
Changing People Changing Places: *Demographic and Economic Change in British Columbia*

Prepared by
David Baxter, Andrew Ramlo and Erin Ramlo
Urban Futures

For Outlook 2020
The Business Council of British Columbia

U R B A N F U T U R E S
Strategic Research to Manage Change

Copyright 2009

The authors wish to thank David O'Neil, Dan Schrier, and Lillian Hallin of British Columbia Statistics and Ted Brown of Statistics Canada for their ongoing assistance in helping us source and understand the strengths and weakness of rare and wonderful data sets. In acknowledging this assistance, it is important to also acknowledge that the contents of this report, and the tabulations and analysis it presents, are fully the responsibility of the authors.

The opinions expressed in this document are those of the author and do not necessarily reflect those of the Business Council of British Columbia. Permission to use or reproduce this report is granted for personal or classroom use without fee and without formal request provided that it is properly cited. Copies may not be made or distributed for profit or commercial advantage.

Urban Futures

Changing People Changing Places: *Demographic and Economic Change in British Columbia*

Executive Summary

British Columbia's population is growing older much faster than it is growing; over the coming years the 65 plus population will grow at more than three times the rate of the working aged population. This has profound implications for what we require from our economy and its ability to meet these expectations. The 30 percent of our population in the Post World War Two baby boomer cohort – currently aged 44 to 63 – has begun aging into retirement, leaving the labour force just as a smaller younger age group enters it. The result will be significant growth in the number of people who are the primary beneficiaries of age specific transfer programs, such as health care and pension plans, at a time when the number of labour force participants, the primary contributors to these programs, is growing modestly.

The rapid growth of the older population means that we will seek proportionally more from our economy in the future than we have in the past. At the same time, the slow growth of the labour supply contribution to the economy has the potential to constrain its ability to provide the goods and services residents require and expect. To avoid this, more of us are going to have to work, and work later in life; we are going to have to increase our productivity; and we are going to continue to welcome people from the rest of the world to help us with the work.

In doing so, we may be challenged to find enough work, as our economic future may not be as bright as its past, the result of long run changes in the export base that provides us with the means to pay for the goods and services we must import. What we can produce locally without wasting resources is restricted by what we have to work with (our resource endowment) – it makes neither economic nor environmental sense to attempt to grow tea or coffee in British Columbia. The limit is not only on the diversity of what we can produce, but also on its amount – if the residents of the Lower Mainland had to rely solely on local production of fish, the Fraser River salmon run would be wiped out in a year. Further, our small and dispersed population means that we do not have the scale to produce locally the wide range of manufactured goods that define our day to day existence –there is no 100-mile menu for cell phones or ambulances.

The reality of a narrow range of things that can be reasonably produced within the province means that we must import, which means we must export. This was succinctly put, in the national context, by Paul Krugman, the 2008 Nobel in Economics: “What a country really gains from trade is the ability to import things it wants. Exports are not an objective in and of themselves; the need to export is a burden that a country must bear because its import suppliers are crass enough to demand payment.”

While the range of the export products that make up British Columbia's economic base has diversified over the past decades, at the core British Columbia does much as it always has, which is to import manufactured goods from rest of Canada and the world and sell natural resource-based goods and services to pay for them. Our economic foundation is increasingly exposed to both internal challenges (such as the devastation caused by the mountain pine beetle) and external ones (ranging from increasing trade barriers through volatile commodity prices to increased competition).

We are particularly dependent upon the international market place, with two thirds of our export income coming from international sales. In this regard, our customer list is not diverse, concentrated as it is in sales to the United States (averaging 60 percent of international merchandise sales over the past five years) followed by Japan in a distant second place (13 percent). This dominance of two markets, both of which face serious economic challenges, introduces significant risk to the province's economy. These risks have been revealed in the poor performance of our international trade position over the past two years when, for the first time in history, British Columbia has run an international trade deficit.

Expanding and diversifying our export sales will be fundamental to sustaining our standard of living and our social programmes during a period when our population is rapidly aging. The demographic and economic changes the province faces will raise two fundamental questions that we must answer:

- a) How can we, collectively and individually, best respond to the significant social and economic changes that will occur as the province's population ages?
- b) How can we find the workers, the work, and the productivity necessary to ensure that our economy will provide us with the goods and services, both imported and produced within the province, which we will require in the future?

No matter how we choose to answer these questions, strategically or otherwise, the quality of the rest of our lives will largely be determined by how well we do so.

Table of Contents

Executive Summary 0

I. Introduction 1

II. Us, being and becoming..... 2

 II.A. As We Are 2

 II.B. Vital Rates 2

 II.C. What Will Become of Us? 4

 II.D. Contributors and Beneficiaries 7

 II.E. Consequences of Aging 9

 II.F. Getting Help 14

III. It's The Economy 22

 III.A. Trading People Trading Places 22

 III.B. Scaling the Provincial Economy 25

 III.C. A Changing Economy 28

 III.D. Changing Trade 29

 III.D.1. Trading Provinces 29

 III.D.2. Trading Countries 31

 III.D.3. Trading Partners 33

 III.D.4. Changing Sales 35

 III.E. Our Changing Future 37

IV. Managing to Change 40

 Recommendations 40

Sources, citations, and sidebars..... 42

Changing People Changing Places: *Demographic and Economic Change in British Columbia*

I. Introduction

This report was prepared in response to a generous invitation from the Business Council of British Columbia, as part of its Outlook 2020 research project, to present an overview of the changing demography of British Columbia and the major implications of this change for the province and its residents.

In this report, demography is considered in its narrowest sense, with a focus on projections of the size and age composition of the population (Section II). These projections show that the province's population will grow older as the baby boomer cohort ages into retirement; leaving the labour force at the same time as today's much smaller, younger age groups enter it. This pairing means a rapid growth in the beneficiary population of transfer programs, such as health care, at a time when the contributory working age population is growing slowly.

The aging of the province's population means that we will require proportionally more from our economy and from our workforce in the future than we have in the past. Given the greater demands that our demography will impose on our economy, this report also presents an overview of trends in the province's economic base (Section III); this review indicates that we cannot assume that the economy will be able to meet these demands. While the province's economic base, in terms of both our export products and our customers, has diversified, it remains dominated by natural resource industries, industries which are increasingly exposed to both internal challenges (such as the devastation caused by the mountain pine beetle) and external ones (ranging from trade barriers through the volatility of commodity prices to increased international supply competition).

Combined, the demographic and economic changes that the province is facing will pose two fundamental questions that we must answer:

- c) How can we, collectively and individually, best respond to the significant social and economic changes that will occur as the province's population ages?
- d) How can we find the workers, the work, and the productivity to ensure that our economy will provide us with the goods and services, both imported and produced within the province, which we will require in the future?

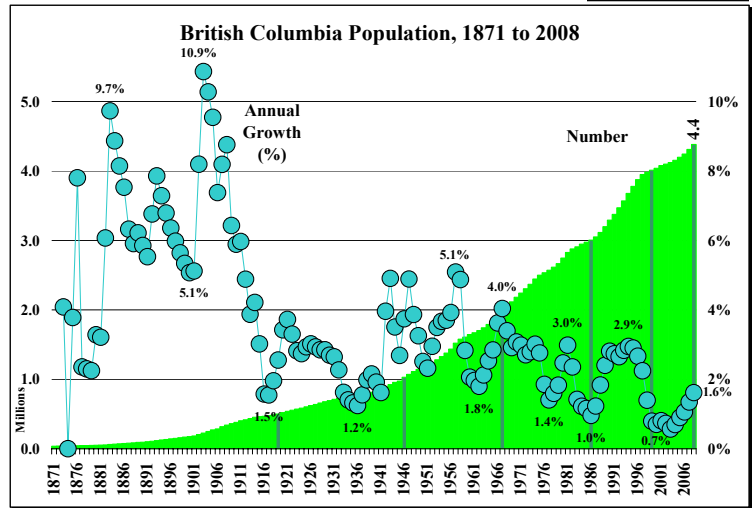
No matter how these questions are answered, strategically or otherwise, the people of British Columbia are facing a period of profound and unprecedented demographic change - the quality of the rest of our lives will largely be determined by how well we choose to respond to them.

II. Us, being and becoming

II.A. As We Are

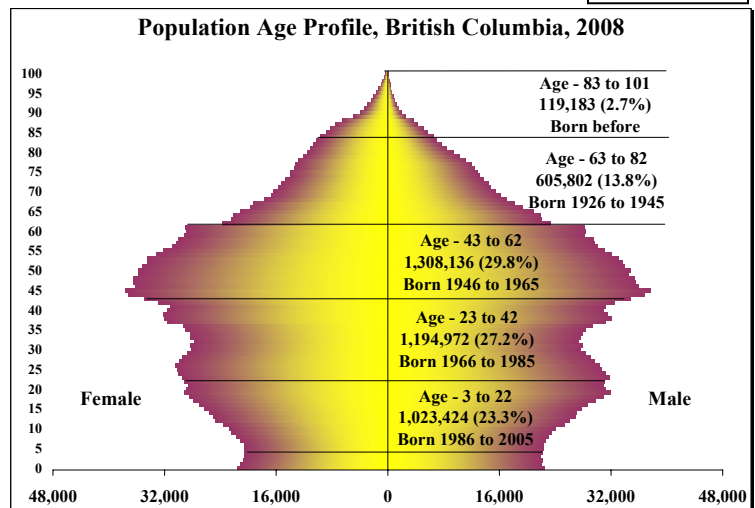
Here we are, the 4.4 million of us living in British Columbia. There are more of us now than ever, a hundred times the number we were back in 1871 when the province joined Canada; 4 times the number at the end of the Second World War, and twice the number there were in 1971, a century after our confederation (Figure 2.1)¹. More significantly, we are the oldest we have ever been, with only half of us under the age of 42; in 1971, when half of us under the age of 28, we were at our youngest.

Figure 2.1



The single largest age group in our population is comprised of those of us born in the 1946 to 1965 post World War Two baby boom; these boomers, the 1,308,136 people aged 43 to 62 in 2008, accounted for 29.8 percent of the 2008 population (Figure 2.2)². Having said this, the twenty year cohort that was born just after the boomers (between 1966 and 1985) is only slightly smaller; the 1,194,972 of us in the 23 to 42 age group accounted for 27.2 percent of the population. In contrast, the next younger twenty year cohort, those aged 3 to 22, is smaller than either of these two groups; with the 1,023,424 youngsters born between 1986 and 2005 accounting for only 23.3 percent. At the top of the age profile, the 605,802 of us who were born just before the boomers, during the low birth rate 1926 to 1945 period, were 2008's 63 to 82 year olds, accounting for 13.8 percent. The oldest age group, the 119,183 folks born before 1926 were 83 years of age or older in 2008, and accounted for the remaining 3.1 percent of the province's population.

Figure 2.2



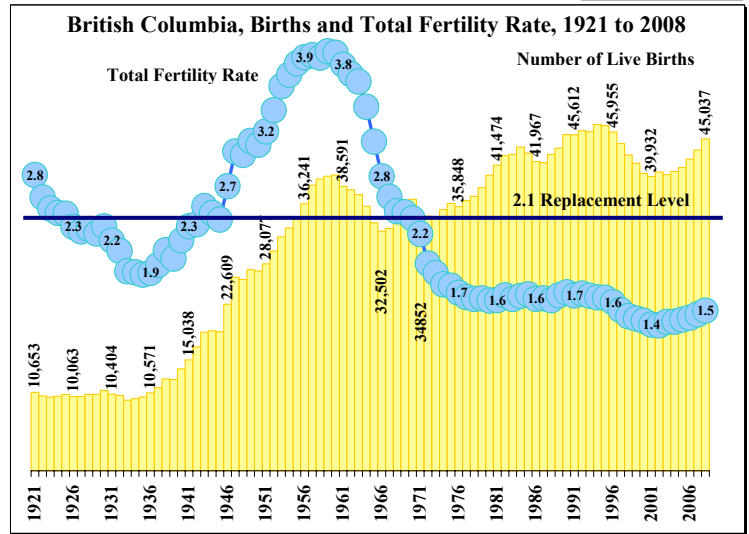
II.B. Vital Rates

The births and birth rates that largely shaped the province's current demography include two decades of high birth rates (during the 1946 to 1965 period) followed by four decades (from 1967 on) of relatively low birth rates³. Augmenting the effects of natality on our age profile were increasing life expectancies and an increasing relative role of migration in demographic change. These forces will continue to shape our population in the future, with migration and births determining the size of the younger population, and aging and mortality (more pleasantly, life expectancy) determining the size of the older population.

The total fertility rate, the number of children a woman would give birth to during her lifetime at prevailing age specific birth rates, is the benchmark rate in measuring the demographic consequences of changing birth rates. If the total fertility rate is above the replacement level of 2.1 children per woman, over the long run without migration a population will grow larger and younger. If it is below this replacement level, the population will shrink in size and grow older.

Figure 2.3

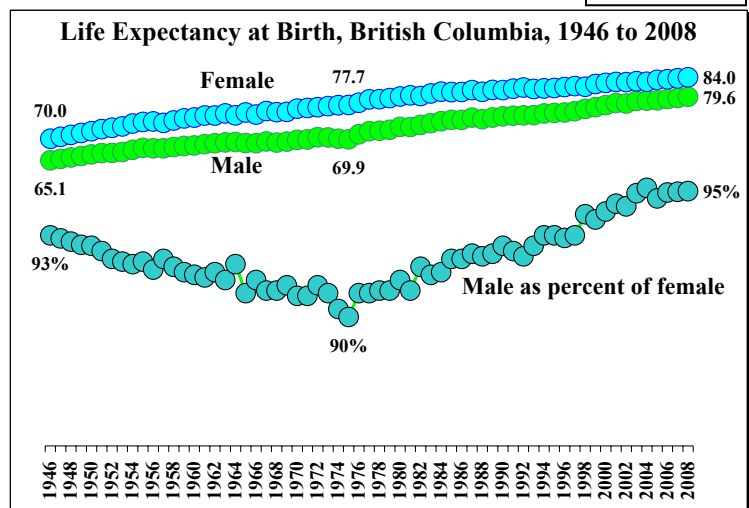
Over the past three decades, the total fertility rate in British Columbia has been well below the replacement level, holding relatively constant in the range of 1.4 to 1.6 children per woman (Figure 2.3)⁴. This is in distinct contrast to the preceding decades, when it was above the replacement level. For example, at the peak of the post WWII baby boom, between 1956 and 1961, the total fertility rate averaged 3.9 children, the highest birth rate in the post 1921 period. After 1965, the birth rate fell dramatically, reaching 1.9 by 1972 (half of its 1959 level), before stabilizing in the 1.4 to 1.6 children per woman range⁵. Extending the historical pattern of change in age specific birth rates into the future results in a total fertility rate that is essentially the same as today's (and a timing of births that is just a little later).



At the other end of the demographic spectrum, mortality has also changed dramatically over the past half century, with declines in age specific mortality rates resulting in a 20 percent (14 year) increase in life expectancy since 1946 (Figure 2.4)⁶. The life expectancy for a female born in British Columbia today is 14 years longer than the 70 years of life that a female born in 1946 could anticipate (and 20 years longer than the 64 years a female born in 1921 could expect). Even more dramatic changes in life expectancy have occurred for males, with a male born in 1921 having a life expectancy of only 60 years, and one born in 1946 of 65 years, compared to the 79 years that one born today can anticipate.

Figure 2.4

Between 1946 and 1976, while both male and female life expectancies increased, female life expectancies increased more rapidly. As a result, the province's older population became disproportionately female. Since 1976, however, male life expectancy has increased faster than that of females, something that will, in the fullness of time, reduce but not eliminate the significant difference between the number of females and males in the older population. Extending the historical pattern of declining age specific mortality rates into the future results in a projection of life expectancy



continuing to increase (albeit at a slowing rate) and a continued narrowing of the gap between male and female life expectancy. Given these projected life expectancies, with almost a third of us currently between the ages of 43 and 62, British Columbia can anticipate a lot of 65th, 75th and even 85th birthdays in the future. The aging that these birthdays represent will have a profound effect on the age composition of the province’s future population.

II.C. What Will Become of Us?

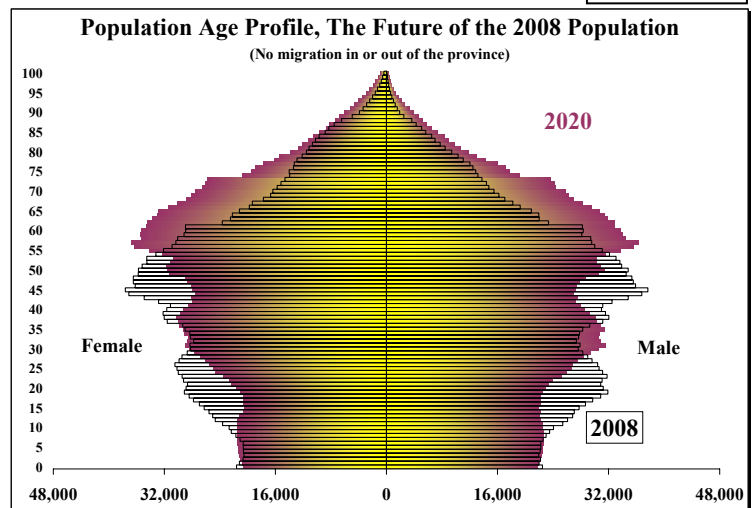
In looking to the future, it is useful to first consider what will become of us, the 4.4 million people who currently live in the province, before turning to a consideration of those who may move here to join us. Thus, in this section, the focus is on the consequences of aging, births and deaths of the province’s current population.

There are three ways such an analysis might be characterized. First, it is a description of how births, aging and deaths in the future will affect those of us already here – it describes the rest of our lives. Second, presuming that we all remain here, it is a description of the demographic future of the province without migration (neither in nor out). Thirdly, it is a description of how the future of those of us already here will shape the province’s demographic future, as we will comprise the majority of the province’s future population – even three decades from now, survivors of the 2008 population and their descendents will make up two thirds of the province’s population.

The answer to the question “what shall become of us?” is that we will become older, in part because of the continuation of below replacement level birth rates, in part because of increasing life expectancies, and in part because of the aging of the baby boom cohort. Applying projected age and sex specific birth and death rates to the province’s 2008 population shows how we will change over the rest of our lives. At trended life expectancies, 90 percent of us will be around in 2020 – and we will all be 12 years older. This aging, without migration, will shift the province’s population age profile up into older age groups; the typical person in 2020 would be in the 56 to 60 age group (2008’s typical person aged 44 to 48 plus 12 birthdays, Figure 2.5)⁷.

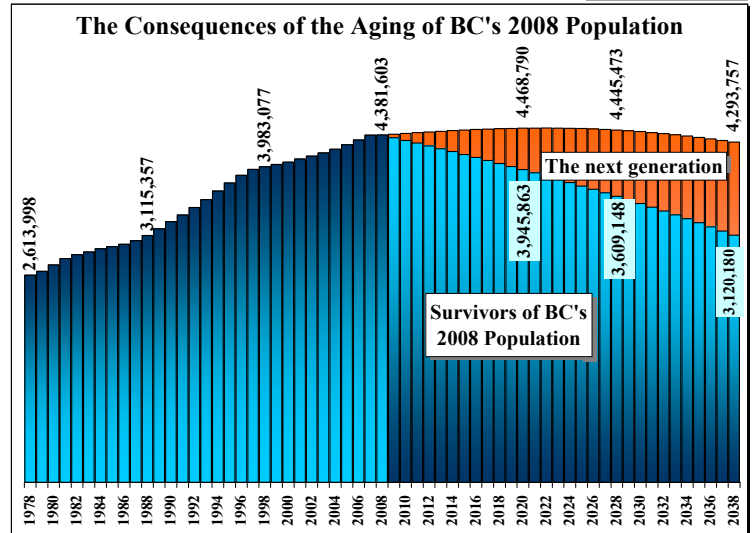
The first of the baby boomers will be 74 in 2020, compared to 62 in 2008, and the last of them will be 55. There were 1.32 million people in the population aged 53 and older in British Columbia in 2008; without migration, the survivors would be the 933,000 people aged 65 plus in 2020’s population. As there are only 636,000 people aged 65 plus in the population today, our aging over the next 12 years will increase the 65 plus population by 297,000 people, a 46 percent increase.

Figure 2.5



Without migration, every person in the province 12 and older in 2020 would be someone who lived here in 2008; in total, there would be 3,945,863 survivors from the 4,381,603 population of 2008 (Figure 2.6)⁸. Every person here in 2020 under the age of 12 would be someone born to a woman who was here in 2008. In 2008 there were 1.12 million women in our population between the ages of 5 and 44, women who will be in some part of the child bearing stage of the life cycle over the next twelve years. Births to these women would add (net of mortality) 524,000 people under the age of 12 to the population over the next twelve years. As there are currently 531,000 people under the age of 12, the younger population would decline by almost 2 percent over the next twelve years without migration into the province.

Figure 2.6



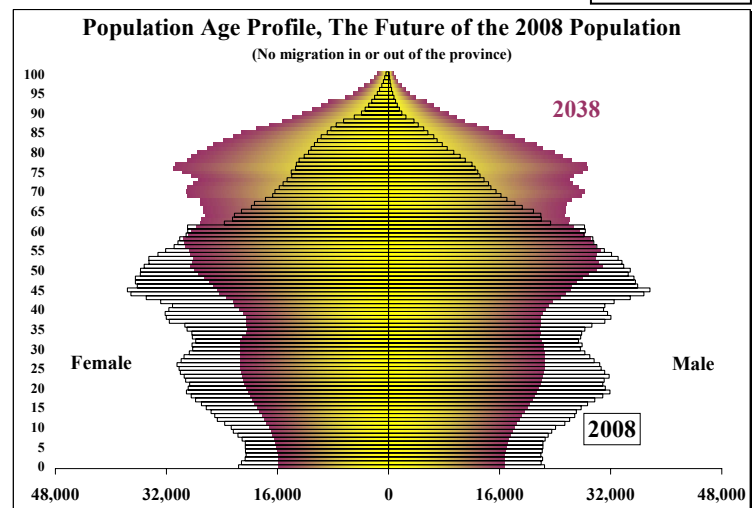
With 3.95 million survivors and 524,000 kids under the age of 12, the total population in 2020, without migration, would be 4.47 million people; just slightly more than the 4.38 million here today. Thus, between now and 2020, long and increasing life expectancies will lead to both aging and growth of the population, even with below the replacement level birth rates and without migration. After 2020, however, aging and mortality would catch up to natality; without migration the population would begin to decline. Only 82 percent of us (3.61 million) would make it to 2028, and just 71 percent (3.12 million) to 2038. The net accumulation of the future births of our kids, grandkids and great grandkids would add 1.17 million people (all under the age of 30), for a total of 4.29 million residents by 2038, just slightly less than the 4.38 million today.

While without migration the number of people in the province would not change significantly over the next three decades, the age profile most certainly would; aging would make the age profile distinctly top heavy by 2038 (Figure 2.7)⁹. This is the result of the 71 percent of us who

Figure 2.7

were here in 2008 who survive to 2038 all being thirty years older, and the shrinking of the younger population as a result of below the replacement level birth rates. The vital changes of births, aging and deaths that we will experience over the next 30 years would result in a decline in the number of people in every age group under the age of 62 (today's front edge of the baby boom) and an increase in the number of people of every age 62 and older.

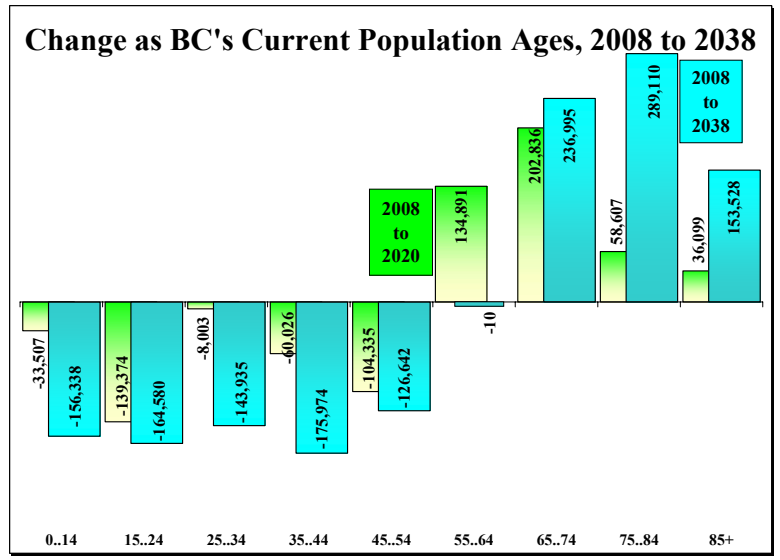
With no migratory additions or losses, the 2038 age profile would display a noticeable bulge at age 75, to mark the aging of today's typical



residents (2008's 45 year olds). These boomers will remain the province's typical residents, in spite of the fact that mortality will have begun to take its toll; even with increasing life expectancy, only 62,000 (83 percent) of today's 75,000 person population of 45 year olds would make it to their 75th birthday.

Figure 2.8

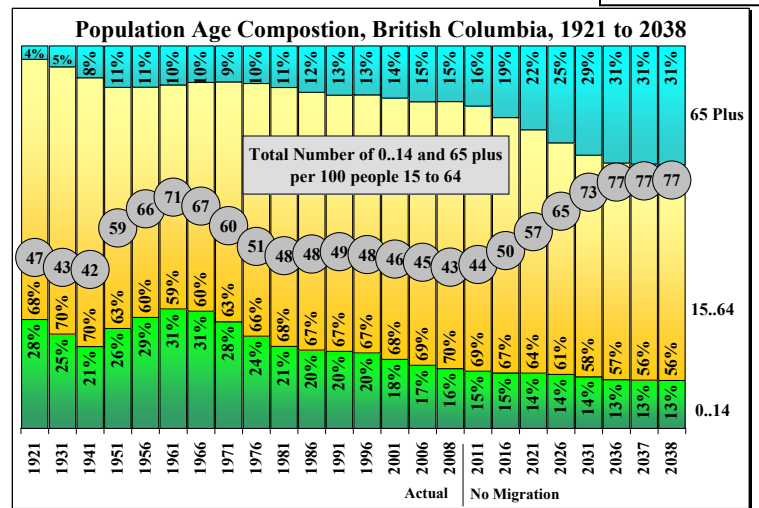
Without migration, by 2038 everyone 30 plus in the population would be someone who is here today; everyone under the age of 30 would be someone born to current residents and their descendents. Births would add 1.2 million people under the age of 30 over the next thirty years, an impressive number until it is compared to the 1.6 million people under the age of 30 today. Thus, without migration, our below the replacement level birth rate would result in a 26 percent (nearly half a million persons) shrinkage in the population under the age of 30.



The consequences of this demographic shift will be felt most significantly in the number of people of working age. Using the standard age groupings used in labour supply analysis, without migration, the population in the prime working stage of the life cycle (25 to 54 years of age) would decline by 9 percent (172,000 people) by 2020, and by 23 percent (447,000 people) by 2038 (Figure 2.8)¹⁰. The 15 to 24 year old labour force entry age group would decline by 23 percent by 2020, and 28 percent by 2038. The population in the early retirement 55 to 64 age group would increase impressively (19 percent) in the near term as the last of the baby boomers age into it over the next decade, but would decline thereafter as they age out of it. As a result, this age group would record no net change over the next thirty years. The greatest increases would be in the older age groups outside of the usual working stage of the lifecycle, with a 46 percent increase in the number of people 65 plus over the next twelve years and a more than doubling (103 percent increase) over the next thirty.

Figure 2.9

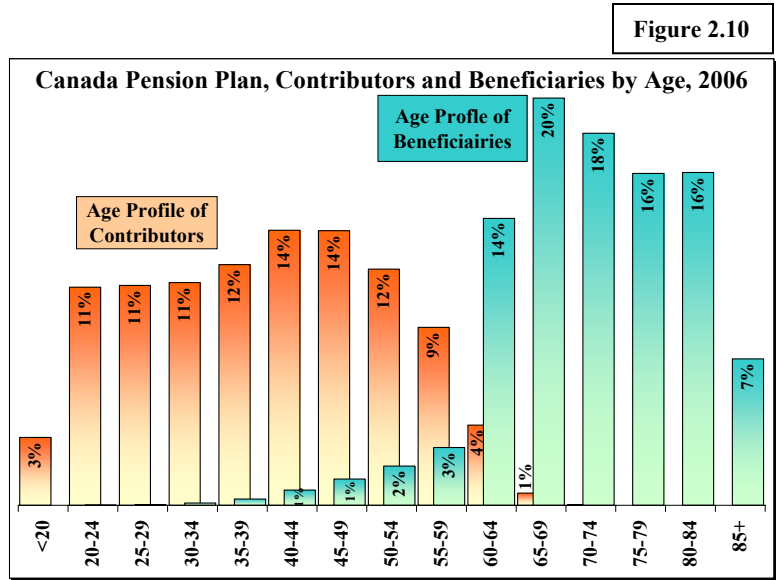
This future aging would continue the pattern that the province has experienced since 1971; the 65 plus population increased from 9 percent of the total population in 1971 to 15 percent in 2008, while the under 15 population declined from a 28 percent share to 16 percent (Figure 2.9)¹¹. Between these two extremes, the working aged 15 to 64 age group increased from a 63 percent to a 70 percent share. The net result of this pattern has been a period from 1981 to 2008 (that will continue to 2011) where the ratio of the number of people aged 0 to 14 plus the number of people 65 and older compared to those of working age has been at



very low levels (in the range of 45 to 48 people not of working age per 100 of working age). The combination of growth in the older age groups and decline in the younger ones that would occur without migration would cause this ratio to climb to record high levels of 77 people not of working age per 100 of working age by 2038. The increase in this ratio would be a combined result of the 65 plus population’s increasing share of the total population (from 15 percent in 2008 to 31 percent in 2038) and the decline in the working aged and younger populations’ shares (to 56 and 13 percent shares of the total population respectively).

II.D. Contributors and Beneficiaries

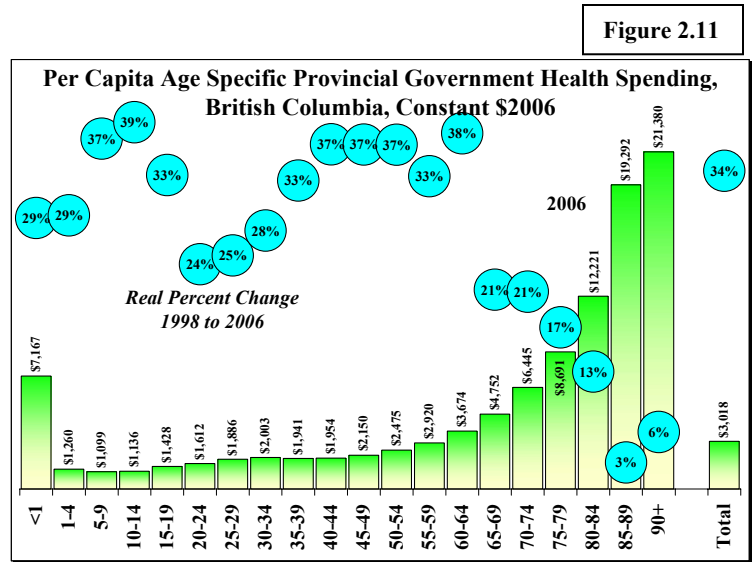
The ratio of the number of people not of working age to those of working age is referred to as the demographic beneficiary ratio. This ratio estimates the relative magnitude of the number of those who are primarily the beneficiaries of programs (ranging from education to pensions and health care) compared to the number who are the primary providers of the resources that support these programs. In many cases these programs are supported by intergenerational transfers, and hence the relevance of demographically defined beneficiary ratios.



In some cases the relationship between contributors and beneficiaries is direct, as is shown in data for the Canada Pension Plan, where 99 percent of the contributors are under the age of 65 and 91 percent of the beneficiaries are 65 and older (Figure 2.10)¹². Of course, this does not necessarily mean that today’s beneficiaries are dependent on today’s contributors; in a fully invested individual pension plan, beneficiaries are merely getting their own money back plus a return on its investment. The CPP, however, is only a partially (20 percent) invested plan, and has only recently become so. Previously it was fully a pay-as-you-go system, with current payments received by beneficiaries coming from current contributors: now it is an 80 percent pay-as-you-go plan.

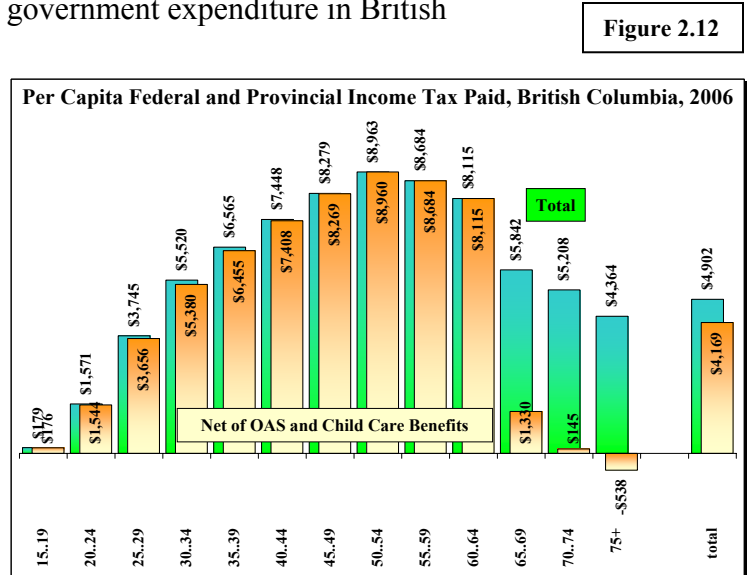
One hundred percent pay-as-you-go is the rule in funding public health care expenditures in Canada. The single largest spender on health in British Columbia is the provincial government (65 percent of all health spending), followed by private spending (31 percent), with other public and government spending making up the remaining 4 percent. Provincial government spending is concentrated on primary care, including physicians (accounting for 96 percent of total spending on physicians in the province), hospitals (a 91 percent share), public health (80 percent) and capital (77 percent). Private spending is concentrated on spending on non-physician professionals (optometry; dentistry; chiropractic, massage, and physio therapies) with private spending accounting for 93 percent of all spending on these professionals and prescription and over the counter pharmaceuticals (63 percent).

The dominance of the provincial government in primary health care gives particularly meaning to the age specific pattern of its health care spending, which show that the highest utilization of, and per capita spending for, health care are in the older age groups. For example, the most recent data show that, in British Columbia (Figure 2.11)¹³, in every age group from age 60 on, per capita provincial government spending on health care was above the average of \$3,018 per person, with average spending roughly doubling for every 10 years one ages thereafter (from \$3,674 in the 60 to 64 age group to \$21,380 in the 90 plus age group).



Health spending per capita in British Columbia has increased much faster than inflation, with an overall real (inflation adjusted) increase per capita of 34 percent between 1998 and 2006. This increase is a result of above inflation increases in all age groups (from 3 percent in the 85 to 89 age group to 39 percent in the 10 to 14 age group) compounded by the older age group’s growing share of the provincial population.

As much of health care spending is financed out of general government revenue, the path between beneficiary and contributor is not as direct as it is for a pension plan. The ability to pay for health care relies on the ability of the public sector, both provincially and nationally, to tax the economy. The degree to which this occurs is shown in provincial government health expenditures, which currently account for 44 percent of total provincial government expenditure in British Columbia¹⁴.



In this context, it is important to balance the age specific pattern of provincial government health spending with age specific patterns of income tax payment (Figure 2.12)¹⁵. In every age group between the ages of 25 and 69, annual income taxes paid per capita exceed annual provincial government health spending; for example, the total taxes paid by people aged 45 to 49 divided by the number of people in this age group resulted in a per capita income tax contribution of \$8,279 in 2006, almost four times the per capita provincial government health spending of \$2,150. In the under 25 and 70 and older age groups, per capita health spending exceed tax revenue; for example, in the 70 to 74 age group per capita provincial health spending was \$6,445 while per capita taxes paid were only \$5,842.

Canada Revenue Agency data on the dollar amount of universal child care benefits and old age supplement benefits transferred to people in each age group permits a further adjustment to tax contributions. Netting out these transfers has little impact on the net tax contribution of the under 65 age group, but significant impact on that of the 65 and older age groups; the 70 to 74 age group's per capita net contribution tax contribution is only \$145 dollars per capita, 2 percent of per capita provincial government health spending for the age group. To avoid an unnecessary discussion, this is not to say that older age groups should pay more taxes; they have paid more than enough during their life time. It is simply to say, since all of the money they have paid in taxes was spent long ago, any money to pay for their health care must come from the taxation of the current major tax paying age groups, and hence there is an intergenerational transfer.

Taxation is also used to fund intergenerational transfers at the other end of the age spectrum, with K to 12 and post-secondary education accounting for an additional 24 percent of provincial government spending. Spending on K to 12 education, adjusted for inflation, increased by 12 percent between 2000/01 and 2007/08. As enrolment declined by 6 percent over this period, there was a 19 percent increase in real spending per student over this period¹⁶.

As both the younger and older populations are included, the demographic beneficiary ratio captures both the relative increase in the number of older beneficiaries that an aging population will bring and the decline in the number of younger ones that would result from a shrinking younger population. The degree to which changes in the demographic beneficiary ratio reflect the magnitude of change in intergenerational transfers will depend upon the degree to which the per-person cost of the transfers remains constant. For example, with both age specific health care and education spending increasing faster than inflation or demographic change, the demographic beneficiary ratio underestimates the magnitude of the change in intergenerational transfers that actually occur.

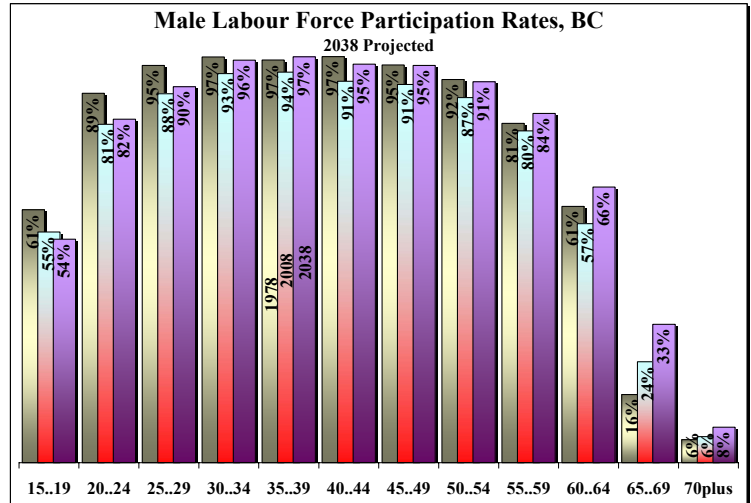
II.E. Consequences of Aging

The three decade period from 1981 to 2011 is often characterized as a period of demographic dividends. In this period, the number of people not of working age was small relative to the size of the working aged population, with there being fewer than 50 people not in the workforce for every 100 who were, compared to the 50 to 70 per 100 experienced in the two preceding decades. This meant that resources for support of intergenerational transfers were relatively abundant, and consequently that these programs expanded in terms of both who could benefit and the level of support received.

These demographic dividends were the result of three distinct factors, all of which pushed the bulge of the population profile up, away from the youngest and towards, but not into, the oldest age groups. The first was, literally, aging, as measured by the baby boomers successive birthdays. Compounding this were the effects of falling birth rates, with fewer young people added to the population each year reducing the base of the age profile, and hence increasing the share in adult age groups. The third force, something that has increased the population in all age groups, is the decline in age specific mortality, with an increased percentage of the people of every age surviving to have another birthday.

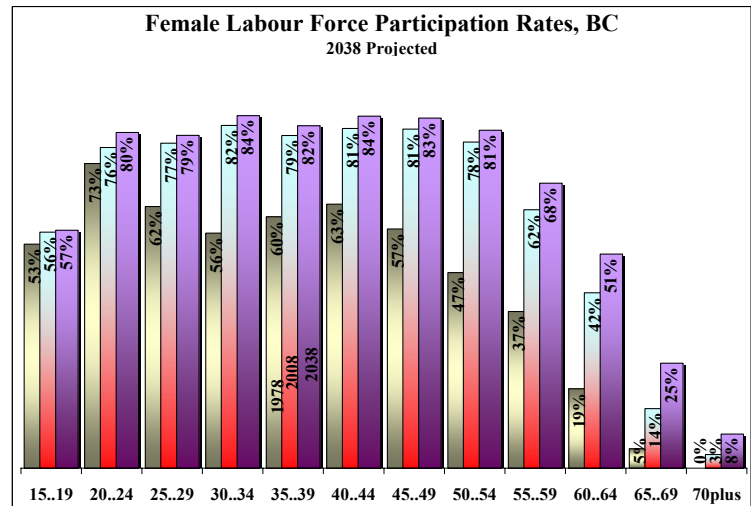
Just as these factors produced demographic dividends over the past three decades by increasing the number of contributors faster than the number of beneficiaries, in turn they will take them away over the next three, by increasing the number of beneficiaries faster than the number of contributors. To the extent that the demographic beneficiary ratio indicates the relative magnitude of the contribution from the working population to the beneficiary population, the increase in the ratio from 2008's 43 per 100 to 2038's 77 per 100 (without migration) would mean a 79 percent increase in contributions required to maintain the same level of benefits. Our aging is going to place a much greater relative load on the contributory population in the future than most of us have had to bear thus far during our working lives.

Figure 2.13



For some, the use of a population based beneficiary ratio is not as appealing as it once was, as the 15 to 64 age group is no longer equated with the size of the labour force. The 15 to 19 population is no longer a significant contributor to the labour force, retirement now starts at age 55, and there is an increasing propensity of people 65 and older to participate in the labour force. In these circumstances, it is appropriate to measure the relative number of beneficiaries and contributors by comparing the number of people not in the labour force to the number in it, using a labour force denominated beneficiary ratio. This is done by considering current levels of age and sex specific labour force participation and how these may change in the future.

Figure 2.14



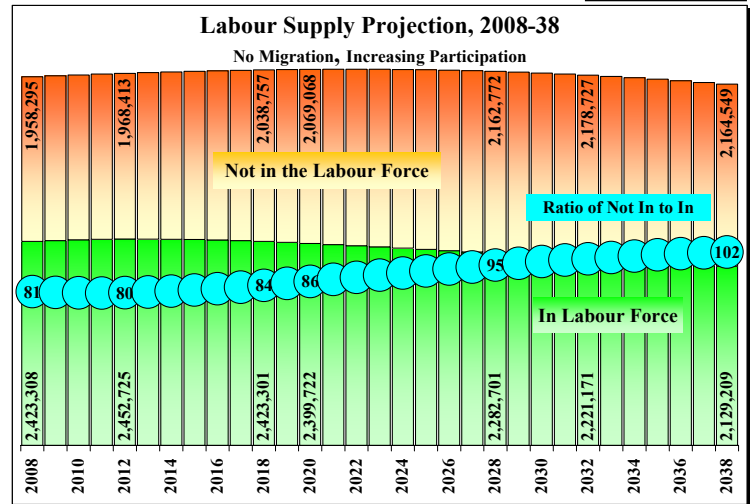
Over the past thirty years, male labour force participation declined in every age group under the age of 65 (Figure 2.13)¹⁷. Recent evidence indicates that the declines have ceased providing the basis for a projection of increases in male labour force participation in all age groups. This will bring participation rates in the 30 to 54 age group back to their previous record high levels, and will establish new highs in the 55 and older age groups by 2038 (including a doubling in the participation rate of males aged 65 to 69). Note that the emphasis on post secondary education that our skilled workforce requires means that there will not be significant increases in labour force participation in the under 30 population.

In contrast to the rates for males, female age specific labour force participation rates increased (but not constantly) over the past thirty years (Figure 2.14)¹⁸. In the under 55 population, most of these increases occurred prior to 1991, with only modest increases occurring over the past couple of

decades. In the 55 and older age groups, however, this recent period saw strong increases in women’s participation. On the basis of these recent trends, continuing increases in female age specific labour force participation rates can be anticipated. Within the childbearing stages of the life cycle, trends over the past five years and the projection of generally constant birth rates (with a slight increase in postponement) leads to relatively modest projected increases compared to those observed historically. As with male participation rates, the big increases in female labour force participation rates will occur in the 55 and older age groups (with a 5 fold increase projected for the 65 to 69 age group).

Applying these trended increases in labour force participation to the no migration projection based on the province’s 2008 population, leads to a projection of declining labour supply in the future. This decline will occur because projected increases in labour force participation rates will simply not be enough to offset the labour force consequences of our aging and of the shrinking younger population that results from a below replacement level birth rate. Without migration, in the near term, the labour force would increase, from 2.42 million in 2008 to 2.45 million in 2012 as increasing participation offsets aging; from then on the number of available workers would decline, back to today’s number by 2018, and then down to 2.40 million in 2020, and to 2.13 million by 2038 (Figure 2.15)¹⁹.

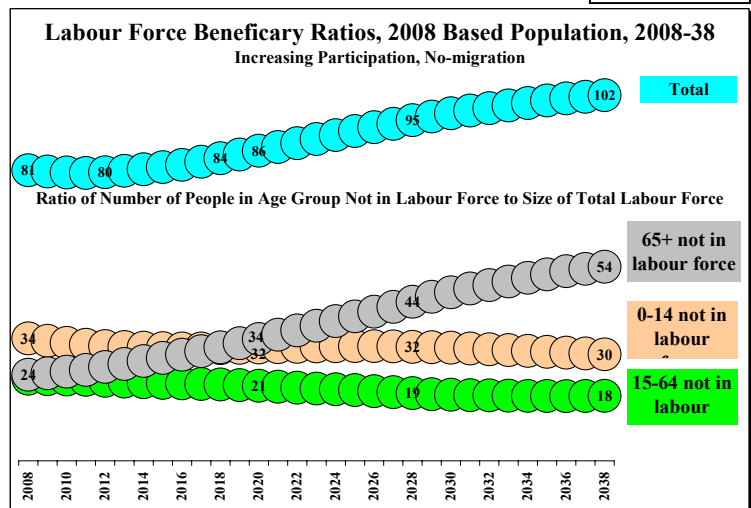
Figure 2.15



The increase in the number of people not in the labour force would mirror the decrease in the number in it with the result being that by 2032 there would be as many people not in the labour force as were in it. A labour force based beneficiary ratio – the number of people not in the labour force to those in it – would increase from 2008’s 81 people outside the labour force for every 100 in it to parity by 2032, reaching 102 persons outside the labour force for every 100 labour

Figure 2.16

force participants by 2038 without migration. Thus, even with increases in labour force participation in all age groups, and particularly with significant increases in the older age groups that are growing most rapidly, aging and a shrinking younger population will lead to large increases in labour force based beneficiary ratios. The result would be a 28 percent increase in the ratio of the number of people not in the labour force for every 100 that are.



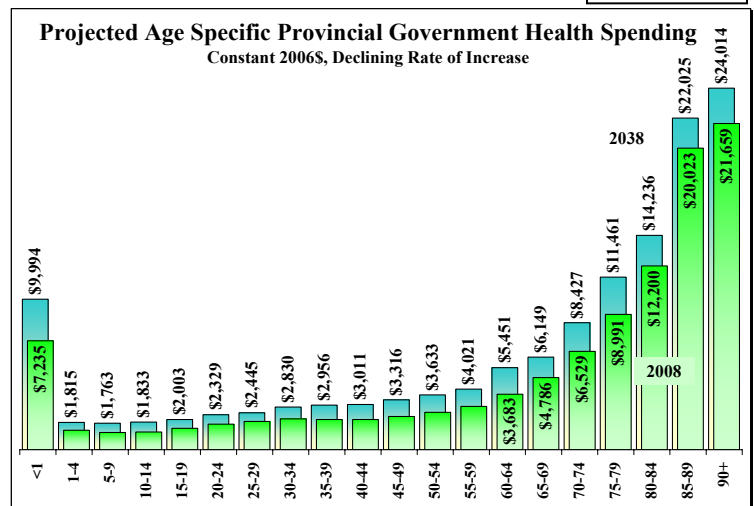
In spite of the projected significant increase in labour force participation rates in the older age

groups, the number of seniors not in the labour force will increase much faster than the labour force in total. Today there are 24 people aged 65 plus who are not in the labour force for every 100 people in the labour force; aging and retirement will take this ratio up to 34 seniors not in the labour force per 100 total labour force participants in 2020 and to 54 seniors by 2038 (129 percent above today’s level, Figure 2.16). In contrast, the number of people aged 0 to 14 relative to the size of the labour force will decline from today’s 34 kids per 100 labour force participants to only 32 per 100 in 2020 and 30 per 100 people in the labour force in 2038 (a 12 percent decline). The number of people aged 15 to 64 not in the labour force relative to the labour force will decline by 25 percent, the result of the projected increase in labour force participation rates in this age group.

The provincial health care spending data presented earlier can be used to tie the impact of aging to a specific example of contributor and beneficiary relationships. As with labour force participation rates, it is first necessary to determine what the future age specific pattern (in this case, age specific health care spending) might be. As was shown on Figure 2.11, over the eight years between 1998 and 2006, per capita provincial health care spending in every age group increased faster than inflation, ranging from under 20 percent real increases in the older age groups to almost 40 percent in the younger and middle age groups. Examination of year by year changes within this period demonstrate no distinct pattern beyond the overall trend of real increases, indicating that these increases are not the result of a one-off adjustment, but rather of a systematic trend for spending in all age groups to increase faster than inflation.

Given these data, it is reasonable to assume that the real increases in age specific provincial health spending will continue. Further, it is also reasonable to assume that health’s rising share of provincial spending will eventually limit the rate of growth in the future. For projection purposes, it is here assumed that age specific per capita health spending will increase at half the annual rate observed over the past eight years for the period from 2006 to 2022, and then at a quarter of this historical rate over the next sixteen years to 2038. The result of such a projection of slowing real increases in age specific spending produces the same age specific pattern in the future that we have today – albeit at a higher real level of expenditure. The highest level of spending remains in the age groups that are going to increase most rapidly in the future (Figure 2.17)²⁰.

Figure 2.17

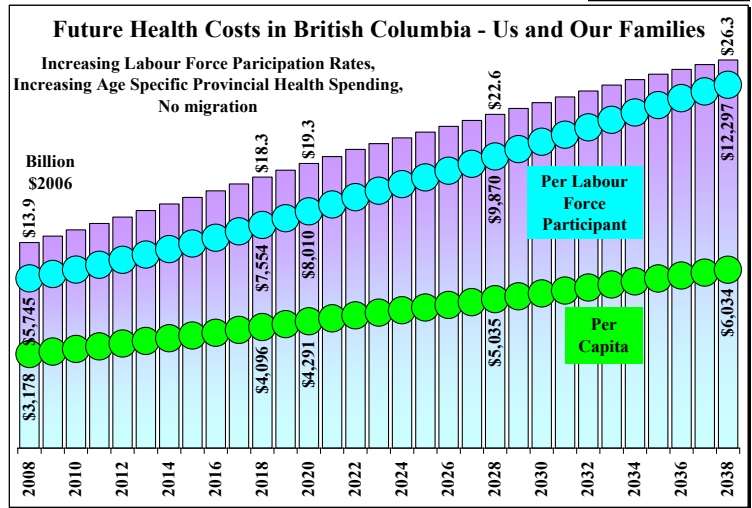


Applying the projected annual age specific provincial government per capita health spending to the population of survivors of the 2008 population and their kids results in an estimate of the future levels of provincial spending required to provide health care to us and our families as we age. Total real provincial health expenditure would increase by 39 percent between now and 2020, from today’s \$13.9 billion \$2006 to \$19.3 billion in 2020, and by 89 percent to \$26.3 billion in 2038 (Figure 2.18)²¹. This implies an annual real growth rate of two percent per year. Just over half (54 percent) of this increase would result from demographic change (i.e., if age specific health

spending could be held constant at today’s rates, total health spending would only increase to \$20.6 billion \$2006 by 2038), and just under half (46 percent) would be the result of continuation, albeit at a slowing rate, of increases in age specific health spending.

Figure 2.18

Assuming slowly increasing real age specific health spending and given a relatively constant but aging population, real per capita health spending would increase from \$3,178 today to \$4,291 in 2020 (a 35 percent increase), and to \$6,034 in 2038 (a 90 percent increase). In labour force terms, the constant dollar cost of provincial health spending per labour force participant would increase even more, from \$5,745 today to \$8,010 in 2020 (a 39 percent increase), and to \$12,297 in 2038 (a 114 percent increase).



Note that programs such as health care where transfers are in the direction of the older population will see disproportionate increases in the beneficiary ratios, but that those oriented to younger age groups will not see significant declines. While without migration the number of children would decline, this decline will be the result of a corresponding decline in the working age population: the number of children relative to the size of labour force will remain relatively constant in the 34 (in 2008) to 30 (in 2038) persons aged 0 to 14 per 100 labour force participants.

Here then is an indication of the magnitude of the cost of our aging: even with substantially increased age specific labour force participation rates, the combination of aging and increased real health spending will mean that, without migration, the relative load of inter-generational transfers such as health care will increase by 40 percent over the next twelve years, and will more than double over the next thirty. This will be the burden, both to bear and to share, of the aging of the province’s 2008 population.

There is no question that our aging will require a much greater level of contributions in the future. The bills will be overwhelmingly ours, bills that the 4.4 million of us who currently live in the province will incur as we age. In the analysis thus far, it has been assumed that the younger population, both those here today and their kids, will stay to help us with the bills, as the projection assumed no migration, neither in nor out. Will these kids actually stay if they face a more than doubling of the per-labour-force-participant contributions to support inter-generational transfers? Or will they leave for places where the load is not so great, leaving us in an even more dire situation? In order for them to have any incentive to stay, they would have to see their real incomes grow in step with increasing contribution requirements – which means that a part of the response to the demographic challenges we will face lies with the ability of the economy to generate increasing real incomes.

It is essential to note that it is to the economy, not the government, that we must look in this regard; the government has no money of its own – generously, it receives with one hand and gives

with the other. Government is essentially a large pay-as-you-go operation, spending today what it collects today (except, of course, when it borrows in order to spend today and pay back tomorrow). In order for it to have anything to receive, it has to have something to tax, and what its overwhelming taxes are the manifestations of economic activity – be they incomes, profits, consumption or production. This, in turn, means that another part of the response to the demographic challenges we will face will be found in the ability of the economy to generate a tax base that increases at least as fast as our liabilities do.

What our aging will require of the economy is real – and significant – growth. To achieve this, we and our economy will have to change. We will have to work more, and longer, as is presumed in the projected increased age specific labour force participation rates. This will present significant challenges, as many of our skilled workers have already reached the age where there are as many incentives to leave the workforce as there are to stay. We will also have to work smarter, increasing our productivity. This too will present challenges, as both the industrial and social structure of the province's economy have not historically generated significant productivity increases²². And we will need to retain and attract workers both to help the economy grow and to share the load of contributions so that we may benefit. This, in turn, means that part of the response to the demographic challenge is itself demographic; it relates to the retention and attraction of workers and their families.

Where will we get workers from? Increasing birth rates are not likely to help us much, for a number of reasons: a) historical trends do not point in the direction of significant increases in birth rates; b) the baby boom cohort has aged out of the child bearing stage of the life cycle; c) overall increases in birth rates appear to be more correlated with an increase in the migrant population than with a change in behaviour of the non-migrant population; d) increasing birth rates would reduce the size of the labour force in the near term, as mothers took maternity leave; and e) it will take 20 to 25 years for a child born today to become an active participant in the workforce.

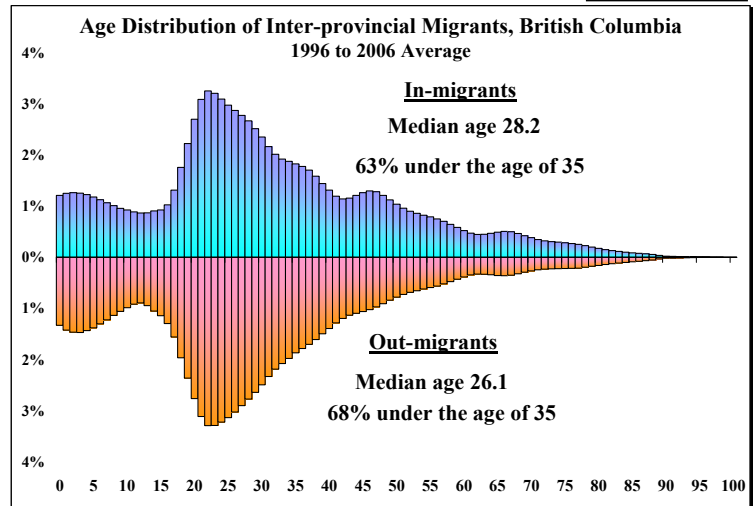
Nor are we likely to get much demographic help from the rest of the country as, demographically at least, Canada is merely a larger British Columbia, with generally the same age profile, life expectancy and birth rates. Without net in-migration, Canada as a whole faces the same future of top heavy age profile as British Columbia does. Ultimately, the net source of new workers, both to replace us as we retire and to expand the workforce to help support us, will come from net international migration.

II.F. Getting Help

The future changes that will happen to us, our kids and our grandkids, in the years to come will form the core of demographic change in the province. Layered on top of this core will be changes that result from the people that the province attracts and retains. Migration brings young people to join us, adding new workers to help offset the loss of workers through retirement and to expand the economy. These new workers will help support the production of goods and services that we will require and contribute new families to our communities.

Inter-provincial migration is relatively easy (all it takes is a West Jet ticket and friends with space on a couch) which in part explains its relatively young age profile (Figure 2.19)²³. The typical inter-provincial in-migrant is a 22 year old; 63 percent of the people who move to British Columbia from other provinces are under the age of 35. The typical person leaving here to live in another province is also a twenty-two year old, with 68 percent of those who leave BC for other parts of Canada being under the age of 35. The under 35 age groups' more than two-thirds share of inter-provincial migrants compares to its much smaller 42 percent share of the province's 2008 population.

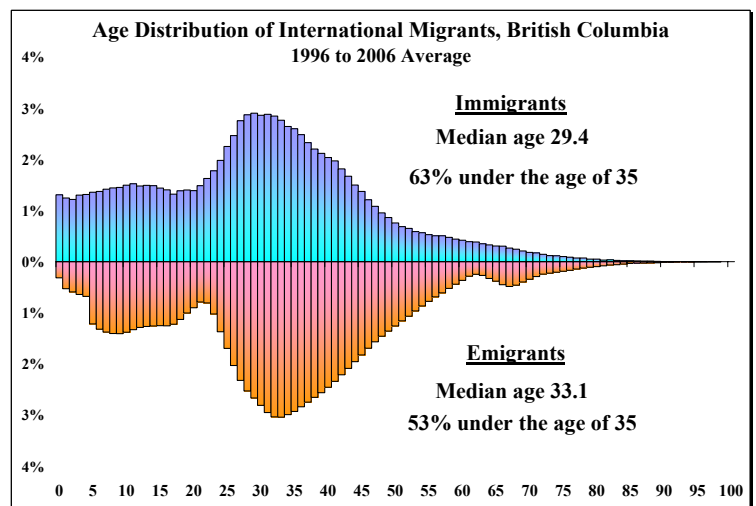
Figure 2.19



While inter-provincial in-migration certainly brings a lot of young people to the province (ranging between 40,000 and 80,000 in-migrants a year historically), it also takes a lot of young people away, with annual out-migration in the 35,000 to 75,000 range²⁴. Thus while the absolute level of inter-provincial flows are impressive, the net result is more modest. For example, while an annual average of 59,110 people moved here from other provinces over the past five years, an average of 52,084 left, for a net addition of 7,026 per year. Inter-provincial migration is a demographic plus only to the extent that it is net in-migration; when this occurs, the province's population is younger than it otherwise would be, both directly from the young migrants and indirectly from the births that result from a larger young adult population.

The level of inter-provincial migration generally tracks economic cycles, with high in-migration and low out-migration in the good times and the reverse in the hard ones. The result are significant swings in net inter-provincial migration, as demonstrated by the net in-migration of up to 46,000 people a year during the 1979 to 1981, and 1989 to 1995, booms. In the hard times of the late 1990s and early 2000's by contrast, net out-migration occurred, in the range of 13,000 to 18,000 outs (Figure 2.21). Thus the reality is that while we may believe that everyone wants to live here they can only do so if they are able to; when the going gets tough, more people leave here for places where they can better support themselves and their families.

Figure 2.20



Immigration is a much more difficult process than inter-provincial migration, as it involves higher costs, more planning, and meeting the immigration system requirements. As a result, the typical immigrant is older, aged 29, compared to the typical 22 year old interprovincial migrant (Figure 2.20)²⁵. The age profile of the immigrant population is more tightly packed in the 25 to 34 age group than

the inter-provincial profile. Nonetheless, the share of immigrants who are under the age of 35 is the same 63 percent as the under-35's share of inter-provincial in-migrants (again compared to only 42 percent of 2008's residents). Emigration has the oldest age profile of the province's migration flows, with the typical emigrant being 32 years of age, and only 53 percent of the emigrants being under 35 years of age. Note again that this flow is also younger than the 42 percent of residents who are under the age of 35. As with inter-provincial in-migration, immigration helps to slow the aging of the province's population that would otherwise occur, but only as long as it exceeds emigration.

International migration, in contrast to inter-provincial migration, has consistently been positive, with immigration being much larger than emigration. Over the past decade an annual average of 36,800 people from other countries joined us, while an average of 10,300 of us left for other countries²⁶. This resulted in average annual net immigration of 26,500 people per year, two thirds of whom were under the age of 36 (and 90 percent under the age of 50). While the 26,500 person average level of net immigration over the past decade was lower than the preceding five years, when it averaged 41,100 per year, it was higher than that experienced in the preceding couple of decades, when immigration averaged 18,300 people per year.

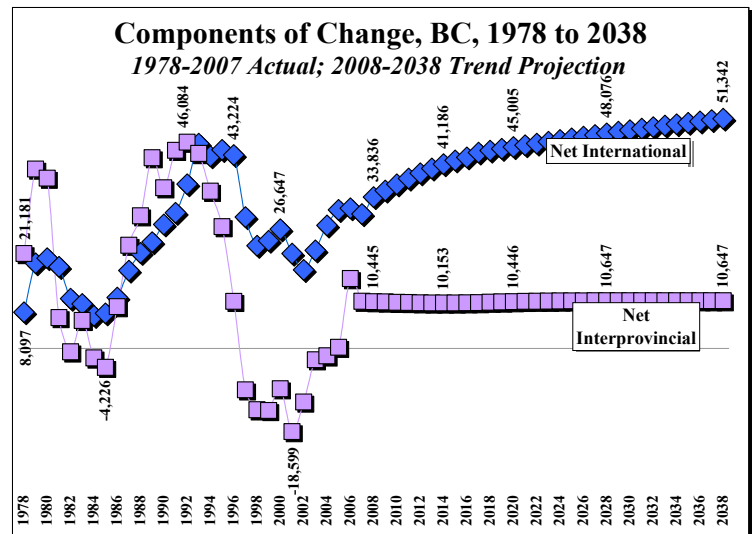


Figure 2.21

There is an additional component to the migration flows to and from the province, the ebb and flow of non-permanent residents from other countries who are part of our communities for a period of time but who are not immigrating. These folks (the students, temporary workers, diplomatic staff and their families, and other people here on visas and permits) are also younger than the permanent resident population. Given the temporary nature of their stay in Canada, there is a lot of turnover in the number of non-permanent residents each year; over the past decade, they have added a net of about 6,000 people per year to the province's population.

The relative youth of the migratory flows to the province means that, to the extent that we are successful in attracting net in-migration from the rest of Canada and the rest of the world, we will increase the number of people of working age and hence will have more shoulders across which to share the burden of supporting an aging population. However, we cannot be assured that this help will come. Labour supply responds to economic conditions; we need only look to the 1996 to 2000 period to see that people will leave the province in tough times, or those who might have come won't, if they cannot find the quality and standard of living here that they might find elsewhere. For all workers the rewards of helping support the future here must be competitive with those that other provinces and countries offer.

Presuming that we are able to ensure an economic environment that will attract and retain the workers we need, it is appropriate to ask how many folks we might get, and where they will come

from. With a birth rate and an age profile that essentially mirrors that of British Columbia, Canada as a whole will be relying on immigration as a major source of labour force entrants over the next three decades. Thus, both nationally and provincially, labour force growth above that resulting from increased labour force participation will essentially mean increased immigration.

While an examination of the historical levels of net inter-provincial and international in-migration indicates the future levels that we might attain, this projection is based on the extension of long run historical trends within the demographic context of the aging of the Canadian population. The combination of increased immigration and emigration that a trend projection would bring in the future results in a projection that annual net immigration to the province will increase from its current level of 33,836 new residents to reach 45,005 in 2020 and 51,342 by 2038 (Figure 2.20)²⁷. The historical data on interprovincial migration support a projected future net level of 10,600 more people per year coming here from other provinces than leaving here for them. While this is nowhere near the net 46,077 inter-provincial migrants who arrived in 1992, it is also nowhere near the net loss of 13,701 inter-provincial migrants in 1998.

Figure 2.22

If we attain these levels of net in-migration, and attract an increasing number of non-permanent residents, it will mean a larger population in the future (Figure 2.22). The total population of the province would increase from today's 4.38 million through 5 million by 2017, to 5.21 million in 2020 (a 19 percent increase over 2008), then through 6 million in 2032, to reach 6.43 million by 2038 (a 47 percent increase). While these numbers may sound large, the annual growth rates that they imply are not, as they will range down from the current level of 1.4 percent growth per year to below 1.0 percent by 2038. To scale the importance of the sources of change, the 3.12 million survivors of the 2008 population would make up almost half (48.5 percent) of the 6.43 million people in the province in 2038, with the 1.21 million additional surviving offspring of the 2008 population accounting for another 18.7 percent, and the 2.12 million survivors and offspring of post 2008 migrants accounting for the remaining 32.8 percent.

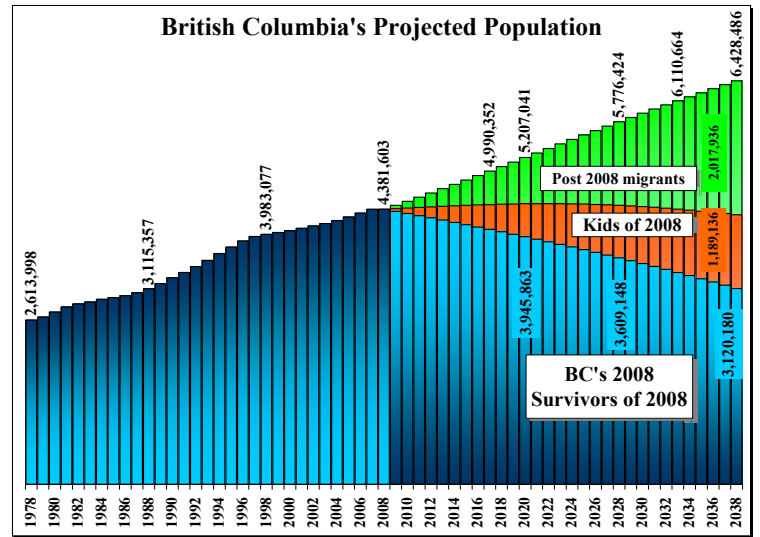
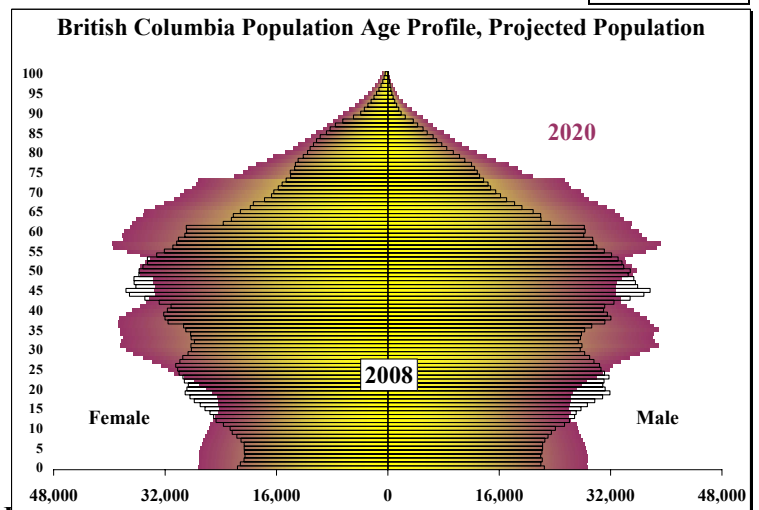


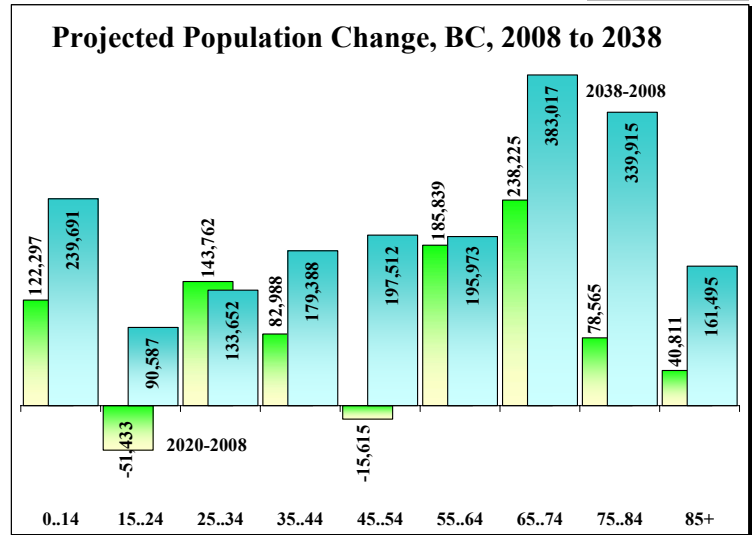
Figure 2.23

Given the young age profiles of inter-provincial and international net in-migration, it is not surprising that the age profiles of the province's population in 2020 and 2038, while older than today, are younger than they would be if there were no migration. Net in-migration would mean that the typical person in the province in 2020 was in the 31 to 35 age group (383,800 people, Figure 2.23) rather



than the 55 to 59 age group under no-migration conditions. Having said this, the aging of the province’s 2008 population would still have a significant impact on the province’s future population, as even with migration the 55 to 59 age group in 2020 (the ages of 2008’s typical residents, its 43 to 47 years olds, in 2020) would be only marginally smaller than the 31 to 35 age group with 381,000 people. Our aging will shift the age profile up and net in-migration will broaden its base by increasing our younger population, compared to its decrease under no-

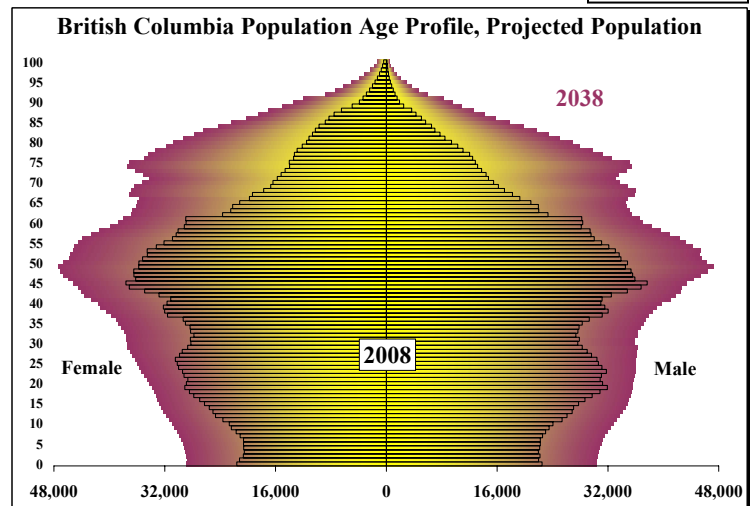
Figure 2.24



Note that even with net in-migration, the 15 to 24 and 45 to 54 age groups would decline over the next twelve years as the number of people aging out of them exceeds the number aging or migrating into them, with 51,433 fewer in the 15 to 24, and 15,615 fewer in the 45 to 54 age groups in 2020 than today (Figure 2.24). All other working age groups would increase by 2020, with the 25 to 34 age group adding 143,762 people, the 35 to 44 age group adding 82,988, and the 55 to 64 adding 185,839.

Overall, with this level of net migration, the size of the working aged population (15 to 64) would increase by 345,541 people over the next twelve years, compared to a decline of 176,847 without net migration. The aging of the boomers living in the province in 2008 would still mean that the largest population increase would be in the 65 to 74 age groups, which would grow by 357,600 people with trend net in-migration (and by 297,542 without migration).

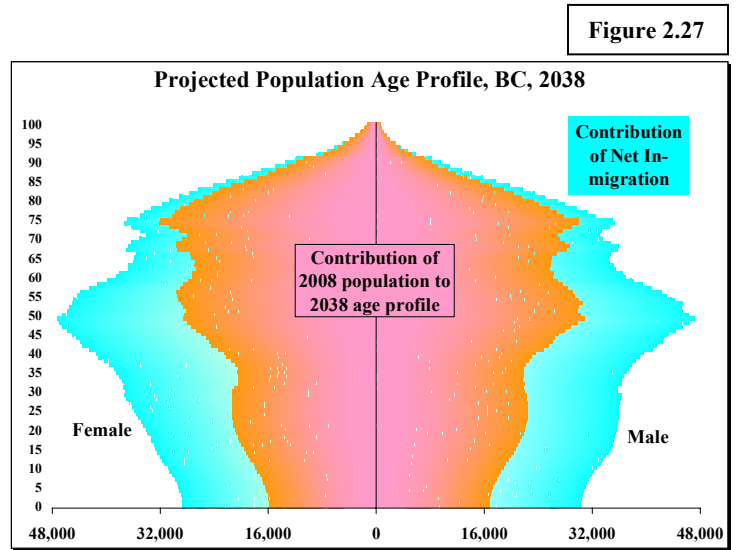
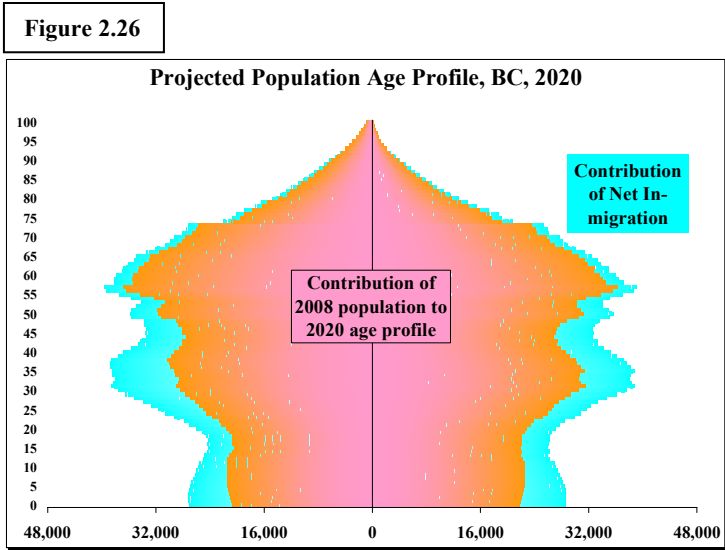
Figure 2.25



Over the longer run, out to 2038, projected net in-migration to British Columbia would ensure that the number of people in all age groups would increase in number. The upward shift of the age profile that the aging of the 2008 population will bring would be complemented by a broadening of its base as a direct result of the youth migrant population and the indirect result of the growth in the childbearing population (Figure 2.25). The working age population would increase by 877,712 people, compared to the decline of 611,141 that would occur without migration. Again, note that even with net in-migration, over the long run, aging will still dominate population change, as the biggest increases in the future continue to be in the 65 to 74 age group (372,428 person increase) and in the 75 to 84 age group (366,568 increase).

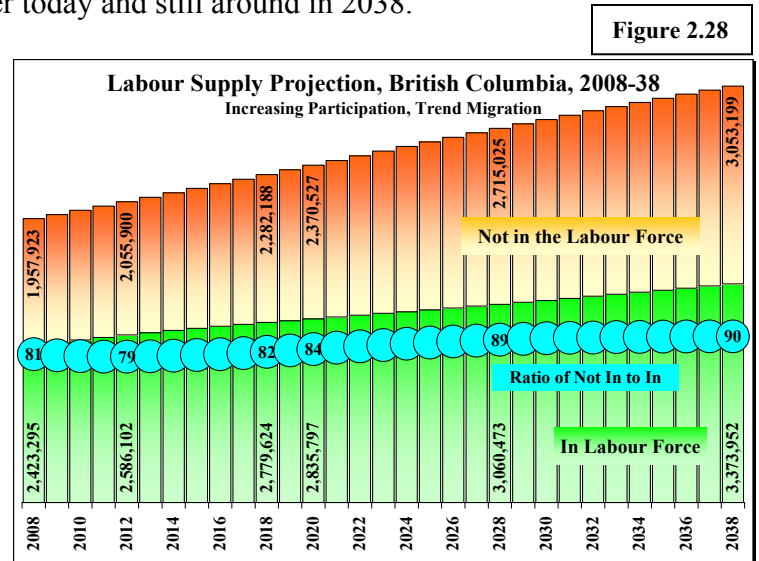
The contribution of migration to our future population can be shown by comparing the future no-migration and migration age profiles (Figures 2.26 and 2.27). By 2020, net migration would have contributed 14 percent of the projected population, and the 2008 population 86 percent. In the

younger age groups, net migration’s contribution would be above this overall average, ranging between 15 percent of the 15 to 19 year olds to 22 percent of the 30 to 34 year olds.



By 2038, net migration’s contribution will be much larger, with one third of the population attributable to net migration and two-thirds to the 2008 population. In the under 45 age groups, between 40 and 45 percent of the population will be the result of net migration; in the 65 plus population the net migration contribution would be in the range of 15 percent, with the remaining 85 percent being those of us who are 35 and older today and still around in 2038.

Using the same projected increases in age specific labour force participation rates as were discussed in the no-migration analysis, trend based net in-migration will result in an increase in the size of the provincial labour force from 2.42 million in 2008 to 2.83 million in 2020, and to 3.37 million by 2038 (Figure 2.28)²⁸. Trend migration will result in an increase in the province’s labour supply of 950,000 people over the next thirty years, compared to a decline of 294,000 that would occur without migration. Absolute growth of this size may also sound significant, but it this is only a 39 percent increase over 30 years, implying an annual growth rate of only 1.1 percent per year. Any economic growth above this labour supply contribution will require increases in productivity.



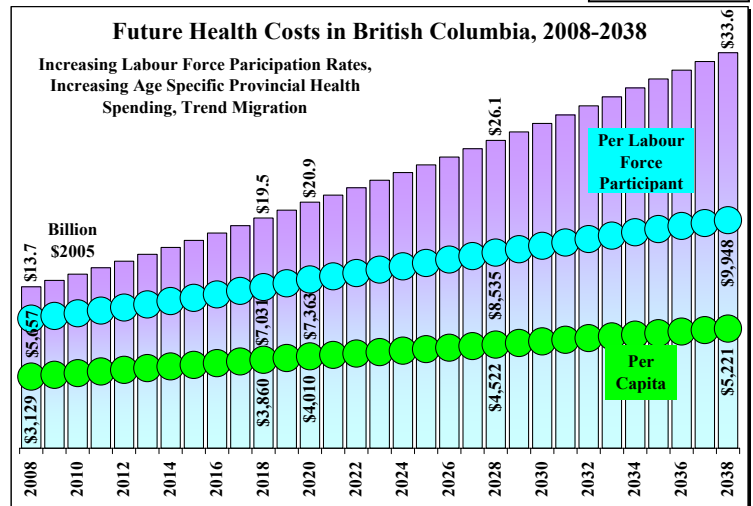
The labour force growth that migration and increasing labour force participation would bring will also slow – but not stop – the increase in beneficiary ratios. Currently there are 81 people not in the labour force to every 100 who are in it; with increased participation and trend migration, this ratio will decline slightly over the next decade, and then begin to increase, reaching 84 people not in the labour force for every 100 in it by 2020, and 90 per 100 by 2038. Thus even with the

projected level of net in-migration, the beneficiary load on the labour force will increase by 11.1 percent, a significant increase, but just under half of the 26 percent increase that would result solely from the aging of the province’s current population without net in-migration.

The population projection with trend migration, combined with the projected increases in age specific labour force participation and provincial health spending rates, would also result in projected increases in per capita and per labour force participant costs of provincial health care spending, but not by nearly as much as they would as the result of the aging of today’s population without migration. Real provincial health spending would increase from its current \$3,129 per resident to \$4,010 in 2020, and to \$5,221 in 2038 (Figure 2.29)²⁹. While this 67 percent increase is significant, it is three quarters of the 90 percent that would be generated by the demographic changes associated with the aging of the province’s 2008 residents.

Real provincial health spending per labour force participant would increase from today’s \$5,657 to \$7,363 per labour force participant in 2020, and to \$9,948 per labour force participant in 2038. This 76 percent increase in provincial health spending per labour force participant is two-thirds of the 114 percent increase that would result without migration. Increasing the population as a result of net in-migration of young workers into the province at the levels of the trend projection reduces, but does not eliminate, the increased beneficiary load that our aging will bring. An increased number of contributors in the projected range is a necessary – but not sufficient on its own – aspect of sustaining inter-generational transfer programs in the future. Also necessary, and also not sufficient on their own, are increased labour force participation rates and increased per worker productivity.

Figure 2.29



So there it is: over the past four decades we have benefited from transfer programs that are both age specific and pay as you go. We were able to do so in part because of our demography, as our contributory population increased faster than the beneficiary one. The same factors that afforded us this opportunity in the past will take it away from us in the future, as the beneficiary population will grow faster than the contributory one. In the future we may reasonably anticipate growth in the range of 3 percent per year in our 65 plus population and of only 0.8 percent per year in our working aged population, even with migration. In labour force terms, we may anticipate growth of the number of people not in the labour force in the range of 1.5 percent per year, and in the labour force of only 1.1 percent per year, even with migration and increases in participation rates.

In order to sustain intergenerational transfers in the much different demographic future we face, we will have to do many things differently. In one context, we will be increasingly pushed to contain the growth of the real costs of transfer programs in order to avoid compounding demographic challenges. Having said this, the quality of these programs is important to us, and hence, we must do other things as well as improving their efficiency.

We are going to have to shoulder more of the burden of these programs by increasing our productivity and participation in the labour force, and we are going to have to welcome new folks into our communities to help us shoulder part of that load as well.

In order for all of this to happen, there must be work – there must be a strong and vital economy that will provide the opportunities for more of us to work, for all of us to work more, and for all of us to be more productive, as well as providing the work that will attract and retain the new workers who will help us along the way. As the next section shows, while the economy of the province has been a strong and flexible one in the past, we cannot assume that it will be in the future, as it too is facing significant changes. Our ability to respond to these economic changes will largely determine our success in responding to the demographic ones.

III. It's The Economy

It is not only the demographers who are concerned about the consequences of a rapidly growing older population and a slowly growing labour force – so are the economists. David Dodge, former governor of the Bank of Canada, was quoted in the press as worrying about a “demographic torpedo to the economy” as a rapidly growing older population and a slowly growing younger one threatens our ability to produce, and pay for, the goods and services we require³⁰.

Demographic change will compel us to pay a great deal more attention to the health of our economy than we are accustomed to. In the past, the robustness of the province's natural resource economy allowed us the luxury of generally ignoring both its health and that of the economy in general. This luxury will not prevail in the future – the natural resource economy, which remains the core of the provincial economy, will be increasingly constrained and will face much more competition, forcing us to rely increasingly on other sectors in which we currently have less in the way of comparative advantage.

If we are going to have the work and the workers to contribute to inter generational transfer programs and to provide the services we require, we must articulate and implement economic strategies that will both sustain and expand our economic base. To do so will mean understanding where economic trends might pull us and demographic trends might push us, and where we can go in spite of trends if we implement the right strategies. In this report, the focus is on the general context of historical trends and changes in the provincial economy; the companion reports in the Opportunities 2020 publication series focus on specific sectors and the strategies that they will require in order to ensure they can all make vital economic contributions to our economy.

III.A. Trading People Trading Places

Exchange is what makes economies function and it is what defines the quality of our economic lives. Here is a small exercise that you can do in the privacy of your home to demonstrate the importance of trading to your friends and family. Take a bunch of yellow stickies and put them on everything in the house that you did not make yourself: on the stuff in the fridge, medicine cabinet, closets and drawers as well as the fridge, cabinet, closets and drawers themselves; on the power, gas, water and sewer lines; on the stuff you are wearing and carrying, including the i-pod and cell phone; on your house or apartment itself; and, of course, on the stickies themselves.

All these stickies represent things that you traded (exchanged) some of your time, effort or money for – this cloud of yellow shows how involved you are in trading. Now take the stickies off of all of the things that are worth nothing to you – that you would not notice if they disappeared. Did you take many stickies off? Probably not, as even stuff that is not important has some value, at least on e-bay or at a garage sale. The stickies that are left show how important trade is to you and your life; unless you live a very modest life indeed, without coffee, tea, citrus fruits or tofu, prescription drugs, digital goods and electronic necessities, power tools, scissors, clothes or windows, gas or electricity, your home will be a sea of yellow.

Trade, be it with the hair dresser down the street, the winemaker in the Okanagan, or the cell phone manufacturer in China, is how we get the all of the goods and services that we cannot realistically

or efficiently make for ourselves. To induce the folks who make these things that we want, we in turn must make things that they cannot realistically or efficiently make for themselves so that they will, directly or indirectly, swap what we want for what they want. Paul Krugman, the 2008 Nobelist in Economics, described this relationship at the national level: “What a country really gains from trade is the ability to import things it wants. Exports are not an objective in and of themselves; the need to export is a burden that a country must bear because its import suppliers are crass enough to demand payment.”³¹

The basis of trade is the reality that we cannot, nor should we, make everything for ourselves, for two reasons. The first, as hard as it is for us to admit, are our own limitations. No one of us has all of the skills and talents necessary to produce all of the things we need and want – no matter how good you are you cannot do your own kidney transplant. Similarly, few of us can fabricate our own i-pod, cell phone or bicycle – from the capital costs of the manufacturing plant to the supply of minerals, metals and plastics from which things are made, we must rely on trade with others if we are to have anything more than the most rudimentary of sticks to grub in the mud with. Economists refer to this reason for trade as the reality of the limited and unique resource endowments that we have, individually and collectively, to work with.

The second reason for why we should not try to make everything, even if we could, is that it is not efficient (meaning it would be wasteful of effort and scarce resources). There is simply not enough time to do everything; we have to limit ourselves to only doing the few things that we find most important and trade for the things we don't have time to produce. Accepting this, the most efficient way is to only do what we do best – compared to all other things we could possibly do – and produce more than we need of this good or service so that we can swap them for other things produced by other like practicing folks. Focusing on what we do well helps us do it better as we develop the skills, the tricks of the trade, the knowledge, techniques and tools, that make us ever more efficient at doing it, and hence, the less work and resources we need to produce something to trade. The fisher focuses on fishing and the nurse focuses on nursing, and, either directly or, usually very indirectly, they trade with each other, both being better off as a result of the exchange than they would be without it. Economists refer to this reason for trade as the benefits of comparative advantage.

While capturing the essence of why we trade, considering trade at the individual level does not capture its complexity. Most of what we require cannot be produced by one individual regardless of their talents – no one of us can ever produce an ambulance, a beta blocker, or a usb key from scratch all by ourselves. To make these complex things, we must bring what we do best individually together with what other individuals do best, in order to produce something collectively. This has a wide range of implications – it makes us interdependent with others in both the production and use of resources in an on-going rather than single transaction basis; it ties us to others not just in our communities, but around the world; and, because it provides us with the opportunity to become even more skilled, focused and specialized, it also makes us more efficient at what we do.

What is true for us as individuals is also true of our communities. When communities focus on producing the goods and services that they are best able to, and trade some of their surplus production with other communities focused on other activities, each is better off as each will be

able to either trade more or work less as all are more efficient (i.e., less wasteful) in the use of their resources. Trade between communities may be within the province, such as the mutually beneficial interdependence of the wine makers of the Okanagan Basin and tourists and oenophiles from the Lower Mainland. Further a field, while we could grow pineapples in Fort St. John in February, the energy cost of doing so would be so wasteful as to be prohibitive. It is more efficient for Fort St. John residents to concentrate on grain farming, forestry and the gas patch and trade some of the proceeds of these activities for pineapples from Hawaii.

Trade does make communities interdependent – just as people within communities are interdependent – but it also makes them better off, as they are not wasting time, effort and resources to produce things that can be produced more efficiently by someone else, somewhere else. Just as no one person is self-sufficient in all aspects of life, so too no one community is: we all share the world, and it is best for all of us if we focus on what we do best and freely and fairly exchange the rewards of doing so.

The totality of our economy is all of the goods and services we produce within the province; what we formally trade is how we measure our economy. Goods and services that each of us produces for ourselves, and hence not traded, are not recorded; those that are traded with others informally (by way of actual exchange, under the table, or illegally) are also not recorded. The production that is left, that which is evidenced by the formal trades we make with each other and measured by way of the payment of prices, wages and salaries, profits and rents, describes the value of production in our economy³², as is generally described in the data on Gross Domestic Product (GDP).

This conceptual discussion of trade highlights a number of characteristics we should anticipate when we look at the structure of the provincial economy. Most of the exchanges that will be observed will be small, local transactions, such as buying a bag of lentils, getting a CAT scan, or buying a new stove. In particular, purchases of services will figure largely in local transactions as most services are rendered person to person: the retail clerk, the dentist, and the barista are all specialists selling services on an individual basis. Having noted this, it is important to also note that not all service transactions are local; we also engage in out-of-province service transactions that range from downloads of Dave Matthews' tunes and trips to Reno to the payment of fees to pension fund managers in Toronto.

A different dimension emerges when we look at local purchases of merchandise as these involve two components, the labour services and rents involved in selling the item and the item itself. The services purchased in buying a coffee are produced locally, but the coffee is not, nor are lentils, CAT scanners, ipods, or fuel. Certainly there are a lot of things that we do produce locally, ranging from bread to counter tops, but most are not. In part this is because our limited geographic resource endowment precludes efficient local production of a wide range of products, from citrus fruits and coffee to iron and rubber.

Additionally, we do not have the population size or density to support most merchandise production activities. The total population of the entire province of British Columbia is half that of the Toronto centred Golden Horseshoe, and is smaller than the population of the Detroit region. This small population means that local manufacturing, in all but a few cases, is not economically

feasible as economies of scale in production drive toward output of a large number of relatively standardized units with low average per unit costs³³. This is not to say that all manufacturing requires large markets; small market thresholds exist for things like fresh bread and “boutique manufacturing” such as custom bikes. However the more standardized and more durable a product – the stove, the cell, the computer chip – the more that scale in production matters.

So this is the economy as measured by the formal trading of goods and services – trading that is necessitated by the reality that as individuals, and as communities, we need and want things that we cannot efficiently produce for ourselves. The differential distribution of resources between people and between regions, combined with the technology of production of goods and services means that we are all, and always, engaged in trade. In a few rare circumstances, trading is a direct give and take; overwhelmingly it is indirect, without any direct or acknowledged path between what we sell – our work – and the goods and services we buy. Nonetheless, whether it is called working and shopping or exporting and importing, trade defines our economic lives.

In order for trade to continue over the long run, it must be balanced, be it at the individual or community level – we have to earn as much as we spend. In the short term we can use debt to pay for what we buy if we don't earn enough, but this is merely another form of trade, as we must pay the debt back with interest in the future. Another source of non-work income comes from returns on investments, but to do so we must spend less than we earn in order to accumulate enough to make the investment. After that, to spend beyond our earning, would require gifts, not exchanges, be they allowances, charity or government income assistance. Similarly at the community, provincial or national level, we can buy more than we sell only if, for some reason, net financial flows from debt, investment, pensions, or transfers from outside our economy continue to provide us with the ability to spend more than we earn.

So back to the yellow stickies – some may be stuck to things that others see as frivolous, but the fact that they are on things we care about shows the rich diversity of what people value. What applies to us individually applies to our communities as a whole. As a small economy with a specific resource endowment, most of what is important to our quality of life is imported. Few of us would remain in the province if we could not buy goods and services that we cannot efficiently produce here but which are produced by the residents of other provinces and countries. Further, we would most certainly not have the financial resources to pay for social services like health care nor the people to provide them if people from outside the province did not buy the goods and services we produce. Since we must import, we must export, which is why exports are the base of an economy.

In this context, the economic question becomes “With a rapidly aging population and a slowly growing workforce, will we be able to produce and sell goods and services to residents of other provinces and countries at a level that will provide us with the money to buy what we need from them?” Trends in the province's economy indicate that we will have to work hard to do so.

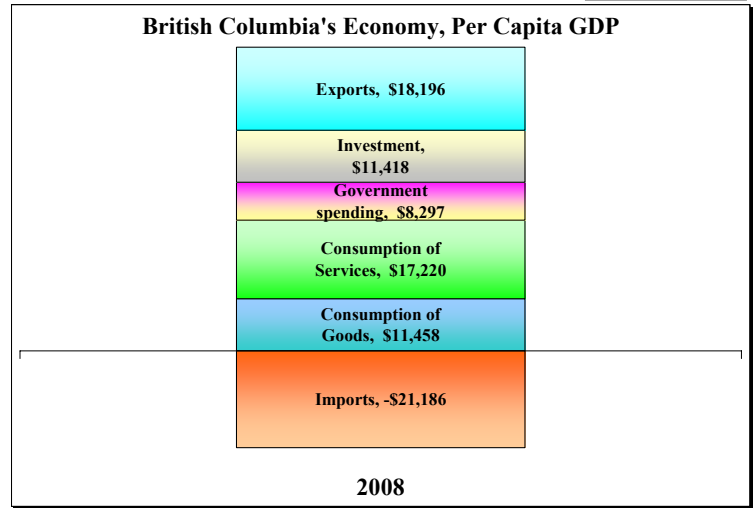
III.B. Scaling the Provincial Economy³⁴

The consumption of goods and services within the province by its residents is by far the largest focus of provincial economic activity with an average of \$28,678 per person spent on consumption

in 2008 (as measured by economic accounts data on Gross Domestic Product Per Capita, Figure 3.1)³⁵. We spend more on consumption of locally produced services (\$17,220) than we do on the consumption of locally produced goods (\$11,458).

Figure 3.1

Current government spending on goods and services can be added to private consumption to measure the share of economic activity that is contained within the province. Much of this government spending is on goods and services produced in the province (from health care to protective services) on behalf of, or directly for, residents. This adds \$8,297 per capita for a total of \$36,975 per capita of economic activity within the province that is focused on its residents.



It is also important to account for production within the province which is focused not on current consumption, but on investing for that of future years. In 2008, \$11,418 per capita was spent on producing capacity for the future, three quarters of which was on buildings (37 percent residential; 25 percent industrial, resource or commercial structures; and 11 percent government buildings), with an additional 26 percent as production of machinery and equipment, and 1 percent as the build up of inventories. As much of this investment is to provide for future consumption, it can be added to consumption and government spending, resulting in a total of \$48,393 per person.

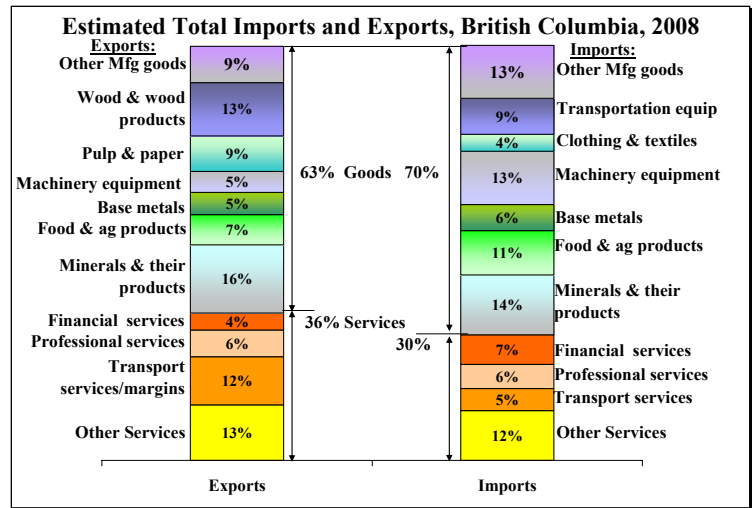
This value includes goods and services that are produced both within the province and elsewhere, as consumption, government spending and investment all include imported goods and services. The scale of imports to the province are impressive; in exchange for goods and services either brought into the province or consumed by the province’s residents in places outside the province, \$21,186 per person flowed out of the provincial economy in 2007. It is significant that almost half of the economic transactions directed at the residents of the province involve imports.

In order to pay for these imports, we have to export; in 2008 exports brought into the provincial economy the equivalent of \$18,196 per person. This inflow, after finding its way through the economy as payment for wages and taxes, haircuts and hamburgers, rents and renovations, ultimately flowed out of the economy to help pay for the things that we imported. In total, then, trade (imports and exports) accounted for \$39,382 per capita of economic activity. Note that in 2008 net trade was negative, with \$18,196 per capita coming into the province as payment for exports, while \$21,186 drained out as payment for imports – equating to a trade deficit of \$2,990 per capita. A net financial inflow of investment capital, debt and other net transfers allowed us to cover this trade deficit.

British Columbia’s trade with the rest of Canada and the rest of the world is overwhelmingly comprised of things (Figure 3.2)³⁶. Seventy percent of the dollar value of our 2008 imports were of goods and 30 percent were of services, while 63 percent of our exports were of goods and 36 percent were of services.

Figure 3.1

Considering imports first, not only are they predominantly of goods, they are predominantly of manufactured goods. This includes machinery & equipment (from ipods to power generators, 13 percent of the total value of imports), transportation equipment (cars to buses, 9 percent), clothing and textiles (4 percent), base metals and base metal products (forks to steel beams, 6 percent), and 13 percent spent on a wide range of smaller manufactured goods, from jewellery to medical equipment and pharmaceuticals. Combined, these manufactured goods account for 45 percent of all imports and almost two thirds of merchandise imports to the province. The dominance of manufacturing in our import stream reflects the earlier discussion about our small market size and the economies of scale required to efficiently produce the consumer and business goods we use. Food and agricultural product imports account for an additional 11 percent of import spending, and minerals and their products (primarily oil and gasoline) for another 14 percent of our out-of-province purchases. The largest category of imported services involves money leaving the province in payment for financial services (7 percent of all imports), followed by those for professional services (6 percent) and transportation services (5 percent). Other services, ranging from tourism’s accommodation services and meals to wholesale margins accounts for another 12 percent of the value of imports.



What we sell to the rest of the world is vastly different from what we buy. Our exports are predominantly of natural resources, with forest products accounting of 22 percent of the value of exports in 2008 (wood and wood products 13 percent, and pulp and paper 9 percent), minerals and mineral products accounted for 16 percent, while food and agricultural products brought in another 7 percent of our export earnings. Combined, these natural resource-based exports account for 45 percent of all exports, and over seventy percent of merchandise exports, from the province. This is not to say that manufacturing is insignificant, as machinery and equipment exports do account for 5 percent of the province’s total exports while other manufacturing accounts for a further 9 percent. The single largest service export is of transportation services and margins (12 percent of all exports), which dominates the province’s sales of services both internationally and inter-provincially. Also significant are sales of professional services (6 percent) and financial services (4 percent), with other services accounting for the remaining 13 percent.

So there is the picture; what we do, primarily, is to import manufactured products that we pay for by exporting natural resources (raw and processed). This is not meant to diminish in any way the value of other exports, as every export dollar – be it from sales to tourists or of lingerie to New Yorkers – helps us pay for the cell phones and CAT scanners that we buy. However, while we celebrate all of these sources of revenue, we must acknowledge that our competitive advantage is our natural resource endowment (which does include the scenery).

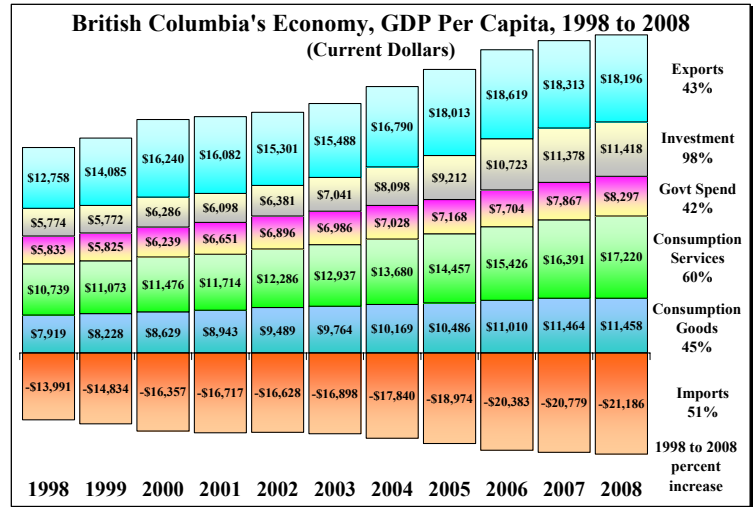
This examination of the structure of the province’s economy, and its imports and exports in 2008 provides the foundation for a consideration of where trends appear to be taking us; when we consider these trends, as is done in the following sections, we discover that they may limit our economic ability to deal with the consequences of future demographic change.

III.C. A Changing Economy

Three very significant changes in the provincial economy have occurred over the past decade: investment has grown much faster than other major expenditure classes; we ran a

Figure 3.3

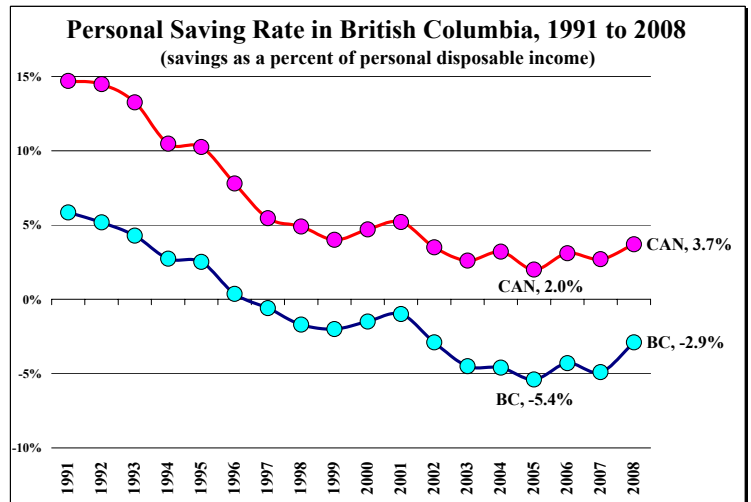
trade deficit over the entire period; and the trade deficit has widened as imports have grown faster than exports (Figure 3.3)³⁷. Overall, economic activity (GDP per capita in current dollars) increased by 56 percent, from \$29,033 per capita in 1998 to \$45,466 in 2008. The greatest increase over this period was the 98 percent increase in investment spending per capita (from \$5,774 in 1998 to \$11,418 in 2008). The growth in investment spending has accounted for over a third of the growth in total per capita expenditures over the past decade, and 45 percent of it over the past five years (adding \$4,524 per capita compared to exports adding only \$2,708).



We increased our spending on imports by 51 percent, from \$13,991 per capita in 1998 to \$21,186 in 2008, while the exports we use to pay for these imports increased by only 43 percent, from \$12,758 per capita in 1998 to \$18,196. As a result, our per capita trade deficit increased by over 140 percent, from a deficit of \$1,233 per person in 1998 to \$2,990 a decade later.

Figure 3.4

In order for us to maintain a trade deficit over this period, we had to have sources of money in addition to what we earned from exporting. The recent growth in inward investment spending brought us much of this money, in the form of investment capital, both debt and equity. Spending beyond our earnings has been a significant characteristic of the province of British Columbia over the past decade, evidenced by both our increasing trade deficit and our personal (dis-) savings rate (Figure 3.4)³⁸. While BC has generally led the nation in declines in personal savings rates over recent history, we maintained a positive savings rate until 1996. Throughout the late 1990s slowdown we continued to dis-save (liquidating savings and increasing borrowing). With the recovery of the

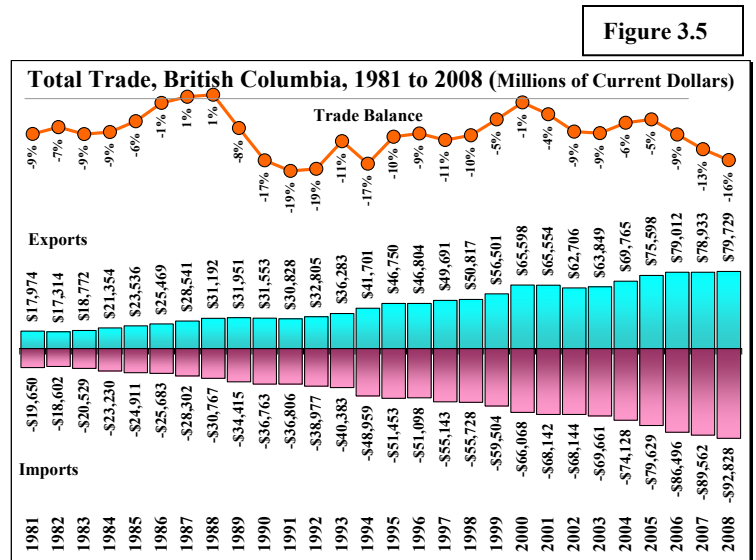


economy at the turn of the century, it appeared we were beginning to bring spending back towards our incomes, with the saving rate climbing slightly to 2001. However, with the real estate and credit booms of the 2002 to 2007 period, our spending exceeded our personal incomes by over 5 percent. Only due to the tightening of credit and the slowdown in the real estate market in the past year has the gap between spending and earning begun to narrow, with a saving rate of -2.9 percent in 2008.

Investment financial flows, be they debt or investment, merely transfer spending from the future to the present, as the debt has to be repaid and the equity must earn its yield. Only when financial inflows come without strings attached, as gifts, pension and “return on investment” income or unconditional transfers, can they sustain a long run trade deficit. The level of debt we have taken on means that in the future our ability to spend on imports will be constrained by debt repayment. To maintain our level of imports, we will have to increase our exports to offset the amount taken out of the economy in external debt payments.

III.D. Changing Trade

The data on changes in the composition of the province’s GDP over the past decade illustrate only part of an economic cycle; the longer run trade data from 1981 to 2008 illuminate two full economic cycles (Figure 3.5).³⁹ Overall, British Columbia has run a trade deficit for most of the past three decades – a testament to the ability of the province to attract net financial inflows. Only twice in this period has British Columbia sold more to other provinces and countries than it purchased from them, with exports exceeding imports (by a modest one percent) in 1987 and 1988. The worst trade deficits recorded were in the mid-1990s, when imports exceeded exports by almost 20 percent, something caused by an absolute decline in exports from 1989 to 1991 combined with continued increases in imports. Over the past two years we have returned to the double digit trade deficits experienced in the early 1990s.



Underlying these aggregate trade data are two distinct trading relationships, one domestic (with the other provinces of Canada), and one international, each of which holds distinct opportunities and challenges for the provincial economy.

III.D.1. Trading Provinces

Since 1981 British Columbia has run a hefty trade deficit with the rest of Canada. In 2008 we spent \$41.8 billion to buy from the rest of Canada, while the rest of Canada spent only \$30.6 billion on stuff we produced (a 37 percent, \$11 billion trade deficit, Figure 3.6).⁴⁰ From 1981 to 2000 we were able to increase our exports to the rest of Canada at almost twice the rate that our imports increased, thereby reducing our interprovincial trade deficit by half (from the 90 percent to the 40

Figure 3.6

percent range). Since then, however, exports and imports have grown at essentially the same rate, thereby maintaining the relative size of the province's trade deficit.

The improvement in the domestic trade balance was the net result of two different trends for the trade of goods and services. In terms of trade in goods, the province's merchandise exports to the rest of Canada grew strongly in the 1981 to 2000 period, increasing four and half times over this twenty year period, while its imports of goods from other provinces only doubled (Figure 3.7)⁴¹. The net result was that our merchandise trade deficit with the rest of Canada dropped from a staggering 300 to 400 percent in the early 1980s to the 59 percent range by 2000 – where it has since been stuck.

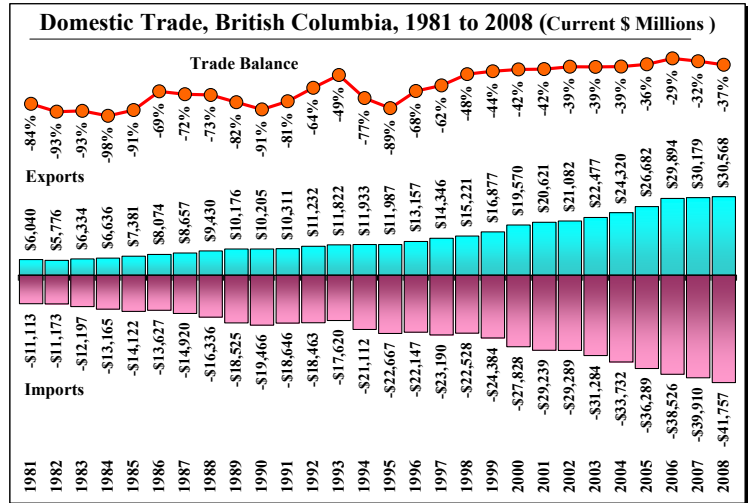


Figure 3.7

Quite the opposite pattern is observed in our interprovincial trade in services (Figure 3.8)⁴². For much of the early 1980s and 1990s we were able to maintain relatively balanced trade in services with the rest of Canada, even recording surpluses in 1981, 1982 and 1993. By 2000, however, we were spending 28 percent more to buy services from the rest of Canada than they were buying from us, a range that has stubbornly been maintained since.

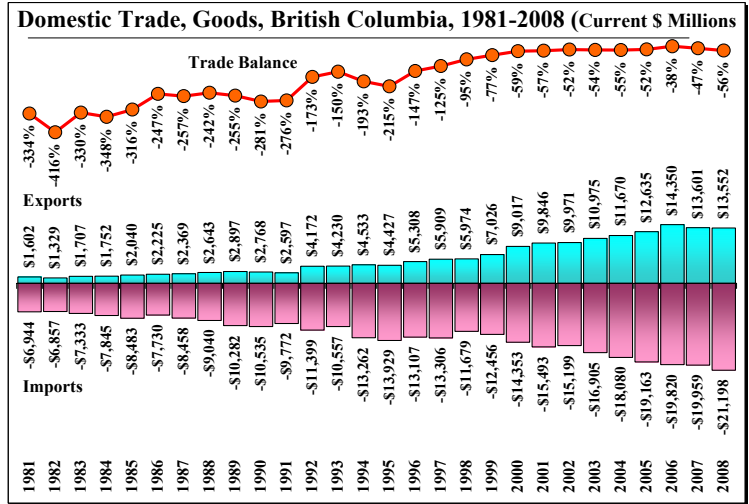
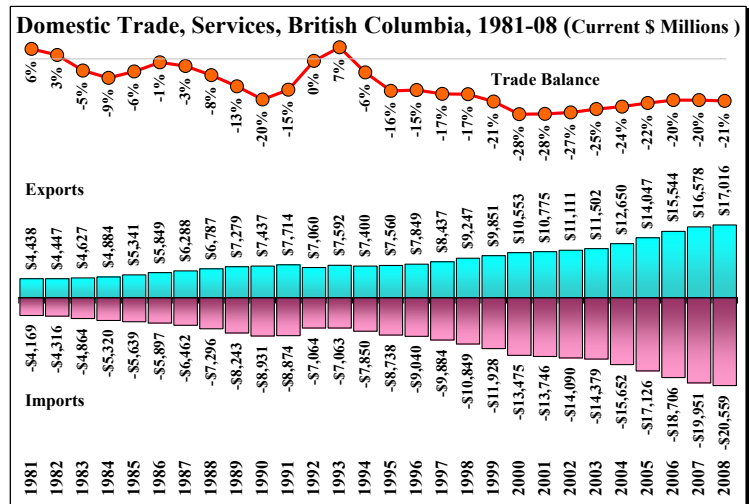


Figure 3.8

Our domestic trade deficit is the result of the trade deficits that we run with Ontario, Quebec and Alberta – due to Alberta's energy and agricultural resources and Ontario and Quebec's role as the nation's manufacturing core combined with the centralization of Canadian retail, financial and cultural service infrastructure in these two eastern provinces.

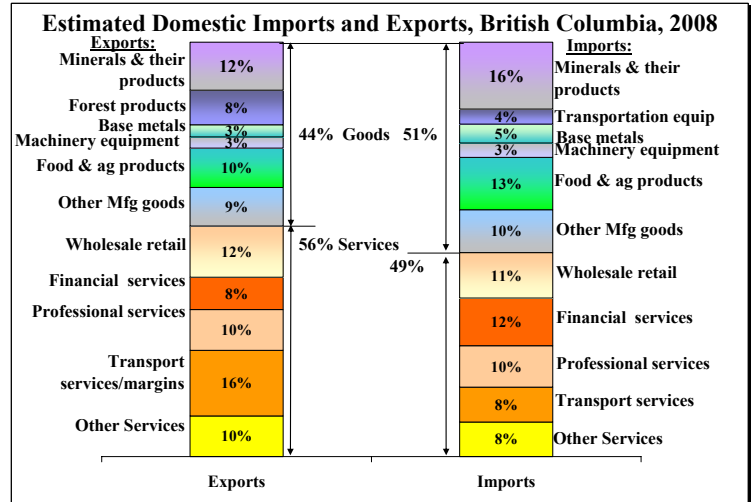
The estimated composition of our trade with the rest of Canada reflects the regional distribution of economic activity within the country (Figure 3.9)⁴³. Our exports to the rest of Canada are dominated by the sale of services, specifically transportation services and margins, which account for 16 percent of the dollar value of the province's total domestic exports. The resource industries are also strongly reflected in our domestic exports; with mineral and mineral products (12



percent), forest products (wood, wood products, and pulp and paper combined, 8 percent), and food and agricultural products (10 percent) giving the natural resource based industries a 30 percent share of total domestic exports.

Figure 3.9

The mineral and mineral products sector dominates our interprovincial imports, with this sector’s 16 percent share largely attributable to the import of mineral fuels. Manufactured products also play a major role in the import stream; transportation equipment (4 percent), other manufactured goods (10 percent), machinery equipment and electronics (3 percent), and base metals and their products (5 percent) combine to give these manufactured goods a 22 percent share of all domestic imports. A large component of our service sector imports is comprised of financial, insurance and real estate services which account for 12 percent of all domestic imports.



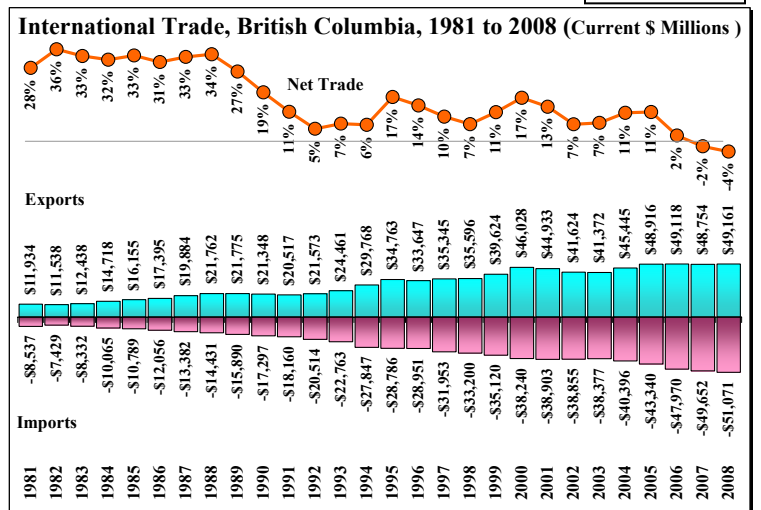
When comparing the composition of domestic imports and exports, it is important to remember that imports exceed exports by a 37 percent margin. Thus while machinery, electronics and equipment account for roughly 3 percent of both domestic imports and exports, the dollar value of imports of these manufactured products is greater than the value of their exports.

III.D.2. Trading Countries

From the days of the North West Company of Traders and the Hudson’s Bay Company to today, international trade has been the strength of the provincial economy. Until 2007, we consistently ran an international trade surplus, with our exports to other countries paying not only for our imports from them, but also covering some of the trade deficit we run with the rest of Canada (Figure 3.10)⁴⁴. Our international trade is also our major trading activity – the dollar value of our international exports is 75 percent larger than that of our domestic ones.

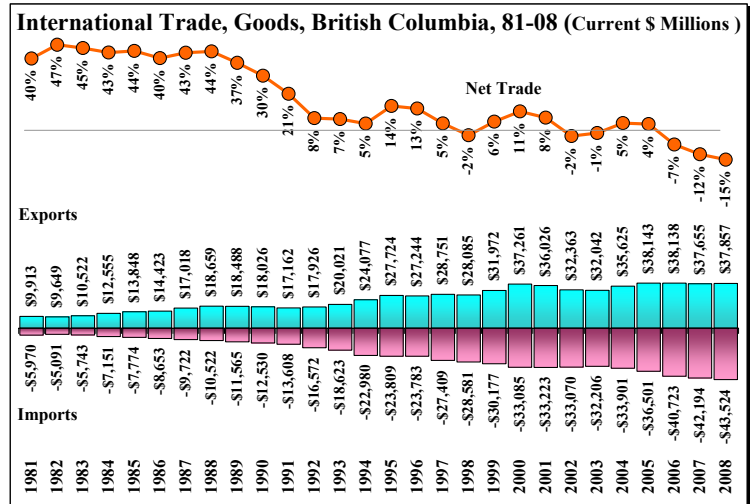
Figure 3.10

Having noted the strength of international trade, it is essential to also note that it has changed dramatically over the past quarter century. In the 1980s, the value of our international exports was roughly a third greater than our international imports. During the North American economic slowdown of the early 90’s (1989 to 1992), this changed significantly; the value of our international exports dropped, while our imports continued to grow, cutting our trade surplus to the 10



percent range. From then until 2006, we were generally able to maintain a surplus in this range. This skinny margin meant that any slowing in exports, or rapid increase in imports, could push us into a trade deficit position – which it did in 2007 and 2008. From 2000 to 2008 the current dollar value of our international exports barely grew (a 6 percent increase over 8 years) while that of our imports increased by 34 percent.

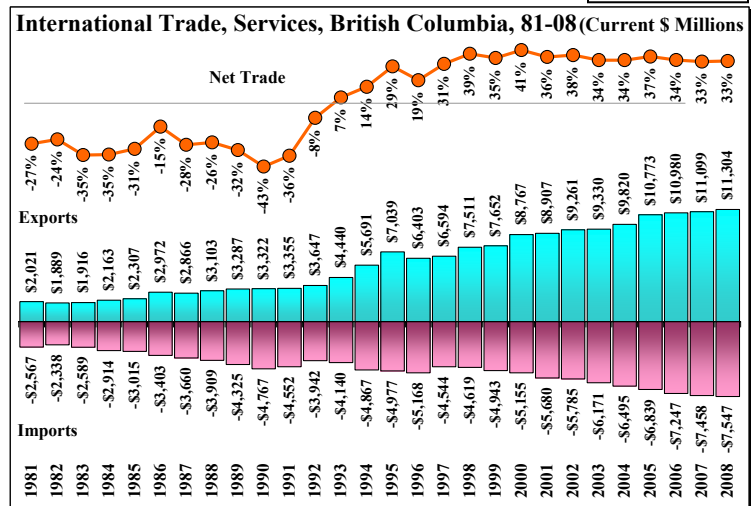
Figure 3.11



While 2007 marked a watershed point in our international trade, what brought us to this point is rooted in changes that occurred in the late 1980s and early 1990s, as well as changes to the distinct markets for goods and for services. The declining margin between international exports and imports is entirely the result of relative declines in the trade margin for goods (Figure 3.11)⁴⁵. In the 1980s the value of the goods we exported was 40 percent larger than the value of the goods we imported; by the early 1990s it had fallen into the 10 percent range; by the early 2000s into the minus 2 to plus 11 percent range. Over the past three years record deficits in the minus 7 to minus 15 percent range occurred. In 2008 our international exports of goods brought \$37.9 billion dollars into the province, essentially the same as the \$37.3 billion contribution in 2000; over the same period however, our international imports of goods climbed by a third – from \$33.0 billion to \$43.5 billion.

Dramatic changes in our international trade of services also occurred in the late 1980s and early 1990s. These changes helped offset some, but not all, of the decline of our merchandise trade surplus to a deficit. Up to 1991, we continuously ran a big deficit in international trade in services – our spending on services from other countries exceeded their spending on ours by a margin of 15 to 43 percent (Figure 3.12)⁴⁶. From 1991 on, however, our international export of services took off, growing much faster than our purchase of services. We now stand in exactly the

Figure 3.12



Services have become a very important source of export income for British Columbia, and our ability to provide these services is fundamental to the province’s economic well being. Having noted this, it is also important to note that the international sale of goods still dominates our

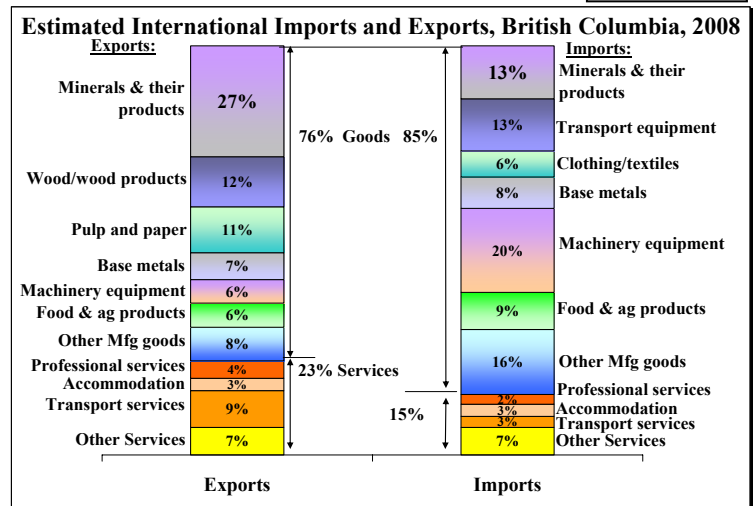
exports. In 2008 (a particularly bad year for the international export of goods), services accounted for less than a quarter of the \$49 billion value of international trade. It would take a thirty three percent increase in the international sales of services to offset a 10 percent decline in the international sale of goods.

Goods are much more dominant in our international trade than they are domestically, accounting for 76 percent of the dollar value of our international exports and 85 percent of our imports (Figure 3.13)⁴⁷. The dominance of merchandise in our import flow reflects the issues of scale economies in manufacturing. A full 55 percent of all imports to the province are manufactured goods (transportation equipment 13 percent; clothing and textiles 6 percent; machinery, equipment and electronics 20 percent; other manufacturing 16 percent). Base metals and their products (8 percent), minerals and their products (13 percent) and food and agricultural products (9 percent) further combine to bring the merchandise share of imports to 85 percent.

Turning to a consideration of the composition of the exports that pay for these imports, it is

Figure 3.13

important to note that natural resources play the dominant role. Minerals and their products (27 percent), wood and wood products (12 percent), pulp and paper products (11 percent), base metals and their products (7 percent) and food and agricultural products (6 percent) combine to account for 62 percent of the value of international exports. Machinery, equipment and electronics (6 percent) and other manufacturing (8 percent) account for the rest of merchandise's 76 percent share of total exports. Note that, as with our domestic export of services, transportation services and margins account for the single largest component of international services exports, contributing a 9 percent share.



As exports provide us with the ability to pay for our imports it is important to look at why they have increased so little since the turn of the century, as this provides significant insight into where trends may take us. There are two interdependent factors that have changed our sales to the rest of the world: those that changed who we sell to and those that changed what we sell to them.

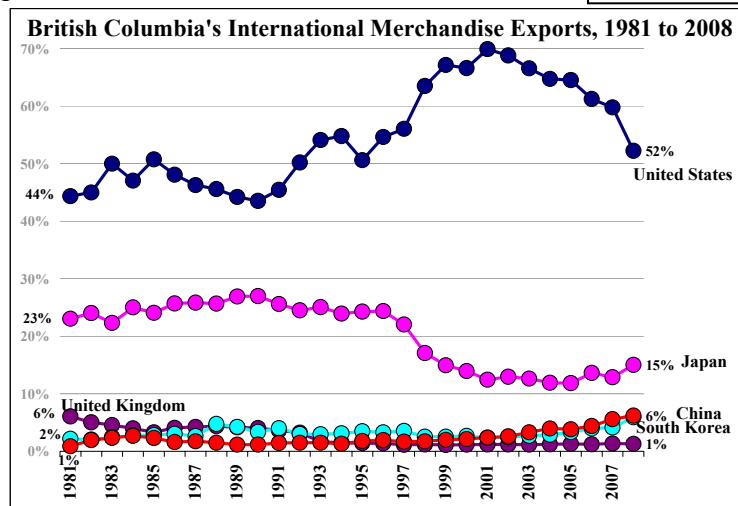
III.D.3. Trading Partners

British Columbia does not have a very diverse international merchandise export market, dominated as it is by the United States as a destination for 52 percent of the province's merchandise exports in 2008, followed by Japan (15 percent), then China and South Korea (6 percent each, Figure 3.14⁴⁸). A total of eighty percent of our merchandise exports go to just these four countries. Since 1981 the United States and Japan have been our primary export customers, with their current two thirds share of our market down from its high of eighty percent in 2000. Having noted this concentration, our export market is far more diverse than the rest of Canada; BC has the lowest

export dependency on the United States of any province in Canada – Alberta and Ontario (with 87 and 83 percent shares respectively) are the most dependent on merchandise exports to our neighbours to the South.

There have been four periods of change in our export markets since 1981. The first was the significant decline in our merchandise export sales to the United Kingdom. In the 1980s, the UK was our third largest customer, accounting for 6 percent of our export market in 1981 and 4 percent in 1990; currently it accounts for only 1 percent of our export sales, ranking 9th in importance. This decline in share was not merely a crowding out as a result of growth in sales to other markets; it is the result of an absolute decline in sales, with current dollar exports to the United Kingdom declining by 38 percent between 1990 and 2008. A number of factors contributed to this decline, most significantly the collapse of the Soviet Union and a subsequent strengthening of trade within the expanded EU. Having noted this, not all is glum news from our European customers, as the combined exports to Germany (our 6th largest merchandise export customer in 2008), Italy (7th) and the Netherlands (8th) have increased sufficiently over the past 18 years to more than offset the declines in sales to the UK.

Figure 3.14



The second important shift, recorded in the mid-1990s, was the decline in Japan’s share of our merchandise exports, falling from a quarter of our international merchandise export market to a seventh (they still rank as our 2nd most important customer). Again, this was not a crowding out, but rather an absolute decline; the current dollar value of BC’s merchandise export sales to Japan has fallen by a quarter since 1995 (when our trade with Japan was at its peak). This decline was not driven so much by a competitive shift as by the decade of stagnation that the Japanese economy has experienced, a situation now compounded by a static consumer market and an aging and shrinking population. Having noted this, 2008 represented a reversal, as merchandise exports to Japan increased by 21 percent between 2007 and 2008 to the highest current dollar level recorded since 1998.

The third major change in who we sell to were dramatic shifts in the absolute and relative shares of our merchandise exports to the United States. From 1990 to 2001, the United States went from a 44 percent share of our merchandise export market to a 70 percent share. While this was, in part, the result of the decline in exports to Japan and the UK, it was largely the result of real growth in sales to the United States; the current dollar value of merchandise sales to the United States tripled from \$7.6 billion in 1990 to \$24.7 billion in 2000. From 2000 on, the dollar value of sales to the United States declined by \$5.2 billion (a 21 percent decline, from \$24.7 billion to \$19.5 billion in 2008). This absolute decline, combined with an increase of 48 percent (\$5.8 billion) in exports sales to other countries, resulted in the United States’ share of our export market falling to 52 percent by 2008.

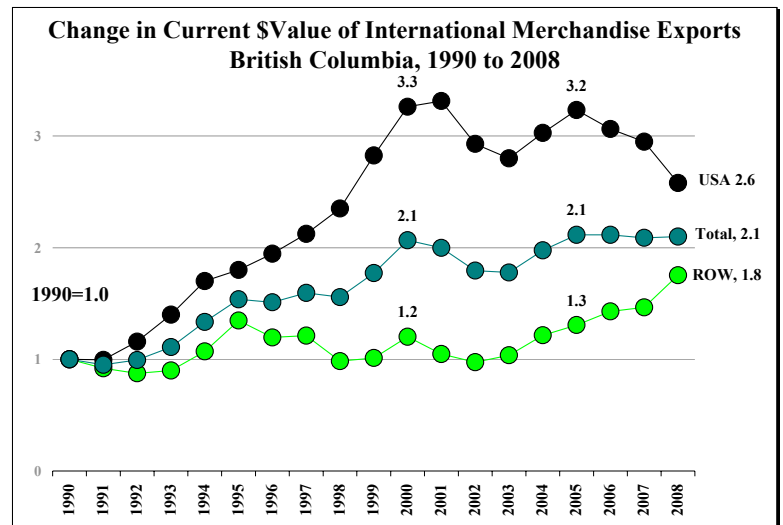
The final and most recent change in our international merchandise trade has been the growth in sales to China and South Korea. Since 1990, merchandise exports to China have increased nine fold making it our third most important customer; since 2000, exports have increased by 195 percent, a \$1.5 billion increase in merchandise sales. In essence, China replaced the UK over the past quarter century, increasing from a one percent share to six percent while the UK slipped from six to one. Over the same period, merchandise export sales to South Korea also increased, by \$1.2 billion (125 percent). Between 2007 and 2008, merchandise export sales to South Korea increased by more in both percentage (44 percent) and dollar (\$678 million) terms than they did to China (12 percent and \$245 million).

Increased sales to countries other than the United States barely offset the decline in sales to the United States: between 2000 and 2008 total merchandise exports from British Columbia increased by only \$0.6 billion, a 1.6 percent increase over an eight year period. This was the net result of a \$5.8 billion increase in sales to other countries in the world and a \$5.2 billion decline in sales to the United States. Thus, while we are much less dependent on sales to the United States than we were a decade ago, modest changes in this market can overwhelm those in other markets. An 11 percent decline in merchandise sales to the United States cancels out all of our merchandise sales to South Korea.

On an index base of current dollar export values beginning in 1990, the 1990 to 2000 period may be characterized by a three fold (230 percent) increase in export sales to the United States and only a 20 percent increase in sales to other countries (RoW, the rest of the world, Figure 3.15)⁴⁹. For every dollar of export revenue from merchandise sales to the United States in 1990, we sold \$3.30 by 2000. Combined, this more than doubled our total export earnings, with \$2.10 in total exports sales in 2000 for every dollar of sales in 1990.

Figure 3.15

The post-2000 period was dramatically different, characterized by a 21 percent decline in exports to the United States (for every \$3.30 dollars in merchandise sales to the USA in 2000, we sold only \$2.60 worth in 2008) and a 50 percent increase in sales to other countries. As the United States accounts for over half of our market, the decline in our exports to it essentially cancelled out the increase in our sales to the rest of the world. Thus, on a merchandise basis, we have been stuck since 2000, increasing our sales to the rest of world but unable to stop the parallel decline in sales to the United States.



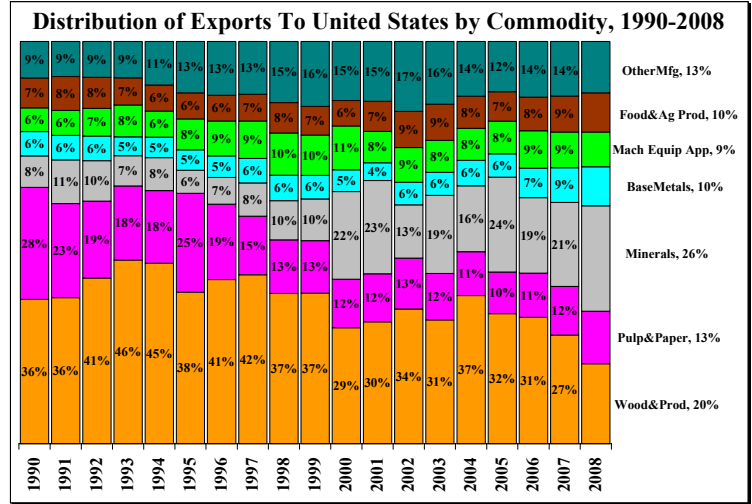
III.D.4. Changing Sales

The province’s international merchandise exports have not grown over the past eight years because increasing sales to other countries were offset by declining sales to the United States. In the same pattern, the reason for the declining overall sales to the United States were the declining sales of

our wood and wood product exports that were larger than our increasing sales of other goods to it (Figure 3.16)⁵⁰. In 1990, wood and wood products accounted for 36 percent of the value of merchandise exports to the United States; by 2008 they had reached their lowest level, falling to 20 percent. Similarly, pulp and paper sales to the United States accounted for 28 percent of US exports in 1990 but only 13 percent by 2008. Combined, the forest industry’s share of

Figure 3.16

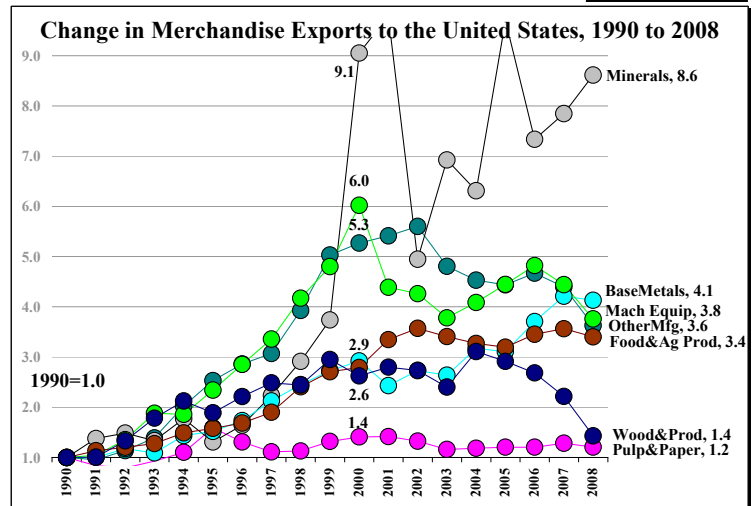
exports fell from 64 percent to 33 percent – in spite of this decline, the forest industry still contributes the single largest share of revenue from exports to the United States.



The decline in the forest industry’s share does not mean a diminished importance for all natural resource based industries; exports of minerals and mineral products (which includes natural gas and other mined minerals) increased its share from a modest 8 percent in 1990 to 26 percent in 2008, while food and agricultural products rose from 7 to 10 percent. In total, these four natural resource based sectors account for 69 percent of all merchandise exports to the United States in 2008, down from their 79 percent share in 1990.

Figure 3.17

The decline in the forest industry’s share over the past two decades is the combined result of no growth in sales for the forest industry with growth for other industries. While between 1990 and 2000 the current dollar value of export sales of all commodity groups to the United States increased, by 2008 the current dollar value of sales of wood and wood products and of pulp and paper were essentially back to their 1990 level (Figure 3.17)⁵¹. In contrast, the dollar value of minerals and mineral products increased to 8.6 times higher in 2008 than they were in 1990, although this too was lower than their 9.1



multiple observed in 2000. All of the other sectors followed a path between these extremes, winding up at between three and a half and four times their 1990 level by 2008. Sales of food and agriculture products and base metals and their products to the United States were higher in 2008 than in 2000, while sales of machinery and equipment and other manufacturing were lower.

While merchandise exports to the United States have diversified though the growth of industries other than forestry, the province’s exports remain strongly tied to forest and mineral industries. Our ability to pay our import bills by exporting to the United States is therefore going to be largely influenced by what happens in the natural resource based industries, both externally (in terms of

access to United States’ markets) and internally (in terms of supply availability within the province).

Given our resource endowment and comparative advantage, it comes as no great surprise that natural resource industries also account for the majority of merchandise exports to countries other than the United States (Figure 3.18)⁵². The largest share of our non-US international merchandise export sales is the 45 percent share for minerals and mineral products, followed by forestry products at 28 percent. With a combined total of 73 percent, these industries fall slightly below their 1990 share of 79 percent. As with exports to the United States, the most dramatic change over the past two decades is a decline in forestry’s share, from 50 percent in 1990 to 28 percent in 2008. Over this same time period minerals and mineral products have increased from a 29 percent share to 45 percent of non-US international merchandise exports.

Echoing the pattern of sales of forest products to the United States, the current dollar value of forestry product sales to other countries in 2008 was at, or below, the 1990 level – the difference is that they did not increase during the intervening period (Figure 3.19). The growth in merchandise exports to these countries then was largely the result of the 2.7 times increase in sales of minerals and their products, and that of base metals and their products (a 1.8 times increase). While greater relative increases were recorded in export sales of machinery equipment and appliances (a 6.0 times increase) and other manufacturing (3.4 times), the relatively small base for these sectors muted their impact on the overall level of exports.

III.E. Our Changing Future

The scale of the British Columbia market and its natural resource endowment will always mean that most of the goods, and many of the services, we purchase will be imported. To get the money to pay for imports, we must either earn it (by exporting to or investing in, other regions) or convince people in other regions to give us the money (as loans, investments or other financial transfers). While in the short run these loans and investments help us spend beyond our means, in the long run, they have to be paid back. This means that a focus on earning the money to pay for our own imports will be essential. The fundamental economic question for the future is whether or not we will be able to export enough to provide the quality of life that all of us, and particularly

Figure 3.18

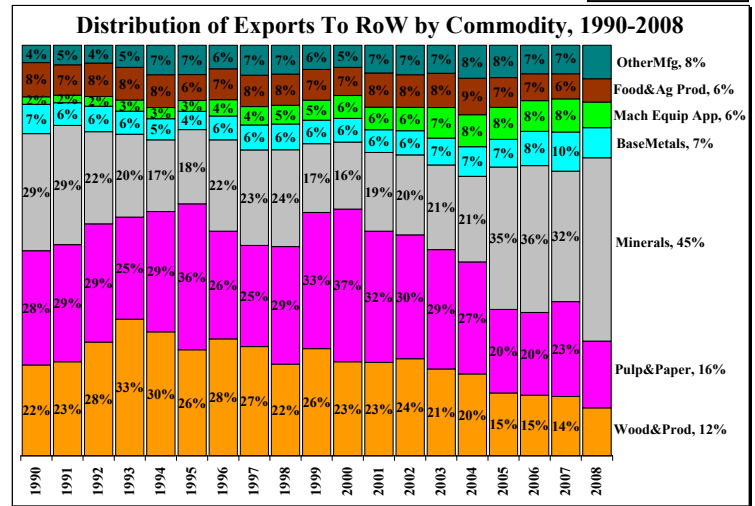
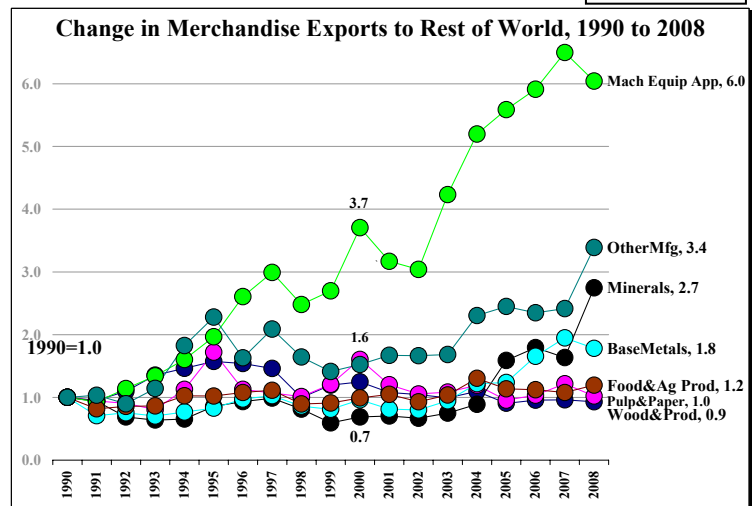


Figure 3.19



those of us in the workforce, will require and expect? The review of trends in the province's economy, as presented in this section, suggest that the answer to this question cannot be taken as a given:

1. While our export base has diversified over the past two decades, it is still largely a resource based economy, with the forest industry accounting for 21 percent of all exports by value (31 percent of international exports) and the minerals and mineral products industries accounting for 16 percent in total (35 percent international). Given the forest industry's primacy, even modest continuing declines will require significant growth in other exports to offset them. Given the devastation that the mountain pine beetle infestation will bring to the potential supply of interior wood products and the increasing competition as a result regulatory change, new suppliers, and the cost structure of trade, continued declines in the forest industry are not only possible, but probable.

The potential consequences of both this specific change and the general changes occurring in provincial natural resource markets are not widely appreciated in British Columbia, particularly in metropolitan regions. 2005's Hurricane Katrina provided a striking example of the real, but indirect, benefits these regions receive from natural resource industries. The rise in natural gas prices from \$6 to \$11 after the Katrina brought an extra \$684 million dollars in royalty revenues to the province of British Columbia between the first of September and the end of November⁵³. This windfall gain, combined with other revenues, formed the basis of the lump sum signing bonus for provincial government employees, which averaged about \$3,300. This natural resource revenue went primarily into metropolitan areas, as that is where most provincial employees reside. While this connection between natural resources and home life in the West End is neither direct nor obvious, the reality is, as it has been in the past and will be in future, that the major source of money to pay for our imports are natural resource based industries. We will all be compelled to deal with the consequences of the changes that they are facing.

2. Our major export market is our next door neighbour, and, while we must continue to diversify by attracting other customers, we must also pay attention to the fact that offsetting a minor percentage decline in sales to the United States requires major percentage increases in sales to other countries. The potential for increasing exports to the United States is significant, as its population grows by a Canada (30 million people) every eleven years. Maintaining and increasing access to our US markets will require much more persuasion, and much less presumption, than has been demonstrated in the past.

3. Our opportunities to export to the rest of Canada must be considered realistically. In this regard, we face three challenges. The first is the fact that many of our natural resources duplicate those produced in Eastern Canada, particularly in the forestry sector. The second challenge is that Eastern Canada is far away – Los Angeles is closer to Vancouver than Winnipeg, and Houston, Texas is closer to Vancouver than Toronto⁵⁴. Compounding our distance from the rest of Canada is the fact that Winnipeg, Toronto, Montreal and Halifax are all closer to big eastern US markets than they are to Vancouver. Finally, our small population size and low density means that scale economies are always going to favour Central Canadian locations over West Coast ones. We will not find our export markets in large scale manufacturing.

4. Service sector exports are of growing importance, and have provided much valued assistance to offset the limited growth in merchandise exports. The challenges that our resource industries will face in the future will require us to nurture new industries and markets in tandem with nurturing our traditional ones. In doing so, we must acknowledge that service exports have their own unique characteristics, circumstances and consequences. They tend to be much more labour intensive per dollar of output; the labour component of a million dollars of copper exports is much smaller than that of a million dollars worth of tourist sales. If we are going to increasingly rely on the service sector, we will require proportionately more workers, more people living with us in our communities, and more people visiting.

Service sector export markets are also very competitive – there are no \$689 million unearned windfall gains due to storms in the service sector. Every dollar has to be earned, and they have to be earned by being better than a whole lot of other very nice places, such as Paris or Hawaii. Unlike the markets for bulk commercial products such as natural gas, logs or copper, selling services requires continuous brand reinforcement and mass marketing. The benefits of doing so are clearly shown in the data – post Expo 86 we went from a deficit to a surplus in terms of trade in services internationally. To maintain and increase service sector exports means that we must always, absolutely, be on top of a destination marketing campaign. In this context, branding opportunities such as those provided by the 2010 Olympics and other post-2010 destination events become much more significant than they have been in the past; so too is support for our cultural infrastructure, as the service sector requires cultural attractions in concert with the natural ones.

The quality of our lives in British Columbia – and more importantly, our ability to attract and retain the next generation of workers – will rely on our being able to import the goods and services that we, and they, will seek in the future. To do so, we must respond to the changes, both internal and external, that our export industries and markets are facing, so that we may better match what we spend with what we earn.

IV. Managing to Change

We are getting older, and as we do we need more help, both literally and metaphorically. This help can only come from a strong economy, one that will provide for the contributions to the transfer programs that we rely on and will retain and attract the next generation of workers that will sustain it. If this is to happen we will all have to become much more engaged in ensuring the health of our economy in general and of our export industries in particular.

This is going to require a deeper and more widespread understanding of the trading interdependencies that we call our economy. Some of these interdependencies are local, within our communities; some are a bit longer in distance, between communities in the province; and some involve long distance relationships that span the continent and globe. All of these are vital to us, as they both bring us the goods and services that we cannot produce efficiently for ourselves and provide us with markets for the goods and services that do produce so very efficiently.

All British Columbians are in the same economic boat, and we all have to work together to make sure the boat goes where we want it to, rather than merely being taken where it might drift. To adapt the words of Chief Nathan Mathew of the Thompson First Nation to this context, we must work together, and we must work together in partnerships that respect our different perspectives, because we have one interest in common – making our future together the best it can possibly be.

Recommendations:

By its very nature, the focus of this research has been broad and general, and hence its recommendations are contextual rather than specific. The companion reports in the Opportunities 2020 publication series will outline specific policies and programs for individual sectors of the province's economy.

1. Acknowledge Demographic Reality. We are getting older, slowly but inevitably, something that is going to profoundly change the province's demography. To maintain an economy that can provide for us as we age means that we are going to have to change. We are going to have to work more, more of us are going to have to work, we are all going to have to work smarter, and we are going to have to attract and retain new workers to help us with these tasks. No one of these things on its own will suffice, as all must be done – to deny this simply means we lose time and opportunities.

In particular, growth in labour supply will rely exclusively on net in-migration to the province, which, given the correspondence between British Columbia's demography and that of Canada as a whole, means net immigration. We must develop a recruitment mindset for immigration, one in which we not merely accept immigrants, but welcome them to, and actively include them in, our community life.

2. Acknowledge Economic Reality. Producing goods and services in the most efficient way and place is of both economic and environmental importance, as it is the only way to ensure that we do not waste or misuse resources. We are a small population living in a province with a valuable, but not diverse, resource endowment, and hence most of what we require cannot be

realistically or efficiently produced in the province. While we may occasionally be able to find a locally produced (meaning with all inputs from local sources) substitute for an imported product, this will be the rare exception to an overwhelming rule. These imports are fundamental not only to our standard of living but to our labour supply as well, for few of us, and most significantly, few of the contributors to the productive capacity of the economy and to the tax base, would remain in the province if their sustenance and consumption were limited to goods and services that can be locally produced.

This reality of our dependency on imports means that we must have money to pay for them. This is overwhelming going to mean that we have to work harder and more, maintaining and expanding the ranges of the products we export and the customers who buy them. Borrowing will always be presented as an easier option, but this will not sustain us in the long run, and will shackle the next generation of workers to a debt to pay for this one's consumption.

With a goal of diversifying our economy in a rapidly changing world, policy should not try to pick specific favorites in terms of products or customers, as every dollar brought into the provincial economy by exports is equally valuable. Thus while the natural resource endowment of the province will always form the core of our export economy, we must ensure not only that we make the best use of it and the opportunities that it offers, but that we pursue the full range of value from it – it is not forestry or tourism, but forestry and tourism – and from non-natural resource based activities. Most particularly, the province's human resource endowment is not either a constant or a limit, as it can be changed in both quality and scale. In this regard, policy attention should be given to ensuring that the province's population has access to training, information, and technology; encouraging innovation and application of knowledge to the production of goods and services; and fostering engagement with the purchasers, current and potential, of our exports.

3. Increase Economic Literacy. Much of the commentary around economics in the province is partisan, ideological, reflects only a vested interest, or all three. While this can certainly generate a robust discussion, it does not lead to a well informed populous, which is the foundation of good economic policy. To build this foundation, there must be much done to both increase the quality of information about the forces shaping our economic and demographic futures and to foster reasoned and evidence based discussion of them.

Without limiting the scope of what might be done in this regard, some examples of how this might be achieved include:

- Wider publication and media discussion of economic components of the Provincial Economic Review and Outlook which accompanies the Provincial Budget and which are updated in the Quarterly Review published by the Ministry of Finance.
- Establishment of an annual prize for the best report on the BC economy prepared by a British Columbia high school student with its publication and broadcast in local media.
- Convene and broadcast an annual economic roundtable where non-partisan discussion by institutional and academic economists focuses on short, medium, and long term contexts for the province's economic and sectoral issues.

Sources, citations, and sidebars

-
- ¹ Urban Futures. Estimated mid-year 2008 population, based on BC Stats and Statistics Canada historical data.
- ² *ibid.*
- ³ Since the peak of the baby boom, not only have birth rates fallen overall, but there has been a postponing of births, with age specific birth rates falling significantly for women under the age of 25 and rising for women age 30 and older.
- ⁴ Urban Futures. op cit.
- ⁵ Note that it is birth rates – the number of births compared to the population – that defines birth booms and dearths, not the number of births itself. The annual number of births in British Columbia has generally been at or above the post WWII baby boom period peak of 40,000 per year since 1980, yet the birth rate during this time has been at the record lows of 1.4 to 1.6 children per woman of childbearing age, almost a third of the baby boom level. The reason for the relatively high number of births during a period of low birth rates is that the number of women of childbearing age grew more rapidly in the post 1980 period than the birth rate declined.
- ⁶ Urban Futures. op. cit. Note that life expectancy calculations are based on the current levels of age specific mortality. Changing age specific mortality rates not only change life expectancy at birth, but also life expectancy at each age younger than the age at which mortality rates fall. Thus while the average male born in 1946 mathematically could have anticipated living an average of 65 years, the actual average life span of this cohort was much longer, as they benefited from everything that reduced mortality at any age older than theirs since 1946.
- ⁷ Urban Futures projection
- ⁸ *ibid.*
- ⁹ *ibid.*
- ¹⁰ *ibid.*
- ¹¹ *ibid.*
- ¹² Canada Pension Plan. www.hrsdc.gc.ca/eng/isp/statistics/statmain.shtml
- ¹³ Canadian Institute of Health Information. 2008 Health Expenditure Data. http://secure.cihi.ca/cihiweb/products/nhex_2008_en.pdf
- ¹⁴ Province of British Columbia Ministry of Finance. 2008 Financial and Economic Review.
- ¹⁵ Urban Futures. Calculation based on Canada Revenue Agency and Statistics Canada data
- ¹⁶ Urban Futures. Calculation based on BC Ministry of Education and BC Ministry of Finance data.
- ¹⁷ Urban Futures. Projection based on Statistics Canada Labour Force Survey and 2006 Census.
- ¹⁸ *ibid.*
- ¹⁹ Urban Futures projection
- ²⁰ *ibid.*
- ²¹ *ibid.*
- ²² BC Statistics Business Indicators. June 2008. “Labour productivity: BC’s Achilles Heel?”. and C.D. Howe Institute Commentary. May 2003. “Slowing down with age”.
- ²³ Urban Futures. Calculation based on Statistics Canada Annual Demographic Statistics.
- ²⁴ *ibid.*
- ²⁵ *ibid.*
- ²⁶ *ibid.*
- ²⁷ Urban Futures projection
- ²⁸ *ibid.*
- ²⁹ *ibid.*
- ³⁰ Globe and Mail Report on Business. June 14 2007. Page 1 Section B. ““This (aging) is no longer an abstract issue for policy makers’ says Canada’s top central banker, cautioning that ‘Canada needs a productivity miracle to avoid a demographic torpedo to the economy’.”
- ³¹ Krugman, Paul, 1997. in *Pop Internationalism*, Cambridge, MIT Press.
- ³² While much talk is heard about the drug economy, the under-ground economy, and the value of the goods and services that are produced but not traded, the reality is that most of us are not involved in any of these, and most of what we produce and consume is formally exchanged, using money for convenience, and recorded.
- ³³ Standardization and durability are not generally associated with services, but this does not mean that market scale is not important in production of services. Financial management services, specialized legal and consulting services, and entertainment such as concerts, art galleries and museums all require significant market thresholds to support them.

-
- ³⁴ In this report, with its focus on the province, trade will be discussed in the inter-provincial and international contexts. This is not to deny the importance of trade within and between communities in the province – these make up the largest share of provincial economic activity. For example, most of the economic activity in the Lower Mainland is driven by exchanges between residents as consumers and as producers. Another important dimension of economic activity in the Lower Mainland is its trading activity with other communities in the province, providing them with a wide range of goods and services (including gateway activities) that they do not have the market scale to support local production, making the rest of the province a very important customer for the Lower Mainland economy.
- ³⁵ Urban Futures. Calculation based on BC Statistics and Statistics Canada economic accounts data.
- ³⁶ Urban Futures. Estimate based on Statistics Canada economic accounts data, BC Statistics balance of payments data and Industry Canada trade data.
- ³⁷ Urban Futures. Calculation based on BC Statistics and Statistics Canada economic accounts data.
- ³⁸ *ibid.*
- ³⁹ Urban Futures. Calculation based on BC Statistics Inter-provincial and International Trade Flows data.
- ⁴⁰ *ibid.*
- ⁴¹ *ibid.*
- ⁴² *ibid.*
- ⁴³ Urban Futures. Estimate based on Statistics Canada economic accounts data, BC Statistics balance of payments data and Industry Canada trade data.
- ⁴⁴ Urban Futures. Calculation based on BC Statistics Inter-provincial and International Trade Flows data.
- ⁴⁵ *ibid.*
- ⁴⁶ *ibid.*
- ⁴⁷ Urban Futures. Estimate based on Statistics Canada economic accounts data, BC Statistics balance of payments data and Industry Canada trade data.
- ⁴⁸ Urban Futures. Calculation based on BC Statistics Annual Export Data and Industry Canada Trade Data On-line.
- ⁴⁹ *ibid.*
- ⁵⁰ *ibid.*
- ⁵¹ *ibid.*
- ⁵² *ibid.*
- ⁵³ Vancouver Sun. April 1, 2006. “Decision to offer signing bonuses to civil servants helps seal labour deals”.
- ⁵⁴ Measured by road distance, Northern California is closer to Vancouver than either Mackenzie or Calgary; Los Angeles is closer than Winnipeg; Houston Texas is closer than Toronto; New Orleans is closer than Montreal; and Miami is closer than Halifax.