

Business Survivability in North Dakota

An Analysis of Business Births and Deaths Beginning Fiscal Year 2007

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Executive Summary

Fiscal year 2007 (October 1, 2006 to September 30, 2007) was analyzed to discover trends in business survivability in the state of North Dakota. During this time period, 1,591 new businesses were born. Over the course of their first two years of operation, or 730 days, 395 of these businesses died. This offers a survivability rate of 75 percent and a death rate of 25 percent.

The fiscal year spanned the time between October 2006 and September 2007. A comprehensive, or aggregate, analysis was done. In addition, the year was also divided into four quarters and much of the study centered on each of these four quarters. Quarter two of 2007 had the highest birth rate and highest death rate of the study. Quarter four of 2006 had the fewest new businesses started, while Quarter one of 2007 had the highest survival rate at 78 percent.

In terms of geography, planning Region V, which includes Fargo and its surrounding area, was the part of the state with the highest birth rate. Region VII, including Bismarck, tended to have the second highest birth rate for the state. The western planning regions had the lowest and highest death rates. Typically Region I had the lowest death rate for new businesses, while Region VIII experienced the highest death rate.

The industry of each newly created business was also analyzed through the study. Overall, the Manufacturing and Wholesale Trade industry had the highest survivability rate at 84 percent. Conversely, Construction had the highest death rate at 32 percent. Construction was the industry where the most new businesses were created however, so this likely attributed to its high death rate.

The 1,591 new businesses generated \$319 million in payroll for the state's economy. The firms provided jobs for approximately 6,829 employees and paid an average monthly wage of \$2,445. Generally, the Mining & Utilities industry paid the highest average wages. Accommodation & Food Services typically employed the greatest number of workers but paid the lowest average wages. The major urban regions of the state, Regions V and VII, tended to create the most new businesses as well as employ the highest number of workers. While the western regions of the state, Regions I and VIII, offered fewer employment opportunities but the highest average wages.

Introduction

The business world is one of dynamic fluctuations. Comprised of new businesses entering the economy and old exiting, a cycle of turnover is part of normal business activities. This holds true for North Dakota. Each year numerous entrepreneurs in North Dakota take the risk of going into business and attempt to make their mark on the state's economy and industrial makeup. Subsequently, each year many North Dakota businesses close their doors and cease to operate. Understanding the characteristics of these new businesses, those that succeed and those that end, can help provide essential perspective regarding the business activities of the state. This is not only invaluable information for those involved in state planning and workforce-related occupations, but also those who may be interested in starting their own business.

The primary goal when starting a new business is success. But what is necessary to make a business successful in North Dakota? Although this depends dramatically on the business itself as well as the management, staff, and planning involved, this analysis will attempt to quantify certain aspects that may play a role. In order to capture such trends, a sample of businesses was studied. Those businesses born within fiscal year (FY) 2007, the period from October 1, 2006 to September 30, 2007, were tracked for two years, starting from their birth quarter, in an attempt to capture the attributes of successful and non-successful entities in North Dakota.

Operating a business is a complicated and often difficult endeavor—especially for a business that is new to the market. Generally, the first two years of operation indicate whether the company will be viable long-term. Surviving this crucial first 730 days of business suggests that the company will be successful for years to come. While the great majority of firms strive to be long-term entities, not all companies that were in operation for less than two years failed. Some companies are formed for short periods of time or to complete a specific project. This is especially relevant in the construction industry, which can operate on a project or contract-specific basis. Although such cases are germane, for the purpose of this research, survivability was defined as a new business that remained in operation for at least two years, or 730 days, of the study period. Deaths included those businesses that began within the confines of the study, but lasted less than 730 days.

In addition to observing the survivability of new businesses in North Dakota, this analysis also addresses employment and wage characteristics of the study companies. Approximately 90 percent of North Dakota employers are responsible for state unemployment insurance. This requires nonfarm entities employing at least one worker for 20 weeks in a calendar year, or paying \$1,500 in wages in a calendar quarter, to provide unemployment insurance coverage for its employees. This information is on file with Job Service North Dakota and was used to determine employment and wage information for the study population.

Methodology

FY 2007 was chosen as the study year and therefore provided the birth pool. All new companies that began operations during this period were included in the analysis. Those businesses with predecessor codes or companies that had been absorbed or merged were excluded from the study.

However, any business with an initial liability date occurring within FY 2007—even if it did undergo operational changes—was left in the sample base. Simply put, any business that started activity during the two-year study period, and any subsequent activity thereafter, was considered relevant for the purpose of this analysis.

The population of new North Dakota businesses for 2007 was drawn from the Employment Quarterly Unemployment Insurance (EQUI) report. The EQUI report is extracted from the Quarterly Census of Employment and Wages (QCEW) program. All government entities at the local, state, and federal levels were excluded, leaving the analysis to cover only new, private businesses. By drawing the population of new businesses from the EQUI report, this ensured that only those firms liable for unemployment insurance coverage were included. This also provided employment and wage information for the businesses.

Survivability of new businesses was determined by computing the difference between each entity's initial liability date and end of liability date. As previously mentioned, businesses were analyzed for two years after their birth to get an understanding of their viability. Those businesses reporting operations exceeding 730 days or more were considered survivors. Those businesses that were in operation for less than 730 days were considered deaths. Days of operation were chosen to define the two-year time span because of the accuracy it provided. Measuring survivability by quarters or months could lead to a loss of precision, especially since quarters are an aggregate report for a three-month time span. Even using a monthly estimate for survivability lacks accuracy as a beginning-of-the-month start versus an end-of-the-month start date can disregard up to 60 days that the company was either doing business or was out of operation.

As stated previously, information regarding employment and wages was also analyzed for the companies. Since the study population was pulled from the EQUI report, employment and wage information was also available for companies. However, it was possible for companies to have an unemployment insurance account, but no information about employment and wages. This trend could be due to several reasons. Often new businesses file reports with Job Service North Dakota and set up their accounts prior to hiring employees. In addition, some businesses may have filed for an unemployment insurance account before realizing that they are exempt, such as community clubs or non-profit organizations. For these reasons, when calculations were made including employment and wage information, any companies reporting zero were excluded so as not to distort the average.

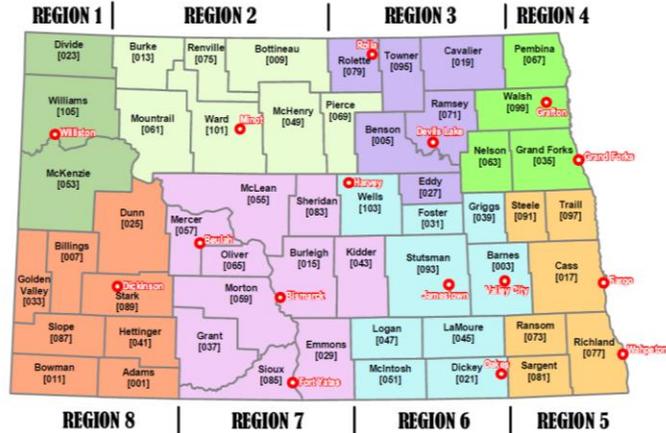
Analysis of New Business Survivability

Although survivability was determined via days in operation, the analysis was largely done by quarter. Birth cohorts were viewed in aggregate and by quarter as was employment and wage data. To better understand the business environment in North Dakota, geographical and industrial contexts were also used. A regional analysis was done for each quarter using eight established planning regions (Figure 1). The regions were used to account for the location in which new businesses were established, as well as the wages and employment levels they garnered. Those companies without information identifying a particular region were placed in category INA (Information Not Available). In addition to geography, the

industrial breakdown of the new businesses was another method of analysis. The industry type gave perspective to the businesses being started, as well as the mixture, or diversity, of industries in the area.

Industry groups were divided into 16 different categories via the Major Industrial Groups classification as delineated by the North American Industry Classification System (NAICS). The industry groups include: Agriculture, Forestry Fishing & Hunting; Mining & Utilities; Construction; Manufacturing; Wholesale Trade; Retail Trade; Transportation & Warehousing; Information; Finance & Insurance; Real Estate & Rental & Leasing; Professional & Technical Services; Management of Companies & Administrative & Waste Services; Educational Services & Health Care & Social Assistance; Arts, Entertainment, & Recreation; Accommodation & Food Service; and Other Services. This is a standard classification system used in workforce monitoring, development, and subsequent statistics. NAICS coding was also readily available for the study population of new businesses. Accounting for new businesses in this way provides insight into which industries are on the rise and which industries may be more reliable than others for new and potential entrepreneurs.

Figure 1: North Dakota planning regions.



Aggregate Survivability Analysis of New Businesses

During FY 2007, 1,591 businesses were born in North Dakota (Table 1). Of these companies, 395 reported an end of liability date before reaching their first 730 days in business, rendering them deaths in terms of the analysis. This provides an aggregate survival rate of 75 percent and a death rate of 25 percent for new businesses in the state. Quarter two saw the highest birth rate with 441 new businesses. It also had the highest death rate at 28 percent (124 businesses). Quarter four of 2006 had the lowest birth rate at 355 businesses. The quarter with the highest survivability rate was quarter one of 2007 at 78 percent, followed closely by quarter three at 77 percent.

Table 1: Aggregate survivability analysis.				
Birth Quarter	Aggregate		Aggregate	
	Births	Deaths	Survival Rate	Death Rate
2006 Q4	355	91	74%	26%
2007 Q1	406	90	78%	22%
2007 Q2	441	124	72%	28%
2007 Q3	389	90	77%	23%
Total	1,591	395	75%	25%

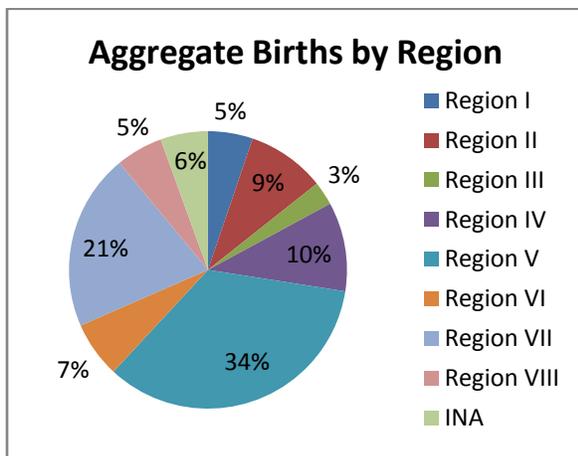
A similar report regarding business births and deaths in North Dakota was prepared regarding business survivability in FY 1998. This report also analyzed survival statistics and the methodology was held consistent between the two studies so comparisons could be made. In FY 2007, there were 177 more births than in FY 1998. The survivability rate for FY 2007 was 75 percent compared to 78 percent in FY 1998. This consistently high survivability rate suggests a promising and friendly business environment

for new entities in North Dakota. Both aggregate analyses had the highest death rates, 23 percent for FY 2007 and 24 percent for FY 1998, in the second quarter of the study year. This may suggest that April through June should be avoided as a time to begin a new business in North Dakota¹.

Regional analysis was also used to track geographically-related business trends across the state. Region V, which encompasses Fargo and the surrounding areas, had the highest number of births in the state at 34 percent (Figure 2). Such a result is logical since Fargo is the most populated city in the state. Region VII, including the state’s capitol of Bismarck, was second with 21 percent of births. Although government entities were excluded from this analysis, the fact that Bismarck holds the capitol does play a role as many of the state’s government employees live and work in the area, thereby increasing the amount of expendable income to be spent amongst other industries.

Geography appears to play a role in new business’ success. Region I had the second lowest birth rate compared to other regions, yet had the highest survival rate at 88 percent (Table 2). A contributing factor to Region I’s high survival rate could be attributed to its location in the Northwest part of the state where increased oil extraction is boosting the economy. This lucrative economy would be capable of providing more support to those new businesses that do begin. The FY 1998 report also found a higher than average survival rate for Region I, although it was the second highest in that study. Ironically the region with the highest death rate was Region VIII at 29 percent, which is in the very southwest corner of the state. The FY 1998 report found Region III to have the highest death rate followed by Region VIII. Although the findings between the two reports aren’t completely consistent, they are similar. This is suggestive of long-lasting trends rather than results according to volatile business environments at the time of reporting. Such information is helpful for those considering where to open or expand a business in North Dakota.

Figure 2: Aggregate new business births by geographic planning region.

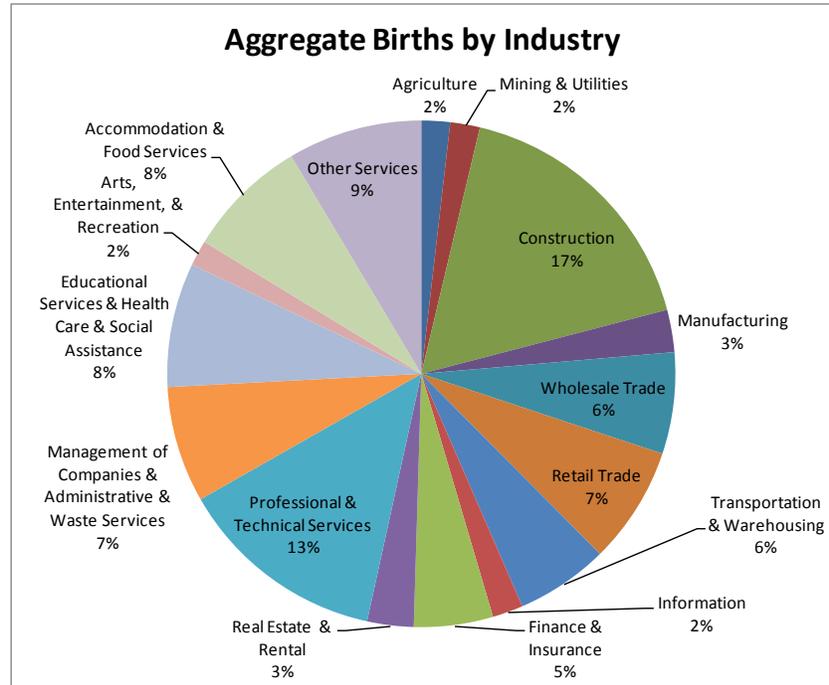


Region	Aggregate		Aggregate	
	Births	Deaths	Survival Rate	Death Rate
Region I	83	10	88%	12%
Region II	145	36	75%	25%
Region III	44	10	77%	23%
Region IV	165	41	75%	25%
Region V	548	148	73%	27%
Region VI	104	22	79%	21%
Region VII	327	79	76%	24%
Region VIII	87	25	71%	29%
INA	88	24	73%	27%
Total	1,591	395	75%	25%

¹ April through June in North Dakota is the beginning of the summer season. The reason for the highest death rate of all quarters could be partially due to a large percentage of construction companies beginning and then ending their services before reaching 730 days. Some of the businesses closing could be due to failure but many were likely created to complete a particular job or contract and then dissolved once finished.

Analyzing new business survivability by industry is an important measure as it can indicate those areas of the economy that are most stable for the workforce and potential business owners. The Construction industry had the highest birth rate (17 percent) followed by Professional & Technical Services (13 percent) (Figure 3). Understanding which industries tend to have the greatest risk could encourage entrepreneurs to consider their business goals more carefully and even if they are focused on those volatile areas of the market, to adequately prepare business models and take appropriate planning measures.

Figure 3: Aggregate new business births by industry.



Of all the industries, both Manufacturing and Wholesale Trade had the highest survival rate at 84 percent (Table 3). Construction had the highest death rate at 32 percent followed by Other Services at 29 percent. The industry with the most volatility was Construction, which is actually fairly encouraging.

Table 3: Aggregate new business survivability by industry.

Industry	Aggregate		Aggregate	
	Births	Deaths	Survival Rate	Death Rate
Agriculture, Forestry, Fishing & Hunting	29	6	79%	21%
Mining & Utilities	30	7	77%	23%
Construction	274	88	68%	32%
Manufacturing	43	7	84%	16%
Wholesale Trade	103	16	84%	16%
Retail Trade	119	32	73%	27%
Transportation & Warehousing	94	24	74%	26%
Information	31	6	81%	19%
Finance & Insurance	80	21	74%	26%
Real Estate & Rental and Leasing	47	9	81%	19%
Professional & Technical Services	212	44	79%	21%
Management of Companies & Enterprises & Administrative & Waste Services	118	33	72%	28%
Educational Services & Health Care & Social Assistance	126	24	81%	19%
Arts, Entertainment, & Recreation	26	5	81%	19%
Accommodation & Food Services	123	33	73%	27%
Other Services	136	40	71%	29%
Total	1591	395	75%	25%

This is partially due to the capability of establishing a construction company with relatively low overhead. Although certain tools and equipment can be expensive, the lack of personnel or office space required for a small operation could be less in overhead and start-up costs than many other new businesses. This allows for a new company to be started for a particular job or

contract that may end after the work is completed. While such a business would be counted as a death in the scope of this study, it doesn't necessarily mean it failed. It may have simply served its purpose and then dissolved—a phenomenon that is made possible due to this low overhead and simple business-model structure of the industry.

Having to go out of business and choosing to go out of business are two different scenarios that may have dramatically different effects and outcomes on the owners and employees involved. The limitations of this study do not allow for delineating between the two situations, but future research involving surveying business owners as they close their operations may clarify this element and further enhance understanding of the business environment in North Dakota.

Analysis of 2006 Quarter Four

Quarter four of 2006 was the beginning quarter for the analysis. It was also the end of the 2006 calendar year including the months of October, November, and December. There were 355 new business births during this quarter (22 percent of the aggregate) and of these, 91 died within the first two years of their operation. This gave a survival rate of 74 percent and a death rate of 26 percent. This quarter had the least amount of new business births of the four studied. However, it had the survival rate closest to the aggregate average. This suggests that although it had a lower contribution of businesses to the overall total, its activities are still quite consistent with that of the study.

Regional Survivability

Regionally, the highest number of births occurred in Region V at 125 or 35 percent of all new businesses born in this quarter (Table 4). Region VIII had the lowest death rate at 11 percent and the category INA (Information Not Available), encompassed those companies that had no regional identification and had the highest at 43 percent. The small pool of businesses falling in the INA category was partially responsible for this high percentage however, and without the specific regional identifier, these deaths cannot be attributed to any specific region.

Table 4: 2006 Quarter four distribution of business deaths during the first two years of operation.											
Area	Births	Deaths	Death Rate	Number of firms that died within given range of months from inception.							
				(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Region I	18	5	28%	0	0	2	1	1	1	0	0
Region II	27	7	26%	0	2	2	1	1	0	1	0
Region III	8	2	25%	0	1	0	1	0	0	0	0
Region IV	52	15	29%	0	1	6	1	0	3	2	2
Region V	125	33	26%	2	2	8	8	5	0	5	3
Region VI	26	4	15%	0	0	0	0	1	1	1	1
Region VII	73	20	27%	1	2	3	4	5	2	2	1
Region VIII	19	2	11%	0	0	0	1	1	0	0	0
INA	7	3	43%	1	1	0	0	0	0	0	1
Total	355	91	26%	4	9	21	17	14	7	11	8
Percentage of deaths by monthly range.				4%	10%	23%	19%	15%	8%	12%	9%

The greatest number and percentage of deaths occurred between seven and nine months after inception followed by ten to twelve months. This period, spanning a total of six months, includes 42 percent of all deaths. This makes sense as in the first few months of operation, many businesses may not be able to pay high wages or hire many workers. By halfway through its first year of operation, a business should be up and running and cutting payroll. If not adequately supported by customers however, it would be difficult for such a business to continue to year end and it would likely die off in a short period of time.

Survivability by Industry

In quarter four of 2006, the greatest number of births occurred within the Construction industry at 51, followed closely by that of Professional & Technical Services at 48 (Table 5). With 37 percent, Other Services had the highest death rate. Retail Trade was the next highest with 31 percent. Agriculture, Forestry, Fishing & Hunting had ten businesses born and all survived, giving it the highest survivability and lowest death rate amongst the industries. Information had the next lowest death rate, although three of the industry sectors—Mining & Utilities, Information, and Arts, Entertainment, & Recreation—only had one new business die within the study range.

Table 5: 2006 Quarter four distribution of business deaths by industry during the first two years of operation.

Industry	Number of firms that died within given range of months from inception.										
	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Agriculture, Forestry, Fishing & Hunting	10	0	0%	0	0	0	0	0	0	0	0
Mining & Utilities	4	1	25%	0	0	0	0	0	0	0	1
Construction	51	14	27%	0	2	4	2	4	0	2	0
Manufacturing	8	2	25%	0	0	1	0	0	0	0	1
Wholesale Trade	19	5	26%	0	0	1	1	1	1	1	0
Retail Trade	35	11	31%	0	0	2	3	4	0	2	0
Transportation & Warehousing	24	7	29%	2	0	0	2	0	0	1	2
Information	7	1	14%	0	0	0	1	0	0	0	0
Finance & Insurance	17	4	24%	0	0	1	1	0	1	0	1
Real Estate & Rental & Leasing	10	3	30%	1	1	0	1	0	0	0	0
Professional & Technical Services	48	13	27%	0	2	4	2	2	1	2	0
Management of Companies & Administrative & Waste Services	27	6	22%	1	1	3	0	0	0	0	1
Educational Services & Health Care & Social Assistance	32	6	19%	0	2	0	1	0	2	1	0
Arts, Entertainment, & Recreation	6	1	17%	0	0	1	0	0	0	0	0
Accommodation & Food Services	27	6	22%	0	0	2	1	2	0	0	1
Other Services	30	11	37%	0	1	2	2	1	2	2	1
Total	355	91	26%	4	9	21	17	14	7	11	8
Percentage of deaths by range of months from inception.				4%	10%	23%	19%	15%	8%	12%	9%

Analysis of 2007 Quarter One

Quarter one of 2007, including the months January, February, and March, provided the second highest number of births at 406 new businesses, or 26 percent of the aggregate. Of these new businesses, 90 died giving the quarter the lowest death rate of the quarters studied at 22 percent. This quarter includes the beginning of the calendar year, which may be part of the reason for the higher birth rate. Many businesses may choose to set an initial liability date on a clean calendar start date; this is particularly relevant for the quarter that includes January 1. The low death rate may also be linked to this concentration of new businesses, as the majority of businesses tended to survive longer than their first quarter of operation.

Regional Survivability

Region V had the highest number of births at 133 new businesses or 33 percent of the quarter's total and a death rate at 22 percent (Table 6). Region VIII contributed 20 births, and with 7 dying during the study period, had the highest death rate at 35 percent. Region I also had 20 new business births but with only two dying, had the lowest death rate of all the regions at 10 percent. The majority of business deaths occurred in the 10 to 12 month range followed by the 16 to 18 month range. This shows that, of those new businesses that cease to operate within the study period, the majority died after one year of operation. In fact, 83 percent of the companies that died did so between 10 and 24 months after their initial liability date. Sixty percent declared their end of liability date within the second year of the company's operation.

Table 6: 2007 Quarter one distribution of business deaths during the first two years of operation.											
Number of firms that died within given range of months from inception.											
Area	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Region I	20	2	10%	0	0	0	1	0	0	0	1
Region II	40	11	28%	1	0	1	4	0	3	0	2
Region III	9	1	11%	0	0	0	0	0	0	0	1
Region IV	47	11	23%	0	0	1	3	1	3	3	0
Region V	133	29	22%	0	1	4	9	3	4	2	6
Region VI	23	5	22%	0	0	0	1	0	2	1	1
Region VII	86	18	21%	0	1	1	3	4	3	3	3
Region VIII	20	7	35%	1	0	1	0	1	2	0	2
INA	28	6	21%	1	0	2	0	1	2	0	0
Total	406	90	22%	3	2	10	21	10	19	9	16
Percentage of deaths by monthly range				3%	2%	11%	23%	11%	21%	10%	18%

Survivability by Industry

The Professional & Technical Services industry had the highest number of births in quarter one of 2007 with 61 new businesses contributing 15 percent of the total (Table 7). The Construction industry followed with 49 new businesses at 12 percent of the quarter's births, and Accommodation & Food Services had 37 or 9 percent of all new businesses born. Agriculture, Forestry, Fishing & Hunting had the

highest death rate at 44 percent followed by the Construction and Information industries, which both had death rates of 33 percent. With only a 10 percent death rate, Wholesale Trade had the highest rate of survivability, followed closely by that of Professional & Technical Services and Manufacturing.

Table 7: 2007 Quarter one distribution of business deaths by industry during the first two years of operation.

Number of firms that died within given range of months from inception.

Industry	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Agriculture, Forestry, Fishing & Hunting	9	4	44%	0	0	0	1	0	1	0	2
Mining & Utilities	7	2	29%	0	0	1	0	0	0	1	0
Construction	49	16	33%	0	0	2	4	3	4	0	3
Manufacturing	17	2	12%	0	0	0	0	0	0	1	1
Wholesale Trade	30	3	10%	1	0	0	1	1	0	0	0
Retail Trade	31	7	23%	0	0	0	2	0	2	2	1
Transportation & Warehousing	22	3	14%	1	0	0	1	0	0	1	0
Information	6	2	33%	0	0	0	0	0	0	1	1
Finance & Insurance	27	8	30%	0	0	2	3	1	1	0	1
Real Estate & Rental & Leasing	13	2	15%	0	0	0	0	0	2	0	0
Professional & Technical Services	61	7	11%	0	1	2	1	1	1	1	0
Management of Companies & Administrative & Waste Services	31	7	23%	0	0	1	2	0	2	1	1
Educational Services & Health Care & Social Assistance	25	5	20%	1	1	0	2	0	0	0	1
Arts, Entertainment, & Recreation	7	2	29%	0	0	0	0	0	2	0	0
Accommodation & Food Services	37	11	30%	0	0	1	2	3	2	1	2
Other Services	34	9	26%	0	0	1	2	1	2	0	3
Total	406	90	22%	3	2	10	21	10	19	9	16
Percentage of deaths by range of months from inception.				3%	2%	11%	23%	11%	21%	10%	18%

Analysis of 2007 Quarter Two

The greatest number of births and highest death rate occurred in quarter two of 2007. Within this quarter there were 441 new births, contributing to 28 percent of the aggregate. Of the new businesses, 125 died giving the quarter the highest death rate at 28 percent. In both this analysis and FY 1998, this quarter saw the highest number of new businesses enter the market and experienced the greatest number of deaths. This could be partially explained by the seasonality associated with the quarter. The second quarter of the calendar year encompasses the spring and early summer months of April, May, and June. The large number of newly created companies could be high, in part, because of a large volume of construction, landscaping, or other such seasonally-dependent entities. The high volume of deaths could be attributed in part to companies that were created to complete a specific project or contract and dissipated once done.

Regional Survivability

Regions V and VII encompassed the majority of new businesses in the state during the second quarter of 2007. With 159 and 94 new businesses respectively, or a combined 57 percent of the state's total growth, those regions including the major metropolitan areas of Fargo and Bismarck appealed to entrepreneurs (Table 8). Region III experienced the highest death rate at 36 percent and was closely followed by Region V at 35 percent. Although Region III had the highest death rate by percentage, the region only had four deaths compared to Region V, which had 55 new businesses end.

At 17 percent, the range from 19 to 21 months after inception had the highest death rate. The range of 7 to 9 months was next highest with 15 percent of the quarter's deaths. As this quarter did show the most newly-created businesses, it stands to reason that it would also have the greatest number of deaths. While it is never pleasant to think of a new company ending, especially within its first two years, it is generally understood that beginning a new entity is a great risk and difficult task. It is at least logical that the majority of new businesses be located in the areas of the state with larger cities and populations to help support them, this would primarily be such areas as Fargo and Bismarck.

Table 8: 2007 Quarter two distribution of business deaths during the first two years of operation.

Area	Births	Deaths	Death Rate	Number of firms that died within given range of months from inception.							
				(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Region I	24	2	8%	0	1	0	1	0	0	0	0
Region II	35	8	23%	0	1	2	1	1	1	2	0
Region III	11	4	36%	0	0	0	1	0	2	1	0
Region IV	27	8	30%	1	2	1	0	1	0	3	0
Region V	159	55	35%	3	8	8	8	6	5	7	10
Region VI	35	7	20%	1	0	4	0	0	1	1	0
Region VII	94	26	28%	3	3	2	3	4	4	5	2
Region VIII	32	9	28%	1	1	2	1	1	1	1	1
INA	24	6	25%	0	1	0	2	0	1	1	1
Total	441	125	28%	9	17	19	17	13	15	21	14
Percent of deaths by monthly range				7%	14%	15%	14%	10%	12%	17%	11%

Survivability by Industry

In quarter two of 2007, the Construction industry once again had the greatest number of births at 85 or 19 percent of the total (Table 9). Professional & Technical Services came next with 53 or 12 percent of the quarter's new businesses. The Mining & Utilities industry sector had the highest death rate at 50 percent. When the actual numbers of business births and deaths are examined however, this percentage reflects a very small pool including only four new businesses entering the marketplace and two leaving. While a 50 percent death rate is never positive, the number of firms it involves does bring a certain level of perspective. Management of Companies & Administrative & Waste Services had the second highest death rate for the quarter at 39 percent.

Table 9: 2007 Quarter two distribution of business deaths by industry during the first two years of operation.

Number of firms that died within given range of months from inception.

Industry	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Agriculture, Forestry, Fishing & Hunting	7	2	29%	0	0	1	0	1	0	0	0
Mining & Utilities	4	2	50%	0	0	0	0	0	0	2	0
Construction	85	28	33%	3	3	7	5	2	2	3	3
Manufacturing	14	3	21%	1	1	0	0	0	0	1	0
Wholesale Trade	24	6	25%	0	0	1	1	1	0	2	1
Retail Trade	34	8	24%	1	1	2	0	2	1	0	1
Transportation & Warehousing	26	8	31%	1	2	0	0	1	0	2	2
Information	9	1	11%	0	0	1	0	0	0	0	0
Finance & Insurance	22	6	27%	1	2	1	0	1	0	0	1
Real Estate & Rental and Leasing	14	2	14%	0	0	0	0	0	2	0	0
Professional & Technical Services	53	16	30%	0	1	0	3	1	3	3	5
Management of Companies & Administrative & Waste Services	33	13	39%	1	1	1	2	4	2	2	0
Educational Services & Health Care & Social Assistance	34	9	26%	0	2	2	1	0	0	3	1
Arts, Entertainment, & Recreation	9	1	11%	0	0	0	1	0	0	0	0
Accommodation & Food Services	35	7	20%	0	0	1	1	0	3	2	0
Other Services	38	13	34%	1	4	2	3	0	2	1	0
Total	441	125	28%	9	17	19	17	13	15	21	14
Percentage of deaths by range from month of inception.				7%	14%	15%	14%	10%	12%	17%	11%

Analysis of 2007 Quarter Three

The third quarter of 2007 was the last birth quarter included in the study. There were 389 new business births (24 percent of the aggregate) during this quarter that included the months of July, August, and September. Of these, 90 died within the first two years of operation. This gave a survival rate of 77 percent, the second highest amongst all the quarters, and a death rate of 23 percent.

Regional Survivability

Remaining consistent with the other quarters, quarter three of 2007 had the most births in Region V with 131 or 34 percent of newly-created businesses (Table 10). Region VII again had the second highest number of births with 74 or 19 percent of the total. Region II, which includes Minot, contributed 11 percent or 43 new businesses, nudging out Region IV or VI that typically contributed higher percentages of new businesses.

Region I displayed a noticeably low death rate of 5 percent this quarter. Although this region typically had a lower death rate throughout the quarters analyzed, this last quarter of the study was the lowest. Region VIII had the highest death rate at 44 percent. This was partially due to a smaller pool as the region only had 16 births of which 7 died. This is a high death rate but considering how many businesses were affected, the cohort size played a large factor. On the other hand, Region V had a death rate of 24 percent but saw 31 businesses close their doors during their first two years of operation, the most of any region in the quarter.

Table 10: 2007 Quarter three distribution of business deaths during the first two years of operation.

Area	Number of firms that died within given range of months from inception.										
	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Region I	21	1	5%	0	0	0	1	0	0	0	0
Region II	43	10	23%	1	2	3	0	0	2	1	1
Region III	16	3	19%	0	0	0	1	0	0	2	0
Region IV	39	7	18%	0	0	3	0	0	1	1	2
Region V	131	31	24%	0	3	7	8	2	4	3	4
Region VI	20	6	30%	0	1	1	2	0	0	1	1
Region VII	74	16	22%	1	0	4	2	2	5	2	0
Region VIII	16	7	44%	0	3	1	1	0	0	1	1
INA	29	9	31%	0	3	3	0	1	1	1	0
Total	389	90	23%	2	12	22	15	5	13	12	9
Percentage of deaths by monthly range				2%	13%	24%	17%	6%	14%	13%	10%

Survivability by Industry

In quarter three of 2007, the Construction industry again had the most new businesses start their operations with 89 new companies or 23 percent of the quarter total (Table 11). Professional & Technical Services had the next highest amount of new companies with 50 or 13 percent of the quarter's total. With a 38 percent death rate, Accommodations & Food Services had the highest death rate, followed by Construction with a loss of 34 percent of its new businesses.

The majority of businesses in this quarter died within the 7 to 9 month range following its initial liability date. The 10 to 12 month range showed the next highest death rate in the study period. This six-month period encompassed 41 percent of the new business deaths. Perhaps this indicates the first year is a trial in itself and making it through is a significant hurdle for most new businesses.

Table 11: 2007 Quarter three distribution of business deaths by industry during the first two years of operation.

Industry	Number of firms that died within given range of months from inception.										
	Births	Deaths	Death Rate	(0-3)	(4-6)	(7-9)	(10-12)	(13-15)	(16-18)	(19-21)	(22-24)
Agriculture, Forestry, Fishing & Hunting	3	0	0%	0	0	0	0	0	0	0	0
Mining & Utilities	15	2	13%	0	0	2	0	0	0	0	0
Construction	89	30	34%	2	2	8	6	1	3	5	3
Manufacturing	4	0	0%	0	0	0	0	0	0	0	0
Wholesale Trade	30	2	7%	0	0	0	0	0	0	2	0
Retail Trade	19	6	32%	0	0	2	0	1	0	3	0
Transportation & Warehousing	22	6	27%	0	0	1	0	1	2	0	2
Information	9	2	22%	0	1	1	0	0	0	0	0
Finance & Insurance	14	3	21%	0	0	0	1	0	1	0	1
Real Estate & Rental & Leasing	10	2	20%	0	0	0	0	1	0	0	1
Professional & Technical Services	50	8	16%	0	2	2	0	1	2	1	0
Management of Companies & Administrative & Waste Services	27	7	26%	0	3	2	1	0	0	0	1
Educational Services & Health Care & Social Assistance	35	4	11%	0	0	0	2	0	2	0	0
Arts, Entertainment, & Recreation	4	1	25%	0	1	0	0	0	0	0	0
Accommodation & Food Services	24	9	38%	0	2	3	2	0	1	1	0
Other Services	34	8	24%	0	1	1	3	0	2	0	1
Total	389	90	23%	2	12	22	15	5	13	12	9
Percentage of deaths by range from month of inception.				2%	13%	24%	17%	6%	14%	13%	10%

Analysis of New Business Employment and Wages

In addition to analyzing the survivability of new businesses in North Dakota, employment and wage levels were also studied. As previously stated, only those companies that reported employment and wages during the study period were used in calculations. It is possible that a new company would file with Job Service North Dakota but not have employment or wages on record. Those companies lacking information were left out of calculations so as not to bias the results or averages computed.

There are several plausible reasons why a company might not have reported employment and wage levels for a new business. It is quite possible for an employer to set up an account and have work fail to materialize, thereby making employment and wages irrelevant. It is also conceivable that a new business experiences a slow start and relies on its owners doing the work without paying out employment and wages. Occasionally organizations, such as religious or non-profits, may file for an unemployment insurance account number before realizing they are exempt from supplying such coverage. Although these examples are possible, firms lacking such information were left out of the calculations for this analysis.

While the earlier section of the analysis divided new businesses into those that died and those that survived, this portion of the study looked at all the firms that started within FY 2007 as a group. Only aggregate analyses were done on the new businesses regarding employment and wages. This provides an idea of the economic impact new businesses have on North Dakota in a given fiscal year.

Aggregate Analysis of New Business Employment and Wages

In FY 2007, 1,591 new businesses were started. During the first two years of operation, these businesses paid \$319,572,314 in wages to approximately 6,829 employees. In comparison to the state's private sector economy, these new businesses contributed 3.51 percent of North Dakota's total wages. The number of new entities made up 7 percent of the state's business establishments under private ownership and 3 percent of the employment.

The percentages suggest that new firms contribute a slightly higher proportion of the state's establishments than payroll or employment. This is reasonable as new businesses that are truly just starting may not have generated a great deal of revenue with which to hire employees and make payroll. It is also likely that the majority of such firms began small and kept costs low until business is found to be secure. Once security and cash flow are established, businesses would then start increasing the amount of employees on the payroll and thus contribute a greater percentage to the overall economy and employment of the state. It is also likely that the percentage of new business establishments (7) is higher as this was based on the total number of new businesses started in the year, not the number that were successful. Since the first two years of a new business are so tumultuous, the percentage would be slightly lower if based solely on successful entities.

For the new businesses started in FY 2007, the average firm employed 4.29 workers. The average monthly wage was \$2,445, giving an average annual salary of \$29,339. This is approximately 89 percent of the statewide annual average wage of \$32,815. Such wages for new businesses are quite respectable considering the business' age compared to the overall private business makeup of the state. New businesses take time to develop before they are capable of flourishing and providing high salaries or bonuses that may push wages above average. Falling close to the statewide average suggests the new entrepreneurs are paying employees respectable wages.

In comparison to the FY 1998 report, FY 2007 had 13 percent more businesses started and 75 percent more distributed in payroll. Average monthly wages also increased 60 percent between the two studies. While payroll of the firms and wages should be higher since there are 9 years between studies, such changes indicate a healthy economy and solid business environment for new business owners. It is also encouraging for those employed by new businesses, as it shows that the private sector is competitive and relatively stable in terms of wages and employment.

Regional Employment and Wages

As was the case with the number of firms established, those regions of the state with the largest cities generated the highest amount of payroll (Table 12). The new businesses in Region V, which includes Fargo, generated approximately 35 percent of the total amount of payroll. Region VII which includes Bismarck was the next highest, contributing 19 percent of the payroll. Regions VIII and IV followed and together made up 22 percent of the total payroll. All the other areas of the state (Regions I, II, III, VI, and INA) combined to provide 24 percent of the payroll generated by new businesses.

Table 12: Employment and wage data by region for new businesses created in FY 2007.

Area	Total Payroll	Region's Ave Qrtly Payroll	Number of Firms	Average Employment of Firms	Sum of Average Employment	Average Monthly Wage
Region I	\$22,037,771	\$777,152	83	3.07	255.09	\$4,228
Region II	\$20,010,969	\$725,299	145	4.10	594.25	\$1,642
Region III	\$8,596,900	\$380,597	44	4.89	215.04	\$1,913
Region IV	\$35,225,843	\$1,179,881	165	6.08	1,002.79	\$1,709
Region V	\$113,400,329	\$4,204,427	548	4.19	2,297.04	\$2,441
Region VI	\$11,451,602	\$434,106	104	3.42	355.66	\$1,854
Region VII	\$60,513,425	\$2,273,557	327	4.53	1,480.09	\$2,010
Region VIII	\$36,506,998	\$1,216,655	87	4.37	379.81	\$3,851
INA	\$11,828,477	\$478,018	88	2.84	249.54	\$2,667
Total	\$319,572,314	\$11,669,692	1,591	4.29	6,829.32	\$2,445

In terms of new businesses, most regions roughly contributed the same proportion of firms as payroll. Region V created the most at 34 percent. Region VII came in second at 21 percent, followed by Region IV including Grand Forks, with 10 percent of new firms. Region II, which includes Minot, created 9 percent of new businesses compared to the 6 percent of payroll it generated. Region VIII, in the southwest corner of the state, had the largest disparity. This area contributed 5 percent of new businesses while providing 11 percent of the total payroll. While the industry analysis will follow, this

may be indicative of mining, especially oil extraction, which would likely begin fewer businesses in and of themselves but generate lucrative dividends.

Average monthly wages vary from region to region as can be expected. The highest wages however, are not coming from the regions with the highest percentage of the total payroll. Region I and Region VIII have the highest average monthly wage for employees. If these monthly averages are extrapolated to provide an annual wage estimate, they are \$50,741 and \$46,213 respectively—the quarter’s only two regions above the state annual average. These extrapolated numbers could also be due to mining and oil extraction, an industry located mostly in the western part of the state where the wages are high. It could also be because such industries and their related support companies take more capital to start and therefore would be thought through more thoroughly. Or because of recent developments with increased oil production, perhaps employers in unrelated industries are offering their workers higher than average wages in order to attract them to their businesses. Those industries for which geographic information is not available (INA), has the next highest average monthly wage with an annual average of \$32,004—the annual average closest to the state’s average. Region V and Region VII are the next highest but are below the state’s average annual wage as are the rest of the regions.

The previous analysis on FY 1998 was roughly consistent in terms of proportion of payroll and number of firms started. There was a considerable difference in terms of the average wage. The 1998 data suggested regions that were more urban, or those regions including Fargo, Bismarck, and Grand Forks offered employees higher wages. This 2007 research had the western regions, Region I and VIII, with the highest average wages that were then followed by the major urban regions. This suggests a shift in the economy of the state and future tracking could indicate whether this was a short-term phenomenon or a long-term change.

Employment and Wages by Industry

Just as analyzing the relationship between industry and business survivability is important, it is also critical to look at employment and wage differences. The dynamics between various industrial sectors may reveal a great deal about wage disparity as well as employment levels. Such information is crucial for workforce planning and management both at the local and state levels. Table 13 provides the employment and wage information by industry for the newly-created businesses in FY 2007.

Table 13: Employment and wage data by industry for new businesses created in FY 2007.

Industry	Number of Firms	Total Payroll	Industry Ave Qrtly Payroll	Sum of Average Employment	Average Employment of Firms	Average Monthly Wage
Agriculture, Forestry, Fishing & Hunting	29	\$5,300,944	\$177,978	121.36	4.18	\$1,798
Mining & Utilities	30	\$14,829,384	\$505,949	129.26	4.31	\$5,161
Construction	274	\$102,745,080	\$3,833,789	1,461.19	5.33	\$3,590
Manufacturing	43	\$10,918,528	\$374,281	175.55	4.08	\$2,687
Wholesale Trade	103	\$14,361,282	\$496,157	188.49	1.83	\$3,448
Retail Trade	119	\$14,622,884	\$494,648	465.79	3.91	\$1,340
Transportation & Warehousing	94	\$16,120,553	\$609,226	311.73	3.32	\$2,639
Information	31	\$4,534,958	\$152,819	78.38	2.53	\$2,644
Finance & Insurance	80	\$10,474,119	\$486,044	192.72	2.41	\$3,226
Real Estate & Rental & Leasing	47	\$7,312,755	\$258,643	108.78	2.31	\$3,405
Professional & Technical Services	212	\$39,862,284	\$1,469,123	587.06	2.77	\$3,362
Management of Companies & Administrative & Waste	118	\$14,582,828	\$580,320	363.99	3.08	\$2,101
Educational Services & Health Care & Social Assistance	126	\$22,493,195	\$801,236	528.05	4.19	\$1,938
Arts, Entertainment, & Recreation	26	\$3,398,995	\$122,445	159.24	6.12	\$1,080
Accommodation & Food Services	123	\$25,875,344	\$882,100	1,557.65	12.66	\$726
Other Services	136	\$12,139,181	\$424,934	400.07	2.94	\$1,445
Total	1,591	\$319,572,314	\$11,669,692	6,829.32	4.29	\$2,445

Construction contributed the most new businesses at 17 percent and also provided the highest percentage of the total payroll with 32 percent. In terms of payroll, this was more than twice as much as any other single industry contributed to the total. The Construction industry was second highest in level of employment, making up 21 percent of all people employed by new businesses. Accommodation and Food Services was slightly greater at 23 percent. The influence Construction has is notable. As discussed previously, such businesses can be relatively inexpensive and easy to establish. This does not diminish the influence they have on the state's economy, however. In terms of economic impact, newly established construction businesses made up 10 percent of all construction firms in the state. The new construction businesses also generated 13 percent of the total annual payroll administered by the state's overall Construction industry. Such an impact is not inconsequential and bodes well for those wishing to start their own construction company.

Professional & Technical Services made up 13 percent of new businesses created in 2007. This industry also provided 9 percent of the total employment. Other Services made up 9 percent of new businesses and 6 percent of employment. Educational Services & Health Care & Social Assistance, as well as Accommodation & Food Services both had 8 percent of the total number of newly-created entities in 2007. Educational Services & Health Care & Social Assistance remained consistent with employment, also constituting 8 percent of the total. Accommodation & Food Services however, made up the largest percentage of the total employment at 23 percent. Logically this stands to reason as the majority of businesses that would fall under the Accommodation & Food Service industry would likely require a large number of employees in order to operate effectively.

In terms of annual wages, the leading industries vary slightly. The Mining & Utilities industry has the highest average monthly wage of \$5,161, or \$61,927 annually. It contributes 2 percent of the firms created and 2 percent of the total employment. The industry does, however contribute 5 percent to the overall payroll generated by the new businesses. This suggests that there are fewer new businesses being started in this area and they have fewer employees, but the employees they do have are highly paid. This is consistent with statewide averages as the average annual wage for these industries is nearly double that of the state average annual wage. While the high average pay is good for those employees involved in the industry, the relatively small percentage of payroll and new businesses it makes up supports the need for a diversified economy.

Construction has the second highest average monthly wage at \$3,590. This translates to an annual average wage of \$43,081—this is actually higher than the statewide average annual wage for the industry of \$40,532. Although the difference between the two annual averages is not great, perhaps the average annual wages of new businesses are slightly higher because some of these firms may have been created for specific jobs or during peak seasons when the pay was greater. Such conditions could increase the average wage for the new businesses. These averages are both higher than the general statewide average wage and suggest this industry has a fair amount of strength and influence in the overall economy.

The Wholesale Trade industry has the next highest average wage at \$3,448 monthly and \$41,377 yearly. This is higher than the statewide annual average wage but lower than the state's industry average of \$44,415. Wholesale Trade makes up 3 percent of the new business employment and with a lower number of employees could be helping the average wage calculation. However, considering the youth of the businesses involved, those businesses that do survive should be able to provide an above average income for employees into the future.

Professional & Technical Services had the second highest percentage of firms created and fourth highest average monthly wage of \$3,362. At an annual average wage of \$40,345 it is above the overall statewide average wage but below the state's Professional and Technical Services average wage of \$43,098. The only other industries with a higher than average wage compared to the state's average wage were Real Estate, Rental, and Leasing and Finance & Insurance.

The industry with the lowest average wage is Accommodation & Food Services with a monthly average of \$726 and annual average of \$8,711. Typically, wages are lower amongst businesses in this industry. This is lower than the statewide average for all businesses in this area of \$11,067. Considering new businesses do take awhile to get their footing and likely have a higher turnover rate of new employees, especially in this industry, wages seem realistic for the type of work.

At the time the previous study was completed the industry classification groups were divided slightly differently. This makes identifying links between the two studies difficult. Since many of the industries are now separated, that were at that time grouped, it is not as analogous as the regional analysis to make direct comparisons.

Analysis of 2006 Quarter Four

After having addressed trends in employment and wages for all the new businesses created in FY 2007, the attention turns to the individual quarters. Just as with business survivability, employment and wages will be discussed for each of the four quarters to see what influence the time of year had on the businesses as well as the industry.

The 355 newly-created businesses in 2006 quarter four contributed over \$64 million, which is 20 percent of the total payroll for all new businesses. Of the four quarters, quarter four had the lowest percentage of the total payroll. With 1,450 employees, 2006 quarter four also had the lowest percentage of total employment at 21 percent. This was however, the quarter with the least amount of births. While the survivability rate was the closest to the aggregate, having the fewest new businesses born is probably the primary reason for its lower contribution to the aggregate payroll and employment levels.

Regional Employment and Wages

With regards to regional influence, Region V had a disproportionate amount of influence on the total payroll. It contributed \$29 million, or 45 percent of the total payroll (Table 14). Region VII and VIII were the next highest contributors with 14 and 13 percent of the total payroll respectively. While these numbers seem strangely lopsided, the timing could have an influence. The fourth quarter of each year contains the holiday season and with Region V including Fargo, much travel to and from the most urban area of the state could have influenced the payroll numbers. In addition, the seasonality could be restricting certain industries that are weather dependent.

Table 14: Employment and wage data by region for new businesses created in 2006 quarter four.

Area	Total Payroll	Region's Ave Qrtly Payroll	Number of Firms	Average Employment of Firms	Sum of Average Employment	Firm's Ave Qrtly Payroll	Average Monthly Wage
Region I	\$3,874,711	\$598,622	18	2.05	36.90	\$33,257	\$5,408
Region II	\$3,516,769	\$493,801	27	5.58	150.53	\$18,289	\$1,093
Region III	\$230,465	\$38,277	8	1.10	8.79	\$4,785	\$1,450
Region IV	\$6,631,102	\$914,855	52	3.15	163.84	\$17,593	\$1,862
Region V	\$29,043,252	\$4,260,940	125	4.80	599.94	\$34,088	\$2,367
Region VI	\$2,388,900	\$351,643	26	2.61	67.91	\$13,525	\$1,727
Region VII	\$9,131,744	\$1,708,948	73	4.24	309.51	\$23,410	\$1,840
Region VIII	\$8,422,867	\$1,102,500	19	4.87	92.61	\$58,026	\$3,972
INA	\$932,797	\$153,567	7	2.80	19.57	\$21,938	\$2,612
Total	\$64,172,607	\$9,623,153	355	4.08	1,449.60	\$27,107	\$2,215

There was not much difference between average monthly wages, the aggregate average was \$2,445 and this quarter's was \$2,215. Region I however, had a much higher average wage of \$5,408. Considering the area of the state that Region I covers, this is most likely influenced by mining. Region II had the lowest average monthly wage at \$1,093.

Considerable disparities also were shown in the number of employees added to the payroll. Region V had the most employees on the payroll with almost 600 employees, while Region III had less than 9. The size of the businesses being started greatly influences these numbers, especially so soon after their establishment. In general however, those regions with a major urban center (Fargo, Bismarck, Grand Forks, Minot) have higher numbers of employees.

Employment and Wages by Industry

Although the fourth quarter of 2006 falls over winter months in North Dakota, the Construction industry started 51 new businesses, the most of the quarter and 14 percent of the total number of new firms (Table 15). With more than \$16 million in payroll, this industry also contributed 26 percent of the quarter's total payroll.

Table 15: Employment and wage data by industry for new businesses created in 2006 quarter four.

Industry	Number of Firms	Total Payroll	Ave Qrtly Payroll	Sum of Average Employment	Average Employment of Firms	Firm's Average Quarterly Payroll	Firm's Monthly Payroll	Average Monthly Wage
Agriculture, Forestry, Fishing & Hunting	10	\$2,666,673	\$333,334	49.88	4.99	\$33,333	\$11,111	\$2,228
Mining & Utilities	4	\$6,291,783	\$794,992	42.33	10.58	\$198,748	\$66,249	\$6,260
Construction	51	\$16,441,769	\$2,564,051	243.91	4.78	\$50,276	\$16,759	\$3,504
Manufacturing	8	\$2,335,544	\$293,195	39.06	4.88	\$36,649	\$12,216	\$2,502
Wholesale Trade	19	\$2,462,347	\$333,724	30.99	1.63	\$17,564	\$5,855	\$3,589
Retail Trade	35	\$2,633,155	\$374,761	124.86	3.57	\$10,707	\$3,569	\$1,000
Transportation & Warehousing	24	\$2,868,637	\$504,677	80.80	3.37	\$21,028	\$7,009	\$2,082
Information	7	\$546,641	\$85,995	22.21	3.17	\$12,285	\$4,095	\$1,291
Finance & Insurance	17	\$872,315	\$143,270	22.81	1.34	\$8,428	\$2,809	\$2,094
Real Estate & Rental & Leasing	10	\$3,520,840	\$503,510	22.83	2.28	\$50,351	\$16,784	\$7,351
Professional & Technical Services & Administrative & Waste Services	48	\$6,986,536	\$1,162,432	114.67	2.39	\$24,217	\$8,072	\$3,379
Educational Services & Health Care & Social Assistance	27	\$2,504,649	\$548,803	77.89	2.88	\$20,326	\$6,775	\$2,349
Arts, Entertainment, & Recreation	32	\$5,898,959	\$826,076	148.22	4.63	\$25,815	\$8,605	\$1,858
Accommodation & Food Services	6	\$1,080,633	\$170,599	66.67	11.11	\$28,433	\$9,478	\$853
Other Services	27	\$3,510,018	\$493,277	249.59	9.24	\$18,270	\$6,090	\$659
Total	355	\$64,172,607	\$9,623,153	1,449.60	4.08	\$27,107	\$9,036	\$2,213

Professional & Technical Services also contributed 14 percent of the new businesses started in 2006 quarter 4, while the actual number of firms was slightly lower than construction at 48. At 11 percent of the total payroll, this industry contributed the second highest amount of payroll, just under \$7 million.

Accommodation & Food Services was the industry with the highest number of employees, 250 workers or 17 percent of all employment. Construction had very similar levels at 244 employees and 17 percent of the workforce in new businesses. Educational Services & Health Care & Social Assistance was third highest at 148 workers and 10 percent of the total.

Real Estate & Rental & Leasing offered the highest average wage at \$7,351 per month. If this income were constant over the course of a year, this would give employees in this industry an average

annual wage of \$88,000. This is more than double the annual average of both the new business employees in this study as well as the state’s average. There is a possibility that because this quarter fell at the end of the 2006 calendar year, many people could be dealing with real estate transactions for tax purposes. This is also the only quarter in which Real Estate & Rental & Leasing had such a dramatically high average wage. The Mining & Utilities industry offered the second highest average monthly wage at \$6,260, also well above the average. On the opposite end, the two industries with the lowest average wages were Arts, Entertainment, & Recreation along with Accommodation & Food Services.

Analysis of 2007 Quarter One

Quarter one of 2007 had the second highest number of new businesses started during the study year. At \$91 million and 28 percent, this quarter contributed the highest percentage of the total payroll. With the lowest death rate of all the quarters this is logical. It also tied with quarter 2 of 2007 to provide 27 percent of the total employment of new businesses. Each of these quarters contributed a little more than 1,800 employees. With the start of a new calendar year and the highest total payroll generated, this was an influential quarter on the overall analysis.

Regional Employment and Wages

Payroll dynamics shifted in this quarter as Region VIII contributed \$23 million dollars or 26 percent of the total payroll (Table 16). This was the highest percentage of the regions and region V followed with 21 percent. This was less than half of the influence it had on totals in the previous quarter. Region IV, including Grand Forks, was quite similar contributing \$18 million or 20 percent of the payroll.

Table 16: Employment and wage data by region for new businesses created in 2007 quarter one.

Area	Total Payroll	Region's Ave Qrtly Payroll	Number of Firms	Average Employment of Firms	Sum of Average Employment	Firm's Ave Qrtly Payroll	Average Monthly Wage
Region I	\$3,643,092	\$483,795	20	2.23	44.67	\$24,190	\$3,616
Region II	\$5,465,866	\$882,652	40	3.70	148.08	\$22,066	\$1,988
Region III	\$1,609,228	\$203,851	9	3.94	35.42	\$22,650	\$1,916
Region IV	\$18,221,204	\$2,363,955	47	11.98	563.25	\$50,297	\$1,399
Region V	\$19,413,363	\$2,905,880	133	3.11	414.09	\$21,849	\$2,342
Region VI	\$2,444,920	\$389,099	23	2.25	51.66	\$16,917	\$2,506
Region VII	\$12,612,064	\$1,768,885	86	3.59	308.67	\$20,568	\$1,910
Region VIII	\$23,386,405	\$3,052,995	20	8.81	176.23	\$152,650	\$5,776
INA	\$4,236,520	\$634,968	28	2.52	70.70	\$22,677	\$3,000
Total	\$91,032,662	\$12,686,079	406	4.46	1,812.76	\$31,247	\$2,335

In this first quarter of 2007, Region IV also surpassed Region V with the highest employment, 563 employees compared to 414. The highest and lowest average monthly wages also shifted amongst the regions. Region VIII came in highest with a monthly average of \$5,776, while Region I was the next highest at \$3,616. Region IV was the area with the lowest monthly average at \$1,399, although this is higher than the low for the previous quarter.

Employment and Wages by Industry

In terms of the number of newly-created firms, total payroll, and employment, there were three main industries that shared the most influence. Construction, Professional & Technical Services, and Accommodation & Food Services all rallied with the top contributions towards the respective aggregate totals for the quarter (Table 17).

Table 17: Employment and wage data by industry for new businesses created in 2007 quarter one.

Industry	Number of Firms	Total Payroll	Ave Qrtly Payroll	Sum of Average Employment	Average Employment of Firms	Firm's Average Quarterly Payroll	Firm's Monthly Payroll	Average Monthly Wage
Agriculture, Forestry, Fishing & Hunting	9	\$1,558,112	\$208,886	30.21	3.36	\$23,210	\$7,737	\$2,305
Mining & Utilities	7	\$1,833,541	\$271,685	17.67	2.52	\$38,812	\$12,937	\$5,126
Construction	49	\$29,271,901	\$4,007,480	295.32	6.03	\$81,785	\$27,262	\$4,523
Manufacturing	17	\$3,500,125	\$517,526	57.42	3.38	\$30,443	\$10,148	\$3,005
Wholesale Trade	30	\$6,103,156	\$816,981	66.87	2.23	\$27,233	\$9,078	\$4,073
Retail Trade	31	\$7,346,265	\$967,779	158.97	5.13	\$31,219	\$10,406	\$2,029
Transportation & Warehousing	22	\$3,228,384	\$453,197	82.85	3.77	\$20,600	\$6,867	\$1,823
Information	6	\$2,224,199	\$281,980	30.79	5.13	\$46,997	\$15,666	\$3,053
Finance & Insurance	27	\$3,857,515	\$516,249	52.25	1.94	\$19,120	\$6,373	\$3,294
Real Estate & Rental & Leasing	13	\$1,602,025	\$210,664	27.94	2.15	\$16,205	\$5,402	\$2,514
Professional & Technical Services	61	\$9,957,180	\$1,476,447	167.99	2.75	\$24,204	\$8,068	\$2,930
Management of Companies & Administrative & Waste	31	\$3,276,020	\$486,135	72.42	2.34	\$15,682	\$5,227	\$2,238
Educational Services & Health Care & Social Assistance	25	\$3,975,503	\$656,618	108.63	4.35	\$26,265	\$8,755	\$2,015
Arts, Entertainment, & Recreation	7	\$614,155	\$84,781	17.01	2.43	\$12,112	\$4,037	\$1,662
Accommodation & Food Services	37	\$10,498,143	\$1,433,294	562.98	15.22	\$38,738	\$12,913	\$849
Other Services	34	\$2,186,438	\$296,380	63.46	1.87	\$8,717	\$2,906	\$1,557
Total	406	\$91,032,662	\$12,686,079	1,812.76	4.46	\$31,247	\$10,416	\$2,333

Construction housed 49 new businesses, or 12 percent of those born in the first quarter of 2007. The Construction industry contributed the most in terms of total payroll at a little more than \$29 million, or 32 percent of overall payroll generated by new businesses. It also contributed 16 percent of the total workers employed in these new firms, the second highest for the quarter.

Professional & Technical Services was the industry that had the most new businesses born during quarter one. Fifteen percent of all new businesses were in the Professional and Technical Services industry and it had the third highest contribution towards the total payroll and employment levels. With almost \$10 million in payroll it had 11 percent of the total payroll and with 168 employees it held 9 percent of workers.

The Accommodation & Food Services Industry had the most impact on employment. With 563 employees, it had 31 percent of the total workers employed by new businesses in the quarter. The workers in this industry were distributed throughout 37 new businesses and contributed about \$10.5 million dollars, or 12 percent of the quarter's total payroll.

The industries with the highest average wages were slightly different. Mining & Utilities had the highest average monthly wage at \$5,126. Construction followed with the next highest monthly average

wage of \$4,523, and then Wholesale Trade provided \$4,073 on average to its employees. At less than \$1,000 per month, Accommodation & Food Services paid the lowest average wage to its employees. While some people certainly rely on the Accommodations and Food Services industry for their total income, it is also common for individuals to take part-time jobs in this sector so it is likely that this is not the total income for many as it is far below the state's average wage.

Analysis of 2007 Quarter Two

The second quarter of 2007 had both the highest birth rate and highest death rate of the fiscal year. With more than \$85 million in payroll, quarter two generated 27 percent of the total and also contributed 27 percent of the total employment. The seasonality of the quarter is likely the primary reason for the quarter's influence. Spring and early summer are good times for new businesses that rely on warm weather or outdoor improvements. As such, many businesses are likely to begin around this time. It is also likely that many firms could be created for project-specific purposes. Once those projects are completed the entity would then be dissolved, contributing to the high death rate while not necessarily implying negative consequences on the North Dakota business environment.

Regional Employment and Wages

Region V once again contributed a large percentage of the overall payroll at nearly \$38.9 million or 45 percent of the total payroll generated (Table 18). Region VII was the next highest at \$15 million and 17 percent of the total payroll. Employment levels followed suit with Region V supplying 614 employees and Region VII providing 405.

Table 18: Employment and wage data by region for new businesses created in 2007 quarter two.

Area	Total Payroll	Region's Ave Qrtly Payroll	Number of Firms	Average Employment of Firms	Sum of Average Employment	Firm's Ave Qrtly Payroll	Average Monthly Wage
Region I	\$7,065,043	\$1,011,319	24	4.04	96.88	\$42,138	\$3,477
Region II	\$6,429,612	\$880,238	35	5.14	180.03	\$25,150	\$1,631
Region III	\$1,318,327	\$191,837	11	4.36	47.95	\$17,440	\$1,333
Region IV	\$5,731,028	\$764,395	27	6.07	164.02	\$28,311	\$1,555
Region V	\$38,885,675	\$5,499,721	159	3.86	614.10	\$34,589	\$2,987
Region VI	\$3,988,090	\$615,374	35	4.93	172.49	\$17,582	\$1,189
Region VII	\$15,007,887	\$2,094,581	94	4.31	404.78	\$22,283	\$1,723
Region VIII	\$3,282,638	\$456,485	32	2.80	89.56	\$14,265	\$1,698
INA	\$3,980,232	\$676,870	24	2.70	64.78	\$28,203	\$3,482
Total	\$85,688,532	\$12,190,819	441	4.16	1,834.58	\$27,644	\$2,215

In terms of average wages, INA was the highest for quarter two at \$3,482 per month. Region I closely followed with \$3,477 or \$41,721 per year. Region V was the next highest average at \$2,987.

Employment and Wages by Industry

As with the previous two quarters, Construction, Professional & Technical Services, and Accommodation & Food Services had the greatest influence over the aggregate averages (Table 19). In terms of the firms created, construction had the most with 85 new business or 19 percent of all started. Professional & Technical Services were next with 53 and 12 percent respectively. This time Other Services had the third highest number of businesses started at 38 and 9 percent of the total, with Accommodation & Food Services closely behind with 35 and 8 percent.

Table 19: Employment and wage data by industry for new businesses created in 2007 quarter two.

Industry	Number of Firms	Total Payroll	Ave Qrtly Payroll	Sum of Average Employment	Average Employment of Firms	Firm's Average Quarterly Payroll	Firm's Monthly Payroll	Average Monthly Wage
Agriculture, Forestry, Fishing & Hunting	7	\$693,868	\$114,692	25.40	3.63	\$16,385	\$5,462	\$1,505
Mining & Utilities	4	\$2,054,918	\$285,587	20.33	5.08	\$71,397	\$23,799	\$4,682
Construction	85	\$33,756,816	\$4,643,468	482.28	5.67	\$54,629	\$18,210	\$3,209
Manufacturing	14	\$4,755,308	\$632,024	71.13	5.08	\$45,145	\$15,048	\$2,962
Wholesale Trade	24	\$3,179,593	\$477,242	45.51	1.90	\$19,885	\$6,628	\$3,495
Retail Trade	34	\$2,943,305	\$402,142	114.92	3.38	\$11,828	\$3,943	\$1,166
Transportation & Warehousing	26	\$5,272,011	\$825,290	75.05	2.89	\$31,742	\$10,581	\$3,665
Information	9	\$1,251,054	\$163,627	15.92	1.77	\$18,181	\$6,060	\$3,427
Finance & Insurance	22	\$4,022,663	\$712,060	51.02	2.32	\$32,366	\$10,789	\$4,652
Real Estate & Rental & Leasing	14	\$1,156,728	\$184,390	26.56	1.90	\$13,171	\$4,390	\$2,314
Professional & Technical Services	53	\$9,322,520	\$1,318,281	119.31	2.25	\$24,873	\$8,291	\$3,683
Management of Companies & Administrative & Waste	33	\$2,363,346	\$365,931	82.68	2.51	\$11,089	\$3,696	\$1,475
Educational Services & Health Care & Social Assistance	34	\$2,352,979	\$383,386	94.52	2.78	\$11,276	\$3,759	\$1,352
Arts, Entertainment, & Recreation	9	\$1,550,864	\$208,736	63.53	7.06	\$23,193	\$7,731	\$1,095
Accommodation & Food Services	35	\$8,065,194	\$1,069,160	457.45	13.07	\$30,547	\$10,182	\$779
Other Services	38	\$2,947,365	\$404,803	88.97	2.34	\$10,653	\$3,551	\$1,517
Total	441	\$85,688,532	\$12,190,819	1,834.58	4.16	\$27,644	\$9,215	\$2,215

Construction again held a disproportionate share of the total payroll. At well over \$33 million, this industry was responsible for 39 percent of the overall payroll generated for the quarter. The Professional & Technical Services industry had the next highest amount at a little over \$9 million and 11 percent of the aggregate, followed by Accommodation & Food Services at \$8 million and 9 percent of the total payroll.

Two industries accounted for 51 percent of the total employment. Construction had 482 employees and 26 percent of the total, and Accommodation and Food Services housed 457 workers and 25 percent of the total quarter's new business employment. The seasonality of this quarter is likely to have an influence over these numbers. Quarter two of 2007 falls over the months of spring and early summer, peak times for both industries in North Dakota.

The highest average monthly wages were very similar between mining and utilities at \$4,682 and Finance & Insurance at \$4,652. While the Mining & Utilities sector consistently offers high wages, the Finance & Insurance industry's average typically falls in the mid-range amongst all industry averages.

Analysis of 2007 Quarter Three

The last quarter of the analysis was 2007 quarter three. This quarter constituted over \$78 million, or 25 percent of the overall payroll generated by new businesses. Considering this quarter held 24 percent of the new business births, had 1,732 employees, and 25 percent of overall employment, these contributions to the aggregate are consistent. While the average monthly wage did not vary greatly between the quarters studied, this quarter did have the highest at \$2,345.

Regional Employment and Wages

As was fairly consistent from quarter to quarter, Region V contributed the highest percentage of the overall payroll, with \$26 million and 33 percent of the total (Table 20). Region VII again followed with over \$23 million and 30 percent of the total payroll. Region VIII comprised the least, with less than 2 percent of the overall payroll and a little over \$1 million. Employment was steady, Region V had the most at 669 employees, Region VII was next with 457, and Region VIII had the least at 21.

Table 20: Employment and wage data by region for new businesses created in 2007 quarter three.

Area	Total Payroll	Region's Ave Qrtly Payroll	Number of Firms	Average Employment of Firms	Sum of Average Employment	Firm's Ave Qrtly Payroll	Average Monthly Wage
Region I	\$7,454,925	\$1,014,871	21	3.65	76.65	\$48,327	\$4,413
Region II	\$4,598,722	\$644,507	43	2.69	115.61	\$14,989	\$1,857
Region III	\$5,438,880	\$1,088,424	16	7.68	122.89	\$68,026	\$2,953
Region IV	\$4,642,509	\$676,317	39	2.86	111.67	\$17,341	\$2,021
Region V	\$26,058,039	\$4,151,167	131	5.11	668.91	\$31,688	\$2,067
Region VI	\$2,629,692	\$380,307	20	3.18	63.60	\$19,015	\$1,993
Region VII	\$23,761,730	\$3,521,815	74	6.18	457.13	\$47,592	\$2,567
Region VIII	\$1,415,088	\$254,638	16	1.34	21.42	\$15,915	\$3,959
INA	\$2,678,928	\$446,668	29	3.26	94.50	\$15,402	\$1,575
Total	\$78,678,513	\$12,178,715	389	4.45	1,732.38	\$31,308	\$2,345

Once again Region I followed by Region VIII had the highest average wages at \$4,413 and \$3,959, respectively. INA was lowest at \$1,575, closely preceded by Region II with a monthly average wage of \$1,857.

Employment and Wages by Industry

2007 quarter 3 was typical in regards to the influence the Construction and Professional & Technical Services industries had, however the Education Services & Health Care & Social Assistance was also prominent (Table 21). Once again Construction had the most newly created businesses at 89 or 23 percent of the aggregate. These firms constituted \$23 million dollars or 30 percent of the quarter's total payroll. The industry also had a quarter of the employees, some 440 people.

Table 21: Employment and wage data by industry for new businesses created in 2007 quarter three.

Industry	Number of Firms	Total Payroll	Ave Qrtly Payroll	Sum of Average Employment	Average Employment of Firms	Firm's Average Quarterly Payroll	Firm's Monthly Payroll	Average Monthly Wage
Agriculture, Forestry, Fishing & Hunting	3	\$382,291	\$55,001	15.88	5.29	\$18,334	\$6,111	\$1,155
Mining & Utilities	15	\$4,649,142	\$671,532	48.93	3.26	\$44,769	\$14,923	\$4,575
Construction	89	\$23,274,594	\$4,120,157	439.67	4.94	\$46,294	\$15,431	\$3,124
Manufacturing	4	\$327,551	\$54,380	7.95	1.99	\$13,595	\$4,532	\$2,280
Wholesale Trade	30	\$2,616,186	\$356,680	45.12	1.50	\$11,889	\$3,963	\$2,635
Retail Trade	19	\$1,700,159	\$233,911	67.04	3.53	\$12,311	\$4,104	\$1,163
Transportation & Warehousing	22	\$4,751,521	\$653,739	73.03	3.32	\$29,715	\$9,905	\$2,984
Information	9	\$513,064	\$79,674	9.46	1.05	\$8,853	\$2,951	\$2,808
Finance & Insurance	14	\$1,721,626	\$572,598	66.64	4.76	\$40,900	\$13,633	\$2,864
Real Estate & Rental & Leasing	10	\$1,033,162	\$136,008	31.45	3.14	\$13,601	\$4,534	\$1,442
Professional & Technical Services	50	\$13,596,048	\$1,919,334	185.10	3.70	\$38,387	\$12,796	\$3,456
Management of Companies & Administrative & Waste	27	\$6,438,813	\$920,410	131.00	4.85	\$34,089	\$11,363	\$2,342
Educational Services & Health Care & Social Assistance	35	\$10,265,754	\$1,338,863	176.68	5.05	\$38,253	\$12,751	\$2,526
Arts, Entertainment, & Recreation	4	\$153,343	\$25,664	12.04	3.01	\$6,416	\$2,139	\$710
Accommodation & Food Services	24	\$3,801,989	\$532,668	287.63	11.98	\$22,194	\$7,398	\$617
Other Services	34	\$3,453,270	\$508,095	134.76	3.96	\$14,944	\$4,981	\$1,257
Total	389	\$78,678,513	\$12,178,715	1,732.38	4.45	\$31,308	\$10,436	\$2,343

Professional & Technical Services ranked second highest in terms of the number of firms started, the contribution to the overall total payroll for the quarter, and was third in percentage of employment. With 50 new businesses, Professional & Technical Services supplied 13 percent of all new births in 2007 quarter 3. At over \$13 million the industry also made up 17 percent of the total payroll generated and with 185 employees, represented 11 percent of the quarter's new workforce. Accommodations & Food Services had a higher percentage of the total number of employees at 17 percent, or 288 workers.

The Educational Services & Health Care & Social Assistance industry showed itself to be quite influential in this last quarter of the study. With 35 new businesses, the industry constituted 9 percent of the total births. The industry generated a little more than \$10 million in payroll, or 13 percent of the total. In terms of employment, it was fourth highest with 177 employees or 10 percent of the new business workforce.

Once again the Mining & Utilities industry paid the highest average wage at \$4,575, with Professional & Technical Services falling as the next highest industry at \$3,456. The two lowest-paying industries were yet again Accommodation & Food Services, and Arts, Entertainment, & Recreation offering average monthly wages of \$617 and \$710 respectively.

Discussion

The dynamics of the business world are tumultuous and the environment in North Dakota is no exception. This being said, for those businesses wishing to begin operations in the state, statistics suggest they show a reasonable chance of survival. Of the two studies conducted on business dynamics, both found survival rates greater than 70 percent. For FY 2007, 75 percent of businesses made it past

730 days of operations. The results were slightly higher for FY 1998, which found that 78 percent of new businesses survived the two year mark.

The highest birth and death rate occurred in second quarter of 2007. This was consistent between both the 1998 study and the 2007 study. The seasonality of the quarter likely influenced this finding, as many seasonal businesses are likely to begin around this time. The high death rate which occurred during quarter two is not necessarily negative either. Many businesses that may be more seasonal in nature may actually choose to dissolve after completing a project and while that counted as a death in terms of the analysis, it doesn't necessarily mean that the entrepreneur was not capable of keeping the business going.

Through the period of the analysis, the new businesses contributed \$319 million to the state's economy. From quarter to quarter of the year studied, Construction consistently had the most births and largest share of the total payroll. Mining & Utilities offered the highest average wages. While the Accommodations & Food Services and Arts, Entertainment, & Recreation industries offered the lowest average wages, the analysis showed some of the highest numbers of employees.

Understanding the characteristics of new businesses that succeed and those that end can help provide valuable information on the business activities of the state. Based on this analysis it seems that North Dakota offers a quality location for beginning a new business and the state subsequently benefits greatly from entrepreneurs taking this risk. Although the risk is still present, it is calmed by such a high survivability rate. As businesses succeed they make it possible for the state to support other entities and a diverse economy offers strength and stability for years to come.