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Succession Planning and Perceived Obstacles and Attractions for Future Generations Entering Beef Cattle Production

Lee L. Schulz, Georgeanne M. Artz, and Patrick J. Gunn (Iowa State University)

ABSTRACT

This study provides valuable insights into cow-calf producer and feedlot operator succession plans for transferring cattle operations upon exiting the industry. Across both cow-calf producers and feedlot operators, about 50% expect to be raising cattle for 10 more years or less; however, about 39% of these producers do not have a succession plan in place. Cow-calf producers view a rural lifestyle, self-employment, working with livestock, and working with family as the biggest attractions to future generations entering beef cattle production. Cow-calf producers view environmental regulations, land tax policy, and expansion of corn and soybean acres as the biggest obstacles. Feedlot operators identified the same attractions as the cow-calf group; however, the highest-ranking obstacles were mostly different, except environmental regulations, and included work hours as well as labor availability and costs.

KEYWORDS

beef cattle, cow-calf, farm transition, feedlot, succession planning

INTRODUCTION

Given the current demographics of beef cattle producers in the United States, a significant turnover of productive assets will likely occur in the industry over the next decade. The 2012 Census of Agriculture reported that 35% of U.S. beef cattle and ranching and 28% of U.S. cattle feedlot principal operators are over the age of 64 (USDA NASS, 2014).[1] An additional 27% of beef cattle and ranching principal operators and 28% of cattle feedlot principal operators are between 55 and 64 years of age (USDA NASS, 2014). There are almost six times more beef cattle and ranching principal operators and over three times more cattle feedlot principal operators over 64 than under 35 (USDA NASS, 2014). Furthermore, these older producers account for over half of total U.S. cattle and calf sales—23% of sales are accounted for by principal operators (farming and other occupations) age 65 and over, and an additional 31% of sales are accounted for by principal operators age 55 to 64 (USDA NASS, 2014). As such, older producers who hold most of the equity will need to be involved in facilitating the transition to the younger generation (Tonsor & Schulz, 2015).[2] Yet, according to the 2015 Iowa Farm and Rural Life Poll, among farmers who plan to retire in the next 5 years, only 55% have identified a potential successor (Arbuckle & Baker, 2015). This is problematic. Although some farm transitions can occur successfully in 5 years or less, more realistically, farm transitions take 10 to 15 years to implement because of the large amount of assets to be transferred (Roerick, 2011). As many businesses fail when proprietors fail or refuse to plan for succession, these statistics are a major cause for concern (James, 1999).

Ensuring the transfer of economically viable farms to the next generation has implications for the future size and structure of the industry as well as

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for the rural economies that depend on agriculture. The pattern of succession impacts both the number of operations and the structure of the industry (Wheeler, Bjornlund, Suo, & Edwards, 2012). Larger, more profitable farms are more likely to have a successor in place (Kimhi & Nachlieli, 2001; Glauben, Petrick, Tietje, & Weiss, 2004), while operators of smaller farms lacking a successor are more likely to begin a process of disinvestment in their property once they near retirement in their late 50s (Mishra, Wilson, & Williams, 2009; Viira, Poder, & Varnick, 2009). Over time, this pattern results in fewer, larger, and more capital-intensive operations, creating a barrier to entry for beginning producers who do not inherit an existing farm.

As an operation manager or owner ages, he or she typically becomes more conservative and may be more likely to use shorter-term horizons in assessing investment opportunities (Tonsor & Schulz, 2015). This reduces the quantity and quality of used assets available to purchase, exacerbating the entry barrier for beginning producers who, lacking alternatives for used assets, will need to purchase new, more expensive, assets. This is not only true of physical assets in the business but may also apply to intangible assets, such as market relationships (e.g., packer-feeder relationships, direct marketing relationships) in place on existing farms that could be costly to redevelop if lost.

Policy makers have responded to the need to facilitate farm succession by providing targeted programs, particularly for beginning farmers (Niewolny & Lillard, 2010). However, information is needed on the obstacles and attractions perceived by the older generation of producers who are nearing retirement to target succession programs more effectively. An understanding of these producers' views of succession planning as well as their perceptions of obstacles and attractions for future generations entering beef cattle production is important, as it allows policy makers and educators to better develop programs based on a current and accurate understanding of factors that may restrict or support successful farm succession.

BACKGROUND AND PREVIOUS LITERATURE

Facilitating the successful transition of ownership to the next generation of producers is imperative to the vitality of the beef cattle industry. Farm and ranch succession presents a myriad of challenges not only to the new or incoming principal operator but also to the retiring operator. The tradition of passing shares down to younger generations within a family may enable a smooth succession (Pesquin, Kimhi, & Kislev, 1999; James, 1999). However, if a proper succession horizon is not observed, significant financial impediments can occur. This is particularly likely, as retirees often do not consult with external sources that can provide assistance with succession planning prior to giving up a principal operator role in the business (Duffy, Baker, & Lamberti, 2000).

Succession considerations are often driven by the principal operator's demand for a successor (Kimhi, 1997), which is usually motivated by the size and value of the operation. However, the size, value, and sustainability of an operation may be directly dependent on identification of a successor. Studies have documented that farms with an identified successor are more likely to invest in assets, new technology, and business development than those that do not have an apparent successor (Potter & Lobely, 1996; Mishra & El-Osta, 2007; Calus, Van Huylenbroeck, & Van Lierde, 2008; Viira, Poder, & Varnik, 2009; Inwood & Sharp, 2012). Furthermore, as each generation becomes further removed from the farm, perhaps due to years of aging operators not envisioning retirement for themselves (Baker & Epley, 2009; Kirkpatrick, 2013), the pool of beginning operator candidates who have the technical and tactical expertise, in addition to the necessary capital, to become principal operators themselves is shrinking.

Beef cattle production, especially cow-calf production, has traditionally been viewed as a low-capital, labor-intensive investment, but current economics do not support this. Currently, high asset values make the capital requirements unreachable for many young and/or beginning producers with limited equity and financial resources. High start-up costs and lack of available land to rent or buy are the primary obstacles faced by beginning farmers and ranchers (Ahearn & Newton, 2009). For example, from 2005 to 2015 U.S. pastureland asset value increased 80% (USDA NASS, 2016a), and U.S. pastureland cash rent increased 36% (USDA NASS, 2016b).

In various extension programming needs assessments, younger prefarm owners cite these start-up costs as the primary obstacle to farming, often resulting in off-farm income needed to supplement income streams (Gunn & Loy, 2015). In 2012, 65% of U.S. beef cattle and ranching principal operators worked at least 1 day off the farm, while 44% worked 200 or more days off the farm (USDA NASS, 2014). This was slightly lower for U.S. cattle feedlot principal operators, with 51% working at least one day off the farm, while 33% worked greater than or equal to 200 days off the farm (USDA NASS, 2014). The need to supplement farm income from off-farm sources may put beef cattle producers at a large disadvantage when it comes to recruiting new producers, as cattle production systems are typically distant from metropolitan areas that lend themselves to more diverse income opportunities.

The current demographic profile including producer age, an equity distribution skewed to older producers, and the need for off-farm employment is a cause for concern. However, the means by which to overcome these obstacles are not clear, based on currently available information. The objective of this study is to identify perceived obstacles and attractions to beef cattle production for the next generation so that improved policies and education can be developed to better facilitate transition.

SURVEY INSTRUMENT

Current beef cattle producers' plans for succession as well as perceived obstacles and attractions for future producers, as expressed in a survey of Iowa cow-calf producers and feedlot operators, form the basis of this analysis. These farm-level data have the unique advantage of allowing for a comparison across enterprise type.

Iowa is the fourth-largest cattle feeding state in the United States, marketing 1,780,000 head in 2015 (USDA NASS, 2016c), and is also the ninth-largest cow-calf state, with 940,000 beef cows as of January 1, 2016 (USDA NASS, 2016d). Iowa ranks number one in the production of corn and ethanol, which supplies distillers grains by-product for livestock feed (USDA ERS, 2015). This beef cattle and corn production combination provides a unique synergistic system that can lead to competitive economic advantages. However, this combination can also lead to challenges, such as competition for land and available labor supply. For example, the average size of an Iowa beef cattle and ranching operation is 167 acres, and the average size of an Iowa feedlot operation is 439 acres (USDA NASS, 2014). These are smaller than the U.S. averages of 544 acres for beef cattle and ranching operations and 866 acres for cattle feedlot operations (USDA NASS, 2014). From 2005 to 2015 Iowa pastureland asset value increased 218% (USDA NASS, 2016a), and pastureland cash rent increased 39% (USDA NASS, 2016b). These circumstances make the Iowa beef cattle industry an interesting demographic for exploring farm succession issues.

The Iowa beef cattle industry faces many of the same demographic challenges as the U.S. beef cattle industry. The 2012 Census of Agriculture reported that 50% of Iowa beef cattle and ranching and 43% of Iowa cattle feedlot principal operators are over the age of 54 (USDA NASS, 2014). Forty-six percent of total Iowa cattle and calf sales in 2012 were accounted for by principal operators (farming and other occupations) age 55 and over (USDA NASS, 2014). In 2012, 53% of Iowa beef cattle and ranching and 28% of Iowa cattle feedlot principal operators worked 200 or more days off the farm (USDA NASS, 2014). It is recognized that operating environments (e.g., weather, infrastructure utilization, technologies and production practices, etc.) may differ across states, in some cases impacting enterprise structure; thus, these data may not be fully generalizable to other regions of the country. However, many of the reasons for entering and exiting beef cattle production and the perceptions of obstacles and attractions future generations would likely be consistent, as the demographic profile is similar.

A mail survey was designed to obtain information from Iowa cow-calf producers and feedlot operators. The survey was vetted by the U.S. Department of Agriculture's National Agricultural Statistics Service, the Iowa Beef Center, the Iowa Cattlemen's Association, and independent beef producers to ensure that input from various stakeholders was considered prior to final approval and survey administration. The comprehensive survey included questions regarding various aspects of

cattle production, including demographics and current production and marketing practices, as well as questions regarding succession planning and what existing producers saw as the greatest obstacles and attractions for the state's cattle sector.[3]

The sample of producers was derived from the population of Iowa cow-calf and feedlot operations on the U.S. Department of Agriculture's National Agricultural Statistics Service list frame. For the cow-calf survey, all known operations with 200 or more head of beef cows were surveyed, and a stratified simple random sample of operations with 20 to 49, 50 to 99, and 100 to 199 beef cows in inventory were surveyed, resulting in a total survey sample size of 1,030. Similarly, for the feedlot operator survey all known operations with a capacity of 1,000 or more head of cattle on feed were surveyed, and a stratified simple random sample of operations with 100 to 199, 200 to 499, and 500 to 999 capacity of cattle on feed were surveyed, resulting in a total survey sample size of 1,010.

The survey, the accompanying cover letter, and a preaddressed stamped envelope were mailed on February 7, 2014, for the cow-calf producer survey and February 21, 2014, for the feedlot operator survey. Iowa State University, Iowa Beef Center, and USDA Agriculture Counts logos were used on the stationery items. No incentive was offered to producers to respond to the survey. A postcard was sent to remind respondents to complete the survey two weeks after the initial mailing. Two weeks after the reminder postcard, a second letter with another copy of the survey and a preaddressed stamped envelope was sent to nonrespondents. Follow-up phone calls to nonrespondents from the lowest strata were made from April 15, 2014, to April 30, 2014, to reduce the nonresponse rate.

Of the 1,030 cow-calf producer surveys distributed, 27 were returned by the U.S. Postal Service with the address unknown, and 243 were returned with responses (24.2% effective response rate). Of the 1,010 feedlot operator surveys distributed, 12 were returned by the U.S. Postal Service with the address unknown, and 200 were returned with responses (20.0% effective response rate). However, several surveys were only partially completed. For the questions used in this analysis, 215 cow-calf producer and 185 feedlot operator usable surveys were available.

DATA

Weighting Procedure

Because of the stratified sample design, respondents in each of the different groups had known but unequal probabilities of inclusion in the sample (although within a category, every respondent had the same probability of inclusion). The unequal probability of selection in the statistical analysis was accounted for through poststratification weights based on population totals from the 2012 Census of Agriculture. For the cow-calf producer responses the number of farms with beef cows were used, and for the feedlot operator responses the number of farms with cattle on feed sold were used (USDA NASS, 2014). These variables were used because they are likely to be highly related to producers' demographics and production practices.

Weights for the cow-calf producer responses were created by dividing the frequency of Iowa cow-calf operations in each of the size categories (farms with 1 to 9, 10 to 19, 20 to 49, 50 to 99, 100 to 199, 200 to 499, 500 to 999, 1,000 to 2,499, and 2,500 or more beef cows) by the fraction of cow-calf operations in the survey sample that fell in each of the size categories. Weights for the feedlot operator responses were created by dividing the frequency of Iowa feedlot operations in each of the size categories (farms with 1 to 99, 100 to 199, 200 to 499, 500 to 999, and 1,000 or more head marketed) by the fraction of feedlot operations in the survey sample that fell in each of the size categories.

To illustrate the effect of the weights on results, Table 1 reports unweighted and weighted means and standard deviations of the profile of respondents. Because the weighted statistics are more reflective of the actual population and corrected imbalances in sampling ratios from the general population to the sample, all results reported in the remaining analysis use the derived weighted data.

Demographic and Succession Planning Characteristics

Similar to the average age of U.S. cattle producers, producers responding to the survey were on average in their late 50s. Roughly 90% of producers have more than 20 years of experience in raising

Table 1. Demographic Profile of Cattle Producers Surveyed, 2014.

Item	Unweighted[1]		Unweighted[2]	
	Cow-Calf (n = 215)	Feedlot (n=185)	Cow-Calf (n = 215)	Feedlot (n=185)
Operator age, mean (std. dev.)	59.1 (11.7)	56.1 (11.3)	58.9 (12.4)	57.1 (11.3)
Years of experience, % of producers				
Less than 1	0.0	0.6	0.0	1.5
1–5	0.0	0.6	0.0	0.1
6–10	0.5	2.8	1.5	2.4
11–15	1.9	3.9	3.5	2.6
16–20	4.2	4.4	4.5	5.2
21–25	6.1	9.3	8.0	8.0
26–30	7.9	9.9	6.7	8.3
31–35	12.5	12.6	15.5	12.2
36–40	13.6	17.0	10.5	18.6
41 or more	53.7	39.0	49.8	41.1
Expected years of production, % of producers				
Less than 1	2.3	0.5	5.7	1.5
1–5	18.1	11.9	20.3	17.4
6–10	22.3	28.1	22.6	33.0
11–15	18.6	14.1	13.5	9.5
16–20	13.0	17.3	15.1	16.0
21–25	8.8	9.7	9.1	9.8
26–30	6.1	6.5	6.3	4.6
31–35	2.3	6.0	2.1	2.9
36–40	4.2	1.6	1.8	3.0
41 or more	4.2	4.3	3.4	2.4
Years of education, % of producers				
High school	45.5	40.4	50.7	41.4
Technical training	10.8	13.7	18.3	17.4
Attended college, no Bachelor's degree	16.9	17.5	7.8	16.1
Bachelor's degree	21.6	25.7	21.4	23.1
Graduate or Professional degree	5.2	2.7	1.9	2.0
Beef cows, mean (std. dev.)	202.3 (238.0)	N/A	81.1 (104.7)	N/A
Fed cattle marketed, mean (std. dev.)	N/A	1,647.3 (2,364.0)	N/A	420.4 (1,147.2)

[1] Sample means before application of weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.
[2] Means calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.

Table 2. Producers' Encouragement of an Heir and Willingness to Work with a Non-Family Member to take over Ownership of the Cattle Operation.[1]

		If you have an heir (e.g., son, daughter, grandchild, in-law, other relative) to take over the cattle operation, are you encouraging them to do so?			
		Yes		No	
Would you be willing to work with a non-family member if an heir is not present or interested in entering cattle production?	Yes	Cow-calf 29%	Feedlot 44%	Cow-calf 11%	Feedlot 10%
	No	Cow-calf 33%	Feedlot 28%	Cow-calf 27%	Feedlot 18%

[1] Frequencies calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers. Frequencies rounded to the nearest whole number.

beef cattle. Not surprisingly, given the average age of producers, 49% of cow-calf operators and 52% of feedlot operators expect to exit the profession within the next 10 years.

To understand a producer's demand for a successor, we asked survey participants "If you have an heir (e.g., son, daughter, grandchild, in-law, other relative) to take over the cattle operation, are you encouraging them to do so? YES or NO." And subsequently we asked participants "Would you be willing to work with a nonfamily member if an heir is not present or interested in entering cattle production? YES or NO." Responses to these questions are summarized in Table 2. Twenty-nine percent of cow-calf producers and 44% of feedlot producers have encouraged an heir to take over the cattle operation but are willing to work with a nonfamily member if an heir is not present or interested in entering cattle production. On the other hand, 33% of cow-calf producers and 28% of feedlot operators have encouraged an heir but are not willing to work with a nonfamily member. Twenty-seven percent of cow-calf producers and 18% of feedlot operators have not encouraged an heir and are not willing to work with a nonfamily member. Only about 10% of both cow-calf and feedlot owners have not encouraged an heir but are willing to work with a nonfamily member. For those producers encouraging an heir and/or not willing to work with a nonfamily member, timeliness of succession is imperative. Mishra, El-Osta, and Johnson (2004) show that as operator age increases, the probability of family succession shrinks relative to both the probability of nonfamily succession and exiting farming.

It would be expected that having a succession plan for transferring a cattle operation upon exiting the industry is likely related to the current operator's horizon of expected remaining years raising beef cattle. Across both cow-calf producers and feedlot operators approximately 50% expect to be raising cattle for 10 more years or less (Table 3). However, a significant number of producers with relatively short time horizons do not have a succession plan. Thirty-eight percent of the cow-calf producers and 39% of the feedlot operators who expect to be raising cattle for 10 more years or less do not have a succession plan in place. This is particularly alarming, as a realistic time frame for farm succession is 10 to 15 years in many instances (Roerick, 2011).

The survey also asked producers to indicate the degree to which each of 17 different factors were perceived as an obstacle or attraction for future generations entering cattle production on a five-point Likert scale (1 = Major Obstacle, 2 = Obstacle, 3 = Neutral, 4 = Attraction, 5 = Major Attraction). Factors included lifestyle considerations such as "work with family" and "rural lifestyle," policy factors such as "environmental regulations," and cost and input availability factors such as "feed availability and costs" and "market access." Figure 1 illustrates ranking of the mean responses for cow-calf producers and feedlot operators. Cow-calf producers said that they view rural lifestyle, self-employment, working with livestock, and working with family as the biggest attractions. The biggest perceived obstacles for future generations among cow-calf producers were environmental regulations, land tax policy, and expansion

Table 3. Succession Planning by Expected Years to be Raising Cattle.[1]

	Cow-Calf				Feedlot			
Expect to raise cattle	≤10 years		>10 years		≤10 years		>10 years	
	49% (n = 104)		51% (n = 110)		52% (n = 96)		48% (n = 89)	
Type of Succession Plan:	N	%	N	%	N	%	N	%
Transfer to next generation or secondary operator	42	40	36	33	55	57	42	47
Transfer to outside established or beginning producer	7	7	0	0	0	0	2	2
Sell cattle and use land for other purposes	16	15	3	3	4	4	4	4
No Plan	39	38	70	64	37	39	41	47
Total	104	100	110	100	96	100	89	100

Note: One cow-calf respondent was not included in this analysis because they responded "Other" without further explanation to the question: "Is there a succession plan for transferring your cattle operation upon exiting the industry?"

[1] Frequencies calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers. Frequencies rounded to the nearest whole number.

of corn and soybean acres. Feedlot operators identified the same attractions as the cow-calf group; however, the highest-ranking obstacles were mostly different, except environmental regulations, and included work hours as well as labor availability and costs. These findings are consistent with a similar survey of North Dakota beef cattle producers (Dahlen, Hadrich, & Lardy, 2013).

The perceived barrier of land tax policy is not surprising among cow-calf respondents due to the land traditionally needed for grazing purposes within this sector. Current tax laws provide an incentive for individual farm owners to hold their land without passing it on (Parsons et al., 2010). Moreover, the perceived barrier of environmental regulations across both cow-calf and feedlot respondents was not completely surprising given increased monitoring of open feedlots by the Department of Natural Resources and the Environmental Protection Agency (U.S. Environmental Protection Agency, 2013) and pending legislation associated with the Clean Water Act and the Waters of the U.S. at the time of survey distribution.

EMPIRICAL ANALYSIS

Further analysis sought to examine differences in the degree to which producers perceive factors as obstacles or attractions for future generations of cattle producers. Cross-tabulations were used to compare responses by type of operation and by whether they have a succession plan in place. For example, of interest is whether those who have a succession plan in place are more or less optimistic about the future relative to those who do not have a plan. Differences among producers who are encouraging an heir or not and among producers who expect to raise cattle for 10 more years or less and those expecting to raise cattle more than 10 years were also examined. To determine statistically significant differences across categories in cross-tabulations, a difference-in-means test (*t*-test) was used.

RESULTS AND DISCUSSION

With and Without a Succession Plan

No statistical differences in any of the obstacle/attraction factors were noted between cow-calf producers that do and do not have a succession plan (Figure 2). However, feedlot operators with a succession plan have higher average ratings for most lifestyle factors (i.e., work hours, rural lifestyle, and self-employment) than do operators without a succession plan. Conversely, those without a plan are somewhat more negative about cost share programs (e.g., Environmental Quality

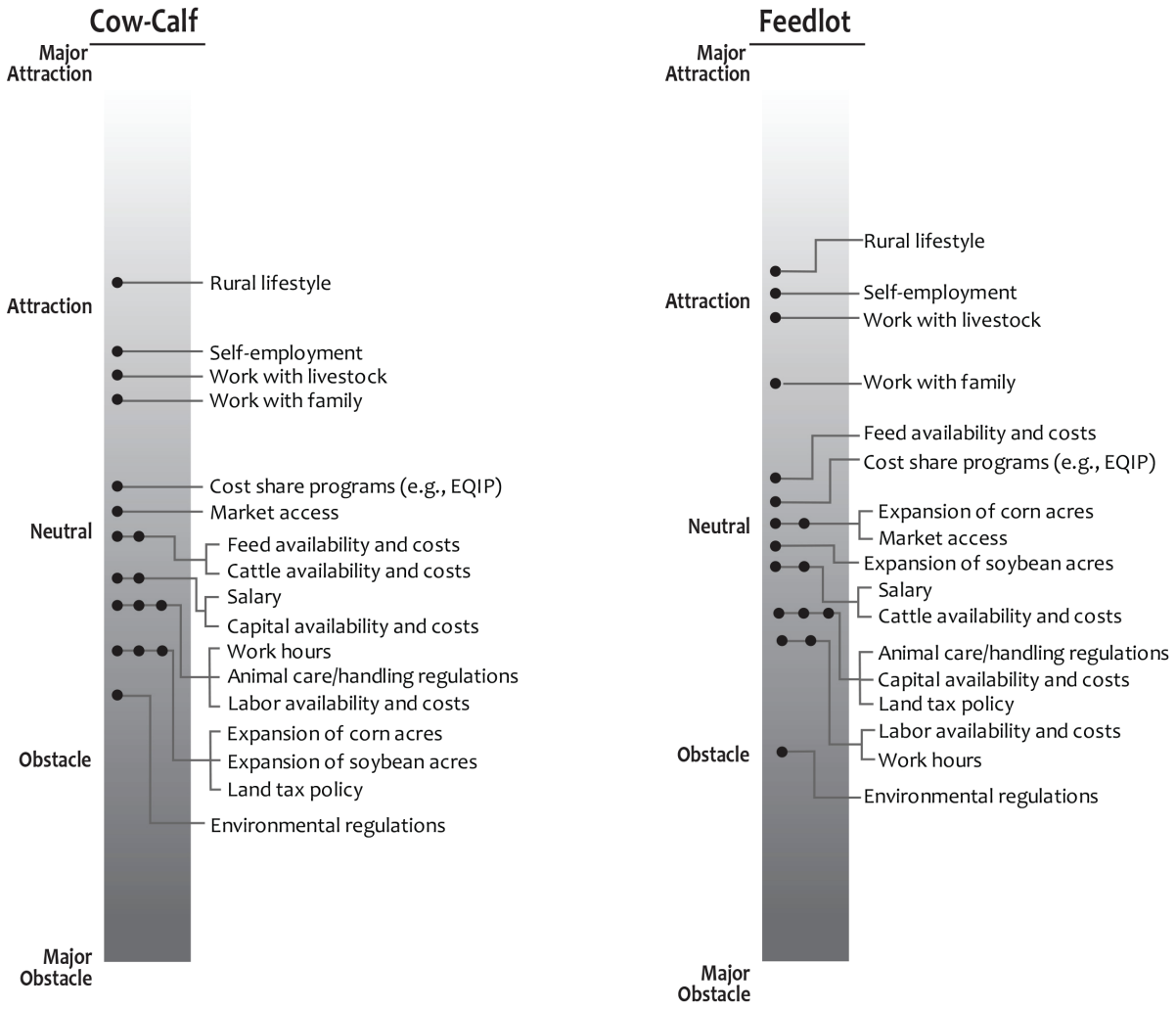

Figure 1. Perceived obstacles and attractions for future generations enbtering cattle production.[1,2]

[1] A five-point Likert scale was used for the degree to which each of seventeen different factors were perceived as an obstacle or attraction for future generations entering cattle production, with 1 = Major Obstacle, 2 = Obstacle, 3 = Neutral, 4 = Attraction, 5 = Major Attraction.

[2] Means calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.

Incentives Program [EQIP]) than are those with a succession plan. Several federal and state programs are available to help offset or finance some of the cost associated with feedlot facility design and construction. Those with a succession plan may have been more likely to utilize these programs because they had an apparent successor, thereby enabling them to be more progressive and use longer horizons in assessing investment opportunities.

Feedlot operators without a plan are also more pessimistic about capital availability and costs as well as labor availability and costs than those that have a succession plan. These results are similar to the 2004 Iowa Farm and Rural Life Poll, where regardless of farm type, 57% of survey respondents would not encourage young people to enter farming, citing capital cost and labor as two of the top five reasons (Lasley, 2005).

Comparisons between type of operation and producers with a plan show some notable differences. Feedlot operators view self-employment and working with livestock as more attractive factors than do cow-calf producers and also rank environmental regulations more negatively than do cow-calf producers. Conversely, cow-calf producers view feed availability and costs and expansion

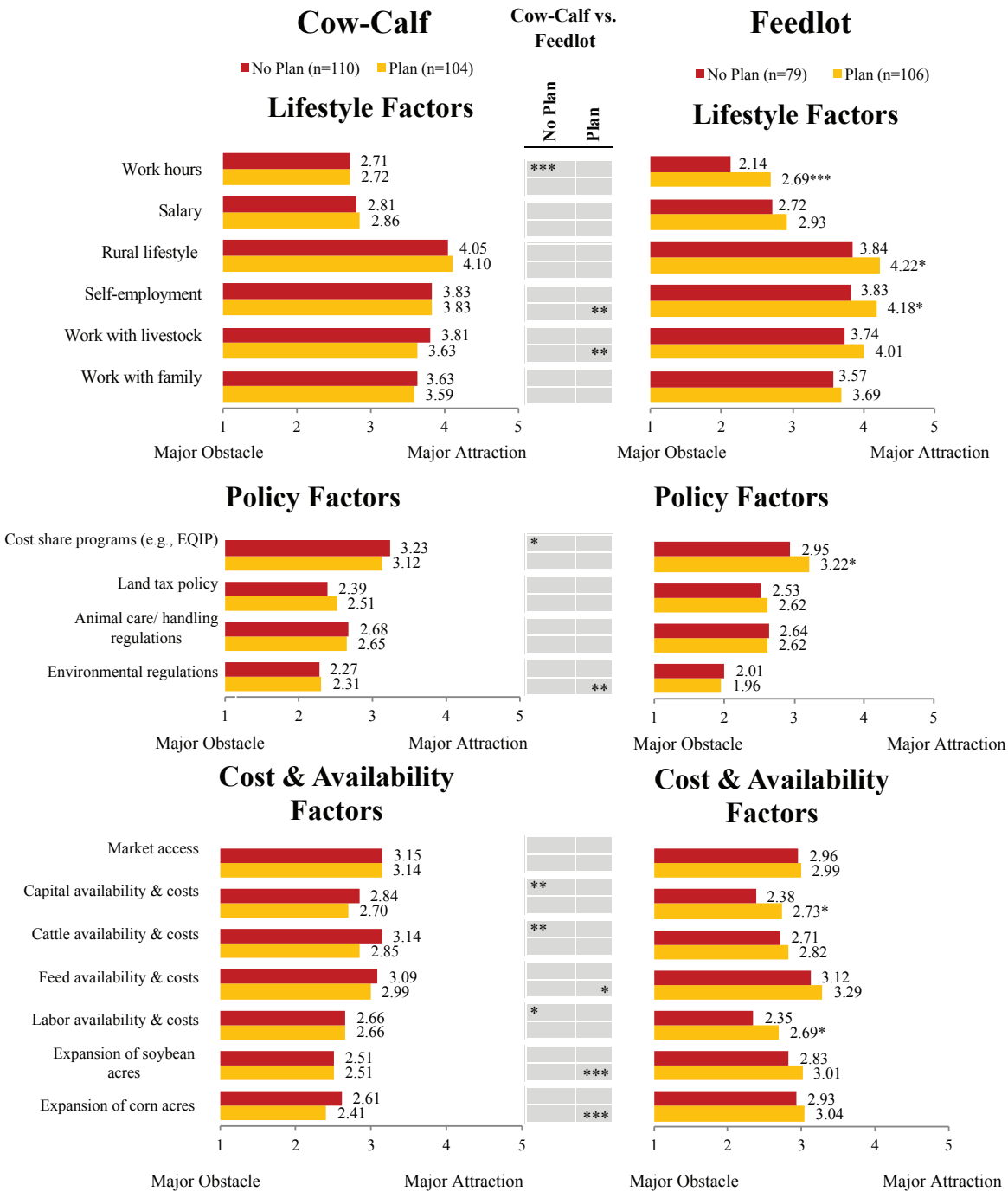

Figure 2. Comparison of producers with and without a succession plan.[1,2,3]

Note: One cow-calf respondent was not included in this analysis because they responded "Other" without further explanation to the question: "Is there a succession plan for transferring your cattle operation upon exiting the industry?"

[1] A five-point Likert scale was used for the degree to which lifestyle, policy, and cost and availability factors were perceived as an obstacle or attraction for future generations entering cattle production, with 1 = Major Obstacle, 2 = Obstacle, 3 = Neutral, 4 = Attraction, 5 = Major Attraction.

[2] Means calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.

[3] Asterisks denote statistical significance of a difference-in-means test between the relevant groups: * significant at 10%; ** significant at 5%; *** significant at 1%.

of soybean and corn acres as more of an obstacle than do feedlot operators. Presumably this is due to increased row crop acreage coming at the expense of pasture acreage. According to a survey of Iowa cow-calf producers, the major competitor for buying or renting additional pasture or hay acres was conversion to row crop (Schulz, 2014a). This is further supported by the 21% reduction in total Iowa pasture acres between the 2007 and 2012 U.S. Censuses of Agriculture (USDA NASS, 2014). Acres of other pasture and grazing land in Iowa that could have been used for crops without additional improvement (commonly referred to as cropland or tillable pasture acres) decreased 73%, accounting for 91% of the reduction in total pasture acres (USDA NASS, 2014). Nationally, total pasture acres decreased 4% from 2007 to 2012, with cropland or tillable pasture acres decreasing 64% during this time (USDA NASS, 2014). These changes in pastureland acres likely impacted how, how much, and where cow-calf production took place, and continuation of this trend will likely have implications for future production.

Among producers who do not have a succession plan, feedlot operators consider work hours as well as labor availability and costs to be more of an obstacle than do cow-calf producers. This is not surprising given the amount of hired labor differences between these two sectors. In 2015, a survey conducted by the Iowa Cattleman's Association highlighted that only 49% of cow-calf operations had nonfamily employees, compared to 87% of feedlot operations. Moreover, only 24% of cow-calf operations had multiple nonfamily employees, opposed to 52% of feedlot operations (ICA, 2015a, 2015b).

It should also be noted that feedlot operators without a succession plan view cost share programs, capital availability and costs, and cattle availability and costs as bigger obstacles than do cow-calf producers without a succession plan. This capital and cattle availability and costs finding further supports claims about the importance of excess capacity in the feedlot sector and the impact on feeder-calf prices. As the size of the beef cowherd has declined with minimal change in total feedlot capacity, cattle feeders have faced increased competition to keep cattle in their feedlots. The resultant high feeder cattle placement prices and a lack of offsetting fed cattle price increases have been one of the leading factors of persistently negative returns in the cattle-feeding sector (Tonsor, 2015).

Encouraging an Heir or Not

Within operational type, cow-calf producers encouraging an heir are more positive about rural lifestyle, self-employment, and working with livestock and working with family than those not encouraging an heir (Figure 3). Those encouraging an heir are also less negative about animal care/handling regulations and more positive about cost share programs when compared to cow-calf producers not encouraging an heir. For feedlot producers, those encouraging an heir are more positive about self-employment and working with livestock and working with family and are also less negative about land tax policy than those feedlot producers not encouraging an heir.

Comparisons between type of operation and producers encouraging an heir again highlight notable differences. Cow-calf producers encouraging an heir are less negative about work hours and environmental regulations when compared to feedlot operators who are encouraging an heir. This work hours finding is likely a result of differences in frequency and duration of time allocated to these operations. Many feedlots deliver feed multiple times per day, 365 days per year, whereas cow-calf operations are traditionally more sporadic in the need for feed delivery and are less likely to handle animals on a daily basis. Cow-calf producers encouraging an heir are more negative about expansion of corn and soybean acres than feedlot operators, most likely due to the discrepancy in the amount and type of land conventionally required for these operations.

Similar to those cow-calf producers and feedlot operators who have encouraged an heir, cow-calf producers not encouraging an heir are more negative about expansion of corn and soybean acres than feedlot operators that are not encouraging an heir.

10 Years or Less Versus Greater Than 10 Year Horizon

For cow-calf producers, those with a short time horizon (≤10 years) view working with livestock

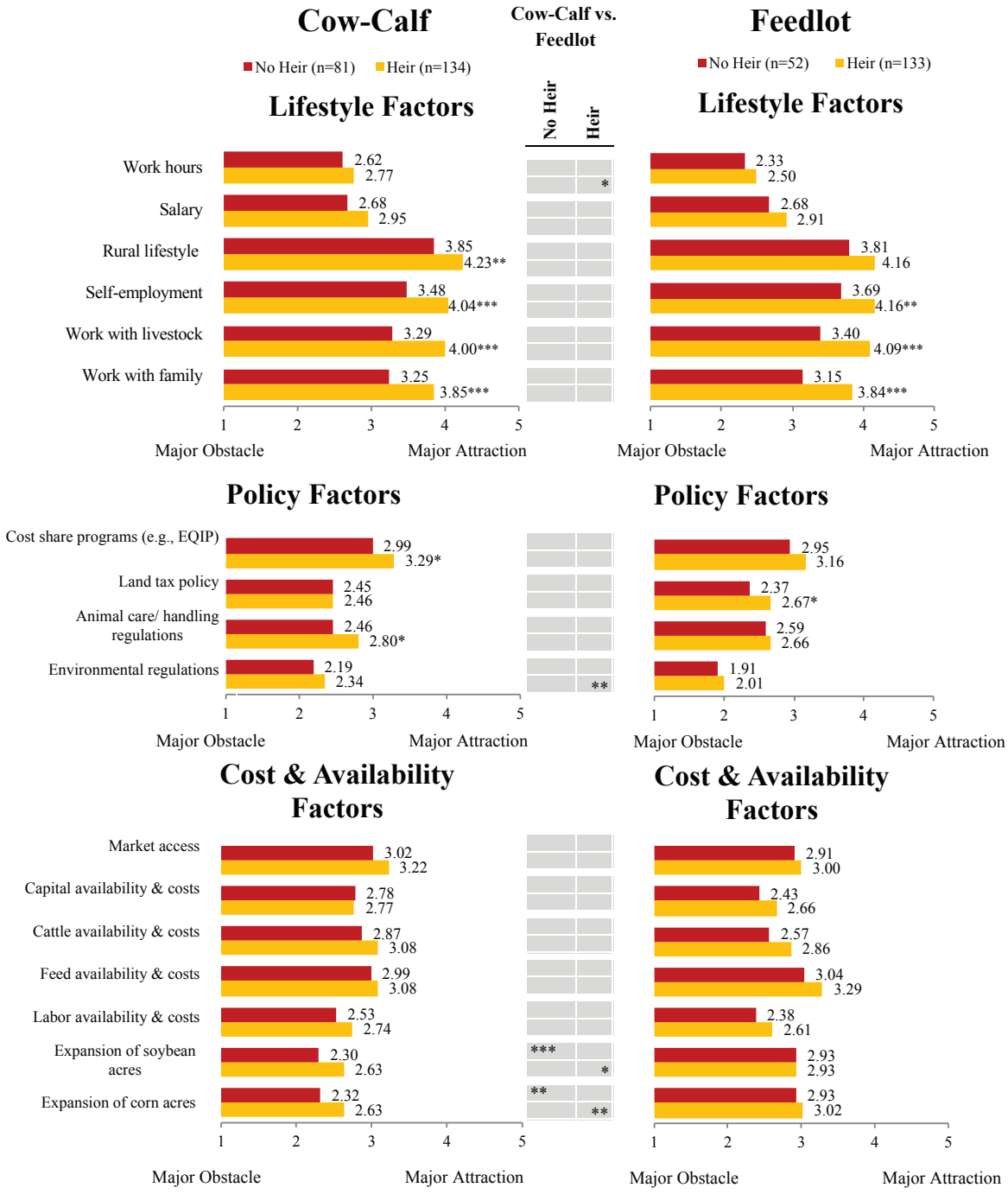

Figure 3. Comparison of producers encouraging an heir and not.[1,2,3]

[1] A five-point Likert scale was used for the degree to which lifestyle, policy, and cost and availability factors were perceived as an obstacle or attraction for future generations entering cattle production, with 1 = Major Obstacle, 2 = Obstacle, 3 = Neutral, 4 = Attraction, 5 = Major Attraction.

[2] Means calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.

[3] Asterisks denote statistical significance of a difference-in-means test between the relevant groups: * significant at 10%; ** significant at 5%; *** significant at 1%.

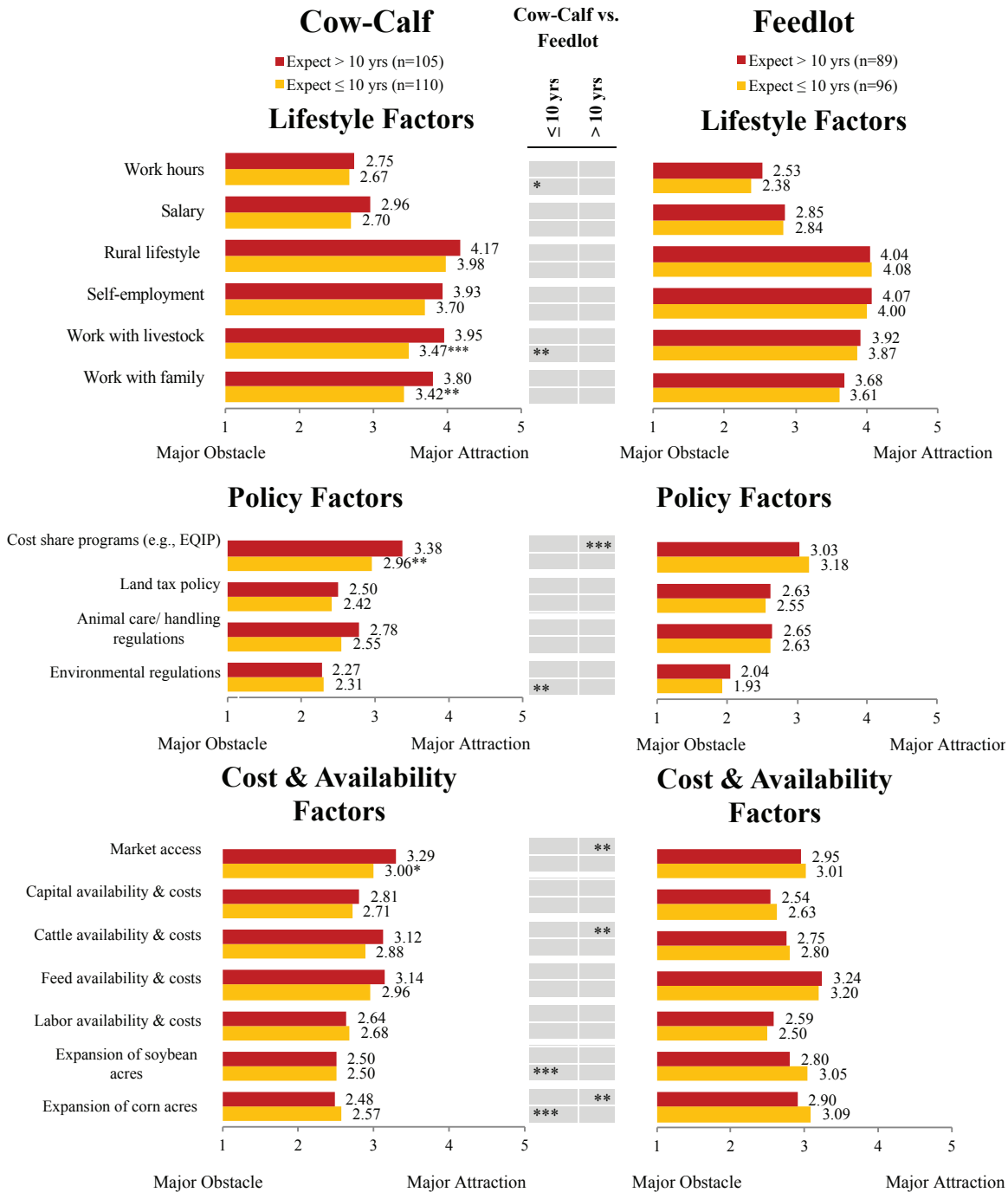

Figure 4. Comparison of producers expecting to raise cattle 10 more years or less and more than 10 years.[1,2,3]

[1] A five-point Likert scale was used for the degree to which lifestyle, policy, and cost and availability factors were perceived as an obstacle or attraction for future generations entering cattle production, with 1 = Major Obstacle, 2 = Obstacle, 3 = Neutral, 4 = Attraction, 5 = Major Attraction.

[2] Means calculated using weights that adjust sample characteristics to match NASS cow-calf and feedlot operation numbers.

[3] Asterisks denote statistical significance of a difference-in-means test between the relevant groups: * significant at 10%; ** significant at 5%; *** significant at 1%.

and working with family as less attractive than those with longer time horizons (>10 years) (Figure 4). Given the seasonality of labor intensity in cow-calf operations, it is not surprising that cow-calf producers with short time horizons view the livestock aspect more negatively. In particular, increased hours and potentially high-risk labor demands during calving season may make cow-calf operations less attractive among those with a short horizon. It should also be noted that cow-calf producers with a short horizon view cost share programs and market access less positively than do those with longer time horizons. For feedlot operators, no statistically significant differences on any of the factors for producers with a short (≤10 years) or long (>10 years) time horizon were identified.

Comparisons across type of operation and producers with differing time horizons highlight some notable differences. Among those with shorter horizons, feedlot operators view work hours more negatively and working with livestock more positively than do cow-calf producers. The labor issue was not surprising given that in a feedlot setting, cattle are typically managed on a daily basis. Furthermore, feedlot operators view environmental regulations as a greater obstacle, while cow-calf producers see expansion of corn and soybean acres as a greater obstacle.

Among those with longer horizons, cow-calf producers view cost share programs, market access, cattle availability and costs more positively than feedlot operators. However, cow-calf operators with longer horizons are more negative about expansion of corn than feedlot operators, which is again likely due to the greater land footprint needed to manage a cow-calf operation in comparison to a feedlot.

CONCLUSIONS

The future size and structure of the U.S. beef cattle industry will be determined by the individual decisions of over 740,000 cattle owners (USDA NASS, 2014) and their potential successors. With current demographics, including producer age and an equity distribution skewed to older producers, a large share of productive assets in the beef cattle industry will likely change hands over the next decade.

Public policy will influence how and to whom these assets will be transferred, which in turn will help shape beef cattle production for generations to come. This makes it crucial to explore and evaluate alternative policies so that policy makers, stakeholder groups, and educators can assess possible pathways of successful farm transition. As part of the foundation for this exploration, it is important to understand perceived obstacles and attractions for future generations and identify alternative strategies for addressing and embracing them. Given this improved understanding, targeted educational efforts and innovative approaches to succession plans could be developed.

There has been much discussion about the need to attract and encourage new entrants and successors into beef cattle production. Beef cattle production has several attractive lifestyle factors, such as rural lifestyle, self-employment, working with livestock, and working with family. Existing producers perceiving these as attractions for future generations are more likely to have a succession plan in place and to be encouraging heirs to take over the cattle operation. In many cases these perceived attractions may be significantly more important than generating income. This is consistent with an ideal of American farming, as discussed in Paarlberg (1964): "Farming is not only a business, but a way of life."

Despite these attractions, this study revealed a number of perceived obstacles and the differences between the obstacles that cow-calf producers and feedlot operators perceive for future generations. For example, among cow-calf producers the highest-ranking obstacles for future generations are environmental regulations, land tax policy, and expansion of corn and soybean acres. For feedlot operators, the highest-ranking obstacles were mostly different, except environmental regulations, and included work hours as well as labor availability and costs. Differences were further buttressed by whether there was a succession plan in place—existing producers encouraging an heir to take over the cattle operation—and the expected time horizon of production.

Previous research on farm succession has found that many of the most important factors affecting the succession decision, for example, farm size and structure of the household, are not readily amenable to policy (Glauben et al., 2009), while

others have suggested a role for policy (Wheeler et al., 2012; Mishra & El-Osta, 2008). While we also find that some factors, such as work hours, are not policy-relevant determinants of succession, this analysis does suggest a possible role for government policy to address perceived obstacles for future generations entering beef cattle production. Policies targeted at environmental regulations, competition for land, capital availability and costs, and land tax policy could help facilitate the intergenerational transfer of assets in the beef cattle industry in the coming years.

Producers' concerns about environmental regulations reflect increased pressures on the entire beef cattle industry to be proactive in its approach to protecting and improving soil, water, and air resources. Facility design and siting can greatly influence impact on environmental resources and the value of the manure to the operation. Changing economics are making the use of manure more cost-effective; aligning policies and educating producers on how to get the most benefit from their manure will be an important means of adding value within an operation while maintaining and improving environmental resources.

The perceived obstacle related to expansion of corn and soybean acres is just one facet of beginning farmers' challenges in accessing land. Access is affected by demand for land in competing uses and by government programs that reduce incentives to sell or rent land to others (Ahearn, 2011; Ahearn & Newton, 2009). Existing programs for beginning farmers often offer instruction in areas that meet the U.S. Department of Agriculture's Farm Service Agency (FSA) training requirements, such as business planning and production fundamentals. However, few of these programs address land acquisition issues or lease drafting and negotiation. Some beginning farmer and farm linking programs help entrants prepare to acquire land by discussing options and giving information they need to make sound choices. Too often, however, land acquisition is not adequately addressed in the planning process. This results in poor and sometimes very costly decisions (Parsons et al., 2010).

One program that does specifically address competition for land is the Transition Incentives Program provision in the Conservation Reserve Program (CRP). This program allows retired/retiring landowners to receive two years of extra CRP rental payments on CRP land that is returning to production if it is rented or sold to a beginning farmer or rancher or to a socially disadvantaged group that uses sustainable grazing practices, resource conserving cropping systems, or transitions to organic production (USDA FSA, 2016). Unfortunately, these mechanisms are not always well publicized or understood by the end users of the programs, inhibiting their effectiveness. More programs like this as well as improved collaborative education mechanisms between government agencies and extension are needed.

The concern regarding lack of capital availability and costs is consistent with high start-up costs, a primary obstacle for entry into farming. To address the potential financial challenges faced by beginning farmers, the USDA currently targets a specific percentage of funds for some programs to beginning farmers and ranchers. Most of the current assistance comes in the form of loans from the FSA and the independent Farm Credit System. Financial and technical conservation assistance is also provided by the Natural Resources Conservation Service.[4] These programs assist in an essential step in the farm transfer process, but to ensure long-term success producers also need assistance with the financial management aspects of their operations. Steps should be taken to improve the financial management acumen for both current and future producers. The ability of producers to grasp the profitability and overall risk situation and to manage risk is critical for farm succession and long-term business success.

The lack of retirement and succession planning cannot be fixed by purely technical advice or financial management education. On the one hand, tax and other incentives may address the common barriers that many producers identify as reasons to delay retirement and succession planning. Specifically, Kirkpatrick (2013) suggests providing tax incentives to owner-farmers who rent or sell assets to beginning farmers. There are state examples of this (in Iowa, Nebraska, and Wisconsin), and policy makers could consider expanding these incentives to the federal level.

On the other hand, tax laws can create obstacles to farm exits, as reflected in producers' perceptions of land tax policy as an obstacle to succession. According to Parsons et al. (2010), current tax laws provide an incentive for farm owners

to hold their land without passing it on. Under inheritance tax laws, property, including farmland, that goes through a will receives a step-up in basis that is extremely advantageous to the new owners. This action circumvents potential capital gains taxes. Capital gains tax law also provides an incentive for landowners not to sell farmland if it earns sizable rental income. If farm owners sell the property, they face potential capital gains tax. If the property is not sold, no tax is owed, and the property may continue to appreciate at compound rates. The bottom line with taxes is that the issue of taxes prevents some farmers from planning for a farm transition, while the reality is that the greatest impact of taxes is when no planning is done. To appease some of these issues, Kirkpatrick (2013) suggests possible policy such as (*a*) considering ways to mitigate the taxes in the first year(s) of retirement when farmers no longer have their usual farm expenses to offset taxable income, (*b*) allowing farmers higher yearly maximum investment limits for tax deductible retirement instruments and (*c*) providing a Social Security benefit incentive to farmers retiring earlier than their full retirement age rather than the current disincentive and coupling the incentive with a requirement that a next-generation/beginning farmer takes over the farm operation's management.

Future policy and educational efforts should be designed not only to encourage and assist beginning farmers entering beef cattle production but also to address long-run challenges and enhance their chances of surviving, prospering, and growing as viable farm operators. Surely, this is in part what existing cattle producers are referencing as obstacles for future generations entering cattle production.

A variety of factors affect entry and exit into beef cattle production, including the current market situation and outlook. The general volatile and uncertain environment may have changed the perspective of many producers. Specifically, producers have taken full note of how volatile feedstuff and cattle prices have been in recent years. Moreover, the broader geopolitical uncertainty on a global stage, domestic political and regulatory uncertainty, and debates that persist internally within and across industry segments all combine to create a net increase in uncertainty regarding prospects for future generations entering beef cattle production. Future research could further delve into the perceptions of the next generation, how they form these perceptions, and the potential implications for the future of the beef cattle industry.

NOTES

1. The beef cattle ranching and farming (North American Industry Classification System [NAICS] 112111) industry comprises establishments primarily engaged in raising cattle (including cattle for dairy herd replacements). The cattle feedlots (NAICS 112112) industry comprises establishments primarily engaged in feeding cattle for fattening (U.S. Census Bureau, 2013).

2. The terms "transition," "transfer," and "succession" are used interchangeably in this study.

3. Interested readers can find the full set of survey questions and responses in Schulz (2014a, 2014b).

4. For a complete description of these programs, see USDA's New Farmers website https://newfarmers.usda.gov/.

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