

# Off-Farm Income in Alberta

Sources, Drivers and  
Comparison with  
Saskatchewan / Manitoba

AF External Release



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## EXECUTIVE SUMMARY

This report explores the importance of off-farm income for family farms in Alberta and makes comparisons with the other two Prairie provinces, Saskatchewan and Manitoba. This report also discusses the major determinants of family farms' participation in off-farm income generating employment that are related to individual characteristics of family farm members as well as farm-specific and socio-economic factors.

The analysis shows that off-farm income constitutes a larger portion of an average family farm's total household income in the Prairie provinces. In 2001-2013, the contribution of off-farm income to total household income was 79 percent for Alberta, 70 percent for Manitoba, and 74 percent for Saskatchewan on average. The main source of off-farm income in each province was off-farm employment income (approximately 70 percent). In all Prairie provinces the off-farm income was steadily growing over time, while farm income remained quite volatile year after year. This demonstrated a high reliance of family farms on off-farm income in order to maintain a higher standard of living and/or being able to invest a portion of off-farm income back into the farm. Therefore, one of the major reasons for off-farm employment is risk management (a form of risk diversification) in agriculture. Another reason is that many family farms are too small to be economically viable without off-farm income.

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## BACKGROUND

This report provides insight into the role that off-farm income plays on Alberta family farms compared to family farms in the other two Prairie provinces, Saskatchewan and Manitoba. In particular, this report includes a profile of off-farm income and total income of family farms in the three Prairie provinces, and analysis on who participates in off-farm employment and why.

Statistics Canada defines “farm family” as an economic farm family where at least one person is a farm operator (Statistics Canada, 2011). The Food and Agriculture Organization (FAO) defines “family farming” as all family-based agricultural activities (including agricultural, forestry, fisheries, pastoral and aquaculture production) managed and operated by a family and predominately reliant on family labour (FAO, 2014).

Family farms are building blocks in the history and development of agriculture in Canada. The 21st century family farm is vastly different from its early 20th century predecessors. Understanding the dynamics of the modern family farm will contribute to understanding contemporary agriculture and the issues that the agricultural industry currently faces.

“Off-farm income” refers to the portion of family or household farm income that was earned off the farm (non-farm wages, salaries, and net off-farm self-employment income), investment income, pension income, social transfers and Registered Retirement Savings Plan income (Jetté-Nantel et al., 2011).

Farm operators make numerous decisions related to farm activities and production on a daily basis. Every decision is strongly influenced by the amount of time and resources required to complete tasks. For many farm families, the on-farm activities compete for managerial time with their off-farm employment. However, multiple job-holding by family farm members is becoming more prevalent across rural Canada (Alasia and Bollman, 2009). For producers from the three Prairie provinces the role of off-farm income has become an extremely important contributor to total income, a trend that has been observed in the rest of Canada, the United States and Europe (Jetté-Nantel et al., 2011).

In order for family farms to compete in the off-farm labour pool, they require the same skills and education as non-farm households. Participation in off-farm employment allows them to reinvest in the farm while maintaining a higher standard of living. When examining off-farm income in Alberta, comparisons are made with Saskatchewan and Manitoba to explore the differences. The landscape of

these three Western Canadian provinces is dominated by agricultural production. With some exceptions, each province produces similar agricultural commodities. The nature of off-farm activities, however, differs across the Prairies.

## **PROFILE OF OFF-FARM INCOME IN THE PRAIRIE PROVINCES**

Most of the data presented in this section is obtained from Statistics Canada for the years 2001 to 2013. However, data for 2010 and 2012 are not available. The data was provided by family farms operating a single unincorporated farm.

Are farmers rich? It may seem like it, due to the high value of capital assets, and revenue coming in. However, it is a popular misconception that farmers are making a lot of money in agricultural enterprises per se. Off-farm income constitutes a large portion of the average family farm's total household income, for those farms that are unincorporated.

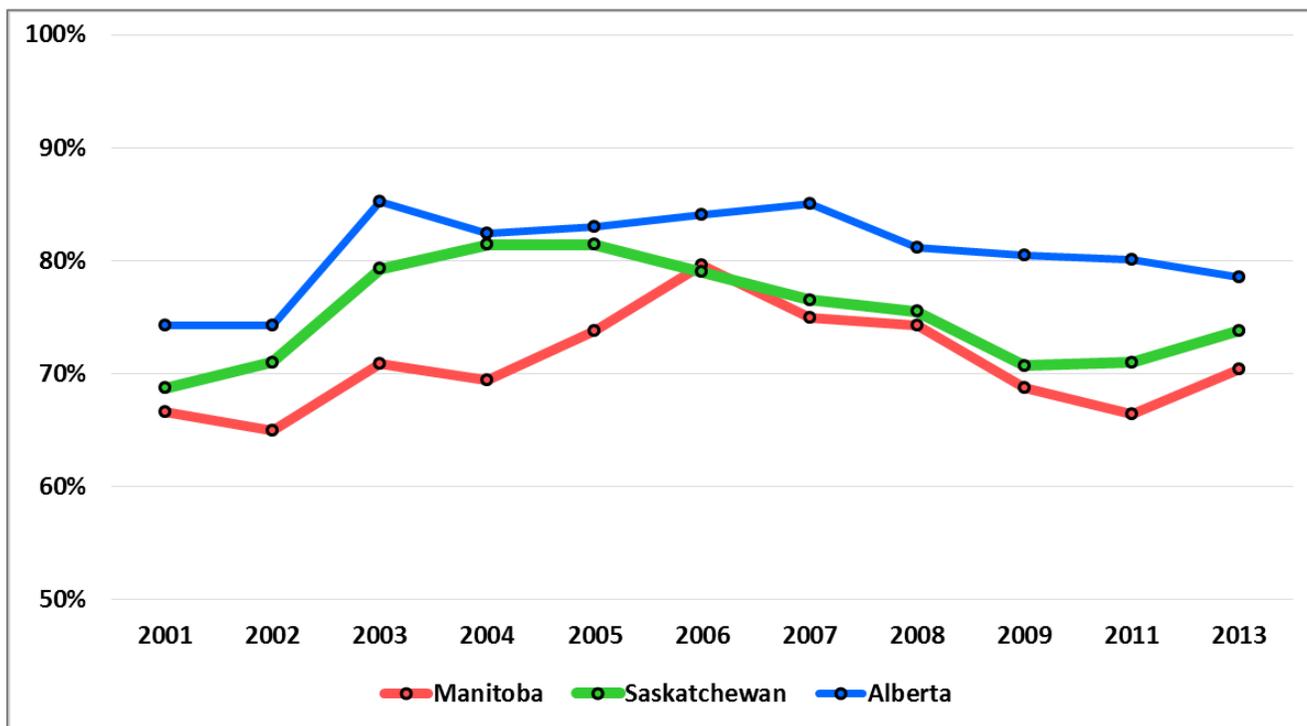
Figure 1 shows the annual average off-farm income<sup>1</sup> as a percentage of the annual average total (household) income. Contribution of off-farm income to total income is quite impressive at 70 and 74 percent for Manitoba and Saskatchewan respectively, and 79 percent for Alberta on average. Alberta had a higher reliance on off-farm income, which has steadily declined since 2007 but remained above the level in the other two provinces. Reduced dependence on off-farm income in Alberta during this time can be explained by the rise in net farm operating income due to strong commodity prices. For grain and oilseed producers, 2008 was one of the more profitable years with historically high prices and strong production. Producers experienced a 'commodity super-cycle' since 2007 (Alberta Farmer Express, 2016), which has led to an increase in net farm operating income.

Historically, off-farm employment in a rural setting was limited to forestry, small businesses, administration, education, health or finance, or the service sector (Alasia et al., 2007). However, such jobs were quite limited. Development of the energy sector in Alberta created investment and off-farm employment opportunities across all three Prairie provinces. The energy sector in each province either directly or indirectly impacted off-farm income increases. High paying jobs in the energy industry in rural and urban areas created a ripple effect, leading to creation of many non-energy positions that are servicing the energy sector. With high and rising off-farm wages, off-farm employment was a

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<sup>1</sup> Statistics Canada calculates the annual average off-farm income by dividing total off-farm income of reporting family farms by the number of reporting family farms (by year and province).

deliberate choice for many. Family farms were provided with an opportunity to diversify and augment farm income, allowing them to increase their standard of living. A logical conclusion as to why Alberta is ahead of Saskatchewan and Manitoba in its levels of off-farm income, is primarily due to Alberta's rapidly growing economy due to oil and gas energy expansion. The high growth resulted in higher paying job opportunities even in very remote areas in Alberta, such as Fort McMurray.



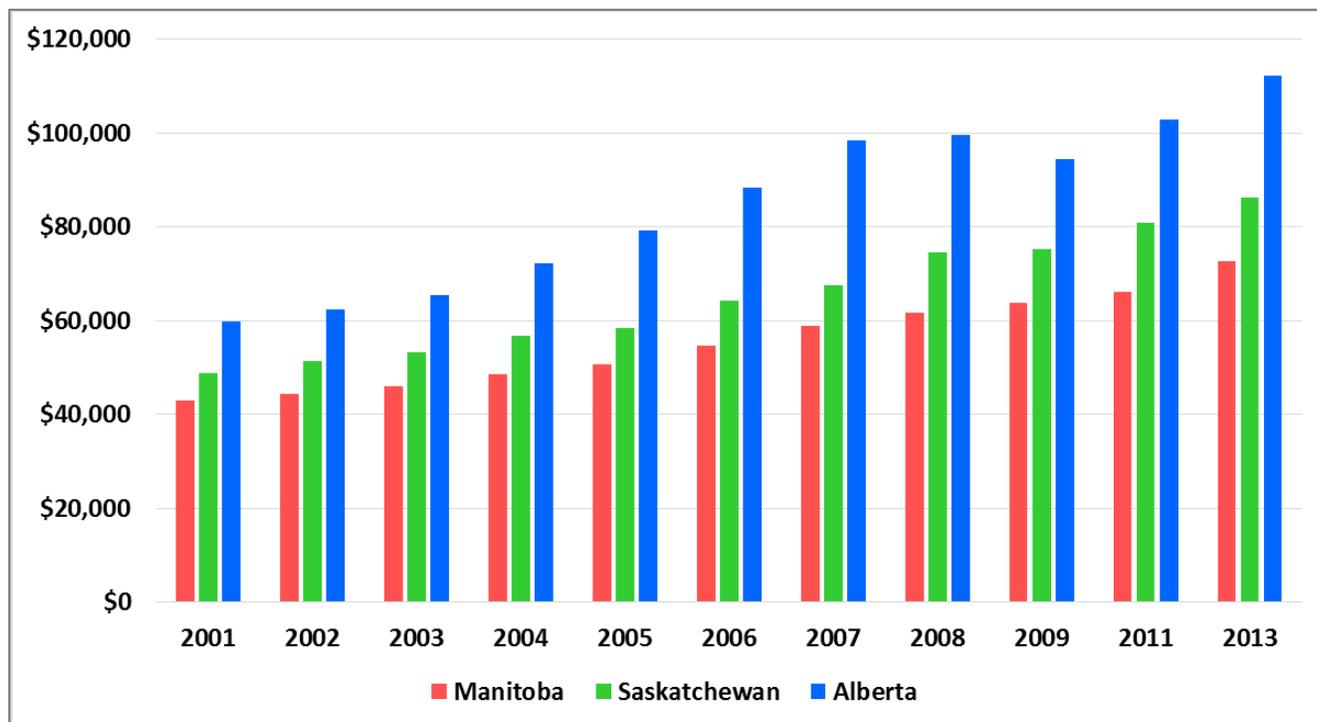
**Figure 1. Annual average off-farm income as a percentage of annual average total income in the Prairie provinces**

Source: StatisticsCanada, Cansim Table002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

Figure 2 shows annual average off-farm income for family farms in Alberta, Saskatchewan and Manitoba. In 2001-2013, Alberta's annual average off-farm income was above the levels of Saskatchewan (by \$10,000 to \$30,000) and Manitoba (by \$17,000 to \$40,000) depending on the year. Off-farm income increased every year in each province, except for 2009 in Alberta. Alberta experienced a 5.4 percent drop in off-farm income that year, likely due to the oil price crash of 2008 and a temporary reduction of the oil industry related job opportunities. In 2011, Alberta's off-farm income rebounded to a much higher level than in 2008. The annual growth rate for off-farm income in Alberta averaged 6.6 percent (see Table 1). Saskatchewan was slightly behind at 5.9 percent, and Manitoba at 5.4 percent respectively. Generally, Alberta's annual average off-farm income was 20-30

percent higher than in Saskatchewan, and 30-40 percent higher than in Manitoba (see Figure A.1, Appendix A).

Adjusting off-farm income levels for inflation with the Consumer Price Index (CPI) did not considerably change the big picture (see Figure A.2, Appendix A). Alberta's real annual average off-farm income remained well above the levels of Saskatchewan (by \$10,000 to \$20,000) and Manitoba (by \$17,000 to \$30,000) when expressed in constant 2002 Canadian dollars.



**Figure 2.** Annual average off-farm income of family farms in the Prairie provinces

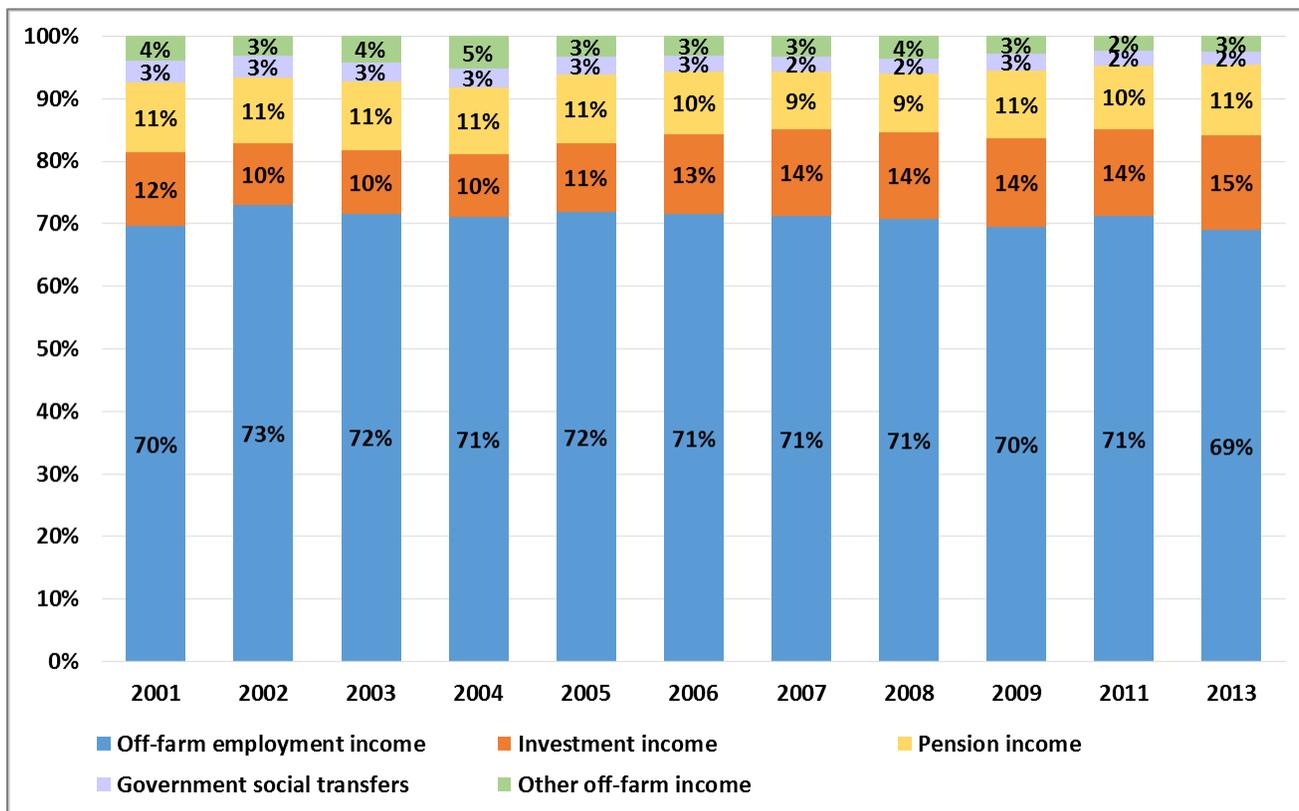
Source: StatisticsCanada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

**Table 1.** Annual and total growth of average off-farm income in the Prairie provinces

Growth	2002	2003	2004	2005	2006	2007	2008	2009	2011	2013	Avg	Total
<b>AB, %</b>	4.3	4.8	10.6	9.7	11.5	11.4	1.0	-5.1	8.8	9.2	6.6	69
<b>SK, %</b>	4.9	3.7	6.6	3.0	10.2	5.0	10.4	0.9	7.3	6.7	5.9	76
<b>MB, %</b>	3.2	3.7	5.9	4.1	8.1	7.5	4.9	3.2	3.7	9.9	5.4	88

Source: Own calculations based on StatisticsCanada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

The main source of Alberta's off-farm income in 2001-2013 was off-farm employment income (see Figure 3). The percentage of off-farm employment income as a portion of total annual average off-farm income remained quite stable at 71 percent on average. The next two largest sources were investment income followed by pension income, contributing 12 percent and 10 percent through the years on average. Government social transfers and other off-farm income contributed only three percent each on average.



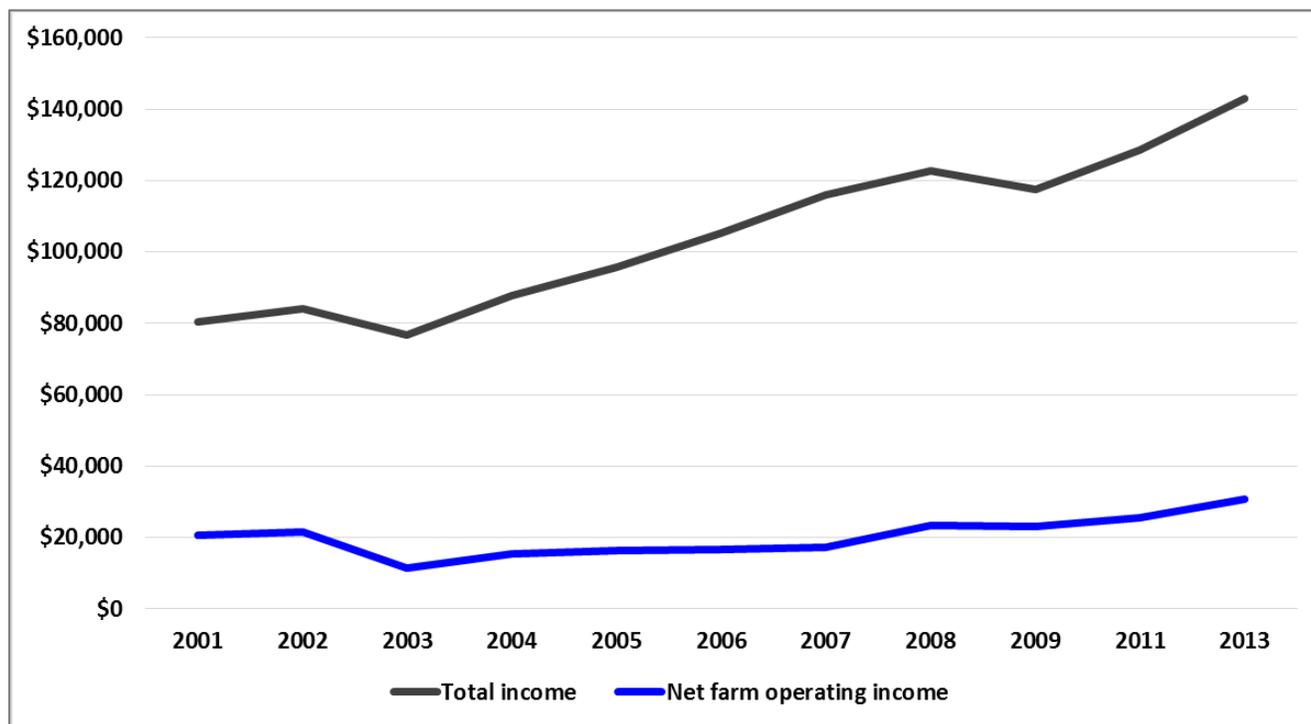
**Figure 3. Sources of off-farm income in Alberta (percentage of total annual average off-farm income)**

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

The structure and sources of off-farm income for Saskatchewan and Manitoba is very similar (see Figures A.3 and A.4, Appendix A). The percentage of off-farm employment income as a portion of total annual average off-farm income was 70 percent in Manitoba and 69 percent in Saskatchewan. Investment income was slightly lower in the case of Manitoba and Saskatchewan compared to Alberta (seven and eight percent respectively), and pension income was slightly higher (13 and 14 percent

respectively). Government social transfers and other off-farm income were only marginally higher in Saskatchewan and Manitoba.

Figure 4 displays the annual average total income (which combines annual average off-farm income and annual average net farm operating income<sup>2</sup>) for family farms in Alberta, as well as the annual average net farm operating income. Figures A.5 and A.6 (Appendix A) show comparisons of annual average total income and annual average net farm operating income in Saskatchewan and Manitoba respectively.



**Figure 4.** Annual average total income and annual average net farm operating income in Alberta

Source: StatisticsCanada, Cansim Table002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

The annual average total income exhibits growth in all three provinces in most years (mainly due to steadily growing of off-farm income, as shown in Figure 2). There are a few years, when average total income declines or remains flat (e.g. reduced net farm operating income during the Bovine Spongiform Encephalopathy crisis in 2003, reduced off-farm income due to the 2008 oil crash in the following year). Comparing annual average total income and annual average net farm operating income in

<sup>2</sup> Net farm operating income is gross revenue minus operating expenses, before interest and depreciation.

Figure 4 provides some insights into why producers choose to work off farm. While annual average total income generally exhibits growth over time, annual average net farm operating income increases at a much slower pace due to the variability of prices and levels of production of agricultural commodities. The ups and downs of the annual average net farm operating income happen at different times for each province. Producers need to diversify their income sources away from unstable agricultural income. Another insight is producers seem to need to supplement their farm income. In most years the average net farm operating income is well below \$35,000 in each province. This income level, if it were the only source of income, is quite low for a family farm of two or more people to survive on. Median income levels of economic families<sup>3</sup> are double in Saskatchewan and Manitoba, and almost triple in Alberta compared to average net farm operating income of \$35,000 (see Table 2).

**Table 2.** Median income of economic families in the Prairie provinces (2010-2014) in 2014 constant dollars

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Alberta</b>	93,700	91,800	100,900	97,700	99,000
<b>Saskatchewan</b>	76,900	77,600	77,200	81,200	85,800
<b>Manitoba</b>	76,200	72,200	73,800	75,700	72,400

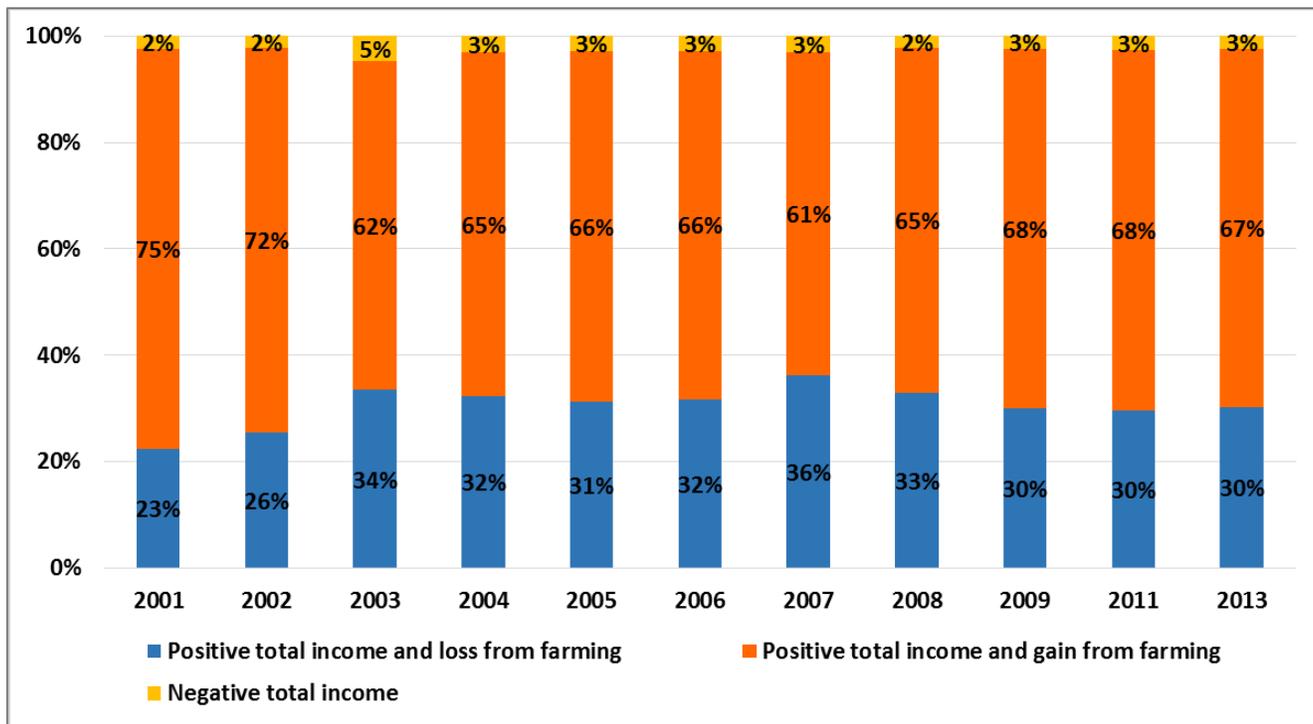
Source: Statistics Canada, Cansim Table 206-0021 - Income statistics by economic family type and income source, Canada, provinces and selected census metropolitan areas (CMAs)

Figure 5 illustrates another reason why producers in Alberta need to supplement their farm income with off-farm employment. On average, 31 percent of family farms in Alberta had positive total income, while bearing losses from farming during 2001-2013. This means that off-farm employment was essential for these families to remain afloat financially. Another three percent of family farms experienced a negative total income during those years. Most likely this segment of producers did not engage in off-farm employment or did not receive off-farm income from any other source while bearing losses from farming at the same time. Overall, only two-thirds of family farms earned positive total income and gained from farming activities in Alberta in 2001-2013.

Figures A.7 and A.8 (Appendix A) illustrate the structure of losses and gains from farming in Saskatchewan and Manitoba. The number of family farms in Saskatchewan and Manitoba with positive total income and gain from farming is only slightly higher than in Alberta on average and

<sup>3</sup> An economic family refers to a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law, adoption or a foster relationship.

constitutes 72 and 70 percent respectively. The structure of losses and gains from farming in these two provinces is very similar to Alberta.



**Figure 5. Structure of losses and gains from farming in Alberta**

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)

In summary, Alberta's off-farm income was historically higher compared to the other Prairie provinces. However, off-farm income increased year after year in each province. The main source of off-farm income in each province was an off-farm employment income (approximately 70 percent). In all Prairie provinces off-farm income has steadily grown over time. While farm income remained quite volatile, it contributed only 20 to 30 percent towards the total income on family farms. In all Prairie provinces about 30 percent of family farms had a positive total income, while bearing losses from farming during 2001-2013. This demonstrates a clear reason for the need to supplement household income with off-farm income for family farms.

## REASONS AND DETERMINANTS FOR OFF-FARM EMPLOYMENT PARTICIPATION

Off-farm employment income constitutes a major portion of off-farm income in the Prairie provinces. Certain members of a family farm make a decision to be engaged in off-farm employment. Reasons for off-farm employment participation warrant a special discussion. Other off-farm income sources such as pension income and government social transfers are not directly dependent on families' choices<sup>4</sup>. In many cases, these income sources are 'packaged' together with off-farm employment income. Investment income is based on a personal choice for both farm and non-farm families and is not a subject of discussion in this report.

Off-farm employment is one of the methods of income stabilization for farmers. Literature suggests that off-farm employment helps to diminish risks associated with agricultural activities. While off-farm employment does not decrease the risk per se, it creates a 'portfolio' of income sources that helps family farms cope with the adversaries of agricultural production (Jetté-Nantel et al., 2011). Off-farm income may also provide an additional source of revenue to support a family, especially when the farm is very small or lacking in management skills. Finally, off-farm employment may be the primary employment for those who have chosen a rural setting and/or hobby farming as their lifestyle (Alasia et al., 2007).

This section of the report provides an overview of literature on determinants of off-farm employment. Who chooses to work off-farm and why? Individual factors (age, education, gender, farming experience), farm-specific factors (farm type and size, farm ownership), and socio-economic factors (farm location and population density, government payments, market conditions) are considered.

The major reference sources for this section are Jetté-Nantel et al. (2011), Alasia et al. (2007), and Stiefelmeyer (2011). Jetté-Nantel et al. (2011) is a research paper from Statistics Canada that makes use of farm level data for 31,305 Canadian farm operators from 2001 to 2006 and includes all Canadian provinces. The study reported that 60 percent of Canadian farm operators were involved in off-farm employment activities with an average income of \$18,371. Alasia et al. (2007) is another Statistics Canada publication, which is based on micro-level data from the 2001 Census of Agriculture combined with community level data from the 2001 Census of Population. It also includes all Canadian provinces. This publication subdivided farms by size. Those reporting total gross farm receipts of less

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<sup>4</sup> Unless pension income comes from private savings of family farms, or from Old Age Security payments, for which most Canadians over 65 years old are automatically eligible.

than \$250,000 for the census year were considered “smaller”. Those with total gross farm receipts equal to or greater than \$250,000 for the census year were considered “larger”. From the total number of 69,797 farm operators, 58,212 operators (83 percent of the total sample) were considered “smaller” and 11,585 operators (17 percent of the total sample) were considered “larger”. Almost half of the operators of “smaller” farms reported off-farm employment, compared to about 20 percent of the operators of “larger” farms. Stiefelmeyer (2011) is a paper about the off-farm income in a series of papers commissioned by Canadian Agri-Food and Policy Institute (CAPI) to explore farm viability in Canada. Statistics Canada Taxation Data Program (TDP) for 2007 is a source of data used in this study. The TDP includes family farms and incorporated farms.

### **Age**

The literature review provided in Jetté-Nantel et al. (2011) states that older farm operators have a higher likelihood to work off-farm, indicating that life experience increases employability. The study itself confirms this observation. The likelihood of off-farm work and the level of off-farm employment income increases with age. However, this relationship reverses at a certain age. At a more advanced age, farm operators start to supplement their total income with pension and/or investment income and the importance of off-farm employment income declines. Alasia et al. (2007) confirmed this conclusion. However, in their study this relationship held true only for “smaller” farms. Age was not a statistically significant factor for off-farm employment for “larger” farms, which suggests that “...*off-farm employment is not a transition stage for younger farmers on their way to establishing full-time farm operations but rather a permanent situation for either life-style or financial reasons*”.

### **Education**

Alasia et al. (2007) concluded that those with a higher education have a higher likelihood to engage in off-farm employment regardless of farm size. The reason for this is quite intuitive. Higher levels of education have been associated with higher wage levels in rural Canada (Vera-Toscano et al., 2003).

### **Gender**

Gender was found to be a significant factor affecting decisions to work off-farm. According to Alasia et al. (2007) females were six percent less likely to be engaged in off-farm work overall. However, depending on the farm size, the result changed. Female operators of “smaller” farms were 10 percent less likely to work off-farm. In contrast, female operators of “larger” farms were seven percent more likely to work off-farm compared to male operators.

Female operators play a considerable and increasing role in the agricultural industry. Despite the overall decline of both male and female operators over time, the average proportion of female operators remained relatively stable, at about 30 percent in Alberta and 28 percent nationally<sup>5</sup>.

In 2011, of the 17,965 female farm operators, 38.3 percent had an agricultural occupation while 61.8 percent also had a non-agricultural occupation. This compares to 44.4 and 55.6 percent of 21,780 female operators in 2001, respectively. Thus, from 2001 to 2011, female operators' relative participation in off-farm employment increased. This could have potentially been a result of an increased university education among female operators over time. Overall, the percentage of all farm operators with a university degree increased between 2001 and 2011. However, a higher proportion of female farm operators complete a university degree compared to their male counterparts. In 2011, 16.2 percent of female farm operators acquired a university degree, compared to 10.3 percent of male operators (difference of 6 percentage points). The proportion gap in 2001 was slightly smaller, with 10.4 percent of female operators and 7.4 percent of male operators having completed a university degree (difference of 3 percentage points)<sup>5</sup>.

### **Farming experience**

Based on a literature review provided in Jetté-Nantel et al. (2011), those with more years of farming experience are less likely to be engaged in off-farm employment. Such a result is quite intuitive, as more years of experience in farming (due to habit and/or lifestyle) can indicate fewer years of experience doing something other than farming.

### **Farm type**

The literature review provided in Jetté-Nantel et al. (2011) states that dairy, hog and vegetable farmers are less likely to be engaged in off-farm employment compared to grain and oilseeds farmers. Jetté-Nantel et al. (2011) confirmed this result in their research and it holds true regardless of farm size. Dairy, hog, and vegetable farming is more labour intensive and requires year round work, allowing less time for off-farm employment. Grain and oilseed farming seasonality provides more opportunities to work off-farm. According to Stiefelmeyer (2011), supply-managed enterprises also have relatively low levels of off-farm income. They are more labour intensive and can generate a more secure income from farming alone. Other enterprises with a low percentage of off-farm income include potato, hogs, greenhouses, nurseries and floriculture. Beef, grain and oil seed farms have relatively high contributions from off-farm income.

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<sup>5</sup> Source: Custom request of Statistics Canada Census of Agriculture data (2001 and 2011), prepared by Statistics and Data Development Section, Economics and Competitiveness Branch, Alberta Agriculture and Forestry.

The results of the mentioned studies can be confirmed by looking at the Census of Agriculture 2011 numbers provided by Statistics Canada (see Table 3). Each census farm is classified according to the commodity or group of commodities that accounts for 50 percent or more of the total potential receipts.

**Table 3.** Number and percentage of family farms and corresponding off-farm income by farm type in the Prairie provinces (2011)

Farm Type	Alberta			Saskatchewan			Manitoba		
	Family farms		Off-farm income	Family farms		Off-farm income	Family farms		Off-farm income
	No.	%	\$	No.	%	\$	No.	%	\$
<b>Oilseed and grain</b>	9,410	37.7	103,702	13,380	62.8	80,500	4,060	44.9	67,901
<b>Other crop</b>	2,700	10.8	103,727	980	4.6	77,476	540	6.0	65,182
<b>Beef and feedlots</b>	10,770	43.1	101,715	6,230	29.2	81,574	3,640	40.3	65,924
<b>Dairy and milk</b>	120	0.5	42,831	30	0.1	50,419	130	1.4	30,362
<b>Hog and pig</b>	60	0.2	60,269	40	0.2	89,669	80	0.9	54,258
<b>Poultry and egg</b>	140	0.6	66,794	F	F	F	110	1.2	44,318
<b>Other animal</b>	1,540	6.2	115,257	610	2.7	91,511	430	4.8	71,298
<b>Fruit and tree nut</b>	50	0.2	115,573	x	x	x	x	x	x
<b>Greenhouse<sup>a</sup></b>	160	0.6	90,003	40	0.2	71,461	50	0.6	62,304
<b>Other vegetable<sup>b</sup></b>	40	0.2	65,724	F	F	F	x	x	x

<sup>a</sup> – Including nursery and floriculture  
<sup>b</sup> – Except potato, including melon farming  
 F – Too unreliable to be published  
 x – Suppressed to meet the confidentiality requirements of the Statistics Act

Source: Statistics Canada, Cansim Table 002-0027 Average total income of farm families by farm type, unincorporated sector, annual (dollars unless otherwise noted)

According to this classification, Alberta farming is dominated by beef operations (43 percent), grains and oilseeds (38 percent), other field crops (11 percent), and other animal production (6 percent). The remaining two percent are comprised of supply managed industries (dairy, poultry), hogs, and greenhouse and other fruit and vegetable crops.

Saskatchewan is dominated by grain and oilseed farms (63 percent), which is the largest share among all Prairie provinces. It is followed by beef production (29 percent). The remaining categories in Saskatchewan make up less than eight percent of the farm type mix, which are predominantly other crop and animal production types.

Manitoba's dominant types of farms are almost equally distributed between grains and oilseeds (45 percent) and beef (40 percent). Other crop and animal production comprises another 11 percent. The remaining four percent belong mainly to supply managed and hog industries.

As expected, grain and oilseed and beef farm operators reported the highest off-farm income in all three provinces. Dairy, poultry and hog industry farm operators reported the lowest off-farm income, except hog operators in Saskatchewan.

### **Farm size**

Jetté-Nantel et al. (2011) concluded that farm size is inversely related to the likelihood of off-farm employment and to the amount of off-farm employment income (for small to medium farms<sup>6</sup>). In other words, those with smaller farms are more likely to work off-farm. However, this effect diminishes when farm size gets larger and has no effect for operators of very large unincorporated farms<sup>7</sup>. According to Alasia et al. (2007), small farms are less likely to have a stable income from farming activities, and therefore, off-farm employment becomes a primary source of income. The average farm size is approximately twice as large for those operators who work only on the farm, compared to those who are engaged in some off-farm employment.

Due to confidentiality restrictions, Statistics Canada does not report off-farm income<sup>8</sup> data by revenue class for family farms. Stiefelmeyer (2011), by analysing the Taxation Data Program, also confirmed an inverse relationship between farm size and the level of contribution of off-farm income to the total income for the incorporated and unincorporated sector. In this study, farm sizes were subdivided based on farm revenue into seven categories (with the smallest up to \$25,000 per year and largest over \$1,000,000 per year). On farms with sales of above \$100,000 per year, the percentage of off-farm income in total income is around 40 percent or lower. On farms with sales of under \$100,000, the off-farm income accounts for 76 percent of total income or higher.

In this report, we also used the Taxation Data Program data available from Statistics Canada to look at the contribution of off-farm income and net farm operating income to total farm income by revenue class in the Prairie provinces in 2013. Revenue is subdivided into five categories (see Figure 6 for Alberta, and Figures A.9 and A.10 for Saskatchewan and Manitoba in Appendix A). All Prairie

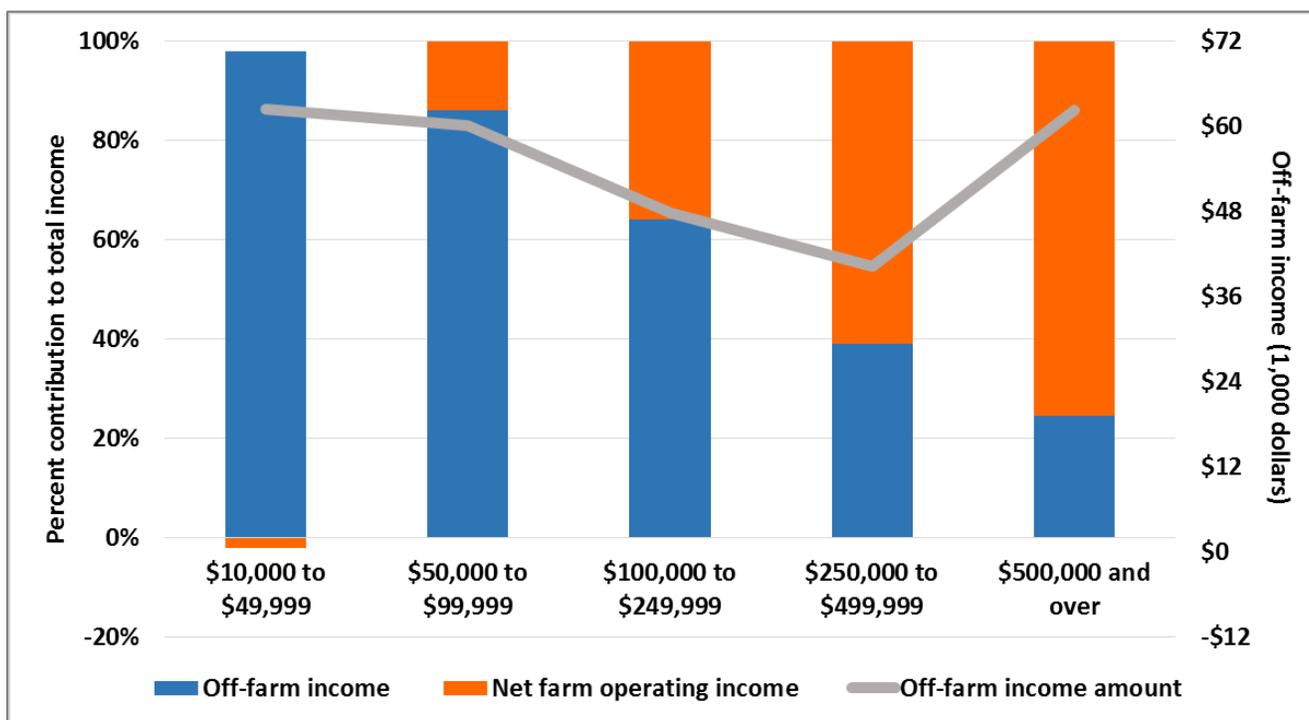
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<sup>6</sup> Farms reporting an average of \$100,000 or less in farm gross market revenue.

<sup>7</sup> The large farms include farm operators reporting between \$100,000 and \$500,000 in farm market revenue while the very large category include farm operators reporting more than \$500,000 in farm market revenue.

<sup>8</sup> In this particular case, we are talking about off-farm income in general (i.e. not limited to off-farm employment income only).

provinces have a very similar pattern of income distribution by revenue class. The only major difference is that in Alberta and Manitoba, the smallest farms by revenue class had a negative net farm operating income in 2013, while in Saskatchewan it was positive. Overall, the higher the revenue class, the lower is the contribution of off-farm income to the total farm income, including very large farms with revenue over \$500,000. However, for these very large farms, the amount of annual off-farm income increases to a level comparable only with the smallest farms, where off-farm income is a major source of income. This holds true for all Prairie provinces. Most likely, very large farms have an ability to generate off-farm income by deploying some of its existing resources (i.e. custom trucking, milling), or have enough employees available to perform farm duties allowing farm operator(s) to work off-farm full time.



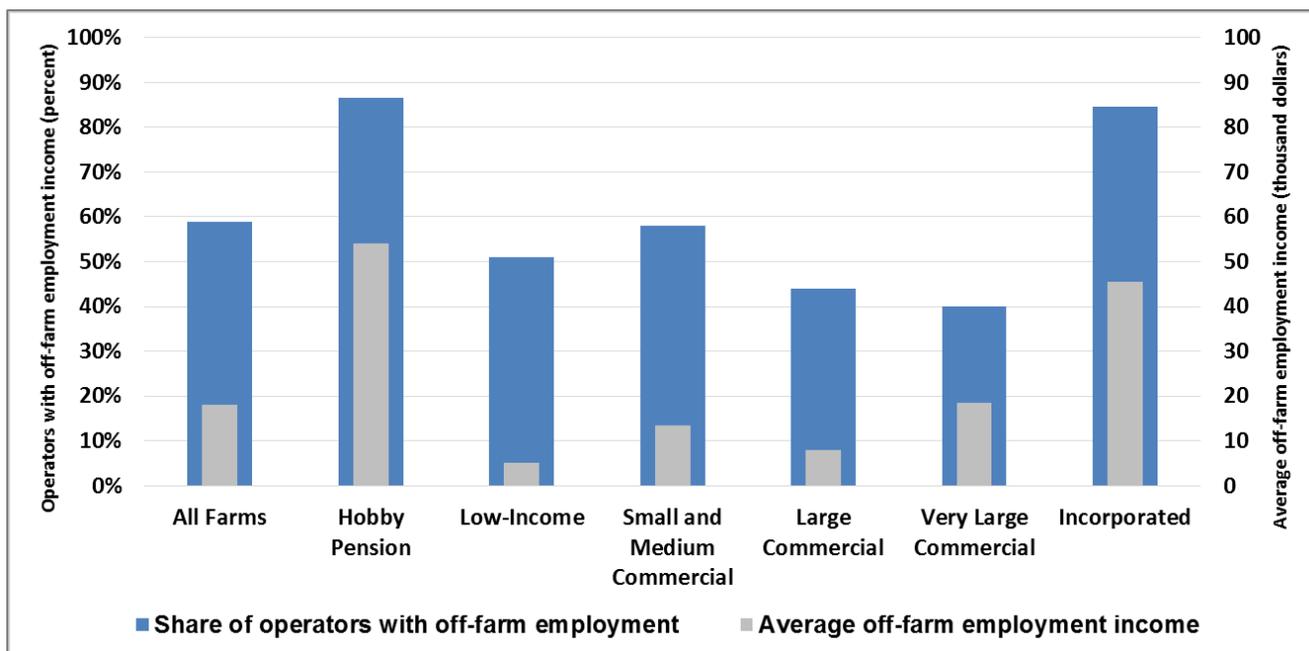
**Figure 6.** Average off-farm income and average net farm operating income by revenue class in Alberta (2013)

Source: Own calculations based on Statistics Canada, Cansim Table 002-0037 - Average off-farm income and average net operating income of farm operators by revenue class, incorporated and unincorporated sectors, annual (dollars unless otherwise noted)

### Farm ownership

Jetté-Nantel et al. (2011) showed that operators of incorporated farms were 50 percent more likely to be engaged in off-farm employment compared to operators of unincorporated farms (except hobby

farms<sup>9</sup>, where off-farm employment was more likely). However, off-farm employment income was economically important for all types of farms in this study (see Figure 7). Approximately 40 percent of very large commercial farms in the sample reported off-farm employment income. For all other farm sizes this percentage was even higher. Interestingly, 84 percent of incorporated farms reported off-farm employment income. However, this percentage was higher for hobby/pension farms (approximately 87 percent), albeit for a different reason. Incorporated farms most likely rely on hired labour to perform farming activities and, therefore, operators may have more time to explore off-farm employment opportunities (this result is consistent with insights from Figure 6). While hobby farmers rely on off-farm employment as their primary source of income.



**Figure 7.** Off-farm income as a share of operator's total income, Canada (2001-2006)

Source: Statistics Canada, Farm operator longitudinal data, in Jetté-Nantel et al. (2011)

### Farm location and population density

It is usually expected that for farms in close proximity to a town with a higher population density (and therefore more dynamic labour markets) the likelihood of off-farm employment would increase. Based on the literature review in Jetté-Nantel et al. (2011), the evidence of this is inconclusive. However, the Jetté-Nantel et al. (2011), based on their own results, concluded that population density of the region had a positive impact on the likelihood of off-farm employment and the level of off-farm employment

<sup>9</sup> Hobby farms include all farms which earned on average less than \$50,000 in annual farm market revenues, and more than \$50,000 in annual total off-farm income, while maintaining total operator income above \$25,000 (Jetté-Nantel et al. 2011).

income. The proximity to urban labour markets had the same effect of increased likelihood of off-farm employment. This can be explained by potentially higher wages in urban areas and better opportunities and more varied job choices. Stiefelmeyer (2011) concluded that the highest contribution of off-farm income was observed in British Columbia, Alberta, and Ontario. Such a result is explained by the existence of the largest population centers in these provinces, providing more off-farm income opportunities.

### **Government program payments**

Based on the literature review provided in Jetté-Nantel et al. (2011), government program payments that stabilize farm income decrease the likelihood of off-farm employment. In other words, off-farm employment serves as a substitute for program payments in order to minimize risks associated with farm income. According to Sparling and Uzea (2012), and contrary to general perception that the bulk of government program payments go to smaller farms (with under \$100,000 in annual sales), larger farms (with over \$100,000 in annual sales) usually receive larger payments. Based on their analysis for 2010, smaller Canadian farms receive roughly seven percent of their income from government programs, while larger Canadian farms receive at least 21 percent of their income from government programs.

### **Market conditions**

Based on the literature review provided in Jetté-Nantel et al. (2011), it was concluded that higher variability of farm income results in higher off-farm employment income. High variability of farm income is caused by the volatile nature of agricultural commodity markets in general, and therefore constitute a higher risk to an agricultural business. The estimates in Jetté-Nantel et al. (2011) also confirm this conclusion. Farmers, who face higher farm income risk, tend to diversify their income by working off-farm. However, farm income risk was perceived differently by operators of unincorporated versus incorporated farms. In the case of incorporated farms, the decision to work off-farm was less influenced by farm income risk.

### **Mechanisation**

Mechanisation can leave more time available for farm operators to dedicate to off-farm employment. For crop farmers, substitution of labour with capital reduced the need for labour hours on a farm. Adoption of large horsepower tractors, high clearance sprayers, zero till or reduced till seeding, straight cut headers on combines reduced the time spent getting crops into the ground and into the bin. Mechanization facilitated increased productivity per person enabling consolidation of farm units. In

addition, telecommunications and computers have displaced service tasks that formerly were performed by people (Wilson and Tyrchniewicz, 1995).

Based on the information presented in this section, the summary of off-farm employment participation determinants are provided in Table 4. The reasons farm operators get involved in off-farm employment are very diverse. One major reason for off-farm employment is risk management strategy in agriculture (a form of risk diversification). Another reason is that many family farms are too small to be economically viable without off-farm income. The overall theme is that farm operators who have more **spare time** (due to farm size or type of farm) and better **opportunities** (due to better education or closeness to labour markets) are more likely to be employed off-farm.

**Table 4.** Type of farms more likely / less likely to participate in off-farm employment

<b>More likely to work off farm</b>	<b>Less likely to work off farm</b>
Younger and middle age farmers	Advanced age farmers
Farmers with higher education attained	Farmers with more years of farming experience
Female operators of larger farms	Female operators of smaller farms
Beef, grain and oil seed farmers	Dairy, hog and vegetable farmers
Operators of smaller farms and very large farms	Operators of medium sized farms
Operators of incorporated and hobby farms	Operators of unincorporated farms
Farmers in British Columbia, Alberta and Ontario	Farmers located further away from large population centers
Operators of smaller farms receiving lower government support	Operators of larger farms receiving higher government support
Operators of farms with higher farm income variability (risk)	

## CONCLUSION

Off-farm income constitutes a larger portion of the average family farm's total household income in the Prairie provinces. The amount of off-farm income earned has steadily increased. Alberta's off-farm income grew 88 percent from 2001 to 2013. Saskatchewan and Manitoba also experienced considerable growth of off-farm income over the same period (76 percent and 69 percent respectively).

The decision to combine off-farm employment with the operation of the family farm is multi-faceted. Often such decisions depend on the personal characteristics of the family farm members (age,

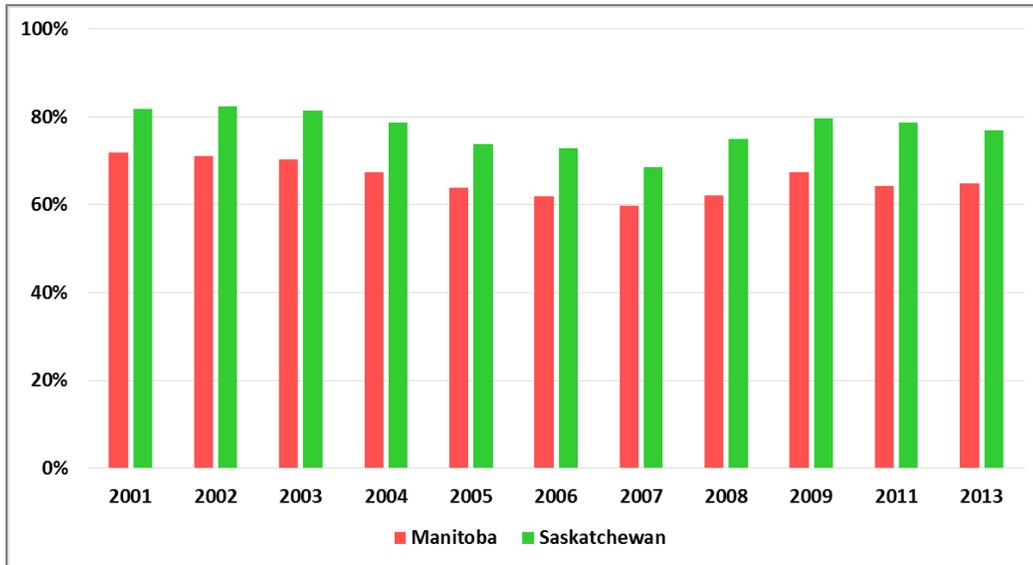
education, gender, farming experience), farm-specific characteristics (farm type and size, farm ownership), and socio-economic characteristics (farm location and population density, government payments, market conditions) factors are considered. These reasons are mostly consistent in all the Prairie provinces. The only major difference is the local and regional demand for employees, not only in terms of access to off-farm jobs, but also in terms of access to well-paying jobs.

In Alberta, the oil and gas sector plays a major role in creating a supply of local and regional off-farm jobs. Energy sector salaries are usually more competitive compared to on-farm employment, driving a strong demand for energy sector jobs. There are also spill-over effects, as many other industries try to compete with the energy sector for labour. Therefore, whether family farm members work in the energy sector or not, they benefit from relatively higher wages in non-energy sectors as well. These excellent off-farm employment opportunities allow farm families to supplement their farm income, which in turn improves their standard of living and sometimes serves as extra investment funds for their farming operation. This also allows smaller farmers to stay afloat financially, enjoy rural living and preserve smaller communities. Attractive off-farm employment options contributed to resilience of the family farms in Alberta.

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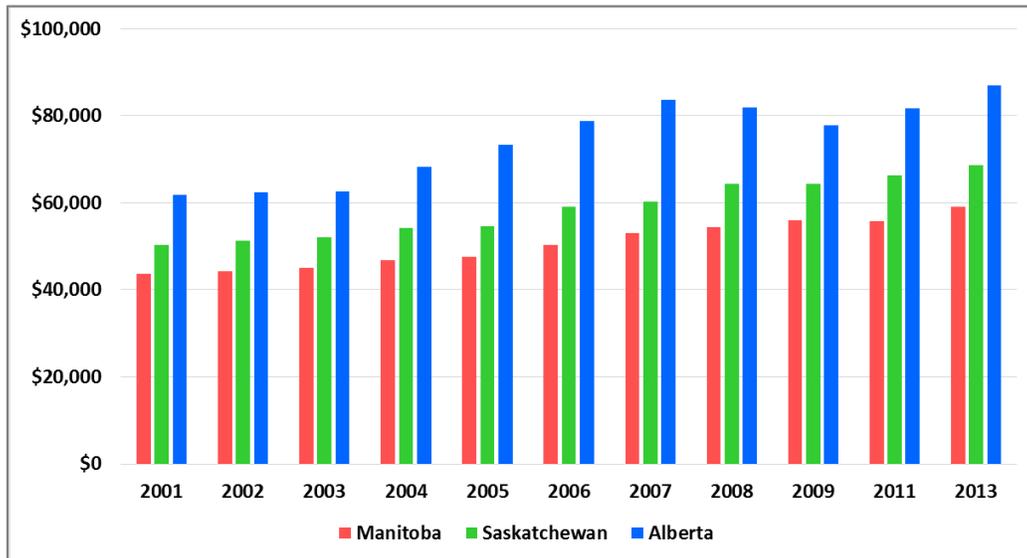
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## APPENDIX A



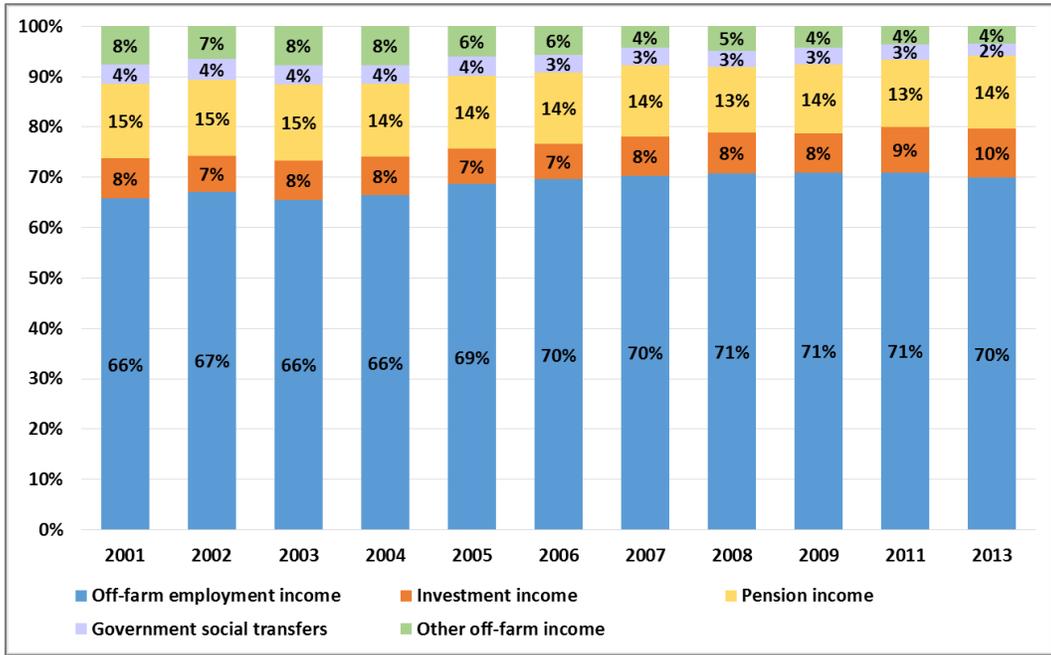
**Figure A.1** Annual average off-farm income in Saskatchewan and Manitoba as percentage of off-farm income in Alberta

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



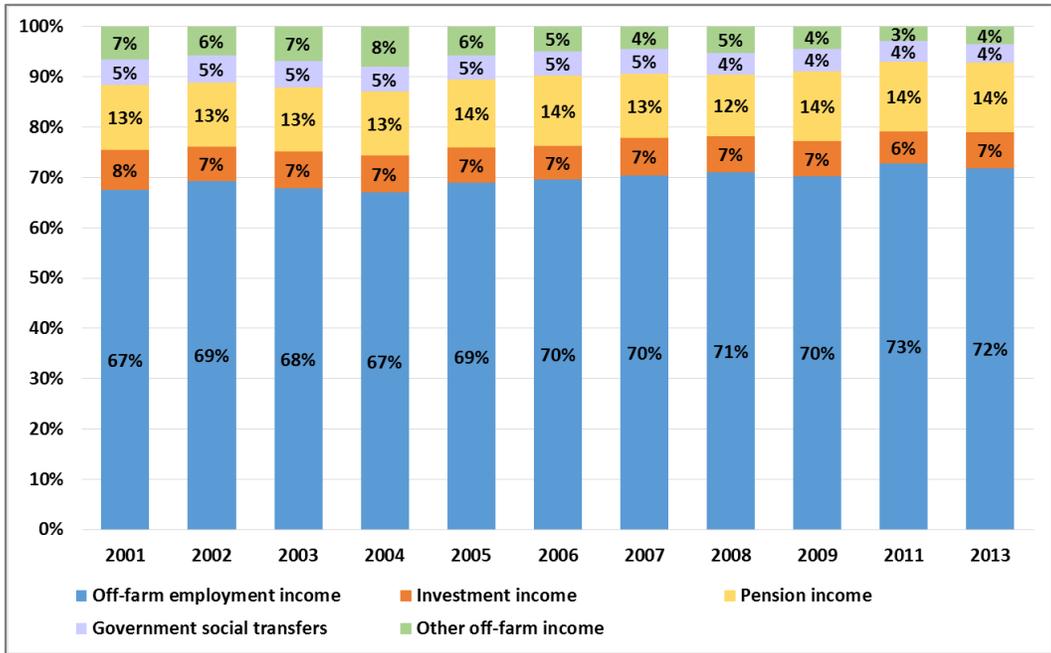
**Figure A.2** Annual average off-farm income of family farms in the Prairie provinces adjusted for inflation (2002 = 100)

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted); Cansim Table 326-0021 - Consumer Price Index, annual (2002=100)



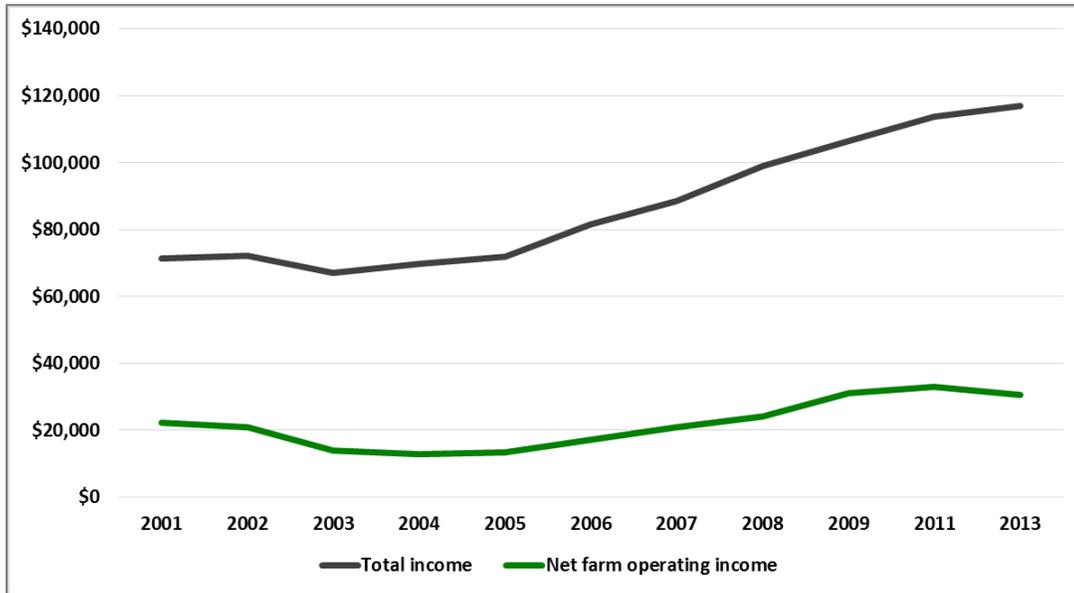
**Figure A.3 Sources of off-farm income in Saskatchewan (percentage of total annual average off-farm income)**

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



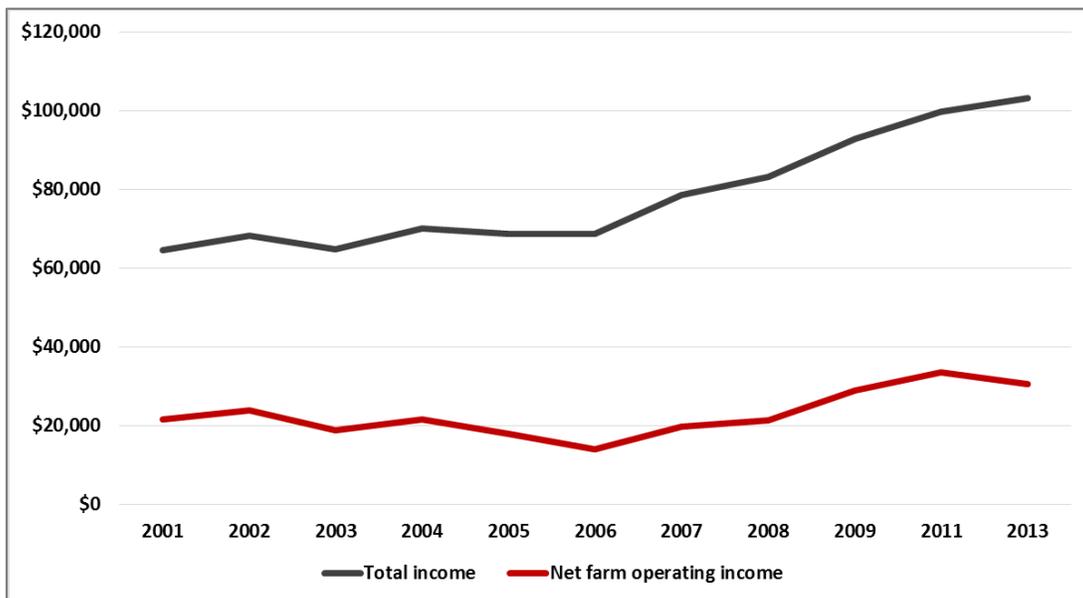
**Figure A.4 Sources of off-farm income in Manitoba (percentage of total annual average off-farm income)**

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



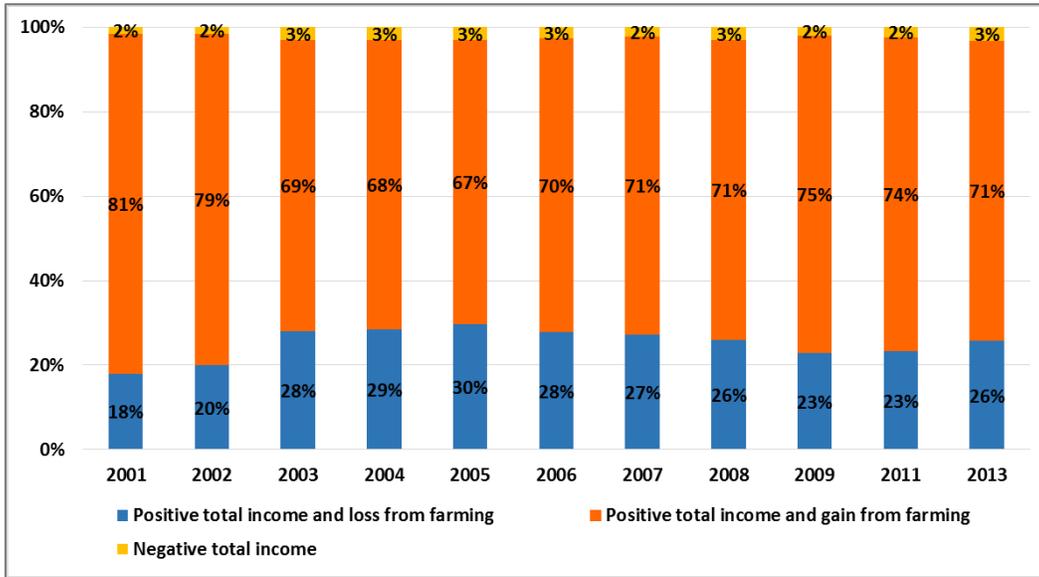
**Figure A.5** Annual average total income and annual average net farm operating income in Saskatchewan

Source: StatisticsCanada, Cansim Table002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



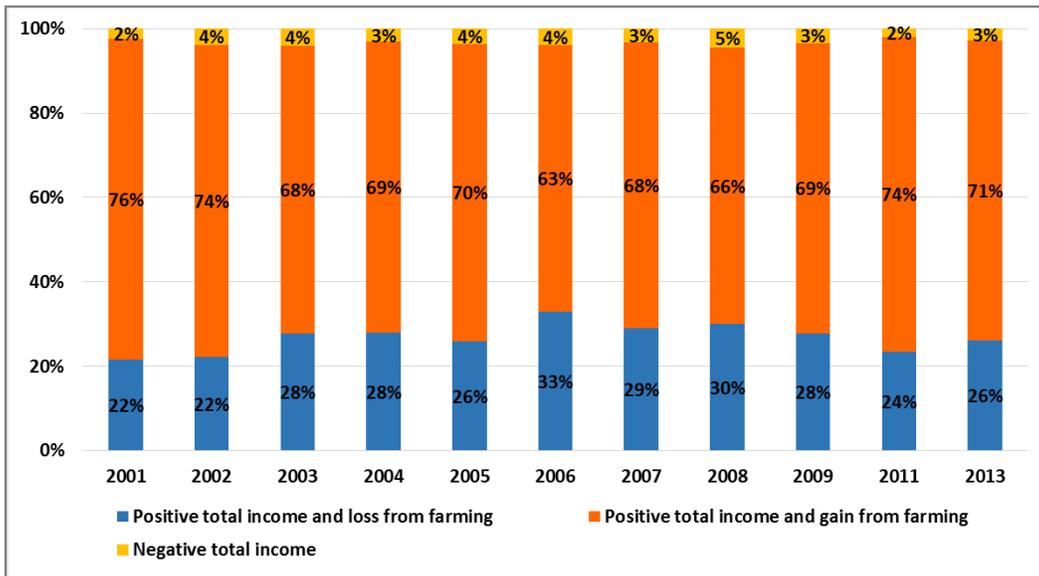
**Figure A.6** Annual average total income and annual average net farm operating income in Manitoba

Source: StatisticsCanada, Cansim Table002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



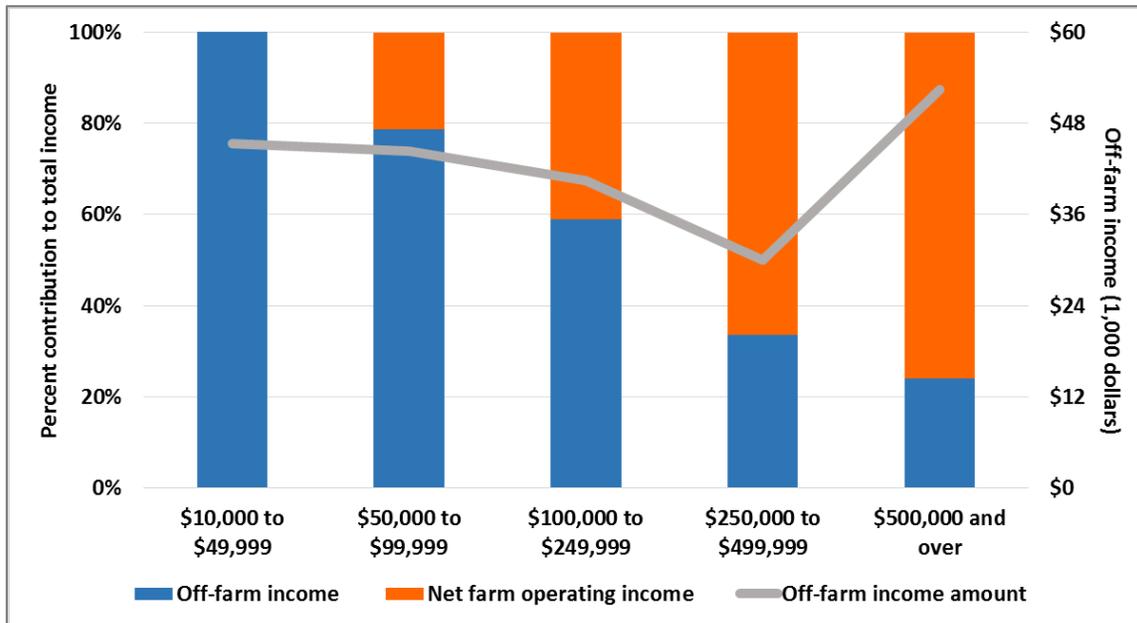
**Figure A.7** Structure of losses and gains from farming in Saskatchewan

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



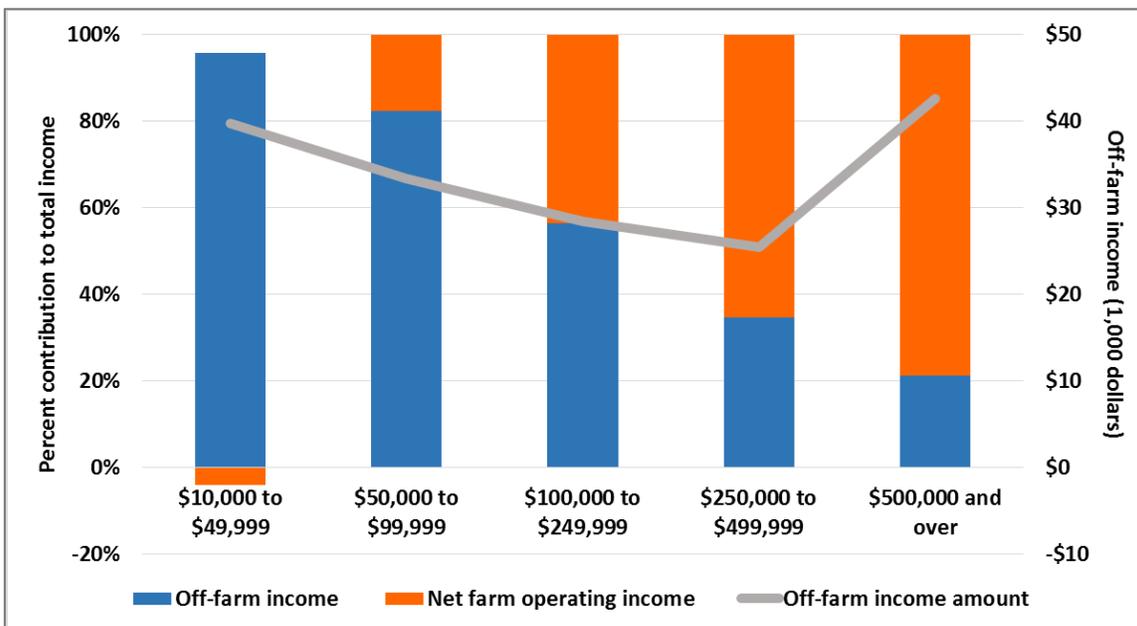
**Figure A.8** Structure of losses and gains from farming in Manitoba

Source: Own calculations based on Statistics Canada, Cansim Table 002-0024 - Total and average off-farm income by source and total and average net operating income of farm families, unincorporated sector, annual (dollars unless otherwise noted)



**Figure A.9** Average off-farm income and average net farm operating income by revenue class in Saskatchewan (2013)

Source: Own calculations based on Statistics Canada, Cansim Table 002-0037 - Average off-farm income and average net operating income of farm operators by revenue class, incorporated and unincorporated sectors, annual (dollars unless otherwise noted)



**Figure A.10** Average off-farm income and average net farm operating income by revenue class in Manitoba (2013)

Source: Own calculations based on Statistics Canada, Cansim Table 002-0037 - Average off-farm income and average net operating income of farm operators by revenue class, incorporated and unincorporated sectors, annual (dollars unless otherwise noted)

## **AKNOWLEDGEMENTS**

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