

THE ECONOMIC CONTRIBUTION FROM HORSES

ECONOMIC CONTRIBUTION FROM HORSES ... HIGHLIGHTS

- The horse industry contributes more than \$19 billion annually to the Canadian economy
- On-farm activities with horses generate 76,000 full-time jobs, at an average salary rate of \$29,884
- Off-farm activities with horses (racing and competition) generate 9,806 full-time jobs at an average salary rate of \$25,478
- The Canadian horse industry supports more than 154,000 jobs in Canada – one full-time job for every 6.25 horses in Canada

5. THE ECONOMIC CONTRIBUTION FROM HORSES IN CANADA

One of the primary objectives of this research study was to identify the economic contribution to the Canadian economy derived from the national horse industry.

The unique element of the horse industry is the economic contribution that it makes as both an agricultural production sector, and a sport-recreation activity sector. Livestock production in the context of the horse industry is production targeted to *use markets*. *Use markets* for horses include a wide range of market segments – working horses in ranching; horses for youth and adult amateur sport; high performance horses used for international sport and racing; and horses used for pleasure riding or leisure / recreational activities.

Horses contribute significantly to the Canadian economy in several sectors – the agricultural sector, amateur sport sector, entertainment sector (racing and other national / international equestrian sport competition), and the pharmaceutical sector. The challenge for determining the dollar value of this economic contribution lies in aligning industry activities and expenditures with accepted economic models for calculating economic impact (or economic contribution).

Based on the research completed for this study, within the estimated 963,500 horses in Canada in 2010, approximately 92% of the herd (880,000 horses) are considered by their owners to have another intended role in a specific *use market*. Determining the economic contribution of these horses in their respective *use markets* defines the majority of the economic contribution realized by the Canadian economy.

5.1. AN ECONOMIC ANALYSIS MODEL FOR THE HORSE INDUSTRY:

Horse production and their use impacts the economy through a variety of channels:

- Capital investment in stock, property improvements and equipment
- Annual expenditures for the care and feeding of horses
- Annual expenditures for replacement tack, equipment and property improvements
- Annual expenditures for training and showing horses



- Employment for Canadian residents
- Land dedicated for pasture or feed production for horses
- Travel expenditures for showing horses
- Wagering on live racing within Canada

The horse industry is unique amongst agricultural sectors in the degree to which economic contribution is realized. Economic impact is realized not only from those who directly participate, but also from a large spectator component for sport and racing events hosted by industry participants.

Economic theory presents a number of models for evaluating the economic and social benefit of activities within the economy, and between the various economic sectors.

One of the accepted economic models for calculating economic contribution is to measure change in economic activity (Gross Domestic Product) – through measuring the return on the use of land, labour and capital in the economy of a region or country. Analysis of the contribution for a specific industry measures the change in the GDP generated through the industry's activities (assuming that price is constant.) However, for economic sectors where voluntary and unpaid labour represents a significant contribution to the sector's activities, GDP falls short of accurately reflecting the sector's contribution.

This is clearly the case in the horse industry, where unpaid labour by family members to care for horses exceeds hired labour. For the horse industry, volunteers are responsible for the majority of labour needs for managing industry associations and horse show competitions.

An alternative model for assessing economic contribution looks to inputs and outputs from a particular sector or industry. This model adds together all final expenditures on goods and services by the industry – the *inputs* – and measures the multiplier effects of expenditures on the overall economic activity – the *outputs*. This is the model that the author has applied to calculate the overall contribution from the Canadian horse industry to the national economy.

The multiplier effect of expenditures applies the theory that every dollar spent on keeping a horse, or participating in a horse-related activity circulates and re-circulates within the economy, multiplying the effect of the original expenditures. In economic impact modeling, expenditures and their impacts are categorized into three categories:

Direct Economic Impact (Initial Effect) – the value of initial expenditures on products and services (cost of operations)

Indirect Economic Impact – representing the subsequent purchases of suppliers for materials and services to sustain the original expenditures (the

cost of producing the products or providing the services that are purchased as direct expenditures), and

Induced Impact – generated by workers in the sector who spend additional incomes on consumer goods and services

For the purposes of creating a comprehensive economic impact analysis for the horse industry, the author has used a model that applies the general concepts of the Expenditure Model, to evaluate data for three categories: horses, people and activities.

Horses – including annual expenditures for products and services used to produce and keep a horse, costs to train or prepare a horse for its intended *use market*, and related costs for maintaining the tack and equipment required for the intended *use market*.

People (Owners) – including annual expenditures for products and services required for maintaining facilities at which horses are produced, or kept.

Activities – including the costs of competition for the competitors: trailering / transport for horse shows or racing; food and accommodation for competitors; horse / rider preparation for competition, as well as expenditures for non-competing spectators of sporting events (food, accommodation, travel, etc.). In addition, for horse racing events, wagering on the event can be considered activity expenditure for spectators.

All expenditures for products and services are incurred by people: some expenditures are incurred by horse owners; some by industry participants in sport and competition (who may or may not be horse owners); and some are incurred by the spectators who attend racing or other sporting events.

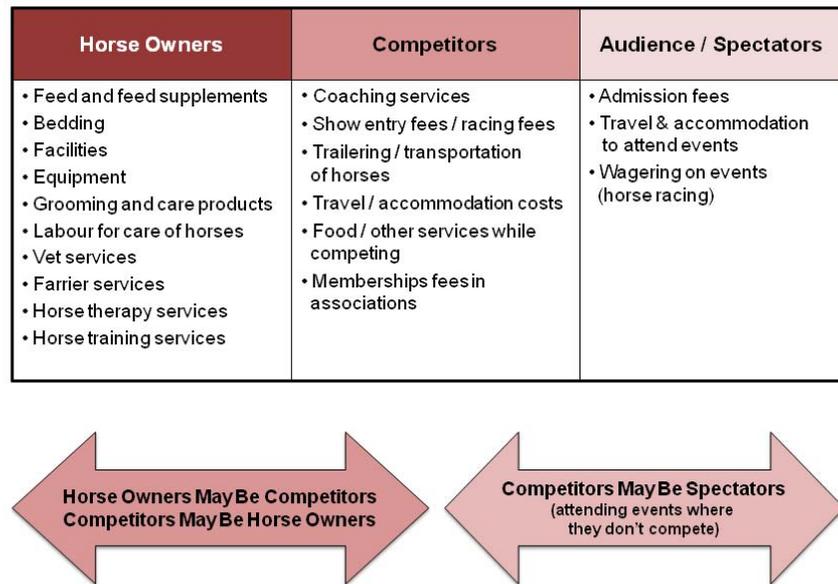
Those participating in the industry contribute to overall economic contribution at several different levels. For example, there is a subset of horse owners, competitors and industry service providers who regularly attend racing and sport events for entertainment. In this role, they provide a portion of the audience even when they are not, themselves, competing.

Industry participants (horse owners, competitors, coaches / trainers, etc.) incur some expenses when they act as spectators (or support) for children competing.

Those participating in racing, often form a key percentage of the spectators for horse racing. While an individual racehorse owner (or trainer or driver/rider) may not have an entry in a specific race, they are often active as spectators viewing the competition, and wagering on the result of the races.

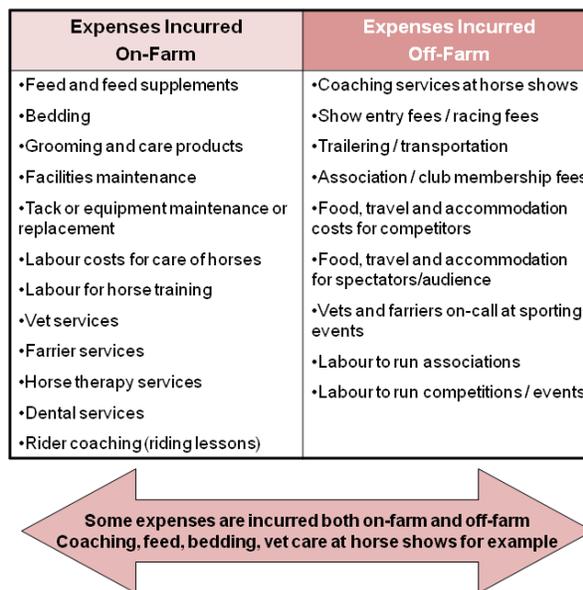
Figure 5.1 illustrates the categories of expenditures incurred by those participating in the industry.

Figure 5.1: Expenditure Categories Incurred By Owners, Competitors & Spectators



Some of the expenditures related to horses, ownership and activities with horses are incurred *On-Farm* (on the home farm property) – feed and care of horses for example. Some expenditures are incurred *Off-Farm* – horse show entry fees, travel and accommodation to participate in horse shows, etc.

Figure 5.2: Expenditure Categories On-Farm and Off-Farm



As identified in *Chapter 4: Costs of Ownership*, certain categories of expenditures are incurred on a *per horse* basis (feed, veterinarian services, farrier services, etc), and a *per owner* basis (property maintenance, membership fees and licenses, etc).

The *Expenditure Model* for economic impact analysis is based on identifying expenditures in three categories: direct expenditures, indirect expenditures, and the induced expenditures created by direct, and indirect expenditures.

For the purposes of applying the general concepts of the expenditure economic model for *Direct* → *Indirect* → *Induced Impact*, the author has assumed three key factors:

1) Profit does not enter the model.

For the typical horse owner, the economics of owning horses does not include room for profit. Therefore, in best case, horse show prize money and racing purses cover the expenses to participate.

Although there are some commercial operators in the horse show sector, the majority of horse show competitions are run on a not-for-profit basis, and the money that show operators receive in show fees and spectator expenditures are fully applied to the costs of operating the competition.

Like wise, while horse racing in Canada is structured as a for-profit business model, research indicates that profits reported from race track operations are largely subsidized by other on track gambling revenues such as slot machine revenues.

2) ON-FARM expenditures = DIRECT expenditures.

The direct economic impact for this model is realized by the money spent *On-Farm* to keep a horse, and the costs to maintain the property on which the horse resides. Values for these expenses are well quantified from survey interviews, and other available research resources.

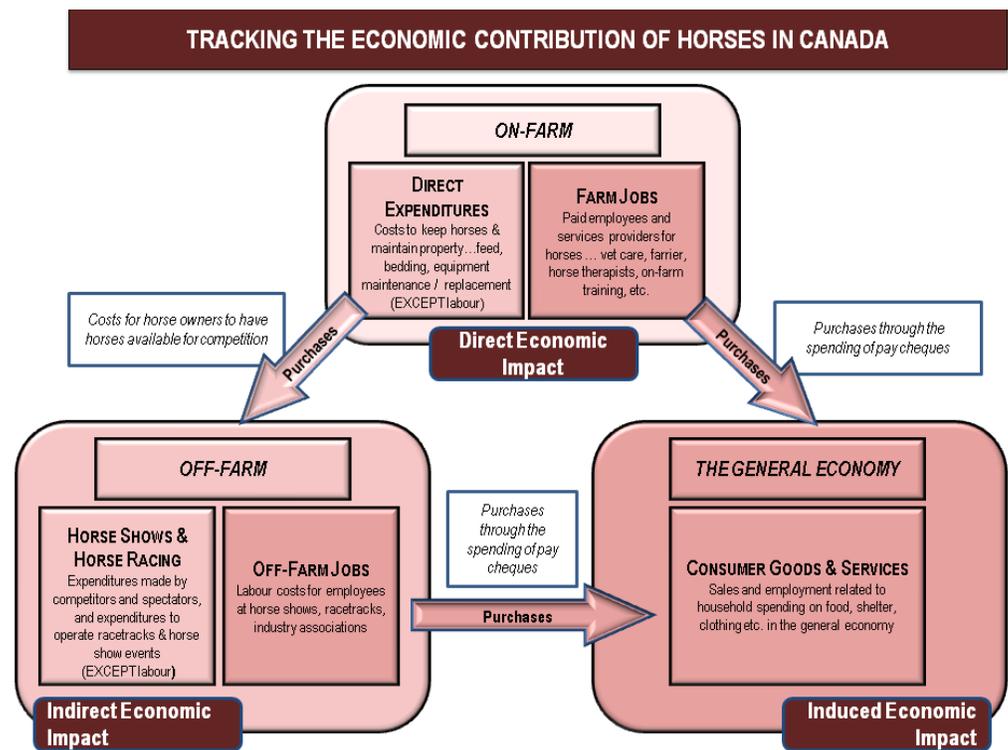
3) OFF-FARM expenditures = INDIRECT expenditures.

The indirect economic impact in this model is realized through activities with horses, such as competition, racing, and the costs incurred by the owner to participate in these activities. Additional indirect impact is contributed from the money spent by spectators attending racetracks, horse competition events and exhibitions. Spectator spending generates the funds to run the event, maintain event facilities, employ staff, and purchase required supplies and services, etc. Spectators and competitors also indirectly contribute to local communities where events are held, through expenditures on travel and accommodation to attend.

The *INDUCED Economic Impact* of *On-Farm* and *Off-Farm* activities is achieved when owners, farm employees, racetrack employees and horse show employees spend their pay cheques.

Figure 5.3 graphically represents the model.

Figure 5.3: Tracking the Economic Impact of Horses – the Model



The steps required to identify total economic contribution to the Canadian economy generated by the horse industry:

- Quantify *direct on-farm expenditures* – both cash expenditures and value of in-kind (non-cash) contributions
- Quantify *indirect off-farm expenditures* – both cash and non-cash contributions, and the induced employment generated
- Apply an appropriate multiplier factor to determine total economic contribution from the horse industry sector

5.2. DIRECT AND INDIRECT EXPENDITURES BY OWNERS, COMPETITORS

As outlined in the earlier part of this chapter, expenditures by owners and competitors, include cash (and non-cash) expenditures on products, services and other expenses such as membership fees, food and accommodation, labour costs to run associations and events, and wagering on horse racing.

These expenditures are incurred either *On-Farm* (for the care and husbandry of horses), or *Off-Farm* for horse related activities.

Figure 5.4 assigns expenditure categories for products, services and other expenses to *On-Farm* or *Off-Farm* – *Direct Expenditures* or *Indirect Expenditures* – for horse owners, competitors and spectators in the Canadian industry.

Figure 5.4: Allocation of Expenditures – Direct and Indirect

DIRECT EXPENDITURES ON-FARM		INDIRECT EXPENDITURES OFF-FARM	
Products	Services	Other Expenses	
<ul style="list-style-type: none"> •Feed and feed supplements •Bedding •Facilities maintenance •Tack or equipment maintenance or replacement •Grooming and care products 	<ul style="list-style-type: none"> •On-farm labour •Labour for horse training •Labour for coaching •Vet services •Farrier services •Horse therapy services •Dental services 	<ul style="list-style-type: none"> •Trailing and transportation costs •Show expenses •Track-based training services for racing 	<ul style="list-style-type: none"> •Membership fees •Food and accommodation •Labour to run associations •Labour to run competitions / events •Labour to run racetracks

For the purposes of calculating economic impact on expenditures, costs have been assigned to *On-Farm* or *Off-Farm* (*Direct* or *Indirect*) categories.

Table 5.1: Annual Direct Expenditures

Direct Expenditures (Annual) – On-Farm Expenditure Categories	% Invested	Number of Units	Average Expenditure Per Unit	Total Expenditure
Hay purchased	67%	691,536	\$700	\$484,135,507
Value of home-grown hay	47%	470,525	\$689	\$323,993,545
Non-forage feed purchased	76%	718,691	\$368	\$264,165,755
Value of home-grown feed	12%	22,131	\$341	\$7,536,733
Feed supplements purchased	71%	667,075	\$141	\$93,884,014
Bedding purchased	46%	485,625	\$235	\$113,991,474
Value of home-grown bedding	33%	254,185	\$154	\$39,152,348
Grooming and care products	90%	852,116	\$116	\$98,693,537
Purchase of tack	65%	144,129	\$582	\$83,891,797
Purchase of horse-related equipment	17%	35,576	\$1,150	\$40,896,924
Purchase of horse-related property improvements	66%	143,762	\$4,500	\$646,974,967
Veterinarian services and prescription drugs	62%	615,709	\$421	\$259,010,178
Non-vet equine dental services	9%	93,673	\$130	\$12,185,871
Farrier services	73%	759,693	\$311	\$236,061,752
Horse therapy services	8%	85,841	\$278	\$23,824,130
Horse training services	3%	35,502	\$2,095	\$74,362,533
Coaching services / riding lessons (adults)	37%	198,181	\$2,099	\$416,036,382
Coaching services (children)	65%	223,164	\$1,355	\$302,339,549
On-Farm paid labour				\$957,380,384
Value of non-cash labour				\$4,839,125,536
Total Direct Expenditures				\$9,317,642,916

Table 5.2: Annual Indirect Expenditures

Indirect Expenditures (Annual) – Off-Farm Expenditure Categories	% Invested	Number of Units	Average Expenditure Per Unit	Total Expenditure
Trailing and transportation services purchased	23%	52,539	\$1,687	\$88,651,367
Value of owner-trailing	59%	130,535	\$1,359	\$177,431,061
Show expenses -- adult competitors	33%	167,666	\$2,303	\$386,063,530
Show expenses -- children competing	67%	233,210	\$2,269	\$529,080,314
Nomination/sustaining fees horseracing	8%	16,820	\$5,008	\$84,229,929
Off-Farm (or track-based) training services	2%	4,538	\$5,399	\$24,500,748
Membership fees	96%	217,993	\$244	\$53,273,957
Food, travel and accommodation -- children competing	67%	233,210	\$330	\$76,866,598
Food -- competitors	33%	167,666	\$218	\$36,541,092
Travel and accommodation -- competitors	33%	167,666	\$389	\$65,292,642
Food, travel and accommodation -- racing participants	8%	16,820	\$996	\$16,757,739
Value of association full-time employment				\$24,332,200
Value of horse show/event paid employment				\$39,748,500
Value of event volunteer labour				\$79,790,212
Value of Racetrack full-time employment				\$161,260,000
Expenditures for Racetrack Operations				\$90,604,612
TOTAL INDIRECT EXPENDITURES				\$1,934,424,501

Where estimated values have been included in Table 5.1 and 5.2, estimates have been based on the reported dollar expenditure for the same unit, as reported in the survey by those who made a cash expenditure for the same product or service. The rate-of-pay used to estimate the value of volunteer labour, or the contribution of labour by family members for the care of horses, is based on the wage-rates reported by those who purchased labour services (either associations with paid staff, or horse owners who employed paid staff).

Expenses for racetrack operations have been estimated based on the assumption that commissions earned from wagering on races provide the revenue to cover labour costs for racetrack employees, as well as track operations costs for horse racing. The value used to estimate expenditures for racetrack operations has been developed from the available data provided by the CPMA (Canadian Pari-Mutuel Agency) reporting the portion of wagering returned to associations, minus the estimated value of labour for racetrack employment.

Table 5.3 reports the equivalent full-time jobs (FTEs) in Canada supported by direct and indirect expenditures in the horse industry. The table reports an allocation of labour expense for volunteer (or unpaid) labour in certain categories. Volunteer labour has been calculated (and included) for horse show and event activities, for example, on the assumption that the event/activity would not occur without the

ECONOMIC CONTRIBUTION FROM HORSES

contribution of volunteer time. Without volunteers, the economic contribution from the activity would be zero.

Volunteer time contributed to the administration and management of industry associations has not been included in these calculations. While there is a considerable contribution of volunteer labour each year (for work on association Boards, committees, etc.), it is the author's opinion that a high percentage of this type of volunteer work is related to policy development, and other association business. As such, it is not directly related to the activities that contribute to the overall economic value from the sector.

For the purposes of calculating induced employment (resulting from direct and indirect employment expenditures), only the value of paid employment has been included in the calculations.

Table 5.3 Equivalent Full-Time Jobs (FTEs)

ON-FARM (DIRECT) EXPENDITURES FOR LABOUR – PAID EMPLOYMENT	NUMBER OF FTE JOBS	TOTAL LABOUR EXPENDITURE
On-farm care of horses	33,858	\$957,380,384
Horse training On-Farm	7,382	\$74,362,533
Rider coaching	23,292	\$718,375,931
Service providers (farriers, therapists, vets)	11,802	\$531,081,931
TOTALS	76,334	\$2,281,200,779
Unpaid employment On-farm care of horses	163,376	\$4,839,125,536
TOTALS DIRECT LABOUR EXPENDITURE (Paid and Unpaid)	239,710	\$7,120,326,315
OFF-FARM (INDIRECT) EXPENDITURES FOR LABOUR – PAID EMPLOYMENT	NUMBER OF FTE JOBS	TOTAL LABOUR EXPENDITURE
Full time jobs at racetracks (estimated)	3,622	\$161,260,000
Club/association administration	416	\$24,332,200
Event management and coordination	748	\$39,748,500
Horse training at racetracks (Off-Farm)	5,020	\$24,500,748
TOTALS	9,806	\$249,841,448
Unpaid employment Event Management and coordination	238,141	\$79,790,212
TOTALS IN-DIRECT LABOUR EXPENDITURE (Paid and Unpaid)	247,947	\$329,631,660



On-farm activities with horses generate the equivalent of 76,000 full-time jobs in Canada, at an average annual salary rate of \$29,884



Off-farm activities with horses generate the equivalent of 9,806 full-time jobs in Canada, at an average annual salary rate of \$25,478.



On-Farm activities with horses (*direct* expenditures in this model), generate the equivalent of 76,334 paid full-time jobs in Canada, at an annual salary rate of \$29,884 per year. Off-Farm activities with horses (*indirect* expenditures) generate the equivalent of 9,806 paid full-time jobs in Canada, at an average annual salary rate of \$25,478 per year.

Table 5.4 calculates FTE (equivalent to full-time jobs) generated as induced employment – jobs generated by the spending of earnings by those employed

The Canadian horse industry supports more than 154,000 full-time jobs ... one full-time job for every 6.25 horses in the country.

On-Farm and *Off-Farm*. This calculation uses a factor of 1.91 to calculate the induced employment generated – the Employment Factor identified for primary agriculture production by Agriculture and Agri-food Canada (AAFC). For every job created On-Farm and Off-Farm, an additional .91 jobs are created as a result of their induced impact.

Table 5.4: Induced Employment Resulting from Direct and Indirect Labour Expenditure

Induced Employment – Resulting From Direct and Indirect Labour Expenditures	Number Of FTE Jobs	Value Of Induced Employment
Induced Employment through Direct On-Farm Labour Expenditures	69,464	\$2,075,870,454
Induced Employment through Indirect Off-Farm Labour Expenditure	8,923	\$227,345,341
Total Induced Employment	78,387	\$ 2,303,215,795

The Canadian horse industry supports more than 154,000 full-time jobs in Canada -- the equivalent of one full-time job for every 6.25 horses in the country. In addition, work equivalent to 400,000 full-time jobs is generated by unpaid/volunteer labour in the industry each year.

The Canadian horse industry generates \$13.5 billion in annual expenditures for production, care and activities with horses.

5.3. TOTAL ECONOMIC IMPACT AND MULTIPLIER EFFECTS

The total economic contribution from the horse industry to the national economy can be calculated through adding together the three levels of inputs – Direct Expenditure + Indirect Expenditure + Induced Expenditure – and applying a Multiplier Factor to the resulting total.

Table 5.5 reports total expenditures for the three categories of inputs.

Table 5.5 Total Input Expenditures

EXPENDITURES (DIRECT, INDIRECT AND INDUCED)	EXPENDITURES EXCLUDING LABOUR	EXPENDITURES FOR LABOUR	TOTAL EXPENDITURES
Direct (<i>On-Farm</i>)	\$2,197,316,601	\$7,120,326,315	\$9,317,642,916
Indirect (<i>Off-Farm</i>)	\$1,604,792,841	\$329,631,660	\$1,934,424,501
Induced		\$ 2,303,215,795	\$2,303,215,795
TOTAL EXPENDITURE			\$13,555,283,212

The Canadian horse industry generates \$13,555,283,212 (\$13.5 billion) in annual expenditures for production, care and activities with horses.

In addition to the total expenditures generated by industry activities, each dollar spent in the province, has an additional ripple effect as it flows through the economy – \$1.00 spent at the grocery store, in turn generates additional expenditures (and

jobs) to produce the food purchased. Known as the *multiplier effect*, the value of this additional economic contribution is calculated by applying a multiplier factor to the different elements of expenditure. The multiplier factor is calculated using the following formula:

$$\frac{(\text{Direct Expenditure} + \text{Indirect Expenditure} + \text{Induced Expenditure})}{\text{Direct Expenditure}} = \text{Multiplier Effect (Factor)}$$

The calculated multiplier effect for the Canadian horse industry applies a factor of 1.45 – for every \$1 in expenditure an additional \$0.45 is generated. This calculation reports an additional annual economic contribution of \$6,099,877,445 (\$6.1 billion) generated by activities with horses.

The total annual economic contribution to the Canadian economy from horses and activities with horses is \$19,655,160,657 (\$19.6 billion).

The methodology used here to calculate total economic contribution does not include the impact of the significant contribution to government tax revenues resulting from activities with horses:

- Payroll taxes for paid employment
- Municipal tax revenues for land, facilities and business taxes for commercial operators within industry sectors
- Sales taxes generated on products and services purchased
- Federal taxes on income (from paid employment), corporate taxes on business operators, as well as significant contribution to GST revenues
- Total betting handle for racing in Canada in 2010 contributed more than \$11,623,419 in federal levies on betting, and \$51,756,703 in provincial taxes and levies

Horses are the only livestock industry sector in Canada for which GST is applied on livestock sales, as well as all products and services purchased for care and activities with horses. The horse industry contributes significantly to federal GST revenues. From the total expenditure reported in this chapter, GST contribution on *direct* and *indirect* expenditures would total approximately \$177,483,459 (\$177.5 million). For a large portion of the industry, this represents end-use contribution to GST. In addition to the \$177.5 million tax contribution to GST from direct/indirect expenditures for the care of horses, GST is also chargeable on the sale of horses – the only livestock species in Canada for which this is the case. In all provinces where GST is harmonized with provincial taxes (HST), the horse industry contributes the full HST value.

The challenge for the horse industry has always been in measuring the diverse range of activities that generate economic contribution. This analysis attempts to assign a value to this diversity – to measure the total financial contribution that horses in Canada make each year.

The total annual economic contribution to the Canadian economy from horses and activities with horses is \$19.6 billion.

Wherever possible, the author has based all estimates on available reported data for competitions and events, and on detailed data developed from the telephone research phase of the study. This analysis represents a conservative measurement of economic contribution. The approach to apply all *Off-Farm* expenditures on horses as *indirect* (as opposed to additional *direct* expenditures), generates a lower final impact than may otherwise be generated.

From the analysis, it is clear that horse ownership and activities with horses in Canada represent a significant economic contribution each year. The analysis illustrates that the horse industry's contribution is labour intensive and multi-sector. The impact of the contribution from the Canadian horse industry is realized in the agriculture sector, tourism sector, entertainment sector, pharmaceutical production sectors, as well as the recreation/leisure sector.