

Individual Consumption and the Aging Population:

A Study of Nova Scotia, Canada

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A Research Project Submitted to
Saint Mary's University, Halifax, Nova Scotia
in Partial Fulfillment of the Requirements for
the Degree of Master of Business Administration (MBA).

April, 2015, Halifax, Nova Scotia

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Date: April 16, 2015

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Abstract

It is difficult to anticipate future consumption trends for large, diverse groups, but the preferences of an individual change predictably as a person ages. The preferences of youth are different from those of the elderly, but young consumers today have spending habits that are very similar to young people from generations ago. For this reason, a better understanding of aggregate consumption is gained from studying anticipated demographic trends.

The population of younger Nova Scotians is expected to decrease over the next two decades, but the number of retirement aged Nova Scotians is expected to rise, which will increase the average age more dramatically than in other parts of Canada. Therefore, the pronounced aging demographic provides a more predictable consumer base for businesses in this province.

This paper will examine the behaviour of an aging individual from an economic perspective. The preferences of an aging population will be discussed by comparing budget allocation trends of Canadian consumers. Because the Baby Boomers, the largest generational cohort in Canada, are at the end of their careers, this paper will focus on the spending habits of individuals who are transitioning into retirement and away from the peak earning years of middle age.

Studies of aging Canadian consumers have found that consumption rates remain constant after retirement, but spending habits change significantly. Before retirement, expenditures centre on the daily routine of working. After retirement, a large portion of the budget is shifted toward low impact activities and improvements to personal residences and properties. For this reason, it is believed that companies offering luxury goods, such as clothing and cars, will experience a downturn as the population ages. It is recommended that entrepreneurs in Nova Scotia focus on the development of products and services that promote activity around the house.

April 16, 2015

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Introduction

Consumption trends are determined by the aggregate consumer behaviour in a region. An individual's consumption is ultimately constrained by their budget, which accounts for future income potential in the form of personal debt. If market prices remain constant, two major determinants of consumer choices are individual preferences and product/service availability. Therefore, an accurate forecast of consumer preferences would help local entrepreneurs predict which products/services will be in demand.

Unfortunately, it can be very difficult to anticipate future trends for large and diverse groups of people. The preferences of an individual, however, change predictably as a person ages. It's obvious that the preferences of young people are different from those of the elderly, but young consumers today have spending habits that are very similar to young people from generations ago. For this reason, we can gain a better understanding of aggregate consumption trends by studying anticipated demographic changes.

The population of Nova Scotia is expected to decrease over the next two decades due to significant out-migration of working age Nova Scotians seeking opportunities in the western provinces. In addition, the growing number of retirees remaining in Nova Scotia and moving back from other provinces is increasing the average age more dramatically than in other parts of Canada. The pronounced aging demographic provides a more predictable consumer base for businesses offering products/services to Nova Scotians.

This paper will examine the behaviour of an aging individual from an economic perspective. The preferences of an aging population will be discussed by comparing budget allocation trends of Canadian consumers as they age. Because the Baby Boomers, the largest generational cohort in Canada, are at their end of their careers, this paper will focus on the spending habits of individuals who are transitioning into retirement and away from the peak earning years of middle age.

Studies of aging Canadian consumers have found that consumption rates remain constant after retirement, but spending habits change significantly. Before retirement, expenditures centre on the daily routine of working. After retirement, a large portion of the budget is shifted toward low impact activities and improvements to personal residences and properties. For this reason, it is believed that companies offering luxury goods, such as clothing and cars, will experience a downturn as the population ages. It is recommended that entrepreneurs in Nova Scotia focus on the development of products and services that promote activity around the house.

Background

Consumer Behavior: An Economic Perspective

From an economic perspective, a consumer is “an individual who purchases goods and services from firms for the purpose of consumption” (Baye, 2010, p. 118). Each consumer purchases goods and services based on his/her individual set of preferences. Of course, there are millions of goods and services to choose from, so to simplify the explanation we consider a “bundle” containing some desired goods and services that are comparable to other slightly different bundles. To further clarify decision-making, a preference of Bundle A over Bundle B is described as $A > B$ and an indifference between those bundles is presented as $A \sim B$.

Four Properties of Consumer Preference

The comparison of consumer preferences is assumed to satisfy 4 basic properties (Baye, 2010):

1. *Completeness* – The consumer is capable of determining preferences with absolute certainty. In other words, there are only three options when comparing two bundles: $A > B$, $B > A$ or $A \sim B$. Completeness is necessary to accurately determine consumption patterns defined by consumer preference. Any uncertainty by the consumer with regards to completeness would disrupt the economic model.
2. *More is Better* – If two bundles contain the exact same kinds of goods/services, the bundle containing more of at least one good/service is always preferred as long as it doesn't contain fewer of any other good. This property assumes that all

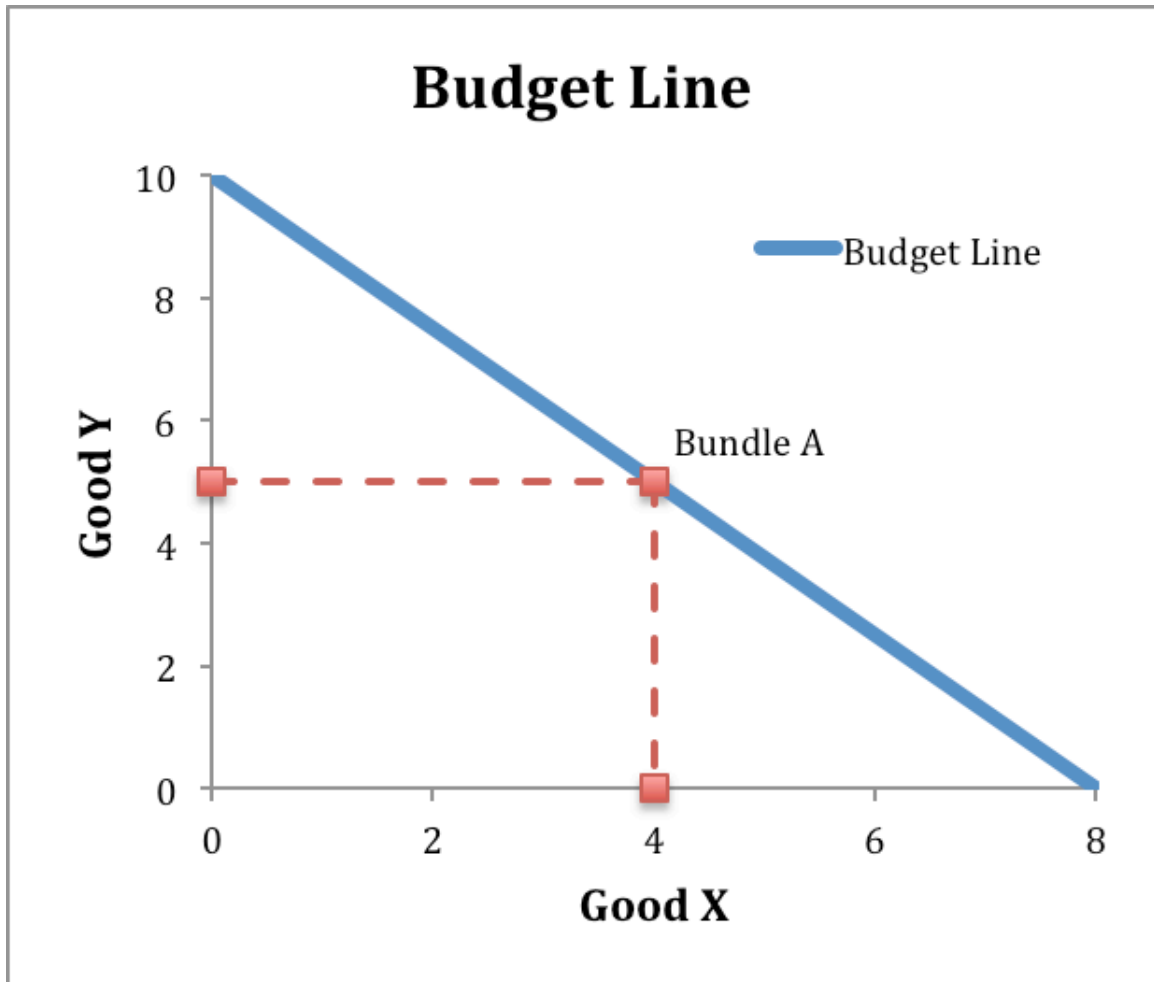
goods/services are desirable (good) rather than detrimental (bad) to the consumer's satisfaction level (utility). In other words, gaining additional goods without the penalty of losing any others is always advantageous to the consumer. To simplify further discussion, any good/service that is desirable will be referred to as a "good" and any good/service that unwanted will be referred to as a "bad"; the addition of goods can also be interpreted as the subtraction of bads.

3. *Diminishing Marginal Rate of Substitution* – Bundles having a large variety of goods are preferred over bundles that have only a few goods. Therefore, as a consumer accumulates a large number of a single good he/she places less value on it; goods that are scarce are more valuable to the consumer. As a result, the consumer is willing to give up fewer scarce goods to gain more of a plentiful good and vice versa.
4. *Transitivity* – Preferences must follow a logical order of relative value. For example, if $A > B$ and $B > C$ then $A > C$, always. Likewise, if $A \sim B$ and $B \sim C$ then $A \sim C$. This principle ensures that all goods can be evaluated relative to all other goods in a consistent and sensible way.

The Budget Constraint

A consumer must decide the mix of goods that are most desirable, but all decisions are restricted by many factors. From an economic perspective, consumer decision-making is governed by one major constraint: budget. The budget constraint is significant, because it forces the consumer to choose an affordable bundle of goods (budget set) that maximizes utility, which is defined as consumer equilibrium (Baye, 2010). According to Baye, "the

budget set defines the combinations of goods X and Y that are affordable for the consumer” (Baye, 2010, p. 123) in a bundle containing only 2 goods.

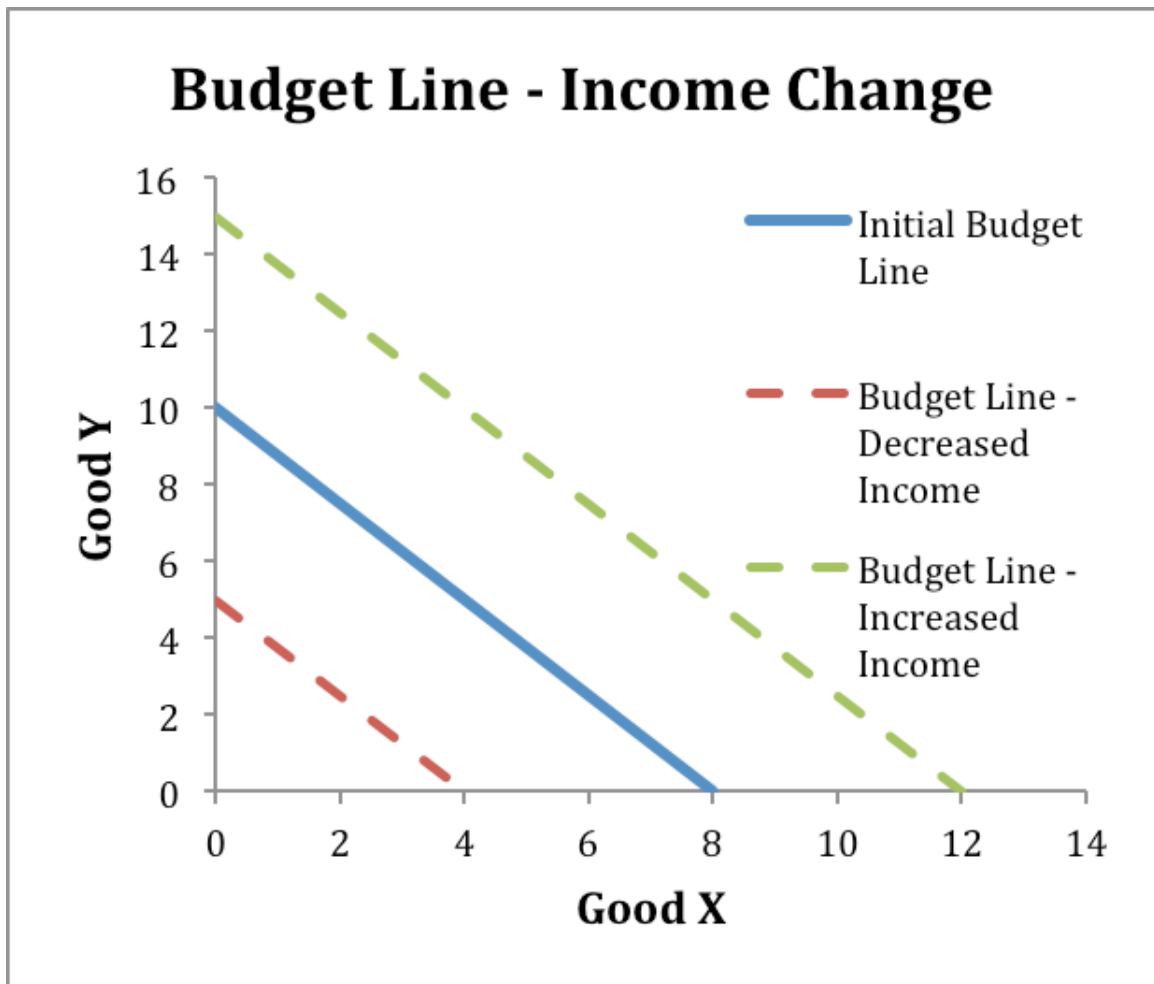


Baye, 2010

Figure 1 - The Budget Line

As shown in Figure 1, the budget line determines the maximum number of each good that can be purchased in a bundle of two goods. The entire budget can be spent on either good, which determines the X and Y intercepts of the graph (8 & 10, respectively, in Figure 1), or on any combination of that falls on or below the budget line. Any bundle

below the budget line, however, fails to maximize the consumer's utility while any bundle above the line is not affordable. Without the budget constraint, a utility maximizing consumer would purchase an infinite number of all available goods.

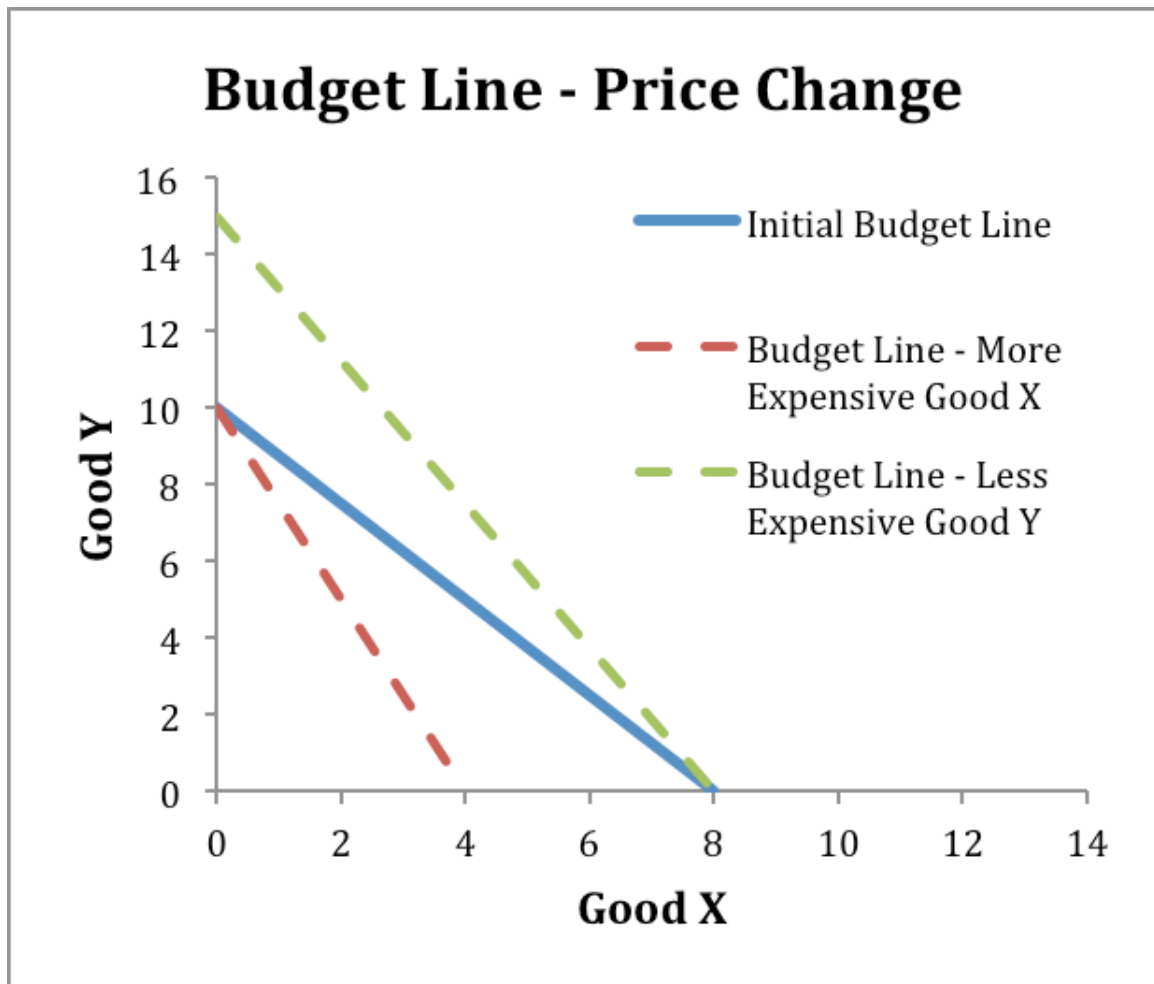


Baye, 2010

Figure 2 - Budget Line Shift due to Changing Income

The Budget Set depends primarily on the consumer's income and the price of goods in the market. If prices and/or income change, the consumer equilibrium must be re-established. The budget line moves up or down with changes in income altering the

attainable level of utility, as shown in Figure 2. The slope of the budget line (the market rate of substitution) changes as prices fluctuate, which affects the product mix and one or both intercepts on the graph, as shown in Figure 3.



Baye, 2010

Figure 3 - Budget Line with Changing Price of Goods

Normal vs. Inferior Goods

Income levels play a significant role in consumer behaviour, because they determine which goods are affordable. If all prices remain constant in the market and only incomes

decrease, consumers will maximize utility by adopting one of two behaviours: they can buy fewer of the some goods (normal goods) and they can buy less expensive options (inferior goods). If consumption of a good is higher after an increase in income it is referred to as a “normal good”. If consumption of a good is lower after an increase in income it is referred to as an “inferior good” (Baye, 2010). The distinction between normal and inferior goods is important when anticipating the income trends of a target demographic and assessing their buying habits.

Substitutes vs. Complementary Goods

Some goods are considered equivalent and can be directly substituted for one another while other goods are only purchased along with another complementary good. The difference between substitutes and complements is determined by the reaction of consumers when the price of one good fluctuates relative to the price of the other. If an increase in the price of X causes consumers to purchase less of X and more of Y, X and Y are considered substitutes. However, if an increase in the price of X results in decreased consumption of both X and Y, X and Y are considered complements (Baye, 2010). The distinction between substitutes and complementary goods is important when marketing a product to a target demographic and identifying the competition appropriately.

Consumer Influence: A Demographic Perspective

David Foot, Professor Emeritus of Economics at the University of Toronto, argues in his book, *Boom, Bust & Echo: Profiting from the Demographic Shift in the 21st Century*

(Foot, 2000), that demography is the most powerful tool available for understanding the needs of society, including consumer trends, leisure activities, health care requirements, strains on the education system, housing prices, household energy use, etc. He goes so far as to say that “it is simply not possible to do any competent planning without a knowledge of demographics” (Foot, 2000, p. 9) and that it is essential to understanding the unique composition of the Canadian population.

Demographics are important, because everyone belongs to a generational cohort. The relative size of cohorts determines which trends dominate the economy as each group progresses through the aging process and passes new milestones in their lives. Despite our tendency to define ourselves as individuals, most people follow predictable behavioural trends as their life progresses through various stages. Individuals are more likely to participate in sports during their teens than in their seventies, for example. As a result, we can predict the demand for a local hockey rink if we can determine the number of children likely to grow up in the surrounding neighbourhoods. Likewise, if we determine that a significant percentage of the population are about to move out of their parents’ homes, we should expect a need for household items such as furniture and kitchen supplies.

Generational cohorts are determined by fluctuations in birth rates that can be triggered by influential global events such as world wars or economic downturns. It is these birth rate fluctuations that make the Canadian population unique and determine the evolving consumer trends in our region. Statistics Canada identifies 3 large generations that

dominate demographic trends due to their size: the Baby Boomers (born 1946 – 1965), the parents of the Baby Boomers (born 1919 – 1940) and the children of the Baby Boomers (born 1972 – 1992) (Statistics Canada, 2011 Census). Professor Foot (2000) divides the demographic landscape into several smaller groups, presented below, to highlight their specific effects on the economy and society, including any notable advantages and/or hardships.

The Roaring Twenties (born 1920 – 1929)

After the first world war, there was an increase in birth rates in Canada that led to the large cohort that became seniors at the turn of the millennium. Many members of this cohort benefitted from the economic growth of the post-war era. However, some were also young enough to fight in the Second World War, which affected the size of this cohort afterwards. Unfortunately, the youngest members of this cohort are nearing the ends of their lives and will have very little influence on future consumer trends.

The Depression Babies (born 1930 – 1939)

Very few children were born during the great depression in comparison to other generations, so Depression Babies (Foot, 2000) had many advantages growing up. This cohort was too young to fight in the Second World War, which allowed them to avoid the consequences of that intense global conflict. After the war, this cohort started to enter the workforce just as the economy experienced rapid growth and reconstruction. As a result, there was less competition for jobs and there were many jobs to choose from, which allowed them to climb the corporate ladder very quickly into high-ranking positions.

Their good fortune, a product of their demographic advantage, created an ideal scenario for lifelong prosperity. This ultimately led to the eventual baby boom, because the Depression Babies could easily afford a home and a large family on one salary as they reached the typical childbearing age group.

The youngest members of this cohort are now in their late seventies and still in good health compared to previous generations. They have an appreciable amount of wealth due to the growth in the stock markets and the increase in housing prices over their lifetime, which has allowed them to enjoy early retirement (Foot, 2000). However, because they are nearing the end of their lives, their spending habits will likely change very little in the near future. Since they make up a small percentage of the Canadian population, they will likely have little effect on emerging consumer trends that will dominate the future economic landscape.

World War II (born 1940 – 1946)

Canada was a reasonably safe part of the world during the war, because it was far from the active conflict zones. Canada also became a major producer of military equipment such as aircraft, tanks, ships and other military vehicles. The war gave the economy a welcomed boost, which made having a family more affordable for those who had waited to have babies during the 1930s. Furthermore, since the cohort before them was so small, the babies from the WW2 cohort were able to find jobs relatively easy as well.

Members of the World War II cohort, like the Depression Babies, are in their seventies now and enjoyed reasonably high levels of prosperity throughout their lives. Like the Depression Babies, their preferences will be mostly unchanging as they live out the remainder of their lives. Similarly, their small cohort will have little effect on emerging consumer trends.

The Baby Boomers (born 1947 – 1966)

The increase in birth rates during the period that created the Baby Boomers was the direct result of the economic prosperity experienced by the Roaring Twenties and the Depression Babies, the parents of the Boomers. When the first of the Boomers were born, the war had ended and the Canadian economy was surging forward. As mentioned above, the parents of the Boomers came from small cohorts, which allowed them to move into high profile jobs early in their careers. Canada had also started to welcome immigrants who were predominantly people of childbearing ages (Foot, 2000). A growing population of childbearing citizens and a positive economic outlook created the perfect environment for large, young families.

The Baby Boom lasted for so long that it includes notable subgroups with varying perspectives. First, the Front End Boomers (Foot, 2000), born at the start of the Baby Boom, were the luckiest subgroup, because they understood the needs of their cohort and were able to capitalize on this knowledge when they entered the workforce. They were able to create products and services that appealed to their large cohort to create wealth for themselves. Those born in the middle of the Baby Boom entered a workforce that had

fewer jobs and less room to progress. Finally, those born near the end of this cohort, deemed Generation X (born 1961 – 1966), fell on extremely hard times due to the saturation of older Baby Boomers in the workforce. Members of Generation X have spent their entire lives behind a large crowd of people clogging the system before they were able to reap their own rewards.

The average Canadian family during this period included almost four children at the peak of the Canadian Baby Boom, the biggest boom of an industrial nation (Foot, 2000). And the Baby Boomer cohort became the largest of any generation in Canada. The Boomers make up almost 30% of the population in our country (Statistics Canada, 2011 Census). As a result, the Baby Boomers' needs and preferences have defined consumer trends across the country since their births. Their influence on society has sometimes been mistaken for new and inventive social trends, but a thorough knowledge of demographics identifies those preferences as foreseeable events along a predictable timeline (Foot, 2000). With the first Baby Boomers just recently entering retirement, a deeper understanding of the differences between the subgroups, such as Generation X, will further enhance the ability to predict emerging trends in the long-term.

The Baby Bust (born 1967 – 1979)

The commercialization of the birth-control pill and increased participation of women in the workforce led to falling birth rates across the country. As a result, The Baby Bust (Foot, 2000) amounts to less than 10% of the current population (Statistics Canada, 2011 Census). The economic outlook for smaller cohorts is typically positive, but is slightly

diminished for the Baby Busters due to the abnormally large cohort that preceded them. As a result, this cohort has little chance of defining the dominant consumer trends in our region.

The Baby Boom Echo (born 1980 – 1995)

The Echos (Foot, 2000) are the children of the Baby Boomers and, as expected, are a larger than average sized cohort. The Baby Boomers, however, didn't produce as many children as their parents, which resulted in a smaller increase in birth rate, comparatively. Nevertheless, the Echo cohort amounts to approximately one fifth of the Canadian population and mimics the characteristics of the Boomers. The Echo is composed of subgroups similar to the Boomers, including those born at the end of the Echo who experience more hardships and have been dubbed Generation X-II.

Professor Foot (2000) notes that the Echo generation was not as pronounced in the Atlantic provinces, because most of the Baby Boomers migrated to Ontario and western Canada before having children of their own. For this reason, it is expected that the Echo generation will a smaller role in developing consumer trends in our region unless migration causes Echos to move eastward.

The Millennium Busters (born 1996 – 2010)

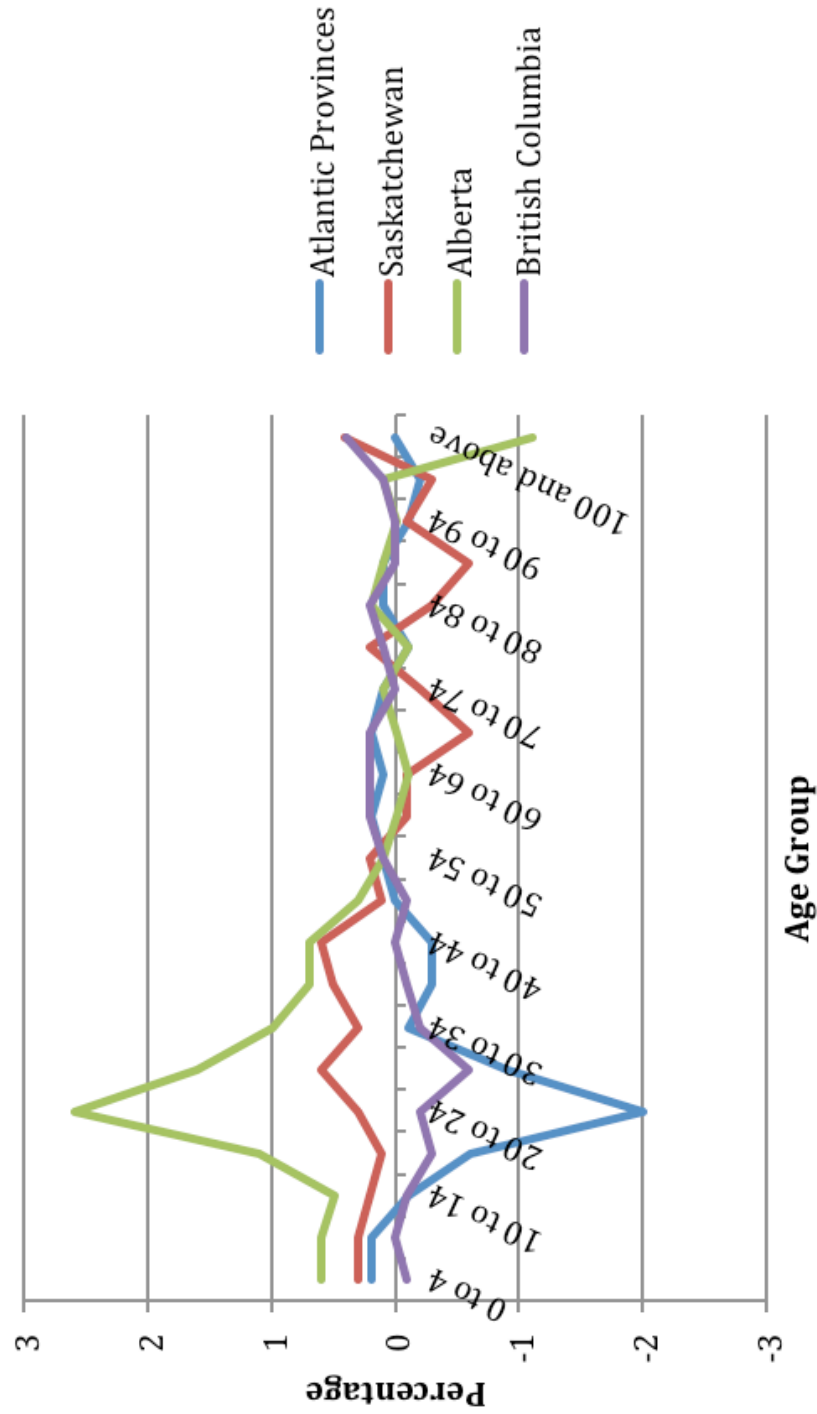
A smaller cohort, deemed the Millennials, is once again following the abnormally large cohort that precedes it. The Millennials are the children of the Baby Busters and are a smaller group than most cohorts before them. While they will likely experience increased

wellbeing throughout their lifetimes for the same reasons as the Depression Babies, the Millennials are not expected to impact consumer demand more substantially than the larger cohorts.

Consumer Base: A Nova Scotian Perspective

Now or Never: An Urgent Call to Action for Nova Scotians (Ivany, D'Entremont, Christmas, Fuller & Bragg, 2014) is a report commissioned by The Nova Scotia Commission on Building Our New Economy, chaired by Ray Ivany, that evaluates the economic outlook of Nova Scotia. Referred to as The Ivany Report, it alerts Nova Scotians of an impending economic downturn that will plague the region if current trends continue. The most prominent trend is the net out-migration of young, working Nova Scotians, which causes the average age in this province to rise more quickly than in other parts of Canada. A second dominant trend highlights the large rural population in Nova Scotia and compares the priorities and preferences with those of larger urban centers in the region, such as Halifax.

Distribution of Net Interprovincial Migration by Age Group (2011/2012)



Willbond, 2014

Figure 4 - Interprovincial Migration by Age Group

Accelerated Aging due to Out-migration

Out-migration refers to the flow of people to other provinces and is usually driven by economic growth elsewhere in the county. Active migrants typically include young, working age citizens between the ages of 20 and 24 who follow job prospects during the beginning of their careers, as shown in Figure 4. In the Atlantic Provinces, the trend becomes less pronounced and even reverses slightly during the early retirement years, between the ages of 50 and 70 (Willbond, 2014). As a result, Nova Scotia loses a great deal of the younger demographic to booming economies, such as Alberta, and adds to the older demographic, which helps give Nova Scotia the second oldest age profile of any other Canadian Province (Ivany et al, 2014) with a median age of 44.1 in 2014, according to Statistics Canada (Willbond, 2014).

In addition, it's been projected that the total population in Nova Scotia will start to decrease from approximately 948 000 in 2011 to approximately 926 000 by 2036 (Ivany et al, 2014). According to The Ivany Report, this is a departure from the consistent population growth experienced in Nova Scotia from a population of approximately 277 000 in 1851. This trend is driven primarily by out-migration, suggesting that the proportion of Nova Scotians over age 65 will increase significantly from about 16% of the total population in 2010 to approximately 28% in 2035 (Ivany et al, 2014).

Immigration Effects

Attracting and retaining new immigrants from other parts of the globe can combat the negative effects of out-migration; Ivany et al (2014) argue that aggressive immigration is

necessary to fuel Nova Scotia's future economic growth. However, while Canada's immigration rate has been between 7.0 and 8.2 immigrants per 1000 Canadians, only 0.9% of immigrants to Canada settled in Nova Scotia in 2010 and 2011 (Chagnon, 2013). The total number of immigrants to Nova Scotia in 2012 was 2370 and the retention rate was estimated at approximately 70% (Ivany et al, 2014). Despite the fact that almost 60% of all immigrants to Canada were between the ages of 20 and 44 and only about 15% were older than 44 (Chagnon, 2013), the small number of total immigrants to this area is not large enough to offset the demographic shift caused by interprovincial out-migration.

Rural Population vs. Urbanization

Nova Scotia is comprised of mostly rural areas and 37 urban areas that have a population of more than 1000. While 7 urban areas have more than 10 000 inhabitants, Halifax is the only large urban center with a population of almost 300 000 (Statistics Canada, 2014); the remaining 6 have populations between 14 000 and 32 000. For this reason, interprovincial migration varies in severity between each region of the province. All regions experienced significant population growth in the early retirement ages of 55 – 74 years, especially Halifax. As presented in Figure 5 however, only Halifax boasts positive in-migration trends for the younger working population between ages 25 and 34 in the ten years leading up to 2012. Many of the other regions in Nova Scotia have experienced population decreases exceeding 30% in the same age brackets during the same time period. For this reason, the effects of aging demographics will be more pronounced outside of Halifax in the rural regions of Nova Scotia.

Age (yrs)	Shelbourne	Yarmouth	Digby	Queens	Annapolis	Lunenburg	Kings	Hants	Halifax	Colchester	Cumberland	Pictou	GuySBorough	Antigonish	Inverness	Richmond	Cape Breton	Victoria
0 to 4	-15%	-17%	-26%	-16%	-12%	-15%	-17%	-4%	2%	-1%	-11%	-8%	-31%	-11%	-25%	-38%	-7%	-14%
5 to 9	-39%	-30%	-24%	-33%	-16%	-26%	-25%	-19%	-16%	-22%	-24%	-20%	-40%	-21%	-23%	-29%	-31%	-23%
10 to 14	-36%	-20%	-20%	-31%	-12%	-27%	-23%	-18%	-19%	-18%	-20%	-22%	-39%	-38%	-31%	-28%	-33%	-27%
15 to 19	-10%	-13%	-19%	-10%	-20%	-24%	-3%	4%	1%	4%	-19%	-16%	-39%	-29%	-28%	-27%	-23%	-33%
20 to 24	-13%	-14%	-22%	-3%	-4%	-2%	33%	2%	20%	11%	-9%	-14%	1%	-4%	-5%	-1%	1%	-7%
25 to 29	-44%	-20%	-40%	-42%	-7%	-20%	-24%	-18%	18%	-5%	-25%	-24%	-38%	14%	-29%	-43%	-2%	-35%
30 to 34	-41%	-18%	-42%	-32%	-14%	-31%	-30%	-15%	1%	-14%	-30%	-20%	-55%	-27%	-40%	-51%	-22%	-26%
35 to 39	-40%	-34%	-42%	-38%	-42%	-41%	-35%	-41%	-12%	-22%	-38%	-26%	-57%	-33%	-49%	-37%	-38%	-50%
40 to 44	-31%	-29%	-23%	-33%	-37%	-30%	-28%	-28%	-6%	-19%	-23%	-28%	-46%	-29%	-36%	-32%	-43%	-46%
45 to 49	-2%	2%	3%	-10%	-1%	-6%	14%	9%	15%	-3%	-3%	-10%	-14%	-14%	-19%	-14%	-21%	-15%
50 to 54	11%	4%	5%	1%	19%	16%	30%	25%	24%	21%	4%	4%	2%	1%	-7%	-2%	3%	3%
55 to 59	31%	25%	18%	14%	17%	29%	37%	43%	53%	40%	32%	37%	9%	35%	22%	18%	34%	27%
60 to 64	44%	52%	31%	43%	40%	48%	47%	59%	76%	49%	33%	66%	32%	76%	51%	51%	39%	63%
65 to 69	29%	56%	33%	37%	38%	49%	40%	43%	60%	52%	25%	57%	29%	64%	64%	44%	29%	51%
70 to 74	9%	7%	11%	11%	20%	31%	34%	14%	30%	27%	14%	14%	12%	24%	40%	7%	12%	22%
75 to 79	3%	-18%	-1%	10%	11%	16%	25%	12%	18%	14%	-3%	-7%	20%	7%	14%	12%	2%	12%
80 to 84	13%	-15%	-9%	7%	-3%	5%	32%	20%	22%	11%	4%	2%	11%	1%	-3%	9%	9%	-13%
85 to 89	20%	-16%	5%	19%	-13%	16%	42%	10%	57%	28%	31%	14%	-24%	-24%	1%	25%	19%	-30%
90 and above	155%	58%	52%	37%	-9%	4%	84%	51%	92%	89%	72%	97%	70%	37%	37%	74%	80%	90%

Ivany et al, 2014

Figure 5 - Population Change in Nova Scotia by Region, 2003-2012

Literature Review

Income: Replenishment During Retirement

Retirement income is a growing concern for the aging population as they exit the workforce and leave their steady paychecks behind. While a growing income helped the Baby Boomers become a high consumption cohort, an adequate retirement income will be critical to cover expenses as they age. A healthy retirement income will also allow them to continue their utility maximizing consumption habits for the remainder of their lives.

LaFrance and LaRoche-Côté (LaFrance & LaRoche-Côté, 2011) stated that the Canadian retirement system achieves high rates of income replacement, in general. High income replacement is typical for all individuals, including those who have and have not contributed to registered pension plans, those who have experienced a change in marital status and those who were attached to the labour market. Canadian retirees are typically able to replenish at least 70% of their pre-retirement income (0.7 replacement ratio). A separate Stats Canada study (LaRoche-Côté, Myles, Picot, 2010) indicates that a replacement ratio of 0.7 corresponds to the highest earning members of the Canadian population. According to the study, the replacement ratio is even better for average and low-income individuals (0.75 and 1.1, respectively), because guaranteed public pension funds, such as CPP, account for a higher relative percentage of their total retirement income (63% for low income and 45% for average income).

Mao and Xu (Mao & Xu, 2014) studied a predominantly older, urban crowd throughout China between 2002 and 2009 and found that individual income and spending increased throughout a person's 20s and 30s and reaches a peak around age 44. Similar to the Canadian study by LaFrance and LaRochelle-Côté (2011), Mao and Xu (2014) determined that the income of participants in their 60s and 70s was approximately 73% of the total earned by those in their 40s.

Expenditures: Propensity to Save and Consume

Life Cycle Theory was tested in a study (Ando & Modigliani, 1963) that proposed that an individual's consumption, year over year, does not fluctuate greatly as they approach and surpass their peak earning years. It is theorized, and affirmed in more recent studies, that an individual will save a larger portion of their annual earnings as their income rises so that they may rely on those savings if their income begins to decrease later in life. "Life-cycle theory suggests that individuals choose a consumption path to maximize lifetime utility, determined by a lifetime budget constraint" (LaFrance et al, 2011, p. 8). In addition, while it has been shown that total consumption fluctuates less than income over an individual's lifespan, consumption inequality varies less than income inequality (LaRochelle-Côté et al, 2010).

When savings are included in aggregate household consumption data, expenditures (including savings) are highest during peak income years and are much lower after the occupants of the household have retired. Similarly, a study of the Norwegian population (Erlandsen & Nymoén, 2008) concluded that a middle-aged population devotes a larger

portion of its income to savings and, therefore, “aggregate consumption decreases when the share of the middle-aged persons in the population increases” (Erlandsen et al, 2008, p. 517). Likewise, LaFrance and LaRochelle-Côté (2011) observed that total household consumption drops significantly as the occupants grow older. It was also observed that expenditures decreased in the Chinese population studied by Mao and Xu (2014).

However, when researchers disaggregated information gathered about Canadian household spending, a synthetic cohort approach was employed to identify recurring patterns as groups of Canadians aged (LaFrance et al, 2011). To accomplish this, the study examined pre-1997 data from the Survey of Family Expenditures (FAMEX) and post-1997 data from the Survey of Household Spending (SHS). Controlling for the number of occupants and expressing values in 2002 constant dollars, the synthetic cohort approach was “based on the assumption that people, say, 70 years of age in a survey collected in 2010, are deemed representative of those age 40 in a similarly designed survey in 1980” (LaFrance et al, 2011, p. 6).

Household expenditures were then divided into four categories:

1. Gifts to charities or individuals;
2. Personal security, including public and private pensions and insurance plans, but excluding payments to RRSPs and other registered savings plans;
3. Taxes, including taxes on consumption and property; and
4. Consumption, which includes durables (house, car, furniture, etc.) and non-durables (food, clothes, hobbies, etc.).

Not surprisingly, the study showed that consumption was the largest expenditure for most Canadian homes.

LaFrance and LaRochelle-Côté (2011) found that total household expenditures tended to increase by more than 10% toward their peak value as a cohort aged from their 40s to their 50s and then declined by approximately 25% as the group reached their 70s.

However, the consumption category remained relatively constant throughout the same time period decreasing by about 7.5% between the cohort's 40s and 60s and then returning to within about 2.5% of its peak by their 70s. The consistent spending on consumption in aging Canadian households aligns with the 50 year old assumptions of Life-Cycle Consumption Theory (Ando et al, 1963). Therefore, while an individual's marginal propensity to save may change dramatically throughout their adult life, the rate at which they consume remains relatively constant after age 40. This is a significant finding that will help predict the future consumption rates of Nova Scotia's Baby Boomers based on their current consumption rates; aging of the population alone will have no significant impact on total consumption rates in Nova Scotia.

It is important to note, however, that this observation is dependent on the country in which the person lives. The study of the Chinese population (Mao et al, 2014) found that the aging population tended to increase their savings even after retirement, which led to decreased consumption in old age. This was attributed in part to the unpredictable need for expensive medical services during old age, because the Chinese population did not benefit from a free healthcare system like the Canadians. An increased propensity to save

during old age was also driven by Chinese cultural traditions, which see older individuals savings for their offspring to offset the large expenses encountered at the beginning of adulthood.

Budget Allocation: Changes due to Aging

It is worth noting that the relative make-up of the consumption expenditure evolves, as a cohort grows older. To highlight this phenomenon, LaFrance and LaRochelle-Côté (2011) considered four major components that make up the consumption expenditure category presented above. Those components are:

1. Residences and properties, including maintenance, utilities, and operating expenses;
2. Transportation, including public and private transportation expenses and automobile maintenance;
3. Food and personal care, including clothing, health care paid for by the individual; and
4. Other items, which include non-essential household items and spending on recreational activities such as reading or alcohol consumption (LaFrance et al, 2011).

Households in their 40s spent a little more than a third of the consumption budget on food and personal care, a little less than a third (~30%) on residences and properties, and less than 20% each on transportation (16%) and other items (18%). As households aged they tended to spend almost half (~43%) of their consumption budget on residences and

properties. A significantly decreased proportion was spent on food and personal care (~28%) and spending on other items such as alcohol and tobacco declined significantly as well causing that category to decrease to about 12%. The study argues, “were it not for a significant decline in the money spent on furniture and equipment, the increase in overall spending on residences and properties would have been even higher” (LaFrance et al, 2011, p. 7). This implies that members of the aging cohort achieve higher utility from improvements to their residences and properties than from activities we typically associate with retirement, such as vacationing in the tropics.

Another study (Aguiar & Hurst, 2013) based on an American population controlled for family composition and concluded that a decline in non-durable expenditures after middle age is caused by changes in three main categories: food, nondurable transportation and clothing/personal care. It showed that no decline occurred after age 45 in other nondurable expenditures, such as housing services, utilities, entertainment and charitable giving. According to Aguilar and Hurst (2013), the three shrinking, non-durable expenditures are directly associated with an individual’s attachment to the labour force, because leaving the home for work creates otherwise non-essential spending on convenience foods, daily commutes and work specific clothing. After retirement, the individual continues to eat at restaurants with table service, but no longer frequents fast-food establishments or cafeterias. Transportation costs are proportional to the amount of time spent travelling, so when an individual stops commuting to work each day their transportation expenses drop significantly. It was noted that local leisure travel may increase, but a net decrease in transportation expenditures remained.

Inferior Goods: Keeping Up with the Joneses

One major determinant of consumer choice is a product's perceived ability to display wealth and individuality for the buyer. Conspicuous goods satisfy this need by signifying prestige and social status to an audience. "Conspicuous consumption can be defined as the act of buying a lot of things, especially expensive things that are not necessary, in a way that people notice" (Shukla, 2008, p. 26). Utility is derived from others' reactions rather than from practical necessity.

A study performed in the UK (Shukla, 2008) examined the psychological elements that influenced the purchasing decisions of a middle-aged population. Middle-aged consumers (40 – 60 years old) were considered one of the most important segments, because they had larger disposable incomes and greater access to credit than any other age group. Whether male or female, middle-aged consumers typically focus their conspicuous consumption habits on big-ticket items such as large homes and luxury cars, while younger cohorts focus on clothing and consumer electronics. In addition, it was found that middle-aged consumers prefer high quality, aesthetically pleasing products that are associated with youthful self-concepts and being natural. Interestingly, middle-aged consumers use conspicuous consumption to showcase their individuality and achievement rather than to gain respect or social status.

Discussion

The aging population is typically associated with an increased need for medical services, which will strain the health care system and drive up taxes for the rest of us. Regardless of any truth to that association, it will be difficult for private businesspeople to find economic opportunity in the health care system. Entrepreneurs can't easily create profitable inputs to the publicly funded and operated health care providers. They must, therefore, see past their personal attachment to those rising tax costs and identify needs that can be supported through private enterprise; they must capitalize on the evolving consumption budget of the aging population.

The changing preferences of the Baby Boomers might align with global market trends, such as environmentally friendly products or buying local. However, the products that have an advantage in Nova Scotia might also conflict with dominant international trends making it difficult to capitalize on local and export markets simultaneously. The predictable nature of demographics gives local business owners necessary information to successfully implement adapted business strategies that reduce their reliance on interprovincial and international trade development. By focusing on the needs of Nova Scotians, small businesses can create a lasting local presence for the long-term.

Losses: Potential Areas of Consumption Decline

The literature confirms that retiring Canadians replenish a healthy portion of their pre-retirement income and that their individual consumption rates are relatively consistent

with their pre-retirement budgets. The literature also confirmed that individual needs, preferences and spending habits change after retirement. These important discoveries indicate that overall consumption will remain constant in Nova Scotia as the population ages, but there will be a noticeable shift away from sectors that no longer appeal to Baby Boomers specifically. The literature also indicated that the biggest negative shift would occur in areas associated with career requirements and daily work routines.

First, the Baby Boomers will have a significant negative effect on the sale of convenience foods in our region. For example, those that eat fast food for work lunches or bring pre-packaged meals will likely eat at home more often after retirement. Similarly, the sales of morning drive-thru coffees will likely decrease with fewer Baby Boomers performing the daily commute into the office. Of course, these effects are based on the assumption that the Nova Scotia workforce will decrease significantly as the Baby Boomers retire. The demand for convenience food could remain constant, however, if the workforce can be successfully replenished by delaying retirement or attracting working aged people from other provinces or countries.

Secondly, those senior employees that treated clients and colleagues to business dinners will extend the negative demand shock to fancier downtown restaurants and pubs as well. Expenses on any non-essential work related activities, such as alcoholic drinks or cigars, are expected to decline along with the convenience foods as work parties and social engagements tend to decline as an individual exits their career oriented lifestyle.

Spending on beer is expected to decline more significantly than spending on wine, because beer is more often consumed with co-workers in casual social settings.

Third, Baby Boomers exiting the workforce are predicted to decrease their spending on clothing and personal care products. The relaxed atmosphere of retirement eliminates the need for a work specific wardrobe. Retirees can wear whatever they feel most comfortable in and may move away from expensive accessories that aren't necessary in their daily lives. Spending on conspicuous goods, such as designer purses or brand name watches, is expected to decline more noticeably than on everyday items, such as warm jackets or blue jeans. In addition, luxury clothing items and accessories were most likely purchased during middle age and will not need replacing. Therefore, the downward shift on clothing expenditures may affect luxury boutiques more severely than department stores.

Fourth, the decline of conspicuous consumption throughout Nova Scotia will affect the sales of big-ticket items, such as luxury cars and dream homes. However, since the Baby Boomers have already purchased these conspicuous goods during middle age, decreased spending in these areas will result in two different outcomes simultaneously. Initially, the market for these items will shrink as the Baby Boomers taper spending and demand from the next cohort, the much smaller Baby Busters, fails to keep up with any newly produced supply; the manufacturers of new big-ticket items will see a drop in sales revenue.

Subsequently, the Baby Boomers will start to downsize to smaller homes with fewer vehicles, which will flood the market with used luxury cars and mansions. The resulting

oversupply will put downward pressure on the price of new and used equivalents; manufacturers will see increased competition from second hand sales and a further decline in sales revenues. In the extreme case, an oversupply of affordable luxury goods would make otherwise inferior alternatives far less desirable for all other consumers and disrupt prices across entire market sectors.

These areas of decline will affect many Nova Scotians, especially if the products are produced locally. A significant decline in real estate prices, for example, could have negative effects on the livelihoods of local homebuilders, condominium developers and any associated contractors. On a large scale, a major decline in real estate prices could have long-term negative effects on younger cohorts who have recently purchased new homes, but result in financial gain for younger, potential homebuyers who will purchase their first home sometime in the future. On a smaller scale, a decline in fast food or retail clothing sales could mean fewer low-skill and part time jobs for young people trying to enter the workforce. It will be important to identify these and other losses early and adapt accordingly.

Gains: Potential Areas of Consumption Growth

Almost half of the retired Canadian's budget is allocated to property and residences, so any products that enhance life in and around the house will be a good fit for an aging demographic. It's expected that retiring Baby Boomers will spend an increasing amount of money on home renovations whether they downsize their homes or not. Renovations are likely to take the form of conspicuous consumption and provide an outlet for Baby

Boomers to express their appreciation for high quality products, pleasing aesthetics and their association with being natural. The increased expenditures on residences, despite the fact that Baby Boomers likely already own their homes, indicate that a great deal of value will be placed on expansions and improvements to active living spaces, such as kitchens and backyard patios. It's also expected that all renovations will include high quality, high price materials that create luxurious amenities. This area may be an appropriate sector for homebuilders to combat losses caused by the previously discussed declining need for new home construction.

Home renovations may also be intended to provide increased mobility throughout the home and property. As the Baby Boomers age, they may not be able to move around their large, multi-level homes as easily. However, the possibility of housing market saturation will make it difficult to sell large homes to younger cohorts, especially in rural areas of Nova Scotia where outmigration leaves fewer homebuyers. As a result, the design and installation of innovative products will be required to enhance accessibility to existing structures. This need for increased accessibility will extend to public spaces as well.

There will be an opportunity for novel product development to overcome obstacles in ways that implement local resources and advanced technology. New services may even be appropriate to address specific personal needs such as cooking, cleaning, household maintenance or running routine errands in the community. Services that specifically address the restrictions imposed by harsh winter weather may also become critical to the wellbeing of aging Nova Scotians, especially in very rural or secluded areas.

For healthy retirees, a renewed appreciation for the home will foster an interest in new leisure activities as well. As the aging population spends money to improve their homes, they will have more time than ever to fill with activities on their newly renovated property. Household leisure activities may include exercising at home, which may require new in-home fitness equipment. Of course, fitness equipment tailored to the needs of the aging population will do better than generic alternatives marketed to a younger, athletic demographic. Recreation may also include low impact activities away from the home like swimming, walking, golfing or fishing.

Dr. David Foot (2000) identifies recreational gardening as a leisure activity that's likely to gain popularity quickly as Baby Boomers retire. Growing plants, such as flower, herbs or fresh vegetables, is a therapeutic activity that can be done on any size property, in containers on a patio or inside the home. The demand for gardening products, such as tools, containers and seeds, is expected to grow significantly as Baby Boomers discover the ability to grow their own food, which aligns with their socially responsible mindset and identity with nature. They may even gain a higher utility from expanding their knowledge of gardening through classes and seminars in the community.

Local, recreational travel may also appeal to the healthy and mobile aging population.

Nova Scotia is known as a popular tourist destination and the Ivany et al (2014) identified Nova Scotia's tourism strategy as an exemplary initiative. This strategy should include a major focus on local retirees who have time and money to travel throughout the province.

Attractions that are central may facilitate shorter day trips and make it possible to return home in the evening. Rural businesses may capitalize on the increasing number of local “tourists” by providing high quality dining and accessible accommodations that appeal to the aging crowd. Accessibility will be key to attractions that lure Baby Boomers away from the comfort of home to enjoy Nova Scotia’s beautiful ocean views and rugged, natural landscapes.

Recommendations

Based on the discussion above, it may be concluded that an approaching demographic shift will have severe consequences. Nova Scotian entrepreneurs must anticipate goods and services that will likely experience decline and growth. By considering the points below, financial loss may be minimized and additional profits could be gained.

1. Products that enhance accessibility will be critical to the well being of the aging population. These products should address accessibility requirements with simple and aesthetically pleasing designs. The primary goal should be to remove obstacles to mobility within the home and throughout public spaces that appeal to the aging explorer and traveller.
2. Products and services that complement leisure activities around the home will be in high demand. Sectors such as recreational gardening and cooking are key targets, because they involve low impact activities that can be done without leaving the home. Educational seminars and local workgroups that build the skills required to enjoy these activities will help create community involvement.
3. Tailored services that eliminate high energy or labour intensive activities, such as snow removal, will be in high demand. Baby Boomers forced to remain in large, rural homes will benefit most from premium home maintenance programs that are attentive to their specific needs and expectations. The implementation of new technology may be appropriate, but a tailored and personal feel will likely be more desirable.

Conclusion

The aging population will have a significant and lasting effect on the economic landscape in Nova Scotia. There will be sectors that experience decline and others that grow substantially as the provincial demographic evolves. It is important that Nova Scotian entrepreneurs take note of how they may adapt to these imminent changes. Those who understand the ways in which demographic change drives the economy will continue to create healthy economic growth in our region for the benefits of our society.

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