52.51	47.79
Riau Islands	49.36	50.64	55.05	44.95	49.89	50.11
DKI Jakarta	40.19	59.81	n/a	n/a	40.19	59.81
West Java	48.39	51.61	59.80	40.20	50.65	49.35
Central Java	48.32	51.68	53.77	46.23	50.64	49.36
Yogyakarta	39.32	60.68	53.42	46.58	41.79	58.21
East Jawa	46.74	53.26	59.62	40.38	51.22	48.78
Banten	44.98	55.02	60.41	39.59	47.87	52.13
Bali	38.99	61.01	48.90	51.10	41.48	58.52
West Nusa Tenggara	53.81	46.19	59.74	40.26	56.57	43.43
East Nusa Tenggara	47.03	52.97	64.84	35.16	58.54	41.46
West Borneo	49.42	50.58	58.63	41.37	54.81	45.19
Central Borneo	48.84	51.16	56.65	43.35	55.32	46.68
South Borneo	46.20	53.80	57.84	42.16	51.19	48.81
East Borneo	43.49	56.51	54.15	45.85	46.26	53.47
North Borneo	48.44	51.56	47.49	52.51	48.12	51.88
North Sulawesi	48.84	51.16	54.22	45.78	50.97	49.03
Central Sulawesi	42.59	57.41	56.43	43.57	51.58	48.42
South Sulawesi	41.40	58.60	55.60	44.40	47.39	52.61
Southeast Sulawesi	44.22	55.78	52.11	47.89	48.41	51.59
Gorontalo	43.16	56.84	52.59	47.41	48.02	51.98
West Sulawesi	55.16	44.84	61.44	38.56	59.47	40.53
Maluku	50.81	49.19	56.69	43.31	53.62	46.38
North Maluku	46.67	53.33	56.01	43.99	52.50	47.80
West Papua	47.85	52.15	59.35	40.65	53.40	46.60
Papua	49.03	50.97	61.64	38.36	56.69	43.31
Indonesia	*46.72*	*53.28*	*57.97*	*42.03*	*50.62*	*49.38*

Source: BPS-Statistics of Indonesia (2019)

An important requirement in modern development planning is that it must be based on consumption theory. Developing countries (such as Indonesia) do not have to be democratic and first attention must be given to goods and services that are within the reach of certain societies and primary attention must be placed on providing primary, secondary, and tertiary needs that are produced in a useful and abundant manner, because they are all the most basic needs and for household consumption (Galbraith, 1962).

The existence of adequate natural resources can be managed by human resources who have great potential for achieving development progress. Even so, there is still an imbalance between rural and urban areas in Indonesia such as infrastructure, education, health, and financial management (Aslan, 2019; Nurrohman & Arifin, 2010).

Other assumptions that need to be considered are those with high income who can save and have higher financial knowledge, than those with low income. Low-income countries, the possibility to have debt is much higher, because of the higher living needs. The proven foundation of benefits can prevent saving, due to reasons for anticipation of social security. For rich countries (high per capita income), they tend to continue their wealth accumulation at a high age scale. With social security reduction schemes in retirement, there is often a reduction in financial wealth, for example property (Kenton, 2020; Holzmann et al., 2019).

Previous studies revealed that the main requirement for saving for retirement is that wages from formal sector employment in some countries are quite high, because it is also comparable to luxury inheritance and property. Despite this, in a long period, the dynamics of unemployment are more common due to low income groups because employment opportunities tend to fall (Sum & Khatiwada, 2010; Khatiwada & Sum, 2016).

5. Conclusion

Indonesia's per capita population expenditure in September 2019, can be said to be still dominant in spending on types of food (50.62%) and non-food (49.38%) in urban and rural areas. However, if examined in the urban sphere, the food needs issued by the population are actually below the type of non-food expenditure, which is 46.72% compared to 53.28%. This proves that in the current digital era, people tend to increase their consumption of things that are more towards secondary and primary needs, such as pulses, internet, cell phones, motorcycles, cars, and others. The data also describe cities as heterogeneous regions (users) not based on the agricultural sector, or other primary sectors. Urban land is more devoted to residential areas, luxury buildings, offices, and other areas that are not oriented to growing plants or raising animals.

The LCH model has played a vital role in seeing developments in the aspects of spending on the Indonesian population. Those who live in urban areas are very consumptive towards non-food, while in rural areas, they prefer to consume food. This can be proven because cities are producing regions and villages as producers of raw materials (for example for production), so cities are more likely to play roles as consumers and distributors. The wheels of the economy are continuously happening, along with technological advances and the development of human resources to manage limited natural resources.

Life-Cycle Hypothesis for Consumption Pattern Example from Indonesia

8	Student Paper	1%
9	Submitted to De Montfort University Student Paper	1%
10	Submitted to University of Oxford Student Paper	1%
11	Submitted to essex Student Paper	1%
12	Submitted to School of Oriental & African Studies Student Paper	1%
13	Submitted to Saint Paul University Student Paper	<1%
14	s3.amazonaws.com Internet Source	<1%
15	biofarmaka.ipb.ac.id Internet Source	<1%
16	www.agrifood.info Internet Source	<1%
17	David W. Pearce. "The Macmillan Dictionary of Modern Economics", Springer Science and Business Media LLC, 1981 Publication	<1%
18	Chavis Ketkaew, Martine Van Wouwe, Preecha	

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		