

PwC Strategy

# *The British Thoroughbred Breeding Industry: Economic Contribution & Opportunities (Volume 1)*

*Strictly private  
and confidential*

*25 March 2014*



**pwc**

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Dear Sir/Madam,

**Subject: Economic Contribution & Opportunities**

We report on the economic contribution and opportunities of the UK Thoroughbred breeding industry in accordance with our contract dated 9 August 2013 (Appendix 1).

This report, which comprises 2 volumes, has been prepared for the purpose of completing an Economic Impact Study on the UK Thoroughbred industry (volume 1) and an assessment of the future risks and opportunities for the industry in the context of the global horseracing industry (volume 2).

Our fieldwork was completed on 23 October 2013 and no further work has been performed since that date.

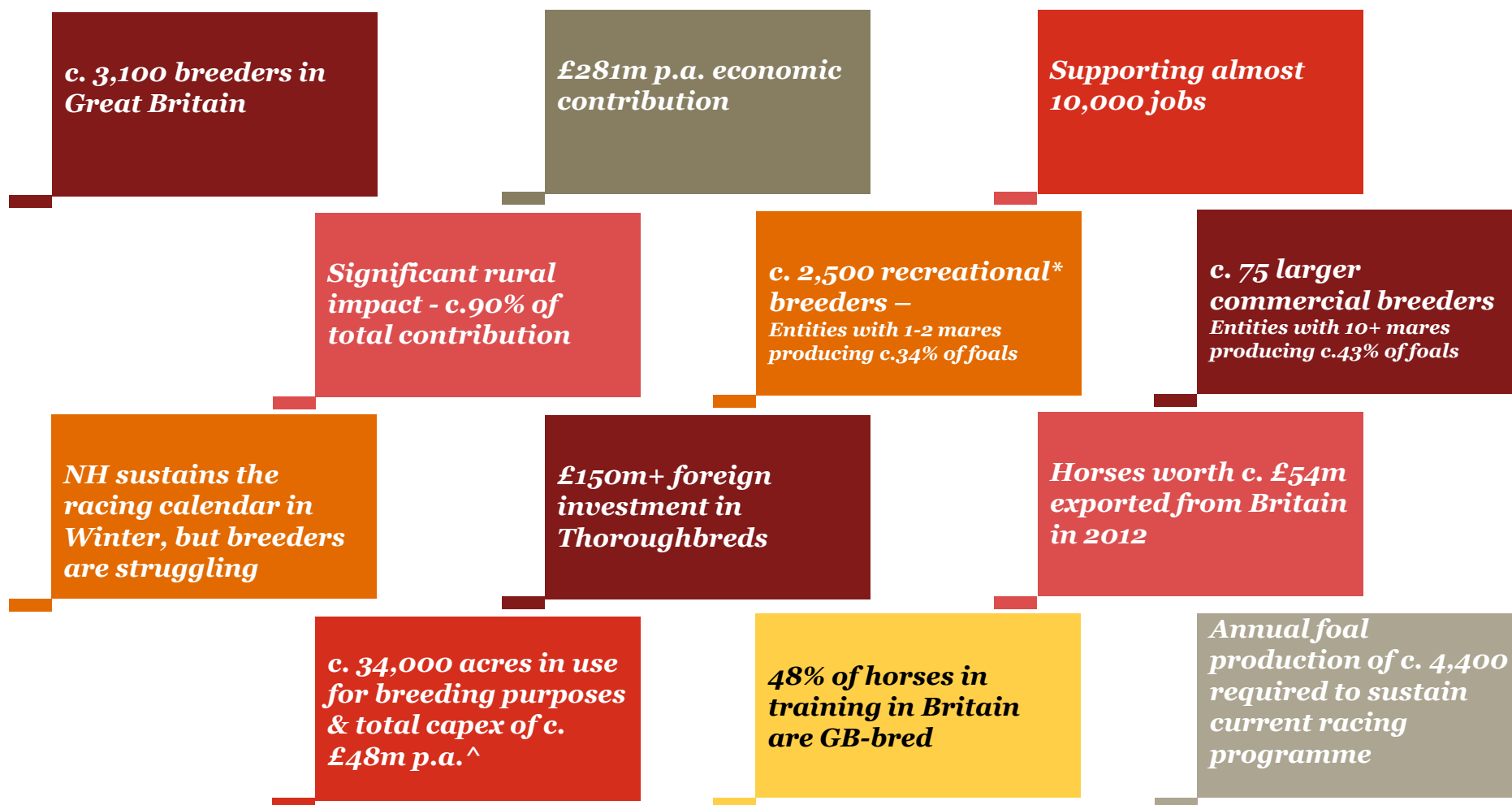
Save as described in the contract or as expressly agreed by us in writing, we accept no liability (including for negligence) to anyone else or for any other purpose in connection with this report and it may not be provided to anyone else.

Y  
A handwritten signature in dark ink, appearing to read 'Neil Hampson'.

PricewaterhouseCoopers LLP

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## Key messages



\* smaller breeders many of whom are breeding Thoroughbreds as a hobby rather than commercially

^ £31m investment in broodmares and £17m in other capital expenditure;

## *Executive summary (1/2)*

- 
- Great Britain has a reputation for one of the **highest quality Thoroughbred industries** in the world in terms of breeding, training & racing
  - There are around **3,000 breeders** in Britain of which 2,500 are **small, “recreational” breeders** as well as a small number (c. 75) **larger commercial operations**
  - Whilst there is a substantial number of **smaller breeders** operating at a loss, they nevertheless make a **significant contribution** to the economy as well as **the breeding industry and wider racing sector**
  - We estimate that The Thoroughbred breeding industry **contributes £281m to the UK economy** and supports almost **10,000 jobs**, with **c.90%** of this value and employment in the **rural economy**
  - The **National Hunt** calendar **sustains the racing** calendar in **Winter**, but many smaller **NH breeders struggle** with the **economics of production**
  - The vast majority of this economic value is generated through **employment and spending with suppliers**
  - Whilst foal production has declined during the recession, there is now a **better supply-demand balance** and **improved quality**

## *Executive summary (2/2)*

- **Potential beneficial improvements** to the **competitiveness of the British racing programme**, targeted by the HBLB, could require **additional racing stock**, but these changes could be **difficult to achieve** in the short term without a marked **increase in prize money** and thereby **owners**
- The current **breeder incentive schemes**, whilst generally **well received**, could be **improved** in terms of **breadth and value**
- An **improving economy** will drive **increased demand** for racehorses, both domestically and internationally. The **British breeding industry** remains **well placed** to serve this but must **maintain its reputation for quality**
- **Foreign buyers** are **increasing** as global prize money rises and **new racing industries** develop overseas
- **Britain** is one of the **major exporters** of Thoroughbreds globally. There are **substantial future opportunities** in established and developing racing markets and the **industry needs a plan** to address these
- However, this demand for British bred stock **increases** the **risk** of **losing the best quality bloodlines**

## ***We have assessed the economic impact of the British Thoroughbred breeding industry, and the risks and opportunities it faces***

### **Introduction**

- This report has been prepared on behalf of the Thoroughbred Breeders' Association (TBA) to provide an objective assessment of:
  - The economic impact of the British Thoroughbred breeding industry on the British economy
  - The future opportunities & risks facing the British Thoroughbred breeding industry

### **Scope**

- The work covered by this report has sought to:
  - Quantify the current value of the Thoroughbred breeding industry and its contribution to the economy
  - Identify traditionally defined economic contribution in terms of direct effects as well as indirect and induced impacts
  - Evaluate the broader qualitative impacts that the Thoroughbred breeding industry contributes to Great Britain and the relevance to the wider racing industry
  - Identify potential opportunities & risks that the industry faces, both within the Great Britain and from an international perspective

**A robust fact base for use by the Thoroughbred Breeders' Association that helps to inform key stakeholders including breeders, the wider racing industry, policy makers, HM Treasury and DCMS**

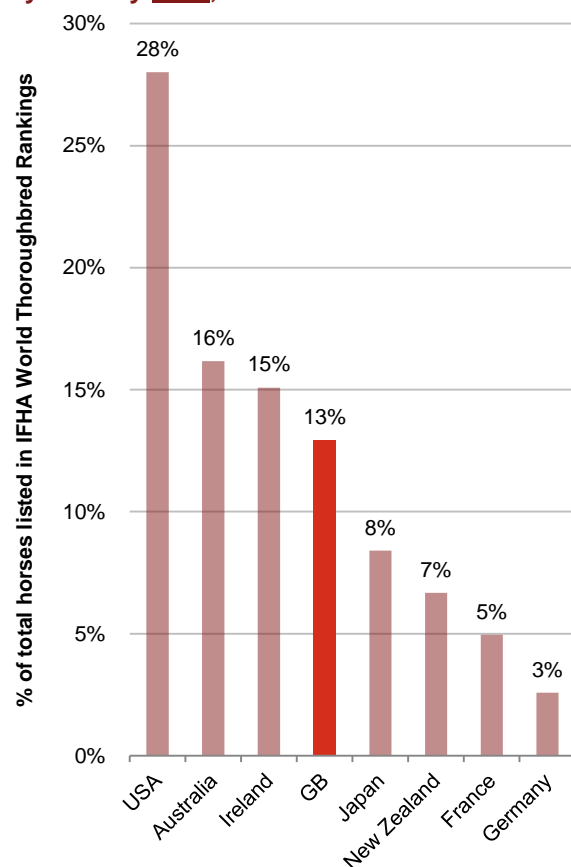
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# *Industry overview*

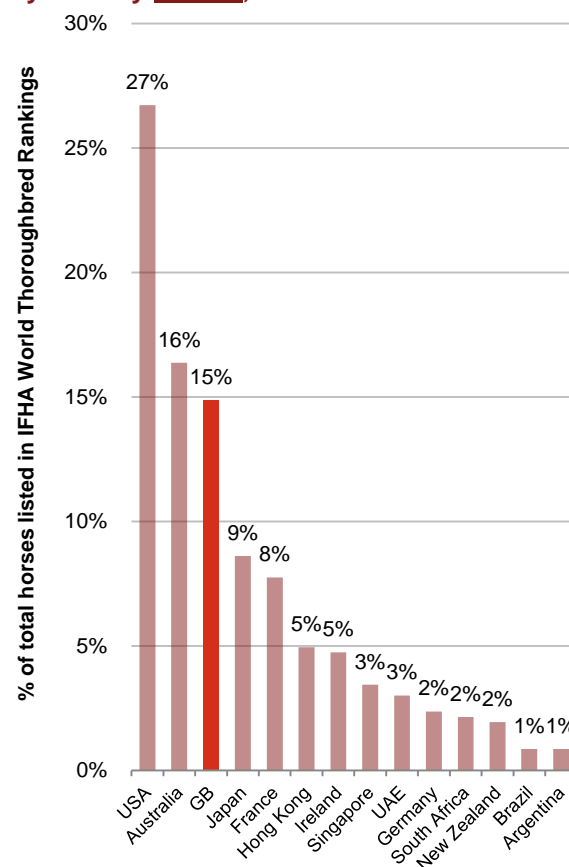


## *Great Britain has a reputation for one of the highest quality Thoroughbred industries in the world in terms of breeding, training and racing*

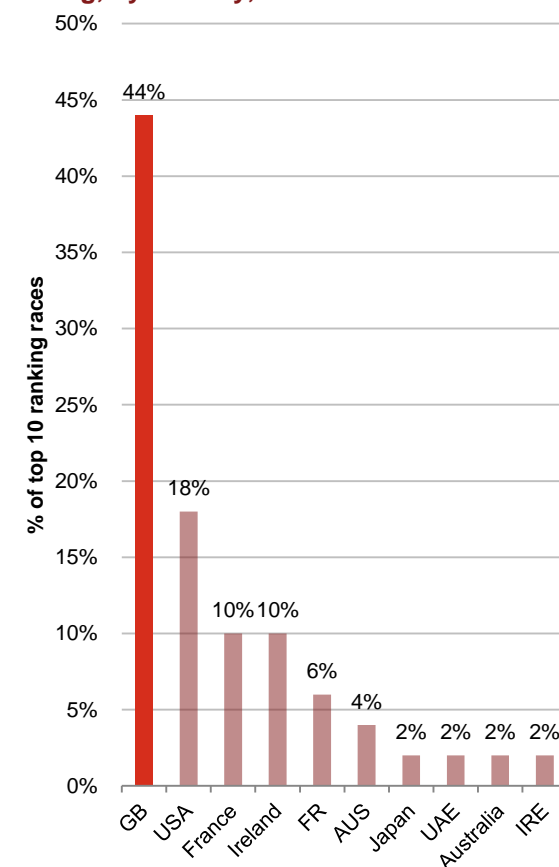
**Top Thoroughbred world rankings by country bred, 2012**



**Top Thoroughbred world rankings by country trained, 2012**



**Top Thoroughbred races by world ranking, by country, 2010-2012**



Source: IFHA, PwC analysis

## ***This is driven by a number of factors including the history and prestige of the sport in this country as well as some of the highest quality bloodlines and proven breeding grounds***

### **History**

- The roots of the modern Thoroughbred can be traced back to Britain in the 18<sup>th</sup> Century
  - All modern Thoroughbred racehorses are descended from the Byerley Turk (1680), the Darley Arabian (1704) and the Godolphin Arabian (1729), all of which were imported to Britain
- Although flat (and to a lesser extent jump) racing is now an international sport, some of the oldest and most traditional Thoroughbred races (e.g. Royal Ascot, The Derby) are in Britain

### **Prestige**

- The history and connections to the Royal Family have ensured that Britain continues to have a reputation as the most prestigious racing country in the world
- This is a critical factor in attracting foreign investment to race and train in Britain
  - *“This is surreal. I’ve been involved with horses for 35 years, and this is the highlight. To win two major races on the first day at Royal Ascot is a dream”*

American racehorse owner

### **Bloodlines**

- For centuries, Britain has been producing some of the highest quality racehorses in the world
- Continued investment in the sport means that many of the top Thoroughbred bloodlines are currently in Britain
- This includes Frankel, currently the highest ranked race horse globally, which was bred in Britain and is standing at Juddmonte Farms in Newmarket

### **Breeding grounds**

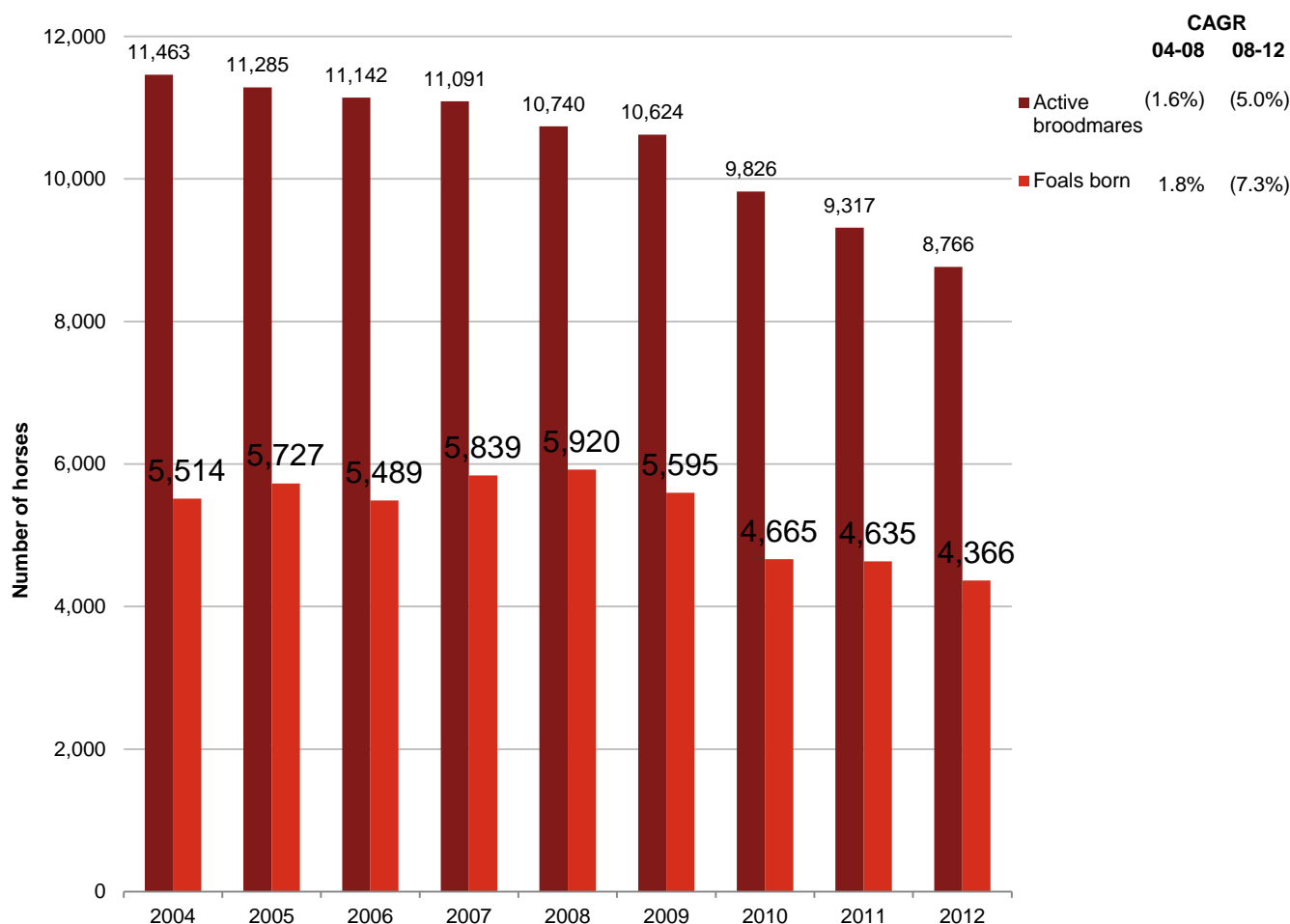
- Britain’s climate lends itself favourably to the production and rearing of Thoroughbred horses
- This is something that many global racing industries (e.g. the UAE, Qatar) are unable to replicate. This has led to significant inward investment as they set-up extensive breeding operations in Britain
  - *“The greatest lesson I have learnt in a lifetime of breeding was that it all comes down to the quality of the ground you raise your young stock on”*

American racehorse owner and breeder

Source: Press articles

***The recession has driven a sharp decline in the volume of British-bred foals, with the annual crop falling by c. 26% from 08-12. However, this has resulted in a better supply-demand balance and should improve quality***

**Number of active broodmares and foals born in Great Britain, 2004-2012**



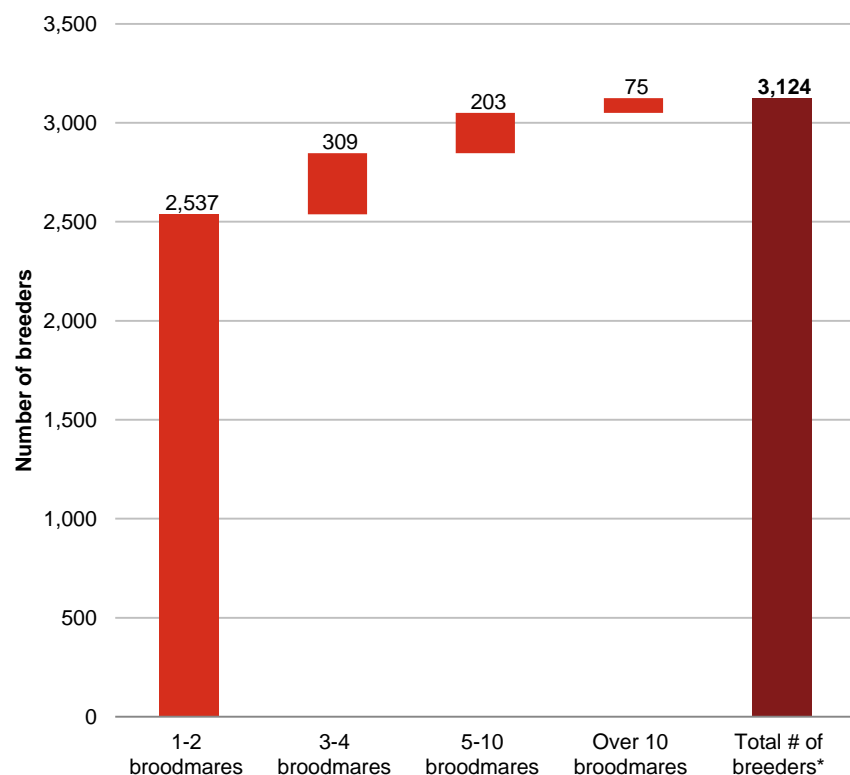
Source: Weatherbys

- The breeding industry in Britain has contracted sharply in volume terms as a result of the recession
- A significant fall in the number of owners and over-supply in the market led to an adjustment
  - Between 2008 and 2012, the annual foal crop fell by c.26%
  - This largely occurred from 2010 due to the time-lag of the breeding process
- However, the general view in the industry is that this has resulted in a better balance between supply and demand and is likely to drive improvements in the quality of British-bred stock
  - This adjustment has principally happened at the lower end of the industry, with many smaller, recreational breeders ceasing to produce foals
  - As a result, there has been a shift towards larger, commercial breeders who typically breed from better quality stock

*Of the c.3,000 breeding operations in Britain, c. 2,500 are small with 1-2 broodmares, while the number breeding flat horses outnumbers National Hunt, reflecting the wider population of horses in training*

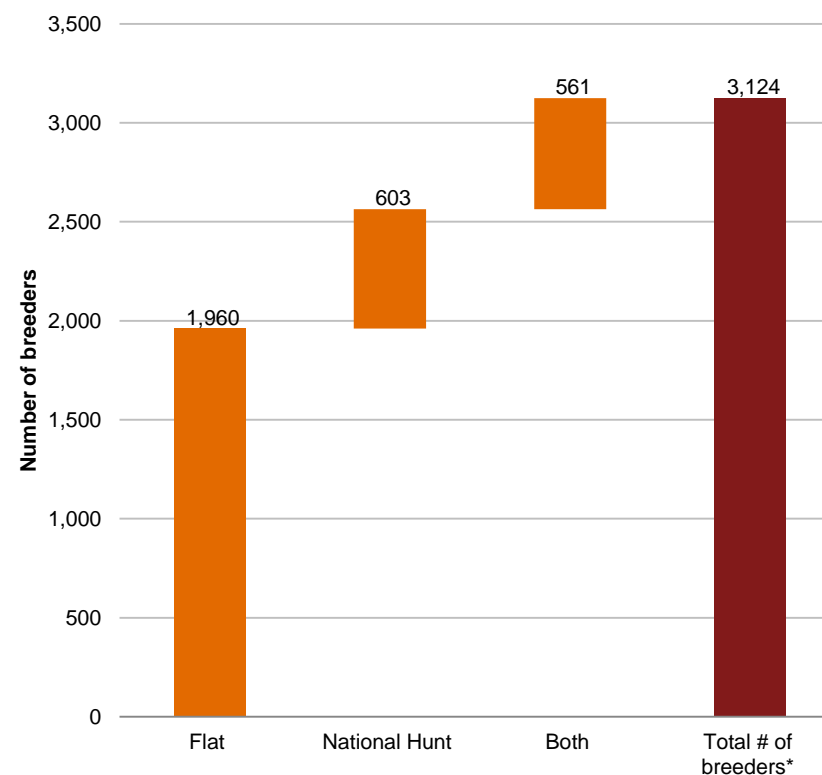
The Thoroughbred industry in Britain is characterised by a large number of small breeders as well as a few larger, commercial operations...

Number of breeders by number of broodmares



...who predominantly breed horses for flat races

Number of breeders by purpose\*\*



Note: \*Data on the total number of breeders has been cleansed to account for some duplication. The number is therefore slightly different from previously published data from Weatherbys;

\*\*Estimated split based on number of breeders who have registered a horse for each purpose

Source: Weatherbys

***In terms of foal production, the smaller breeders clearly play an important role, producing c. 1,500 (34%) foals a year compared to c. 1,900 (43%) by breeders with >10 broodmares***

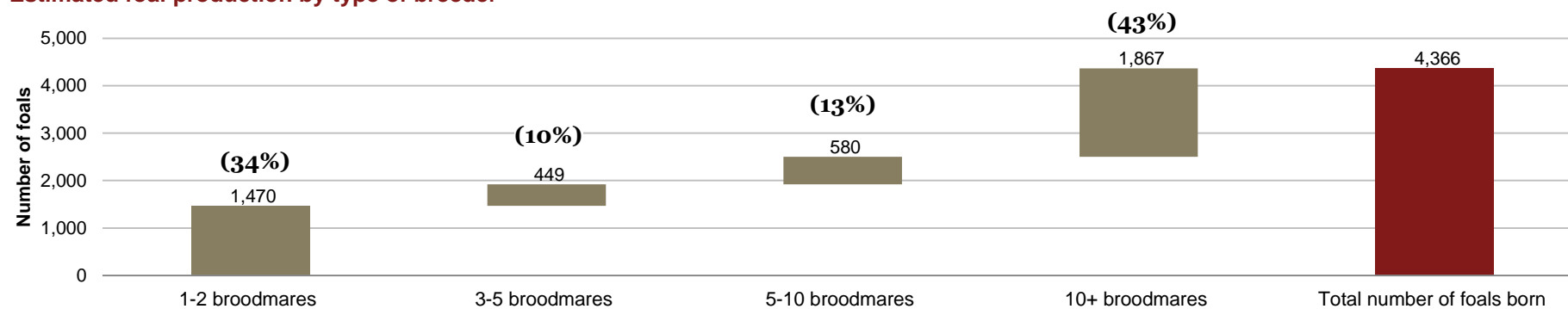
**Due to their scale, larger commercial stud farms generate the greatest economic impact on an individual basis ...**

- At one end of the breeding industry, there are a small number of large breeding operations, several of which have >100 broodmares
- Due to the scale of these operations, the individual contribution of each in terms of economic output and employment is considerably larger than the typical smaller breeders
  - The production costs and other supplier expenditure of these stud farms can run into several millions
  - As well as their own mares, many also board mares for small breeding entities and partnerships, leading to additional expenditure and employment

**.....but as a group, the smaller / recreational breeders are important and must be supported**

- On the other hand, the industry also includes c.2 500 breeders with 1-2 broodmares often operating on a recreational rather than commercial basis
- We estimate that between them these breeders produce c. 1,500 (34%) of the total foal crop in Britain each year and as a result are an important part of both the breeding and wider racing industries
- In addition, although often operating at a loss, the economic contribution of these breeders is still significant
  - We estimate that the direct costs of all breeders with 1-2 broodmares is c.£50m, the majority of which is spent on local and rural small businesses

**Estimated foal production by type of breeder**



Source: PwC confidential survey, Weartherbys, PwC analysis

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# *Economic contribution*

## Definition of terms

<b>Revenue</b>	The total amount of money that is received over a specified period in return for goods/services, e.g. in the case of stallion services, revenue represents that value of stallion fees received in a given year.
<b>Supplier expenditure</b>	The total spending on suppliers for goods and services within a specified period. Supplier expenditure excludes capital expenditure and wages & salaries, so it is equivalent to operating expenditure minus wages & salaries.
<b>Wages &amp; salaries</b>	The total compensation paid to all employees, including all income taxes and National Insurance.
<b>Profit</b>	Revenue minus supplier expenditure and wages salaries. Profit represents the income to businesses after operating expenditure but before capital expenditure.
<b>Gross value added (GVA) at factor cost</b>	<p>Gross value added is a measure of the contribution of a sector or business to economic output. GVA is the recognised measure of economic activity at the sub-national level (i.e. for an individual sector, business or region), while GDP is the recognised measure of economic activity at the national level. GVA is measured in factor cost in this study, which means it excludes all taxes and subsidies on production and products.</p> <p>GVA measures the value added to products during the production process (for example the breeding of a thoroughbred horse), and can therefore be calculated as the value of output minus the value of supplier expenditure. GVA can alternatively be calculated by summing the profits and wages generated during the production process, which represent the income accruing to businesses and individuals as a result of production.</p>
<b>Employment</b>	The number of employees supported within a business or industry. It is measured in full time equivalents (FTEs), where one person working full time for 12 months and two people working 6 months a year are both equivalent to one FTE.
<b>Capital expenditure</b>	The investment of business in assets such as land, machinery and, in the case of Thoroughbred breeders, broodmares and studs.

## ***Gross value added is the recognised measure of economic output at an industry level***

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Gross value added is the recognised metric for measuring economic activity at the sub-national level (i.e. for individual sectors, businesses or regions), while gross domestic product (GDP) is the recognised measure of economic activity at the national level.<sup>1</sup> GVA is widely used and recognised by the UK government departments as a measure of economic output – for example the Office of National Statistics use GVA to measure the economic performance of different geographic areas in their “Regional GVA” publication.<sup>2</sup>

Throughout this study gross value added is measured in terms of factor cost, which means that all taxes and subsidies on production and products are excluded. This differs from gross value added at basic prices, which excludes taxes and subsidies on products but includes taxes and subsidies on production.

Two of the main methods of calculating GDP and GVA are the income and expenditure approaches. The income approach sums profits and wages, while the expenditure approach sums household and government consumption, investment and net exports. Both approaches produce identical estimates so components across different approaches are not additive - for example, exports and investment could not be added to the GVA from the income approach, as it is already implicitly included within gross operating surplus.

<sup>1</sup> ONS, Measuring the economic impact of an intervention or investment, 2010

<sup>2</sup> <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Regional+GVA>



## ***Our approach to the economic impact study used established economic methodologies as well as extensive quantitative and qualitative research***

### **Economic Impact Study Methodology**

#### **1. Data collection**

- Information was collected from several sources:
  - A confidential PwC survey sent to all registered members of the TBA
  - Interviews and consultations with thoroughbred breeders, owners, trainers, bloodstock agents, industry bodies, and other industry experts
  - Review of previous literature and research on the economic contribution of the sector
  - Analysis of a broad range of external data including from Weatherbys, Tattersalls, the British Horseracing Authority, the International Federation of Horseracing Authorities, auction houses and other statistical data in the public domain

#### **2. Qualitative and quantitative analysis**

- A detailed analysis of survey data and external data was undertaken to build a profile of the average economic impact of different types of breeders. This allowed for a comparison of breeders between National Hunt and Flat and by the number of broodmares owned
- This average was scaled up for the entire breeding sector using a number of variables relating to the size and characteristics of the breeder population
- A bespoke economic model has been built which reflects the linkages of the breeding sector with the other sectors of the economy. This was then used to provide a detailed estimation of the contribution of thoroughbred breeding to the UK economy, in terms of its direct, indirect and induced impacts
- This quantitative analysis was complemented with qualitative evaluations of specific characteristics of the breeding industry, such as its contribution to the rural economy and its land utilisation

#### **3. Reporting**

- A preliminary findings workshop was held with the TBA prior to completion of the report
- This ensured that all findings and conclusions were agreed before publishing of the final report

#### **Caveats to our analysis**

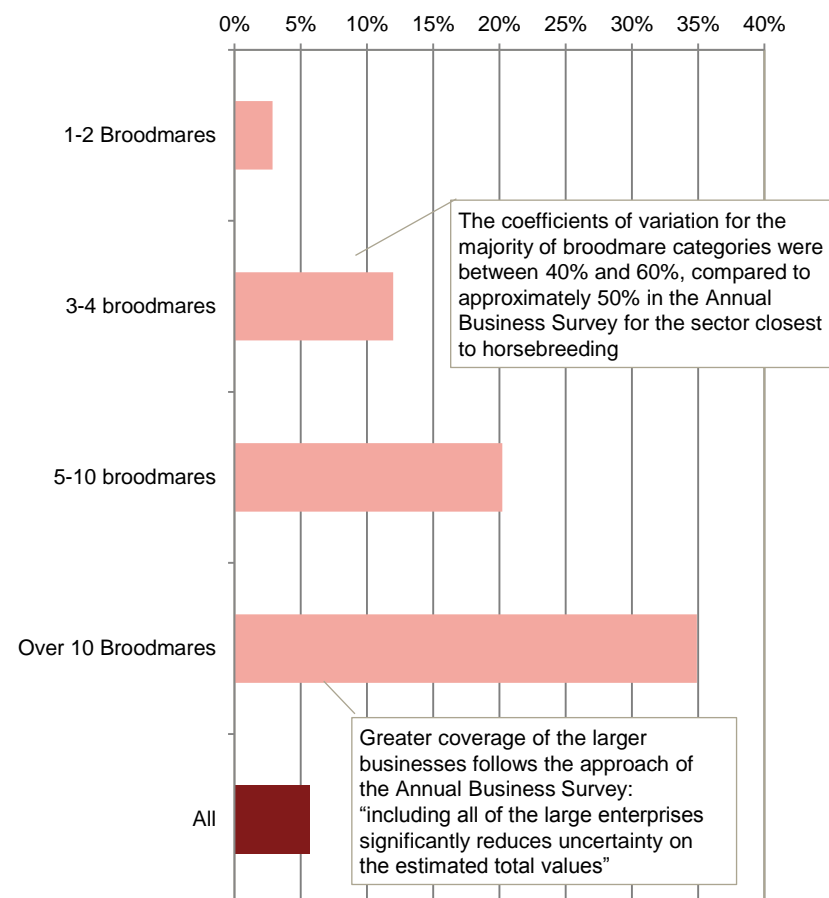
- The results are based on analysing survey data completed by members of the TBA as well as data from external sources such as Weatherbys
- The survey data has been cleansed and specific outliers have been excluded from some analyses where identified

## *The members survey produced a sample with similar statistical quality to that achieved by the Office of National Statistics' main business survey*

### Sample size and stratification

- The members survey sought to obtain a stratified sample of breeding operations ranging from hobby breeders with 1-2 broodmares to large, professional breeding operations. This would allow for more robust estimates when extrapolating for the entire population of breeders.
- Our questionnaire structure is taken from the Office of National Statistics (ONS) Annual Business Survey (ABS). This is the survey that the government uses to construct its measure of GVA.
- The sample surveyed in the ABS covers a broad range of sectors, and a statistical measure called the coefficient of variation is used to measure the relative precision of survey responses for each sector. It is used by the ONS as a measure of sampling quality for a number of surveys including the ABS (Quality and Methodology Information, Annual Business Survey, 2011).
- The coefficient of variation for the sector closest to that of horsebreeding, "hunting, trapping and related service activities", is approximately 50%, compared to coefficients of between 40% and 60% for the majority of broodmare categories in our sample (the category with over 10 broodmares shows significantly more variation due to a small number of very large breeders).
- This gives confidence that the survey responses are within the statistical limits of survey quality considered acceptable by the ONS, when they publish at a similar level of granularity.

### Sample coverage of survey



## *The survey questions were adapted from those used in the Annual Business Survey*

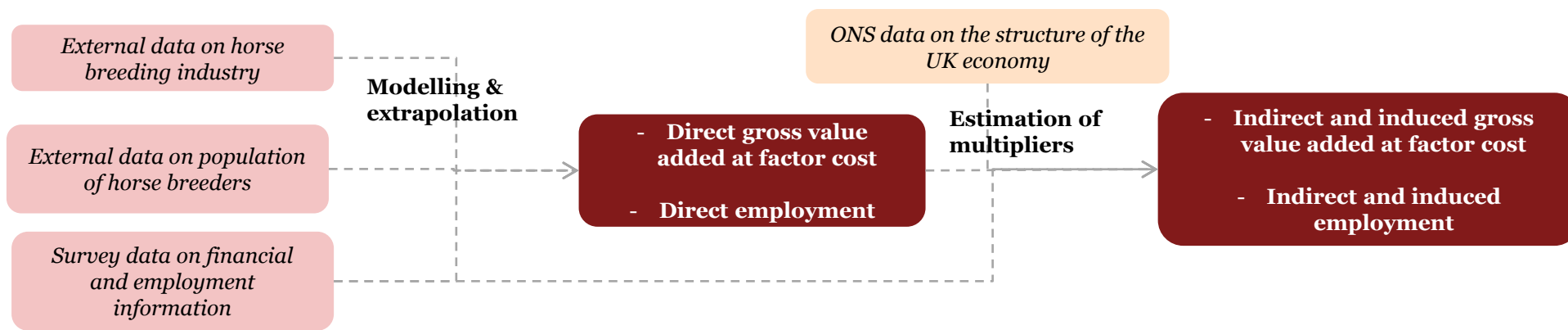
The survey of TBA members was based on the Annual Business Survey (ABS), the main survey of UK businesses conducted by the Office of National Statistics.<sup>1</sup> The ABS collects financial information from a sample of 62,000 businesses across the majority of industries in the economy, with the purpose of collecting representative data relating to gross value added and employment for each industry. The results of the survey provide a number of high-level indicators of economic activity, as well as providing an input to the calculation of GDP for the UK.

The questions in the members survey were adapted from questions used in the ABS. They related to a number of financial variables such as revenue, supplier expenditure and employee costs, which are required in order to calculate GVA. The survey also collected more detailed information on the pattern of supplier expenditure and the sources of revenue for horsebreeders, which were used in the estimation of indirect and induced impacts as described in the following slide.

<sup>1</sup> Regional GVA, ONS <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/business-and-energy/annual-business-survey/index.html>

## *The economic impact methodology uses a combination of survey data, breeding industry data and national economic data*

An economic impact study estimates the total contribution of an organisation or sector to the economy. There are three main types of impact which are usually taken into account in an economic impact study – direct, indirect and induced impacts.<sup>1</sup> These impacts can be measured in terms of both gross value added at factor cost and in terms of employment. All estimates presented in this study are gross rather than net, which means they do not take into account what would have happened to the economy if the horsebreeding sector did not exist. The following diagrams set out the approach for estimating direct, indirect and induced impacts:

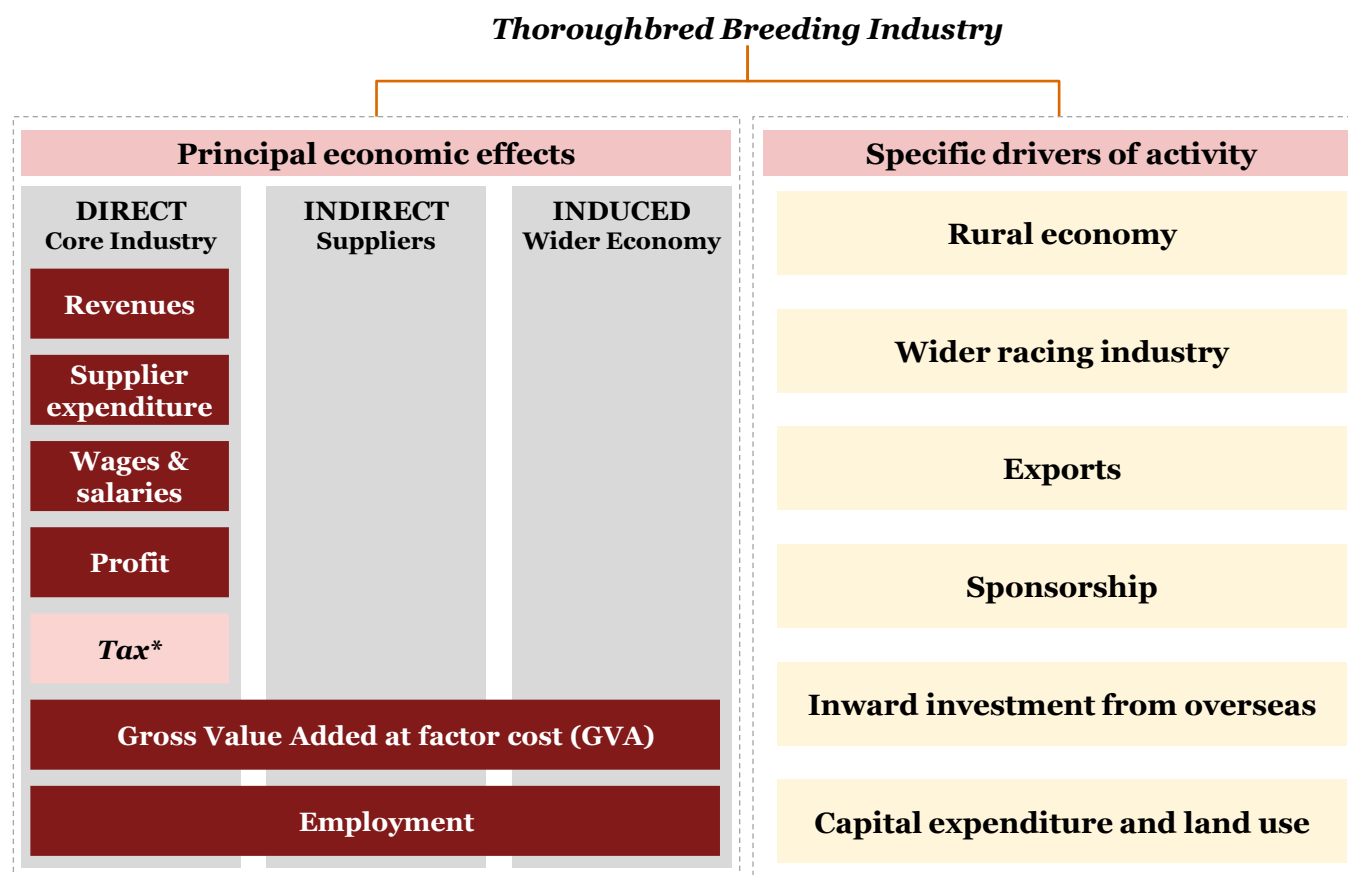


<b>Direct impacts</b>	The impact on the economy from the operations of a business. Direct GVA is the sum of profits and wages for the business, while direct employment is the total employment of a business
<b>Indirect impacts</b>	The GVA and employment supported in the economy as a result of the supply chain expenditure of a business
<b>Induced impacts</b>	The GVA and employment supported by the spending of a business's employees, as well as the spending of the employees in the supply chain of the business
<b>Multiplier</b>	A multiplier is an economic ratio which measures the indirect and/or induced impacts which are supported by a given direct impact

<sup>1</sup> ONS, Measuring the economic impact of an intervention or investment, 2010

# ***This study has estimated direct, indirect and induced economic effects of the breeding industry, as well as evaluating other specific drivers of activity***

## **Economic framework of the Thoroughbred breeding industry**



## **Types of economic impact quantified in this study**

### **Direct**

- The economic impact of all Thoroughbred breeders in Britain
- Includes profits and wages generated by all breeding operations (stud farms, individuals & partnerships)

### **Indirect**

- The economic impact supported by the supply chain expenditure of Thoroughbred breeders
- Includes all expenditure on 'upstream' suppliers, such as feed, veterinary bills and rent

### **Induced**

- Refers to the economic impact supported by the employees of Thoroughbred breeders spending their wages
- Also includes employee spending in the supply chain to Thoroughbred breeders

Note: \*The total tax contribution of the industry was out of the scope of this analysis

***Breeders' main revenue stream is the sale of unraced stock while the largest costs appear to be stud fees, healthcare and food***

Revenue		Production costs	
	Estimated % of total		Estimated % of total
Sale of unraced stock	64%	Stud fees	27%
Boarding fees	10%	Veterinary, dental and farrier	13%
Stud fees	10%	Feed, forage and bedding	8%
Single farm payments	4%	Repairs and renewals	7%
Bonus schemes and breeders' premiums	1%	Insurance premiums	7%
Other	11%	Advertising, legal and professional services	7%
		All sale costs	5%
		Transportation	5%
		Boarding fees	5%
		Rent on land, property and machinery	3%
		Energy and utilities	3%
		Other	10%

Note: Percentages are estimated based on more detailed analysis of a smaller sample of 21 breeding operations; one outlier has been excluded on the grounds of an abnormal split between revenue from sale of unraced stock and stud nomination fees

Source: PwC confidential survey

***Overall, we estimate the Thoroughbred breeding industry contributes £281m to the UK economy and supports almost 10,000 jobs***

### Industry highlights

**3,124**  
Breeder

**4,366**  
Foals born

### Economic contribution

**£281m**  
Total contribution

**£65m**  
Direct GVA

**£139m**  
Indirect GVA

**£77m**  
Induced GVA

### Employment

**9,756**  
Total employment

**3,546**  
Direct employment

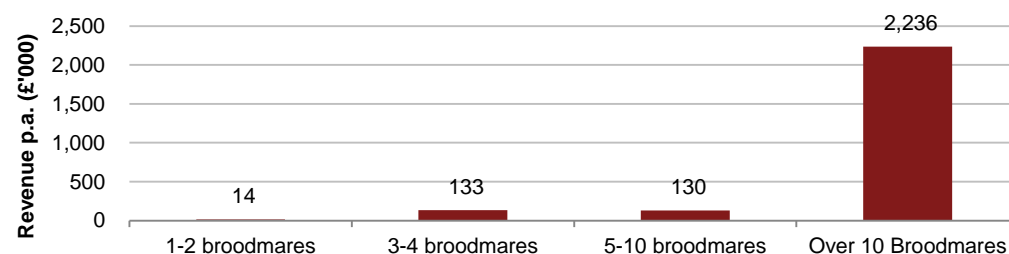
**3,933**  
Indirect employment

**2,277**  
Induced employment

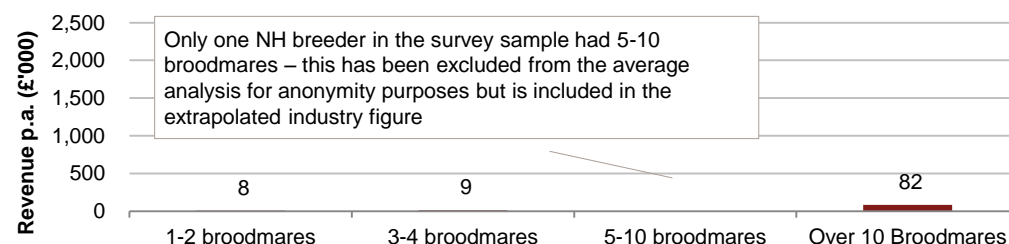
Source: Weatherbys, PwC confidential survey, PwC analysis

## *Larger breeders of flat horses generate more revenue on average than smaller and NH operations as they produce more stock and the value of flat horses is typically higher*

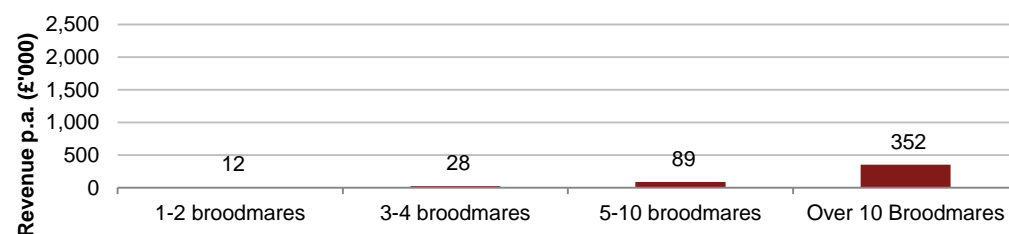
**Average revenue per breeder, by number of broodmares (Flat)**



**Average revenue per breeder, by number of broodmares (NH)**



**Average revenue per breeder, by number of broodmares (Dual-purpose)**



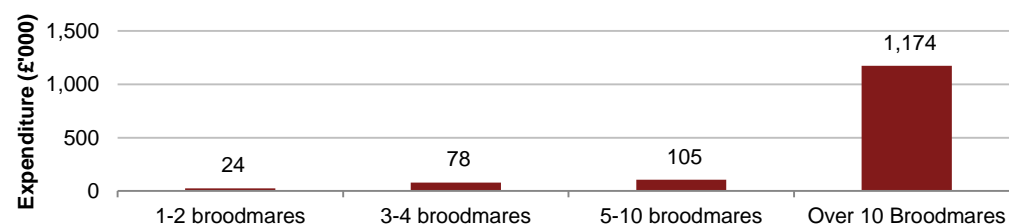
- Although mainly from the sale of stock, breeders also generate revenue from stud fees, boarding fees and other minor sources
- There is a direct correlation between the number of broodmares (and therefore number of foals produced) and the average revenue per breeder
- However, there is also likely to be some pricing benefit to the larger scale operations
  - These breeders are typically able to stand mares to the best stallions, with the resulting offspring generating the highest level of interest, and therefore price when sold
- In addition, flat breeders generate considerably more revenue on average than NH due to the difference between the value of these types of racehorse
  - The average price for a yearling in the Tattersalls October yearling sales in 2012 was c.£75k
  - This compares to £15k for the average price of a NH store at the DBS Spring sales

Source: PwC confidential survey, PwC analysis

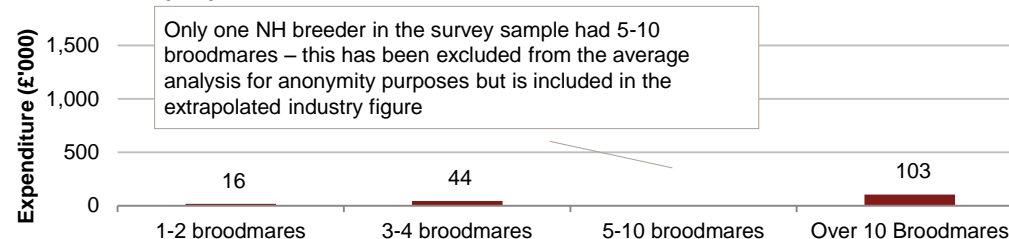


***There is less variation in supplier expenditure per horse between breeding operations of different sizes. While larger studs incur greater costs due to their scale, the contribution of the c. 2,500 smaller studs is still important***

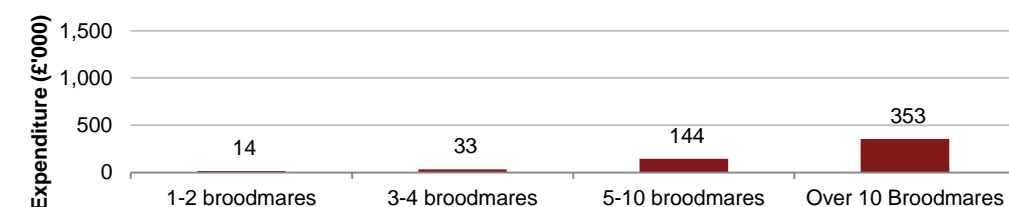
**Average supplier expenditure per breeder, by number of broodmares (Flat)**



**Average supplier expenditure per breeder, by number of broodmares (NH)**



**Average supplier expenditure per breeder, by number of broodmares (Dual-purpose)**

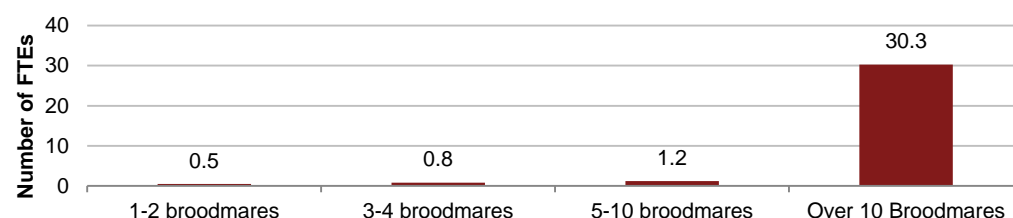


- Breeding supplier expenditure includes all expenses incurred in the production of a Thoroughbred and running of a breeding operation (apart from capital expenditure and wages & salaries)
- Compared to revenue, there is less variation in cost per horse produced between studs of different sizes
  - Although some of these costs (e.g. stud fees) can vary considerably, there are many which are reasonably consistent (on a per horse basis) such as feed, vet and transport
- Due to their scale, the average annual production costs per breeder of larger studs is much higher than those with few broodmares
- However, given that the majority of breeding operations in Britain have 1-2 broodmares, this group contributes a significant (£c. 50m) to the overall industry figure (see slide 23)

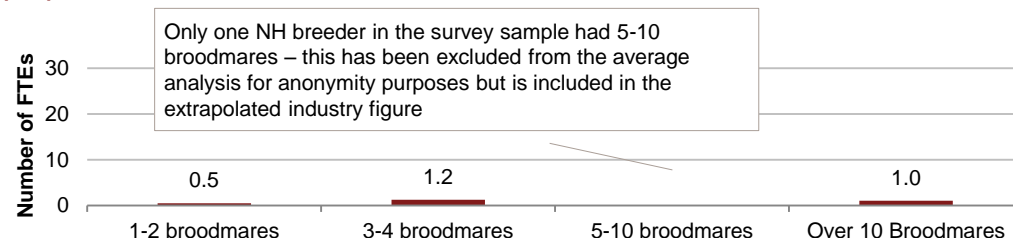
Source: PwC confidential survey, PwC analysis

***Due to their scale, larger stud farms are also able to employ more staff than smaller breeding operations where production is often managed solely by the owners or outsourced to stud farms...***

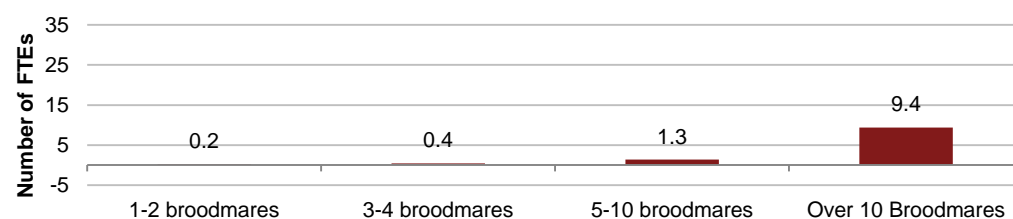
**Average number of FTEs per breeder, by number of broodmares (Flat)**



**Average number of FTEs per breeder, by number of broodmares (NH)**



**Average number of FTEs per breeder, by number of broodmares (Dual purpose)**

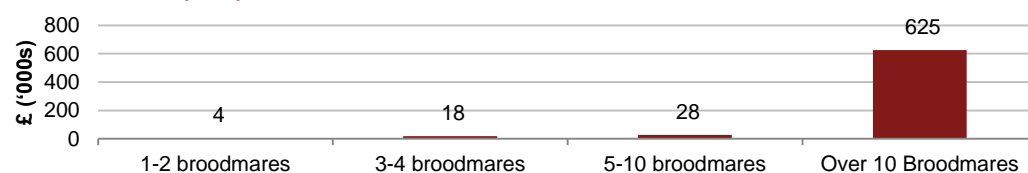


- Employment supported by the breeding sector is comprised of:
  - Direct, full-time, part-time and voluntary employment at breeding businesses
  - Indirect employment in the supply chain to the breeding sector (see slide 26)
  - Induced employment in the wider economy as a result of expenditure by employees in the breeding sector and its supply chain (see slide 26)
- The scale of the larger stud farms means that the majority of direct full-time equivalents (FTEs) in the industry are employed by these operations
- Many of these are full-time staff, often including several full-time in an office as well as those employed to run the stud operations
- The average FTEs of smaller and more recreational breeders is significantly lower
  - Many are small 'hobby' operations that are run by the owners themselves without the assistance of additional employees or that use a small number of part-time or voluntary staff
  - In addition, many breeding entities and partnerships board mares with larger studs and therefore have no direct employment

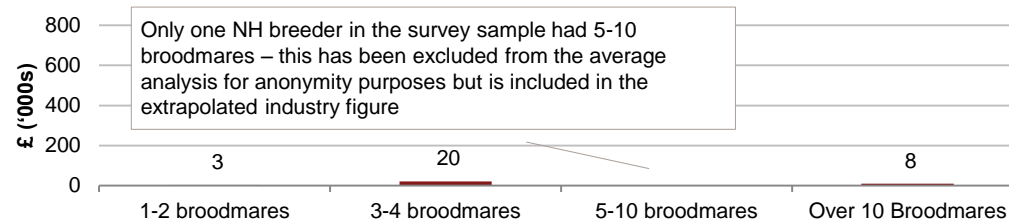
Source: PwC confidential survey, PwC analysis

## ... which flows directly through to the average wages and salaries

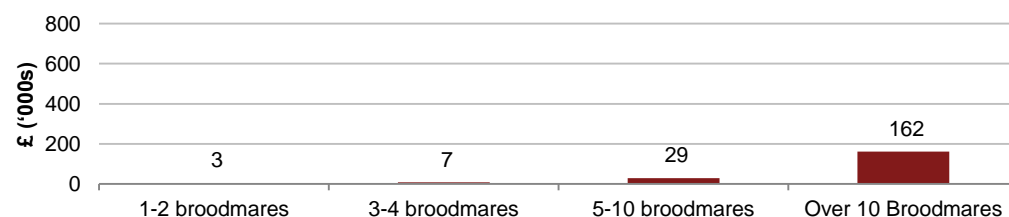
**Average gross wages and salaries per breeder, by number of broodmares (Flat)**



**Average gross wages and salaries per breeder, by number of broodmares (NH)**



**Average gross wages and salaries per breeder, by number of broodmares (Dual-purpose)**

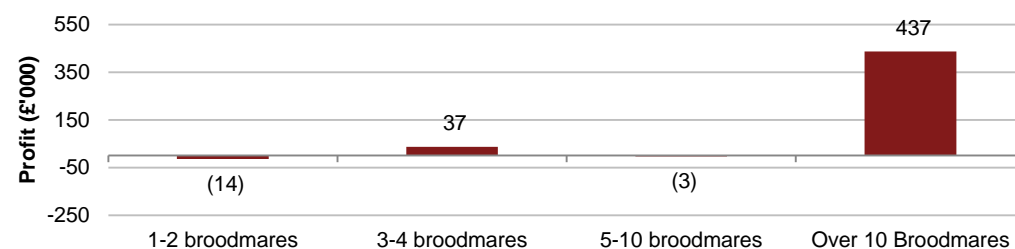


- The employment created by the Thoroughbred breeding industry results in significant wages and salaries
- As well as generating a contribution through PAYE and NI payments to HMRC, these incomes create additional induced spending elsewhere in the economy (see slide 25)
- The average wages and salaries per breeder are directly correlated to the number of FTEs
- As noted above, the larger breeding operations are typically able to employ more people and therefore generate higher levels of employment and related income than smaller breeders

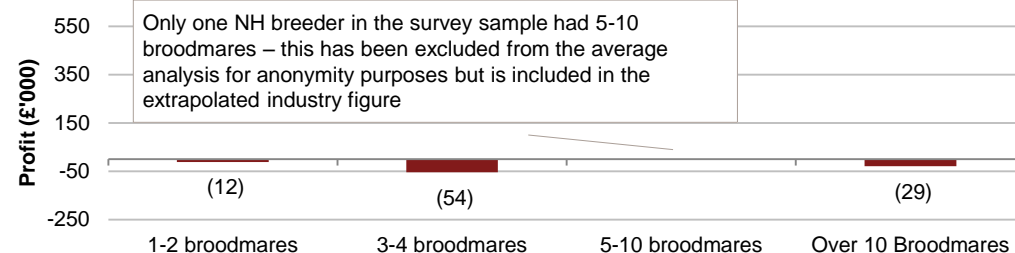
Source: PwC confidential survey, PwC analysis

***In terms of profit, the industry is polarised between smaller, recreational breeders who are typically operating at a loss, and large scale commercial stud farms who are able to generate a reasonable profit***

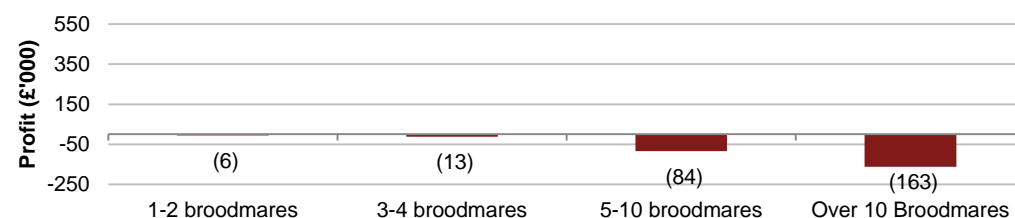
**Average profit per breeder, by number of broodmares (Flat)**



**Average profit per breeder, by number of broodmares (NH)**



**Average profit per breeder, by number of broodmares (Dual-purpose)**



- Overall, it is clear that the commercial success of breeders is dependent on scale and the type of horse they are breeding
- The majority of the overall profit is generated by large scale and flat breeding operations
  - The scale and financial backing of these operations means there is an increased likelihood of producing stock that will sell at the top end of the market
  - This mitigates the financial impact of any horses that are sold at a loss
- At the other end of the industry, many breeders are operating on a recreational rather than commercial basis
  - This is particularly the case for smaller and National Hunt operations, where the production costs per horses are often higher than the revenue secured at auction

Source: PwC confidential survey, PwC analysis

*However, due to the relative numbers of each type of breeder, all groups play an important part in the overall direct economic contribution of the sector*

Economic impact by type of breeder (£m)



Total direct economic impacts for the industry

**Revenue**

**£237m**

**Supplier expenditure**

**£172m**

**Wages & salaries**

**£61m**

**Profit**

**£4m**

**Employment**

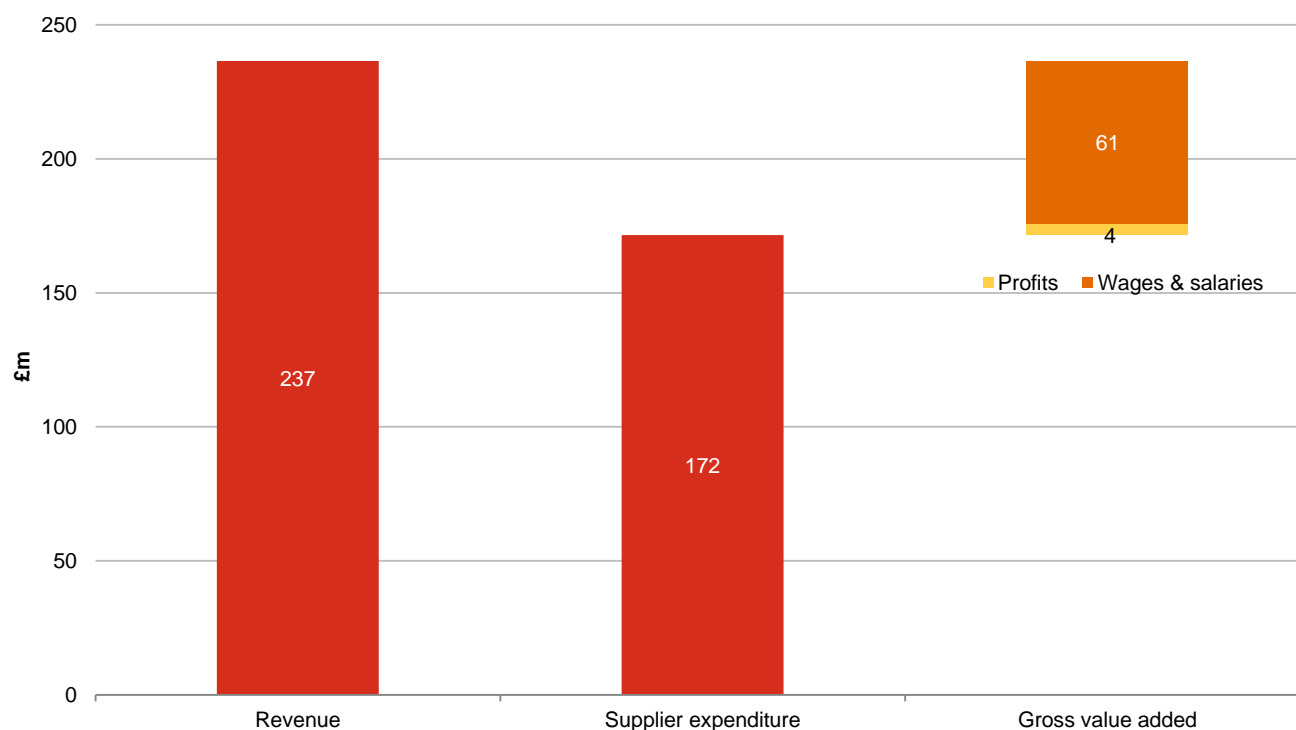
**3,546**

Source: PwC confidential survey, PwC analysis

## *The direct economic contribution of the sector is mainly generated through wages and salaries, with a only a small amount generated through profits*

Direct gross value added measures the pre-tax contribution of the Thoroughbred breeding industry to economic output, and it is calculated by subtracting the total supplier expenditure from the total revenue of the sector. Gross value added consists of profits and wages and salaries, which represent the respective incomes earned by businesses and individuals from breeding

### Composition of gross value added at factor cost



### Total direct GVA contribution

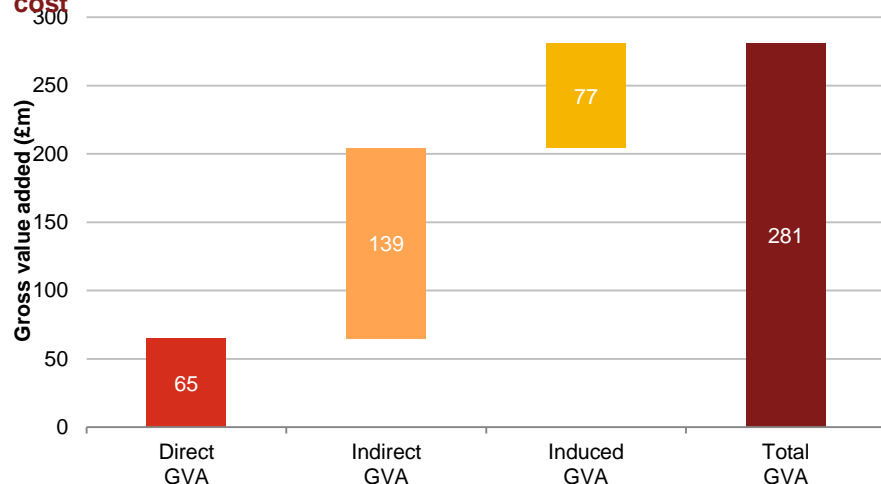
- The direct GVA of the Thoroughbred breeding industry is £65m
- The Thoroughbred breeding industry generates significantly more income for employees than for businesses, with £61m of GVA generated through wages and salaries and £4m generated through profits

**£65m**

Source: PwC confidential survey, PwC analysis

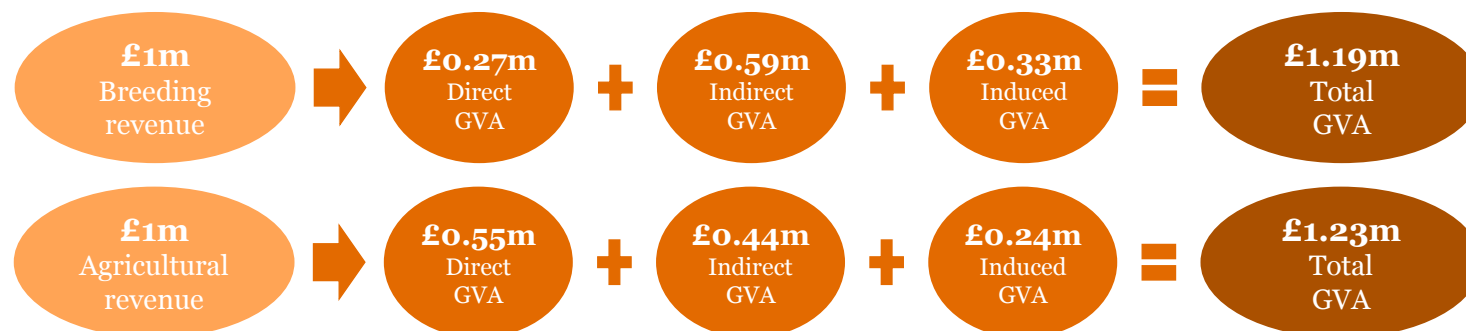
## *The sector generates additional gross value added in the economy through its indirect and induced impacts*

Direct, indirect and induced gross value added at factor cost



- The Thoroughbred breeding sector supports a total of £281m of gross value added in the economy.
- This consists of £65m of direct gross value added through operations of breeding businesses, £139m of indirect gross value added through the supply chain spending of breeding businesses, and £77m of induced gross value added through the spending of employees in breeding businesses and their supply chains.
- As shown below, the GVA impacts of the Thoroughbred breeding sector are proportionally similar to that of agriculture. Although the breeding sector generates proportionately larger indirect and induced impacts, it generates lower direct GVA due to its lower profitability.
- It should be noted that unlike the horsebreeding sector, the agricultural sector is a net recipient of subsidies, which significantly increases its direct GVA. Subsidies represent approximately 14% of agriculture's total output (Agriculture in the UK 2012, DEFRA).

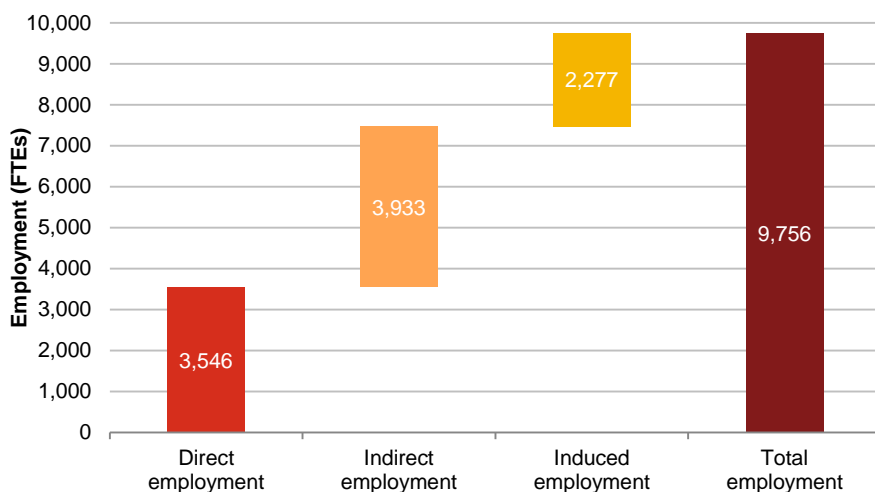
Total GVA generated for each £1m of revenue in the breeding sector and the agricultural sector



Source: PwC confidential survey, PwC analysis, ONS Input-Output Analytical Tables

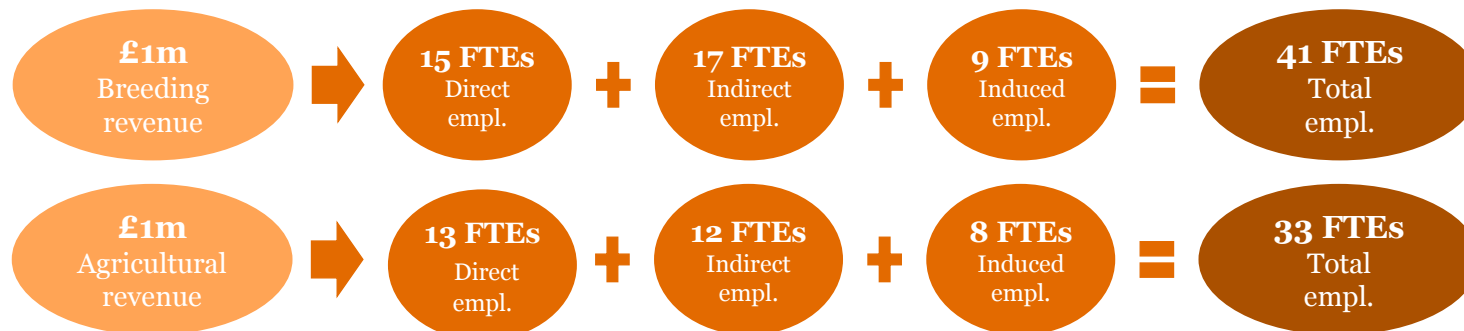
***There are 41 indirect and induced FTEs supported by each £1m of revenue in the breeding sector, over 20% more than the agriculture sector***

**Direct, indirect and induced employment**



- The Thoroughbred breeding sector supports a total employment of 9,756 full time equivalents.
- This consists of 3,546 direct FTEs at breeding businesses, 3,933 indirect FTEs supported through supply chain spending of breeding businesses, and 2,277 induced FTEs supported through the spending of employees in breeding businesses and their supply chains.
- As shown below, the employment impact of the Thoroughbred breeding sector is proportionally greater than that of agriculture. As a more-labour-intensive industry it generates more direct employment per £1m of revenue, while it also produces more indirect and induced employment through its economic linkages.

**Total employment generated for each £1m of revenue in the breeding sector and the agricultural sector**

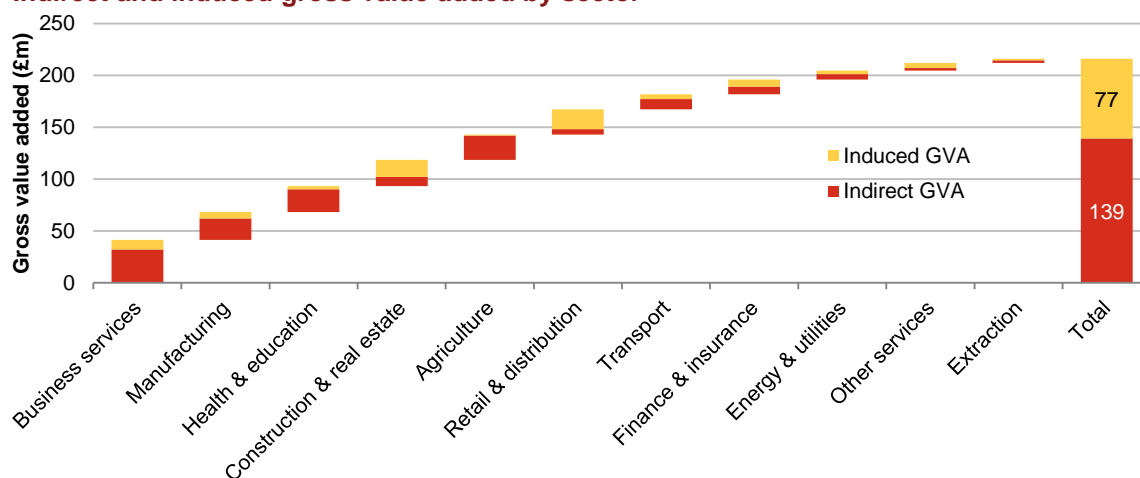


Source: PwC confidential survey, PwC analysis, ONS Input-Output Analytical Tables

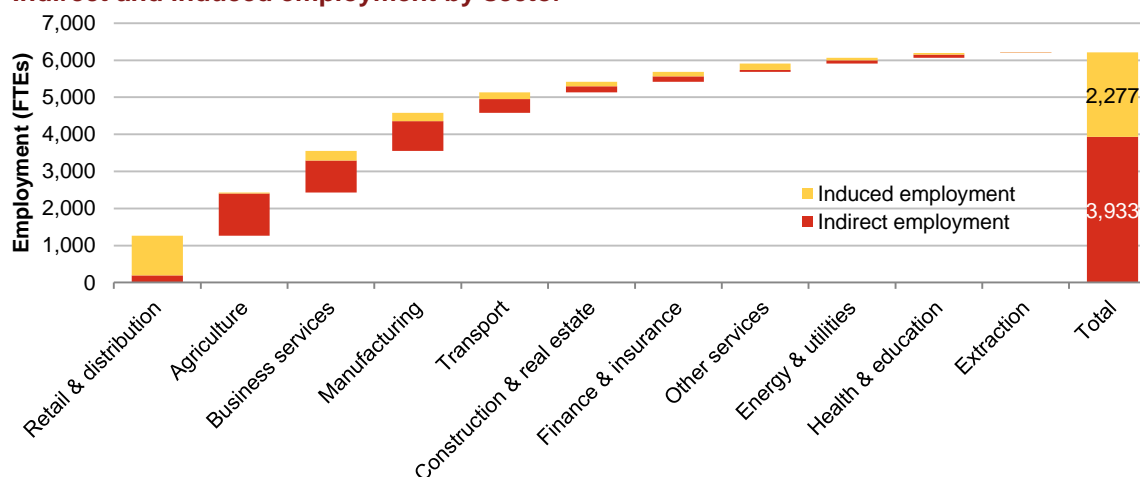


## *The indirect and induced impacts of horse breeding are distributed across a broad range of industries*

**Indirect and induced gross value added by sector**



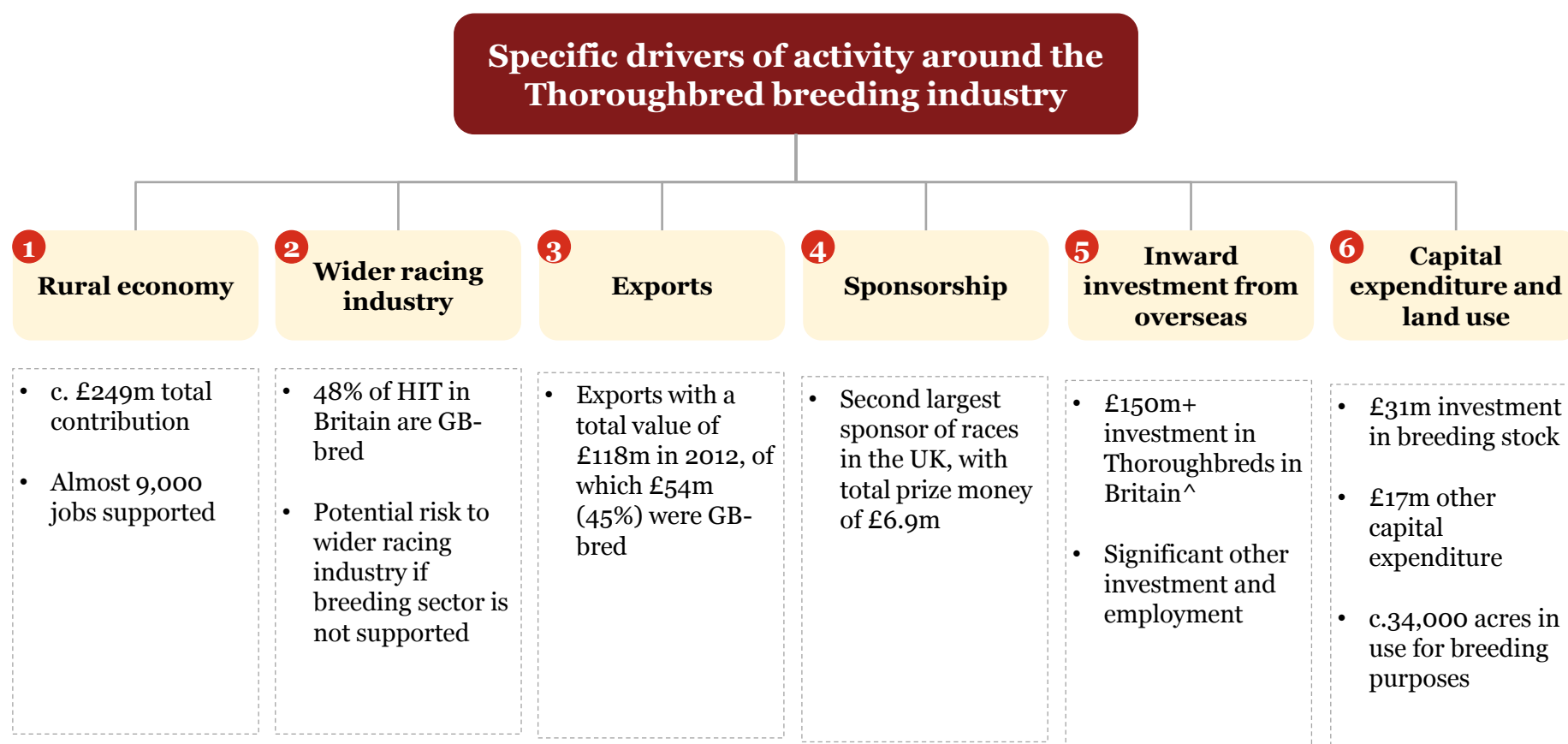
**Indirect and induced employment by sector**



- The largest GVA impact is in business services at £42m, which is mostly generated by indirect impacts through the spending of breeders on auction fees, accountancy, advertising and legal services
- The second and third largest GVA impacts are in manufacturing and health & education at £27m and £25m respectively, and they are also dominated by indirect impacts. The items of expenditure driving activity in these sectors are animal feed and vets' fees respectively
- The sectors with the largest employment impacts are different to those with the largest GVA impacts because of differences in productivity and profitability between sectors. Retail & distribution and agriculture (including horse breeding) have the largest employment impact at approximately 1,300 and 1,200 FTEs respectively
- The employment generated in the retail & distribution sector is driven by induced impacts through employee spending, while in the agriculture sector it is driven by supplier spending, for example on boarding fees and stud fees

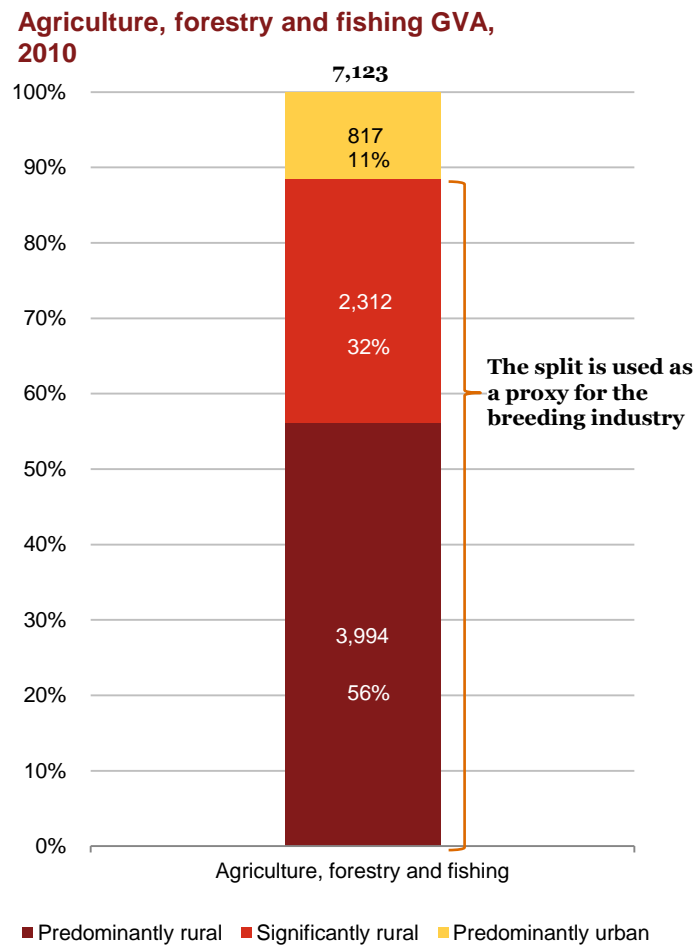
Source: PwC confidential survey, PwC analysis, ONS Input-Output Analytical Tables

*In addition to the principal economic contributions, there are a number of other specific drivers of activity of the Thoroughbred breeding industry*



<sup>^</sup> £31m investment in broodmares and £17m in other capital expenditure; \* - total value of all exports, irrespective of where they were bred

*The nature of Thoroughbred breeding means it is largely a rural industry. We estimate the total rural contribution at c.£245m as well as supporting a total of almost 9,000 rural jobs*



**Thoroughbred breeding industry**

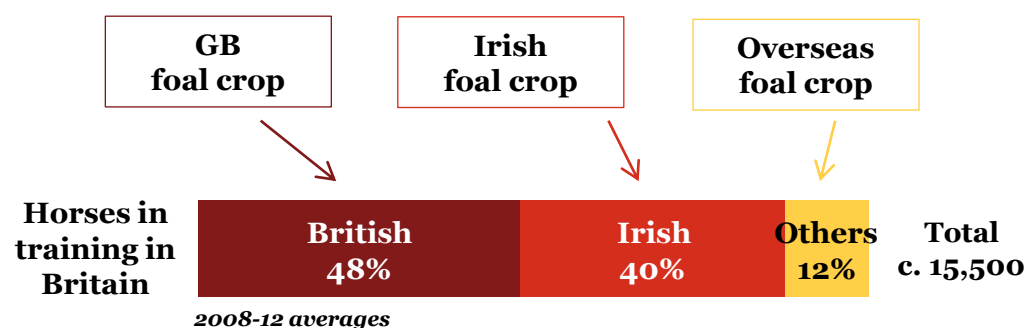
	Predominantly rural	Significantly rural	Total rural
Direct GVA contribution	£36m	£21m	£57m
Total contribution	£158m	£91m	£249m
Direct employment (FTEs)	1,988	1,151	3,139
Total employment (FTEs)	5,470	3,167	8,637

- The inherent nature of breeding racehorses means that it is **largely a rural industry** with the majority of its contribution distributed to local and rural economies
- Many of the production costs associated with breeding a Thoroughbred are spent with local suppliers in the form of vets, farriers, feed suppliers and other small businesses
- As a result, we estimate that that the **total contribution** to rural economies is **£249m** (compared with £281m in total)
- In addition, the breeding industry plays an important role in rural employment, **directly employing 3,139 people** and **supporting a total of 8,637 jobs** taking into account those working in its supply chain.

Source: DEFRA, PwC confidential survey, PwC analysis

***Due to the high number of British bred HIT in Britain (c.48%), any major change in the foal crop could impact the volume of HIT and therefore the wider racing industry, especially given the fall in overseas supply***

### British foal crop and horses in training



- The population of horses training in Britain is predominantly made up of British and Irish bred horses. Changes to the size of the British foal crop therefore have the potential to impact the number of horses in training
- Whilst we believe that owners will ordinarily use imports to adjust for moderate changes in the size of the British foal crop, US and Irish foal numbers have declined in recent years, putting pressure on the number of overseas horses available
- It is therefore possible that larger declines in British foal crops could have a detrimental effect on the number of horses in training
- We have illustrated the impact of the foal crop changing by 5%-15% from the current level. However, we note that this is based on a number of assumptions, and any changes in these would effect the overall impact

### Impact of changes in British foal crop on number of horses in training, assuming owners do not adjust the number they import

*Illustrative*

		Illustrative change in the foal crop						
		(15%)	(10%)	(5%)	0%	5%	10%	15%
% change in number of horses in training	Year 0-1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Year 2	(2.5%)	(1.5%)	(1.0%)	0.0%	1.0%	1.5%	2.5%
	Year 5	(6.0%)	(4.0%)	(2.0%)	0.0%	2.0%	4.0%	6.0%

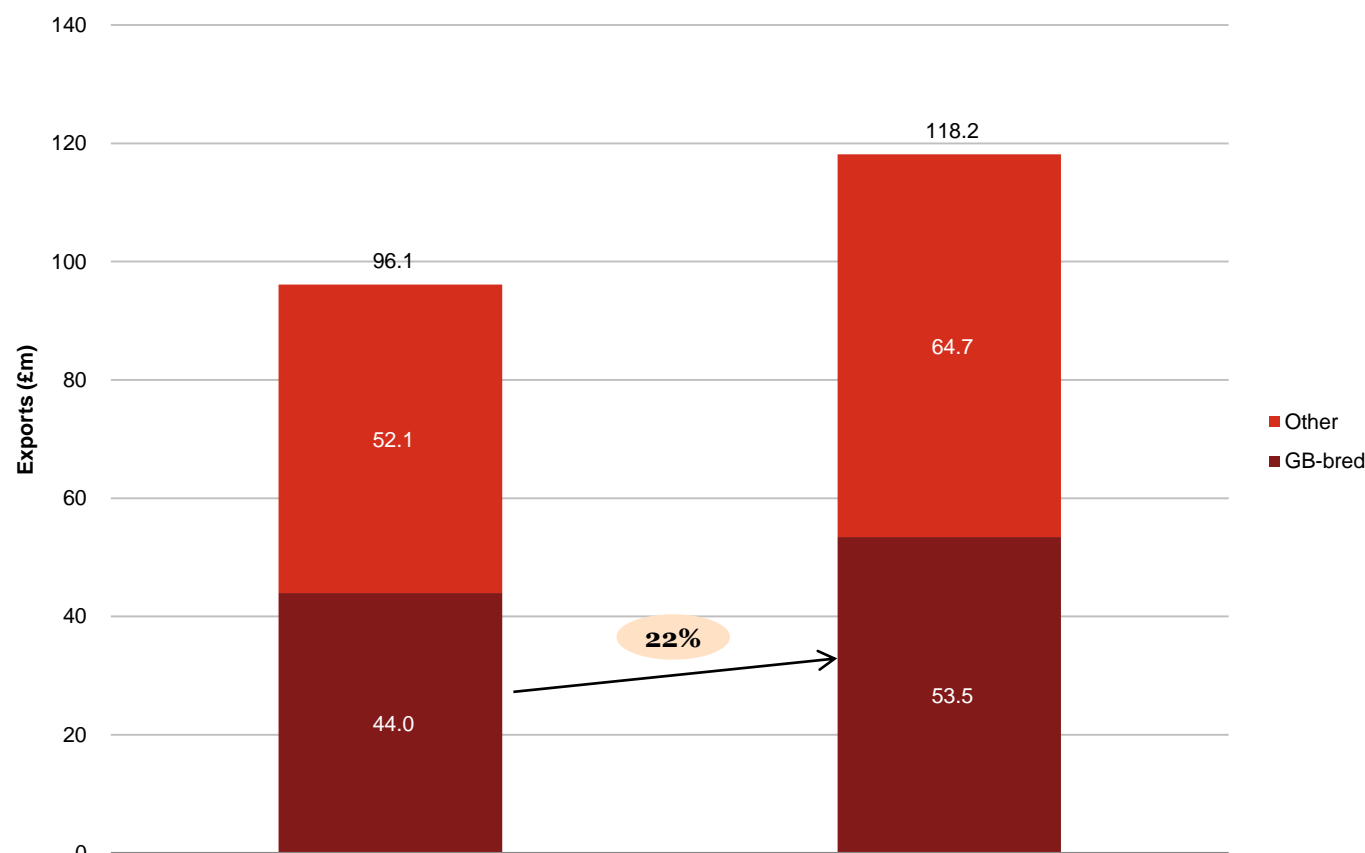
Source: Weatherbys, PwC analysis

### High level assumptions

- Changes to the size of the foal crop occur in year 0 and are permanent
- The number of horses imported by owners remains the same
- At any one time, c.50% of each year's foal population enters training
- c.25% of the population of horses in training retires each year
- Flat/dual purpose horses enter training as 2 year olds, whilst jumps horses enter as 3 or 4 year olds

***The export of Thoroughbreds is a key part of the overall economic contribution of the breeding industry with an estimated value of £118m in 2012, of which £54m (45%) were GB-bred horses***

Value of Thoroughbred exports from the Britain, 2011 & 2012



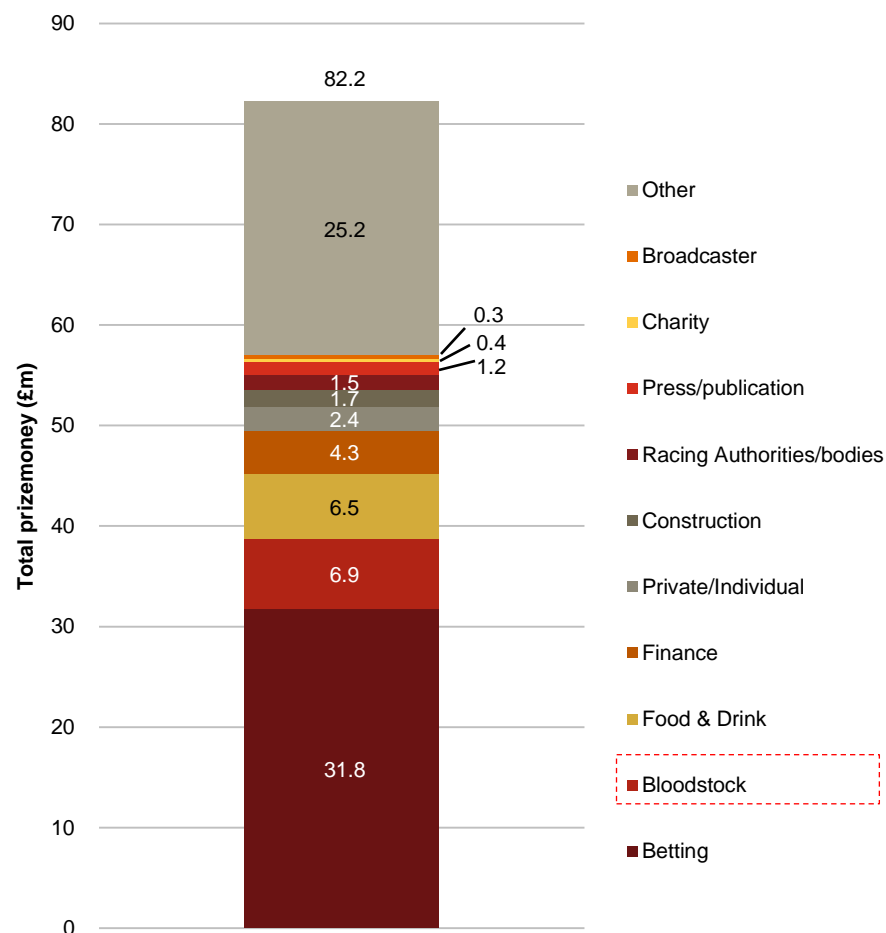
Note: value of British-bred exports based on the percentage of total exports (volume) that were British-bred

Source: Weatherbys

- A key part of the overall economic contribution of the industry is the export of stock from Britain
- In 2012, the total value of exports of GB-bred horses was £53.5m, 22% higher than in 2011
- Britain exports horses to major racing industries such as Ireland, France and USA as well as many other smaller countries – see 'International' section for further analysis

***The breeding industry is the second largest direct sponsor of races in the Britain, as well as contributing to prize money through sales races and schemes such as BOBIS and RPYBS***

**Race sponsorship by economic sector, 2012**



Source: Economic Impact of British Horseracing, 2013

**Direct race sponsorship**

- The bloodstock industry is the second largest sponsor of races in Britain
  - In 2012, the GB bloodstock industry sponsored 642 races which had combined prize money of £6.9m
  - As well as sponsoring several leading races throughout the year (e.g. Juddmonte International), British-based stud farms also play an equally important role in other low profile races

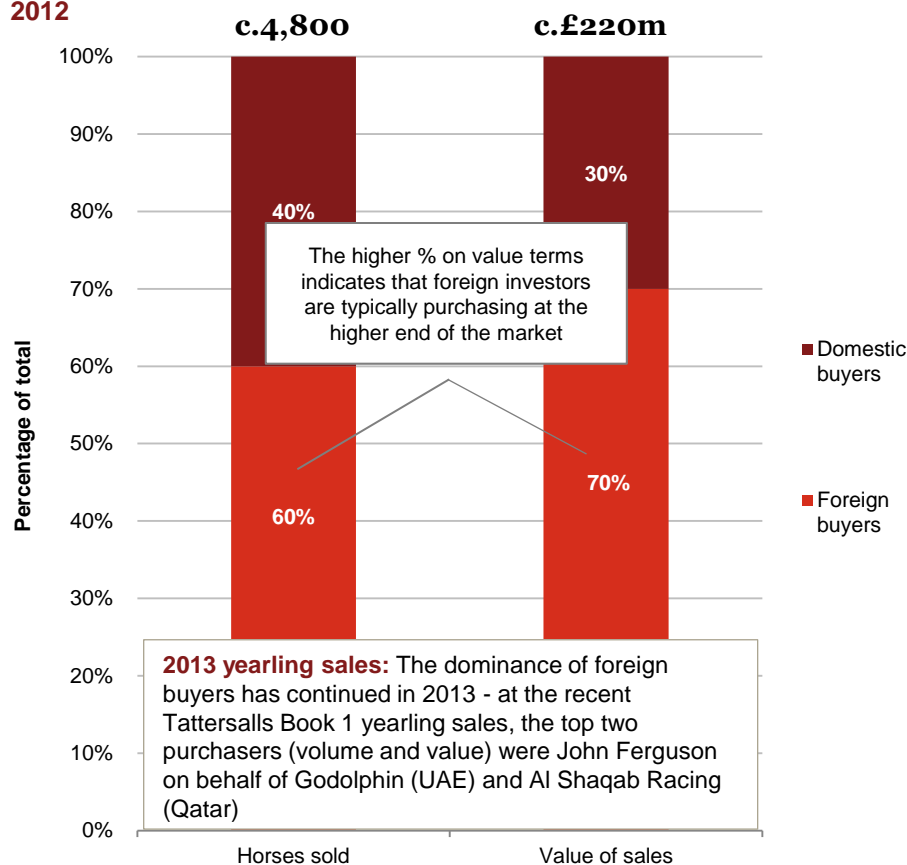
**Other contribution to prize money**

- As well as direct sponsorship of races, the Breeding industry contributes through several other channels
  - The main sales companies sponsor races directly as well as contributing to prize-money through entries to specific races (e.g. The Tattersalls Millions series)
  - Thoroughbred owners and breeders contribute through participation in incentive schemes such as BOBIS, RPYBS and EBF – see slide 47 for further details

***The breeding industry in GB benefits from significant investment from overseas, predominantly from the Middle East. This support is critical for the future of the industry and every effort should be made to safeguard it***

**Foreign investors continue to play an important role in purchasing racehorses, particularly at the top end of the market...**

**Tattersalls auction sales, domestic versus foreign buyers, 2012**



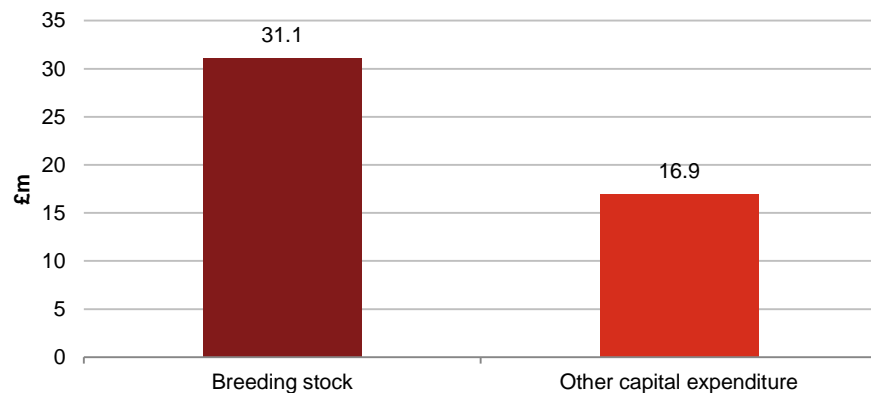
Source: Economic Impact of British Racing 2013, Press, Company websites, PwC interviews

**...as well as providing significant investment and rural employment through breeding operations and in the wider racing industry**

- There are a number of major racing and breeding operations in GB that continue to operate through significant contributions from foreign investors, in particular from the Middle East
- As well as directly purchasing stock from breeders, the breeding operations of these individuals make several other key contributions to the breeding industry:
  - **Capital investment:** Several of the largest breeding operations in Britain are owned by these foreign investors. Significant capital investment is required to purchase and run these stud farms
  - **Breeding industry supply chain:** Although it is not possible to calculate the exact amount, the production costs of these studs to the wider supply chain reach several million pounds each year
  - **Rural employment:** Sheikh Mohammed is Newmarket's biggest individual employer and between them the breeding operations of these investors generate many jobs in the rural economy
  - **Sponsorship:** The breeding industry is estimated to contribute £6.9m in sponsorship of racing each year, with a significant portion coming from the largest breeding operations (e.g. The Juddmonte International)

***We estimate the breeding industry's annual capital expenditure to be £31m on breeding stock and a further £17m on other capital goods. The land used by stud farms is estimated to be c.34,000 acres***

**Thoroughbred breeding industry estimated annual capital expenditure**



- Capital expenditure in the breeding industry is typically incurred on the acquisition of breeding stock as well as other tangible assets such as land & buildings and farm machinery
- Due to insufficient data from the main PwC breeder survey, we have been unable to use this survey to estimate the total capital expenditure in the industry
- However, based on analysis of a smaller sample of 21 breeding operations, we estimate expenditure of c.£31m on breeding stock and £17m on other capital items

**Geographical distribution and land use of stud farms in Britain**

Region	Estimated number of stud farms	Estimated total land in use (acres)
South	78	6,100
East	65	16,800
West and Wales	63	2,800
Midlands	58	6,600
Scotland	18	1,400
North	20	500
<b>Total</b>	<b>300</b>	<b>34,200</b>

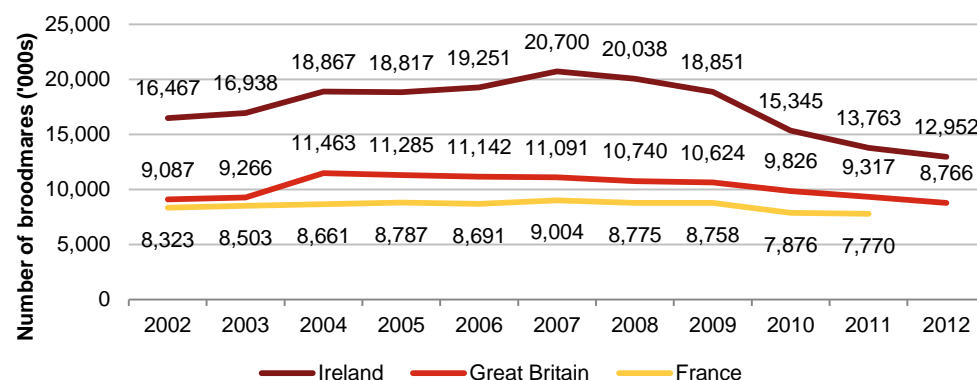
- We estimate a total of c.34,000 acres of land are used by stud farms for breeding purposes in Britain
- The land use in the East of England is higher than other regions due to the high concentration of large stud farms in and around Newmarket
- However, outside this area, it is clear that the breeding sector is broadly dispersed across Britain and focused on more rural areas

Source: PwC confidential survey, PwC analysis

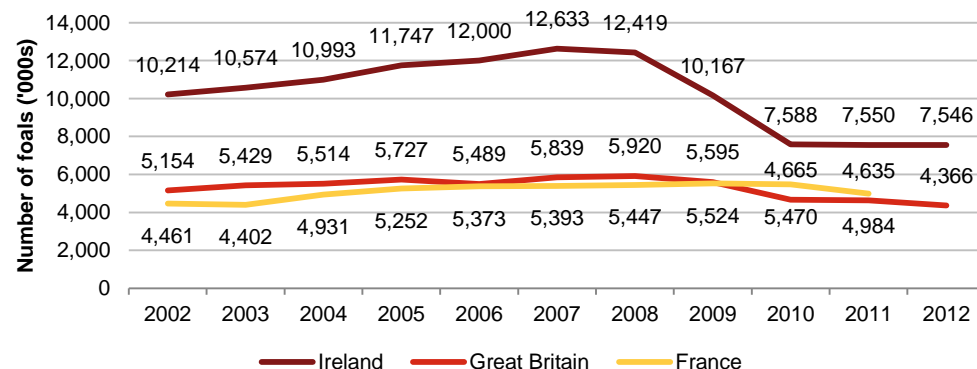


## *The British industry sits between Ireland and France in terms of scale of production but the distribution of different size operations appears to be broadly similar*

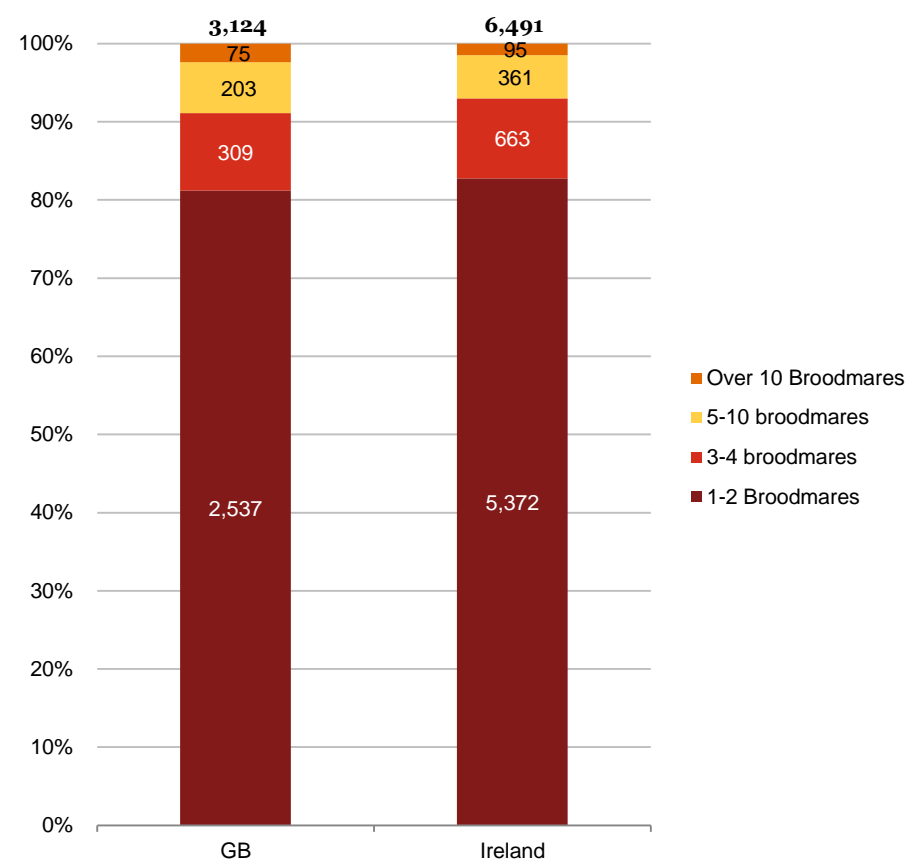
Number of broodmares, 2002-12



Number of foals born, 2002-12



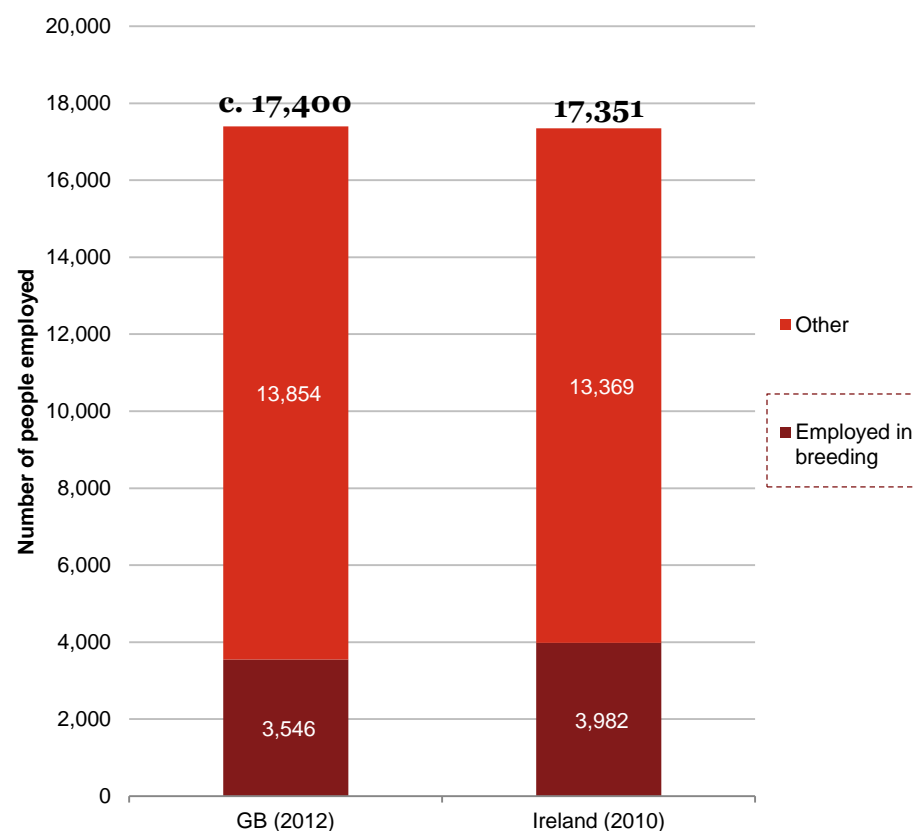
Number of breeders by broodmare, GB and Ireland, 2012\*



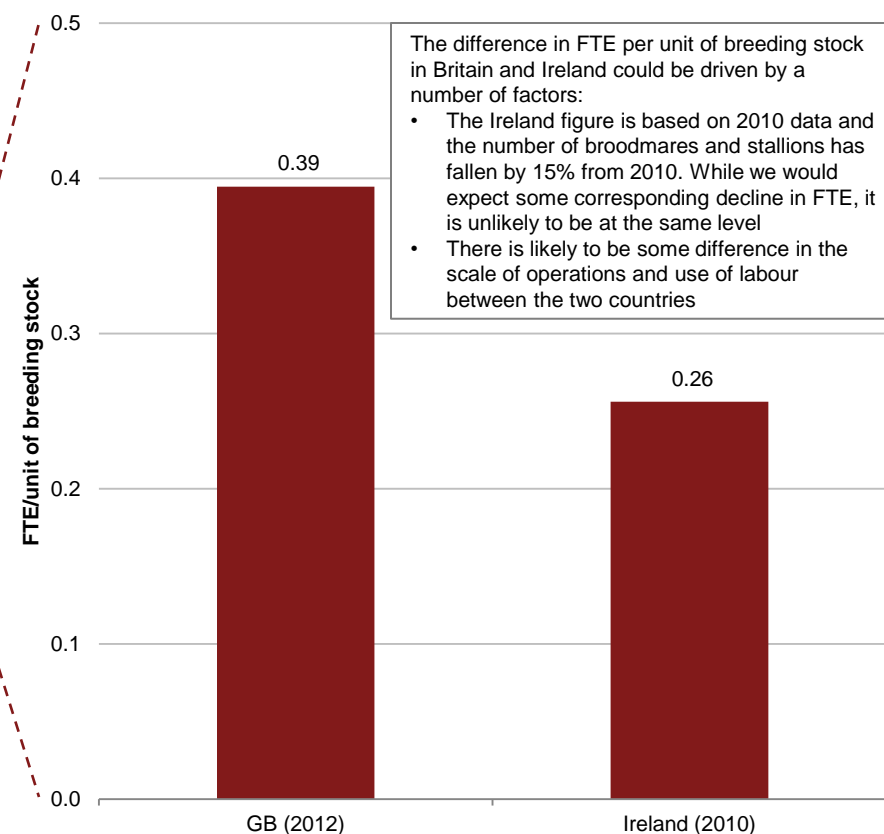
\* Data not available for France  
Source: IFHA, Weatherbys, HRI, BHA

***While the total number of people employed in the British breeding industry is similar to Ireland, FTE per broodmare is slightly higher, possibly reflecting a difference in scale and use of labour between the two countries***

**Number of people direct employed in the racing and breeding industry**



**Direct FTE per unit of breeding stock (broodmares & stallions), GB and Ireland**



Source: Economic Impact of British Racing 2013, The Economic Contribution and Financing of Racecourses in Ireland 2013, PwC Analysis

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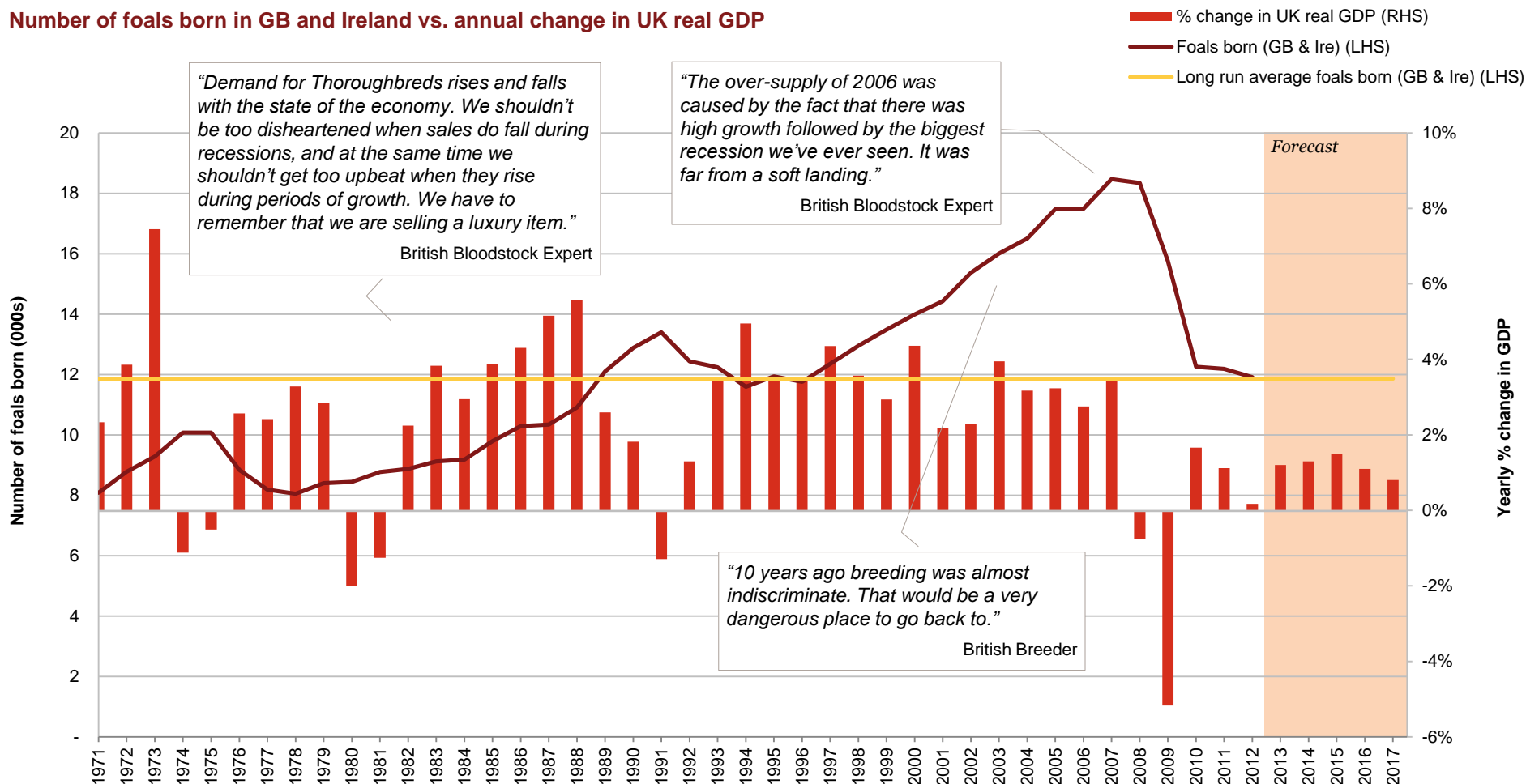
# *Domestic opportunities & risks*

## *We have identified several domestic opportunities and risks to the Thoroughbred breeding industry in Britain*

Opportunity / risk		Affect on flat/jumps	Description	Actions required	Level of impact	Likelihood
<b>Opportunity</b>	<b>Recovery in the macro economy</b>	<b>Both</b>	<ul style="list-style-type: none"> <li>Demand for racehorses is strongly linked to the broader macro economy which is forecast to improve over the next five years</li> </ul>	<ul style="list-style-type: none"> <li>With steady forecast improvements in the macro economy, a prudent approach to breeding is required, with the emphasis on maintaining production of a high quality product</li> </ul>		
<b>Opportunity</b>	<b>Increasing global prize money</b>	<b>Pre-dominantly flat</b>	<ul style="list-style-type: none"> <li>Increasing global prize money is increasing global demand for high quality Thoroughbreds and attracting new investors into the sport</li> </ul>	<ul style="list-style-type: none"> <li>British breeders must focus on producing high quality Thoroughbreds which appeal to international buyers (see international section for further details)</li> </ul>		
<b>Opportunity</b>	<b>Further improvements in breeder incentive schemes</b>	<b>Pre-dominantly flat</b>	<ul style="list-style-type: none"> <li>Britain's two major incentives schemes, BOBIS and Racing Post's Yearling Bonus Scheme are generally well received by breeders but there is some room for improvement</li> </ul>	<ul style="list-style-type: none"> <li>Encourage further participation and funding of the schemes, but not at the expense of prize money</li> </ul>		
<b>Risk</b>	<b>Changes to Levy stimulating a supply/demand imbalance</b>	<b>Both</b>	<ul style="list-style-type: none"> <li>The Horserace Betting Levy Board (HBLB) has proposed increasing the minimum number of races per fixture to seven and minimum number of runners per race to six. This would require an additional c.3,200 horse starts a year. However this will be difficult to achieve without either marked increases in either prize money or owner numbers</li> </ul>	<ul style="list-style-type: none"> <li>We do not believe the Levy Board's objectives will stimulate a notable increase in demand for Thoroughbreds</li> <li>It is important that supply of high quality stock remains the principal objective of British breeders, and quality does not deteriorate at the expense of quantity</li> </ul>		
<b>Risk</b>	<b>Decline in National Hunt (NH) breeders and British bred foals</b>	<b>Jumps</b>	<ul style="list-style-type: none"> <li>The decline of foal numbers has been greater for jumps than flat. Many of the smaller NH breeders are struggling with the economics of production. There is therefore a risk that many of these breeders cease to produce NH foals</li> </ul>	<ul style="list-style-type: none"> <li>Further financial incentives where possible to aid NH breeders</li> <li>Continued development of a mares only racing programme to increase quality, demand and therefore value of NH mares</li> </ul>		

## *Demand for racehorses is strongly linked to the broader macro economy which is forecast to improve over the next five years*

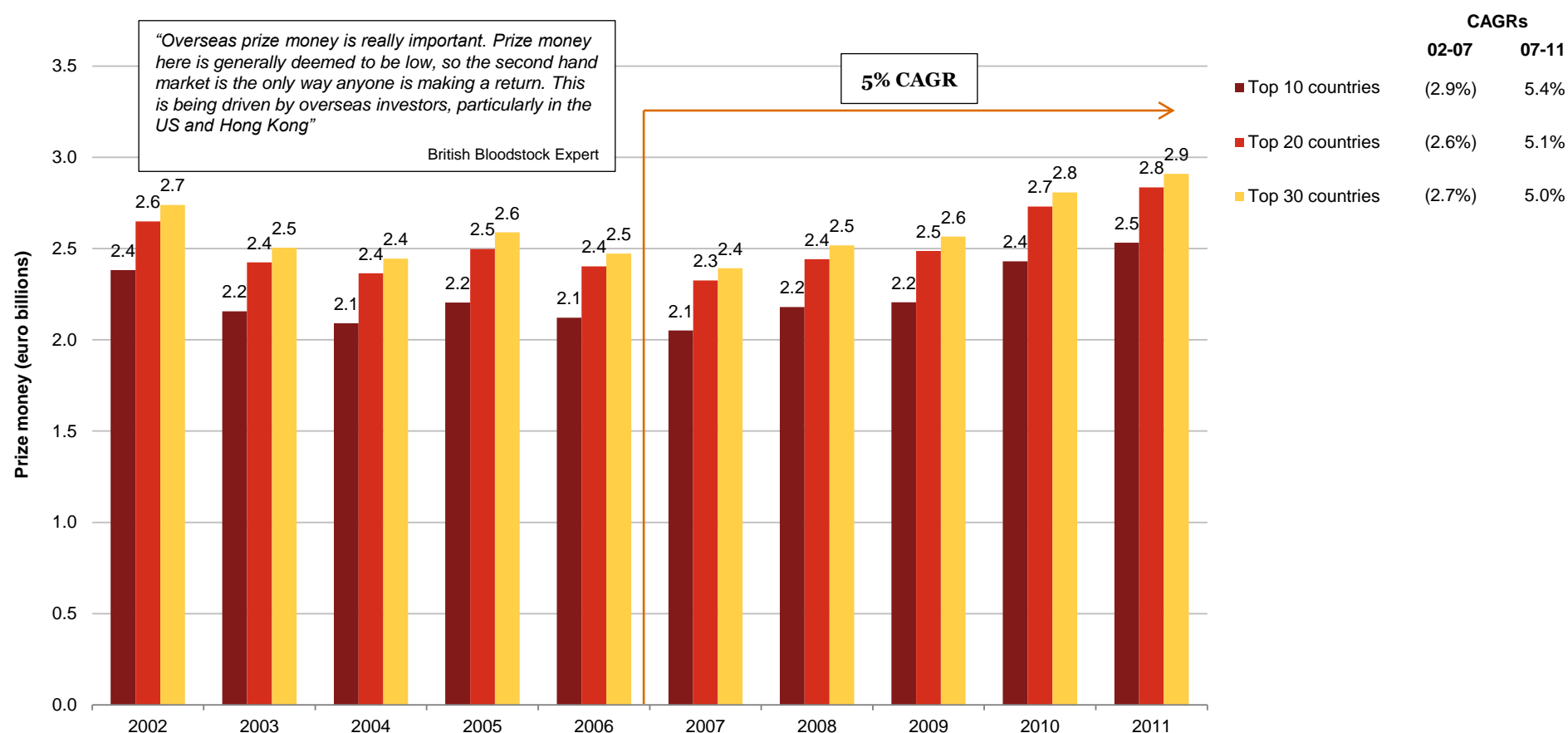
Number of foals born in GB and Ireland vs. annual change in UK real GDP



Source: Economic Intelligence Unit, July 2013 forecasts; ONS; Weatherbys

***Global prize money increased by c.5% p.a. in the top 30 countries between 2007 and 2011, increasing international demand for horses. Maintaining a high quality British Thoroughbred is essential to serving this demand***

Prize money by top paying countries, jumps and flats, 2002-2011

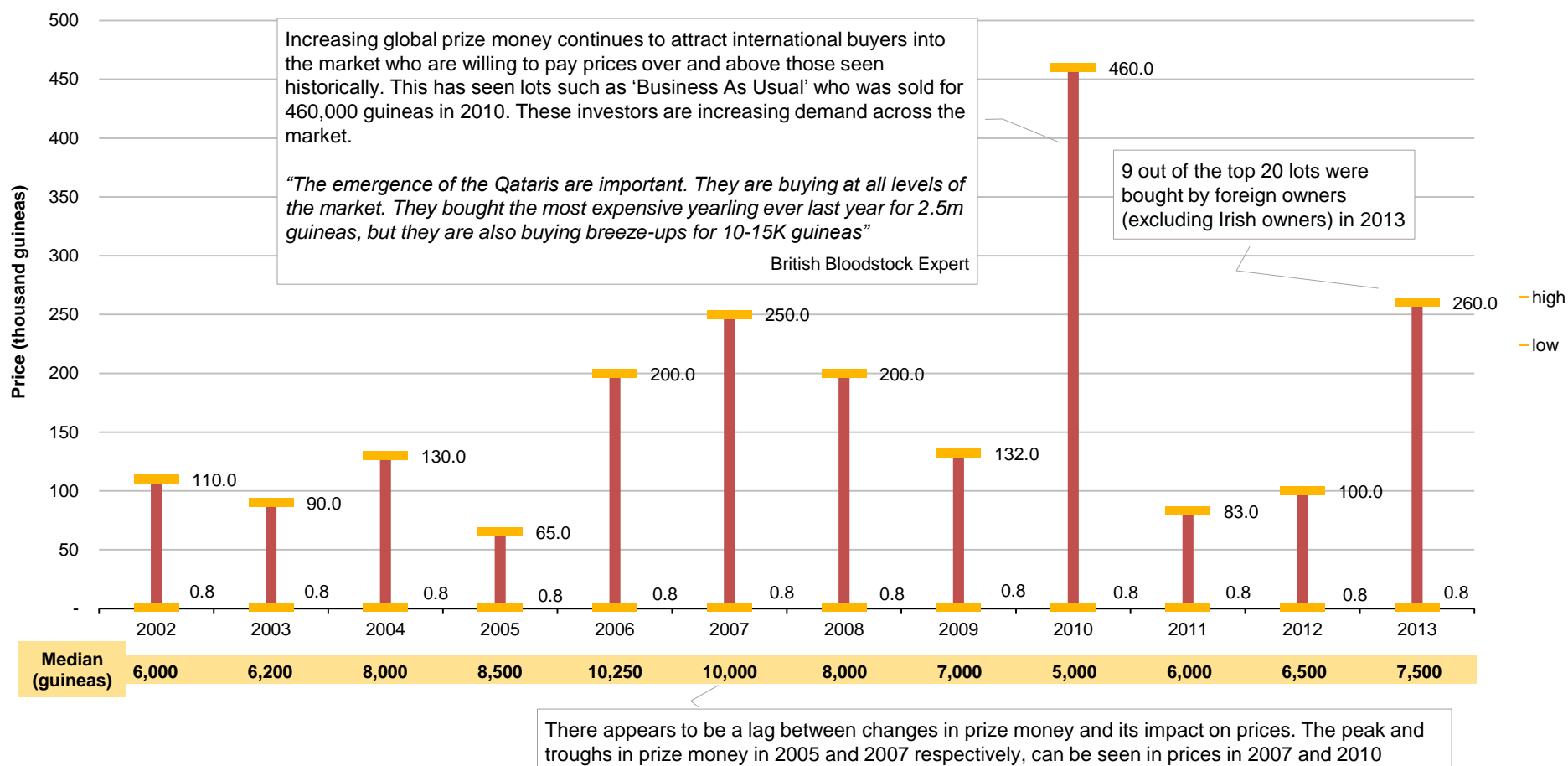


Note: data for individual countries for some years is not available and has therefore been estimated based upon historicals

Source: IFHA, PwC analysis

## *Increased international demand has had an impact on prices, with median prices of lots in Tattersalls' July sales increasing by 50% between 2010 and 2013, whilst attracting foreign owners to the sales*

Average price of all GB horses sold in Tattersalls' July sales (Europe's premier midsummer sale), 2002-2013

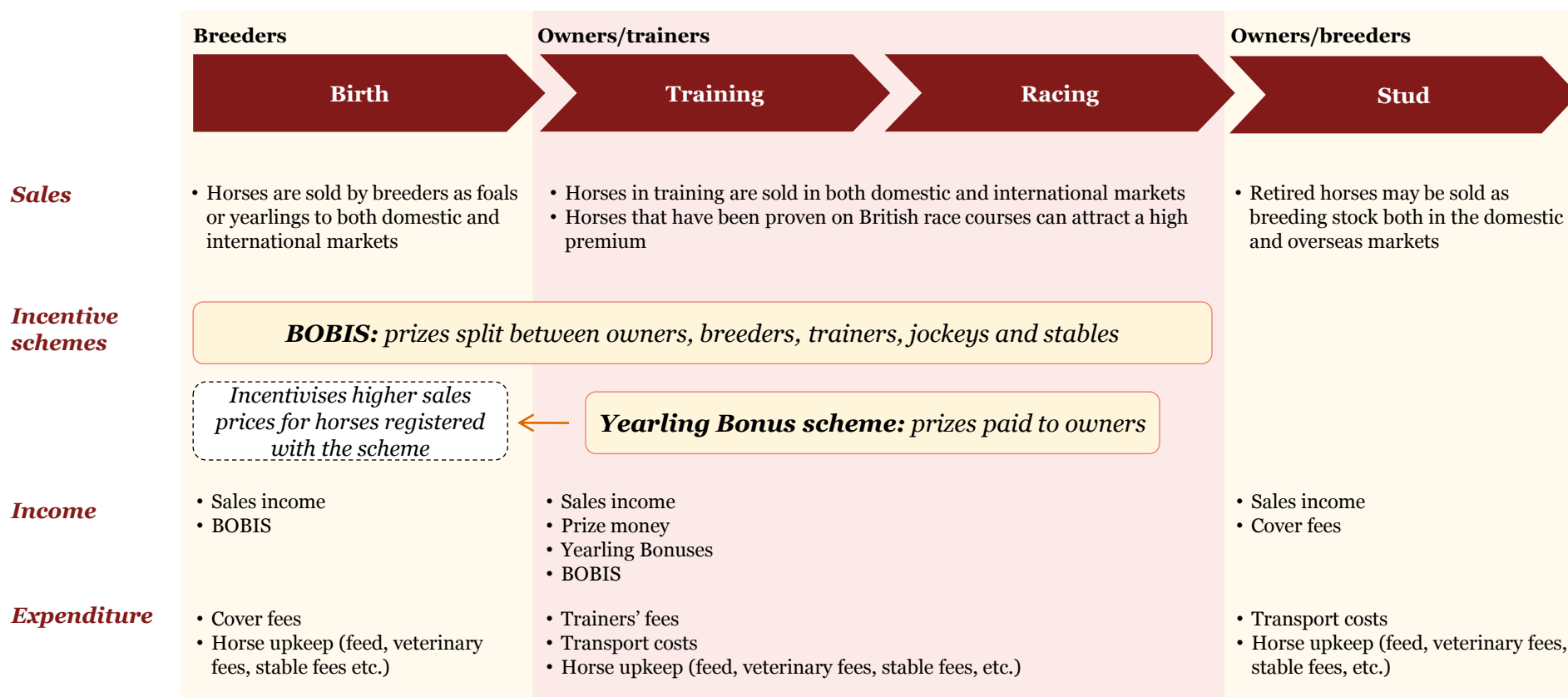


Note: excludes lots which were not sold or withdrawn from the sale

Source: Tattersalls

## *The two major breeder incentive schemes used in Great Britain work in different ways to boost the income of breeders and incentivise the breeding of quality of stock*



### Lifecycle of a race horse



Source: bobis.co.uk, Racing Post, PwC interviews



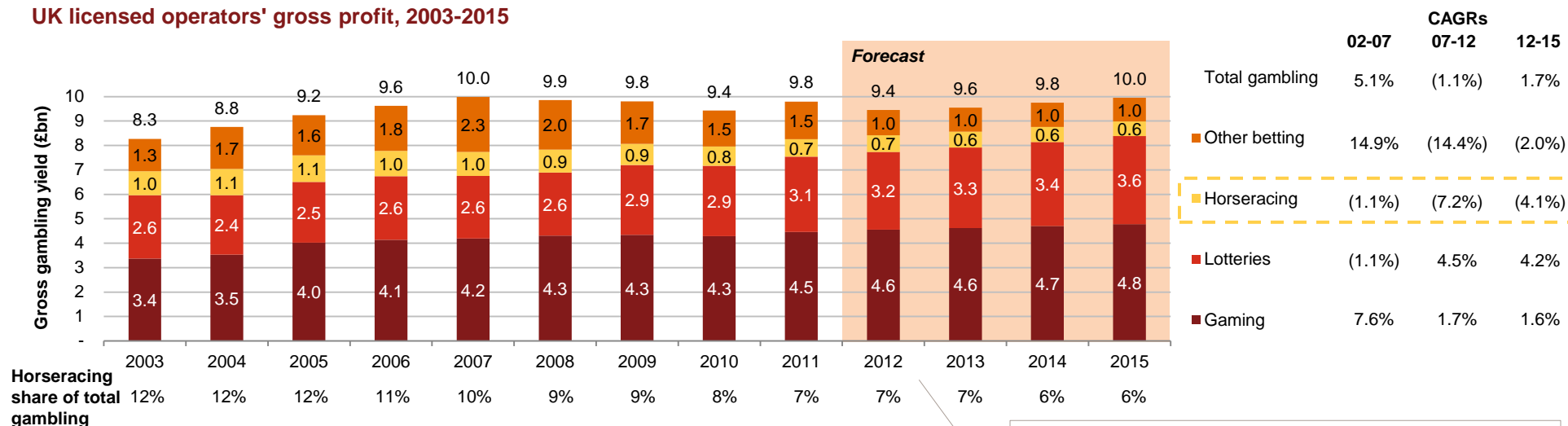
## *These schemes are generally well received by breeders, but there is some room for improvement*

Scheme	Summary	Advantages	Disadvantages
	<ul style="list-style-type: none"> <li>• BOBIS qualified horses win £6,000 if they win a BOBIS race. This money is split between: owners (60%); breeders (30%); trainer, jockey and stable (10%)</li> <li>• The scheme is funded through a combination of registration and nomination fees from breeders and owners, and funding from the Horserace Betting Levy Board (HBLB)</li> <li>• Only horses with a British based dam or sire are eligible. The dam must be GB domiciled and have not left the country for a continuous period of longer than 9 months (for covering) in the year prior to the year of birth. The sire must be recorded by Weatherbys as standing in GB</li> </ul>	<ul style="list-style-type: none"> <li>• BOBIS prizes provide additional money directly to breeders</li> <li>• Incentivises breeders to breed higher quality horses</li> </ul>	<ul style="list-style-type: none"> <li>• Exclusion of Irish horses from BOBIS eligibility has led to some criticism of the scheme with some suggestion that inclusion of Irish bred horses could be beneficial to the industry. This would require collaboration in scheme funding contributions between GB and Ireland</li> </ul>
	<ul style="list-style-type: none"> <li>• Pays £10,000 to the owner of an eligible winner of a selected 'Racing Post Yearling Bonus' maiden</li> <li>• Funded solely through registration fees paid by owners and breeders</li> <li>• British and Irish horses are eligible</li> </ul>	<ul style="list-style-type: none"> <li>• Entirely self-funded by breeders and owners, encouraging both high quality breeding and training</li> <li>• Incentivises owners to invest more in their horse purchases, and has helped encourage exports e.g. to Poland</li> </ul>	<ul style="list-style-type: none"> <li>• Yearling Bonuses do not give money directly back to breeders</li> <li>• Breeders believe the level of administration required to sign up to both schemes is high, and further improvement in both the registration process and tightening of policies is required</li> </ul>

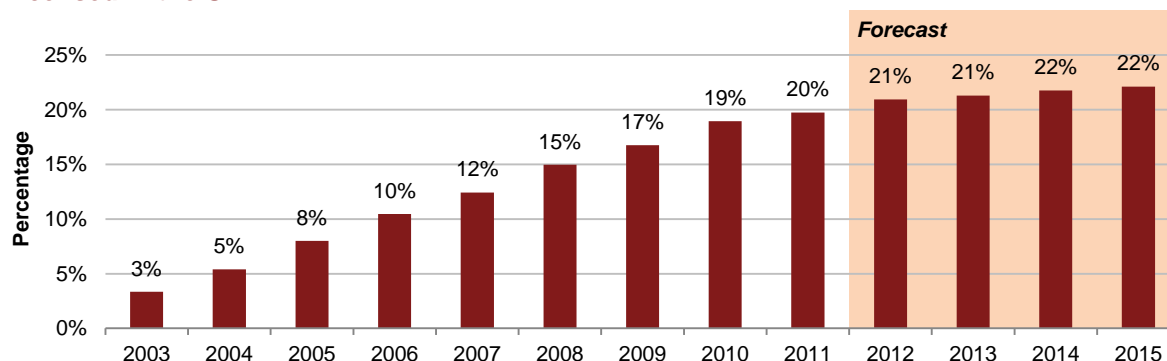
Source: bobis.co.uk, Racing Post, PwC interviews, various press

*The income received by the Horserace Betting Levy is declining due to horseracing's decreasing share of the gambling market and the movement of online betting operations offshore, where they are exempt from the levy*

UK licensed operators' gross profit, 2003-2015



% of total UK gross gambling profit attributable to online operators not licensed in the UK



- The Horserace Betting Levy requires the British UK's licensed betting industry to make a financial return to racing in exchange for their ability to take bets on it. Levy payments are currently 10% of gross profit from racing, and have decreased from c.£100m in 2003/04 to c.£75m in 2011/12
- The relocation of a large number of online betting operators offshore, where they are exempt from contributing to the levy, has contributed to this decline. c.20% of the UK's total gross gambling profit is now made by these offshore online operators
- Whilst the amount of online betting for horse racing is likely to be lower than other sports such as football, this trend is continuing to put pressure on levy payments

Source: British Horseracing Authority, Horserace Betting Levy Board, H2 Gambling Capital, PwC analysis



***This has put pressure on the Horserace Betting Levy Board (HBLB) to find other ways to increase their income. In their 2013 objectives, they aimed to do this through two major initiatives...***

### HBLB 2013 objectives

#### 1. Number of races per fixture

- The first major aim of the HBLB is to increase the number of races per fixture to seven across both flat and jumps racing
- The increase in races will promote more gambling both on and off course

#### Flats Jumps

Potential impact	●	●
Likelihood of impact	●	●

#### 2. Number of horses per race

- The second major aim of the HBLB is to increase the number of runners in each race to a minimum of 6
- Races with larger number of runners stimulate increased gambling by consumers, and higher potential profits for bookmakers, and therefore greater levy

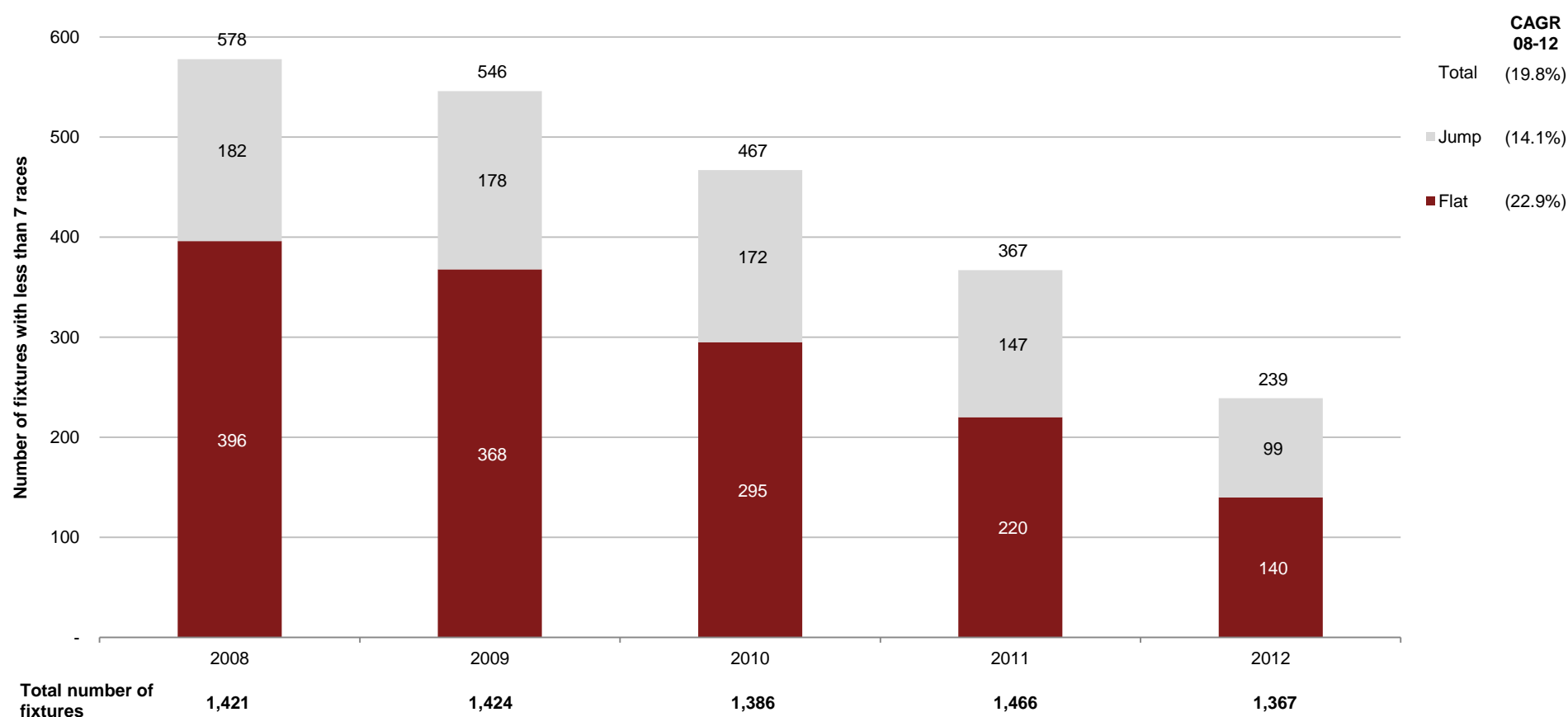
#### Flats Jumps

Potential impact	●	●
Likelihood of impact	●	●

Source: Horserace Betting Levy Board

*The number of fixtures with the current minimum of 6 races has decreased strongly since 2008 in both jumps and flat racing, but there were still 239 fixtures with 6 races in 2012*

Number of fixtures with the current minimum number of 6 races\*

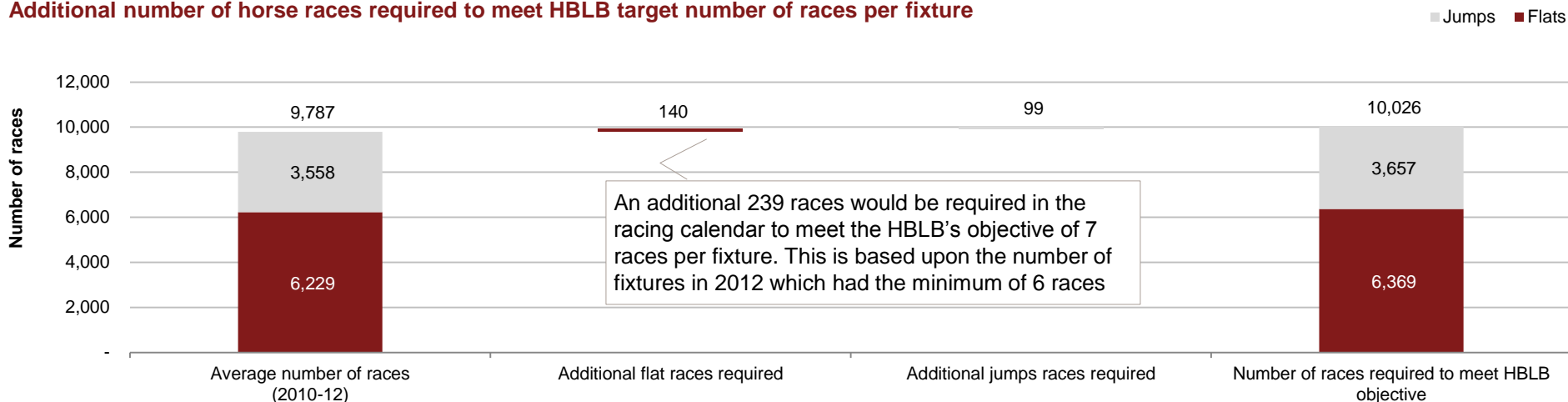


Notes: \*excludes races that were scheduled to have the minimum of 6 races but for various reasons were unable to complete their scheduled number of races (c. 10 fixtures p.a.)

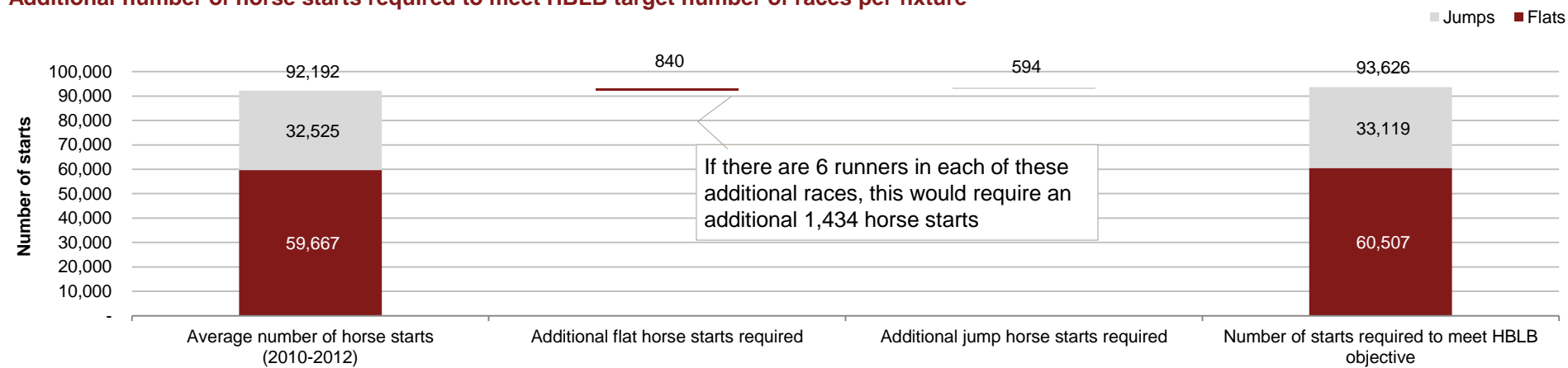
Source: Weatherbys

***For the HBLB's target of seven races per fixture to be achieved, there therefore would need to be an additional c.240 races and c.1,400 horse starts***

**Additional number of horse races required to meet HBLB target number of races per fixture**



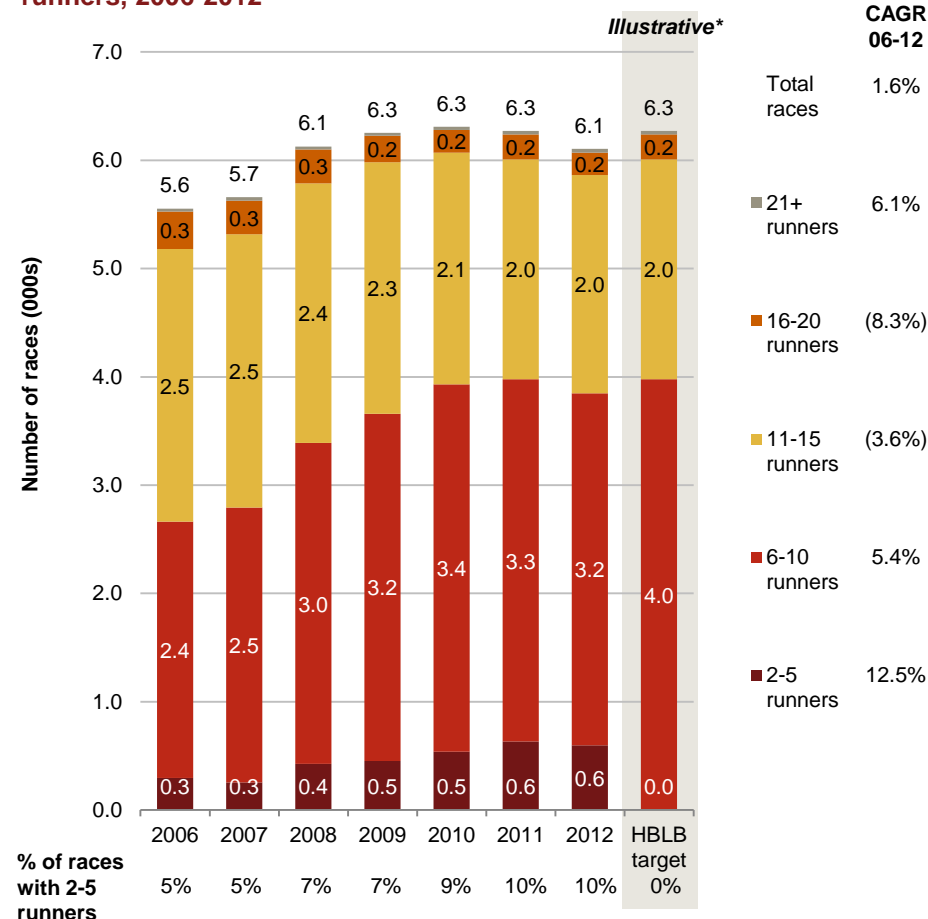
**Additional number of horse starts required to meet HBLB target number of races per fixture**



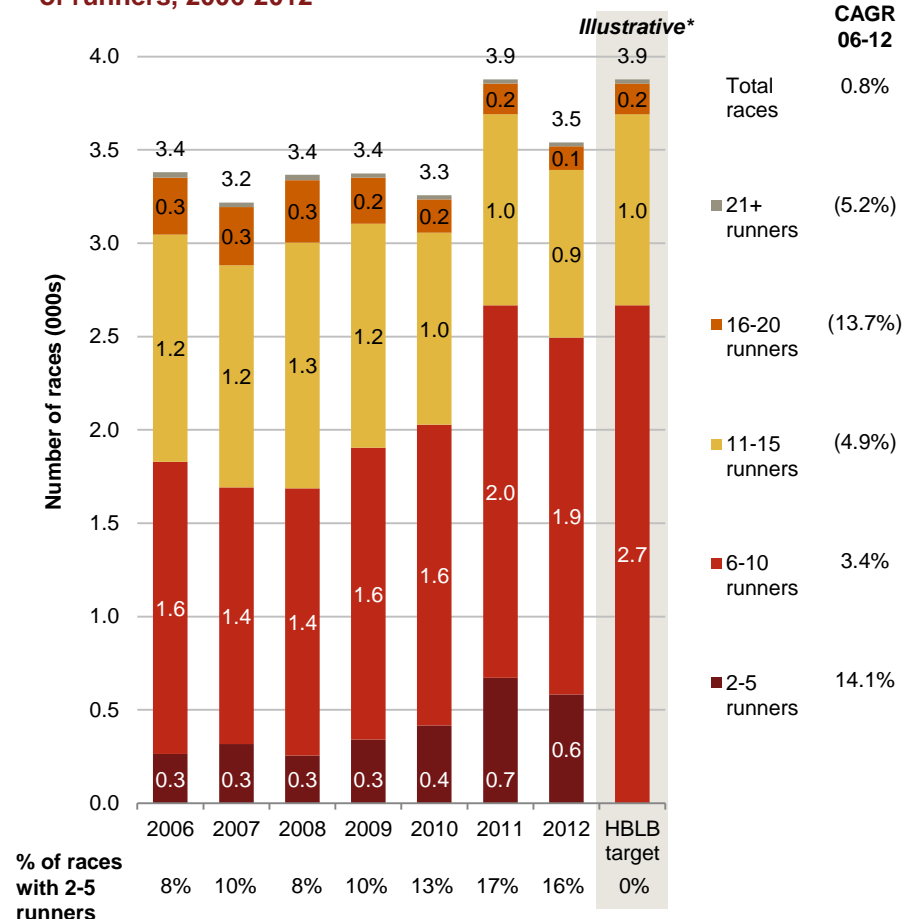
Source: British Horseracing Authority, Horseracing Betting Levy Board, PwC analysis

***In 2012, the number of races with fewer than six runners accounted for 10% and 16% of the racing calendar for flat and jumps respectively. This number has grown strongly since 2006 for both flat and jumps***

**Number of flat races with different numbers of runners, 2006-2012**



**Number of jumps races with different numbers of runners, 2006-2012**



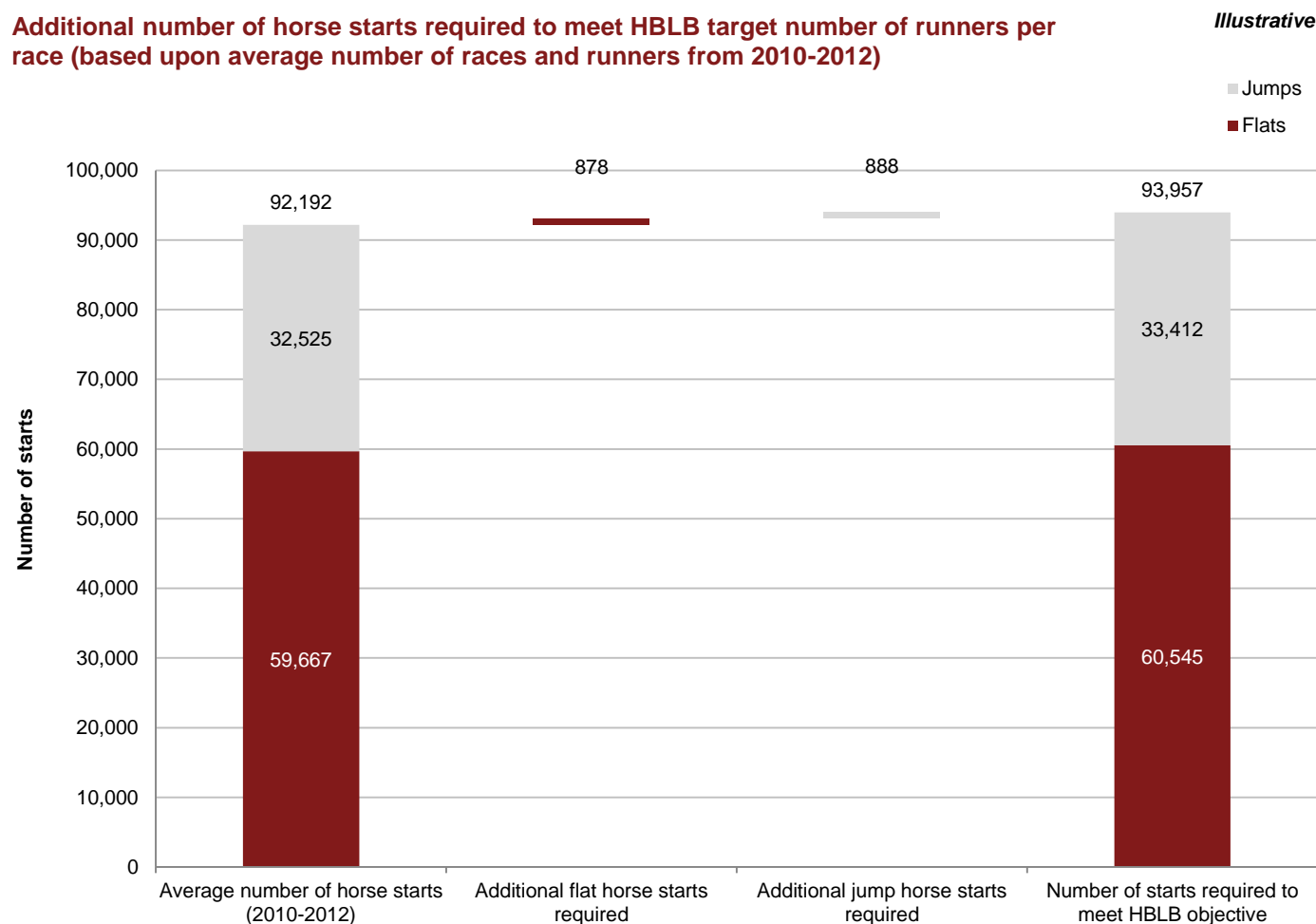
Note: \*All values shown are the same as 2011 except races with 2-5 runners which are all assumed to become races with 6-10 runners

Source: British Horseracing Authority, Horseracing Betting Levy Board, PwC analysis



## *In order to achieve a minimum of six runners per race, an additional c.1,800 horse starts would be required each year*

**Additional number of horse starts required to meet HBLB target number of runners per race (based upon average number of races and runners from 2010-2012)**

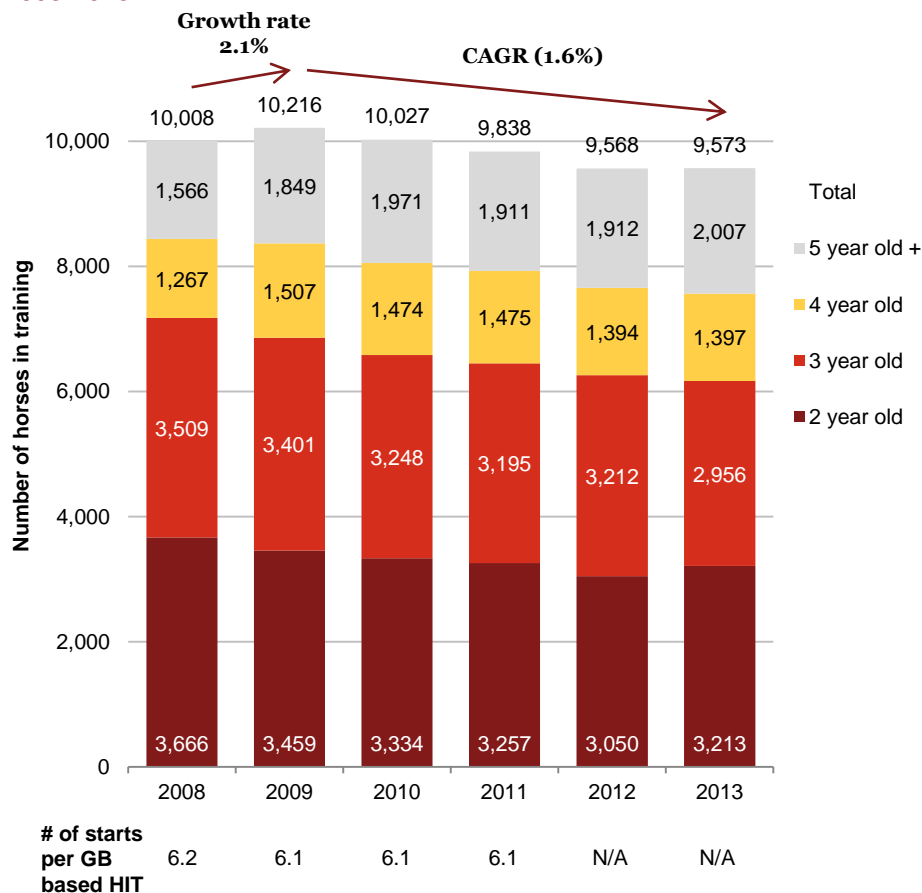


- The number of horse races in Britain changes every year, as does the number of races with less than 6 runners
- If the number of races and runners per race is in line with recent years (average of 2010-12), c.1,765 additional horse starts would be required to meet the HBLB's target of 6 runners minimum per race
- This is based upon an average of c.4.5 runners in races with 2-5 runners
- **The total number of additional horse starts required to achieve both of the HBLB's objectives is therefore c.3,200**

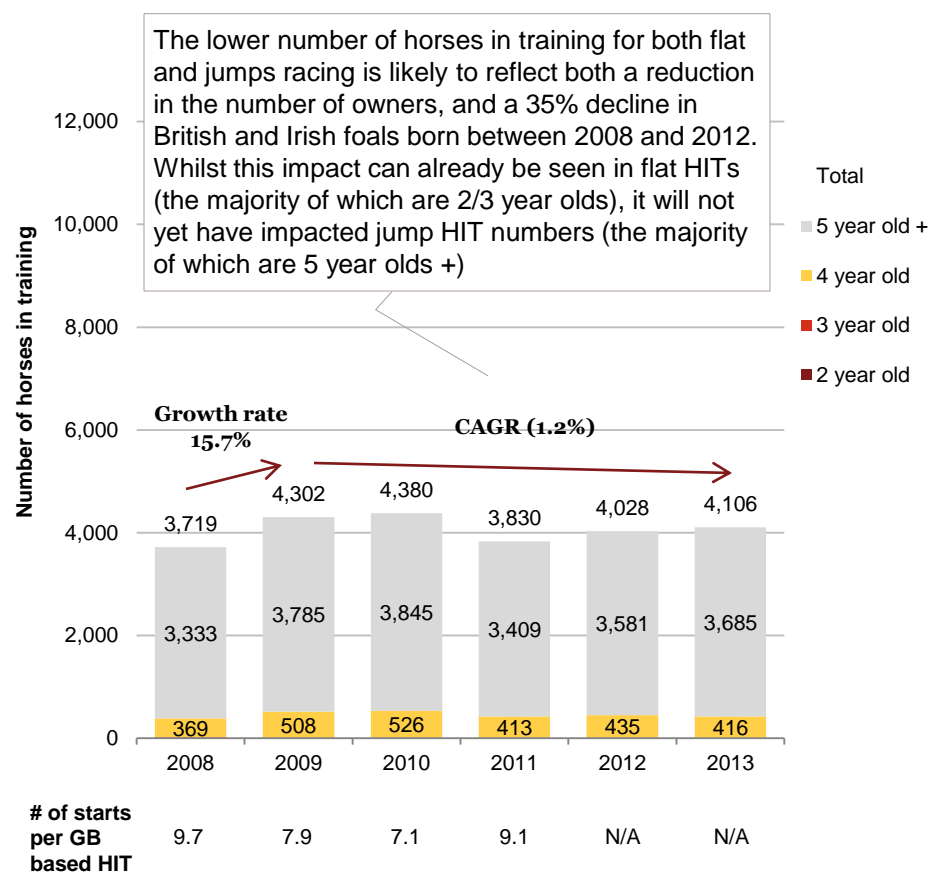
Source: British Horseracing Authority, Horseracing Betting Levy Board, PwC analysis, Weatherbys

***An increase in the number of horse starts would lead to increased demand for horses in training (HITs). The number of British based HITs has however been declining for both flat and jumps horses since 2009/10***

**Number of horses in training for flat racing, 2008-2013\***



**Number of horses in training for jumps racing, 2008-2013\***



Note: \*Excludes horses categorised as dual purpose and hunters (1080 horses in 2013) \*\*Based upon 2009-2011 average

Source: British Horseracing Authority, PwC analysis, Weatherbys



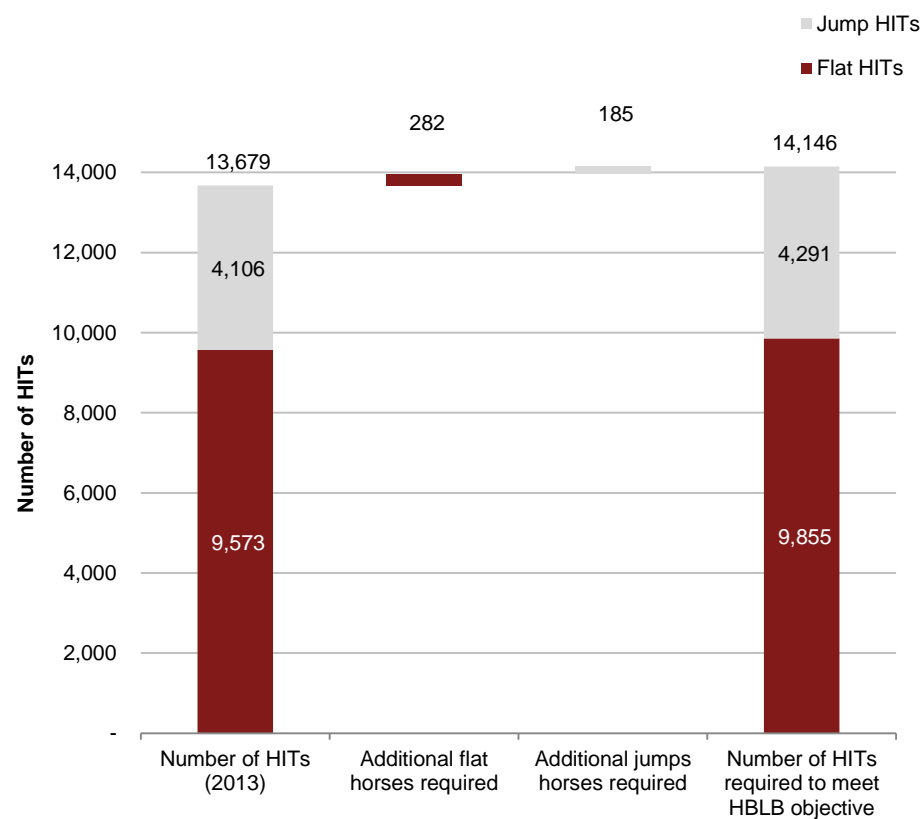
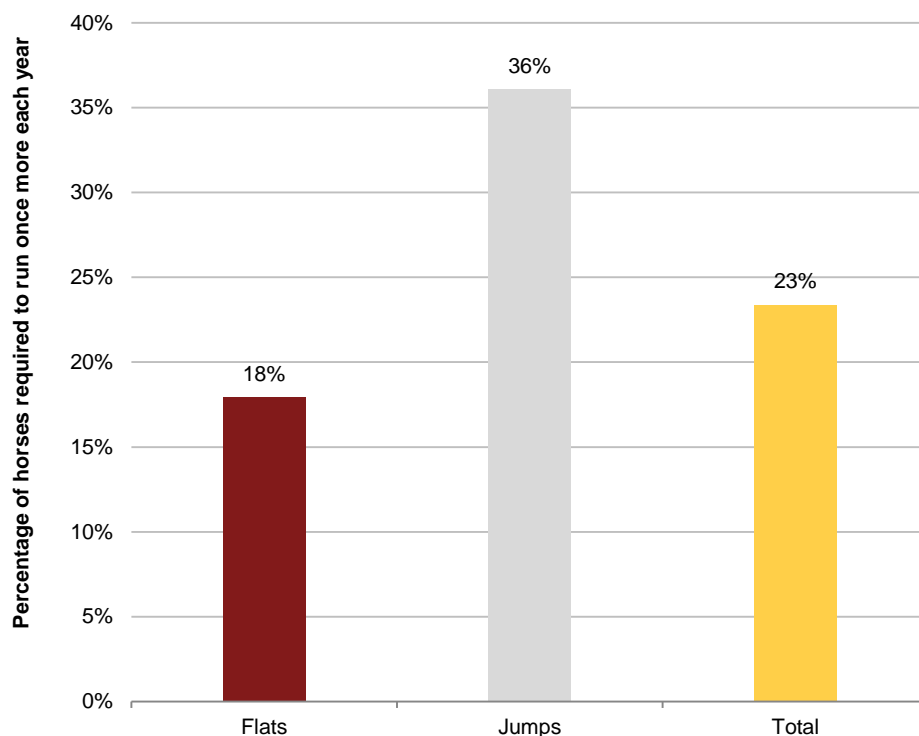
***The target 3,200 additional starts\* requires either 1 in 4 current HITs to run once more each year, or an additional c.470 HITs (requiring a c.3% increase in the existing population of HITs)***

Percentage of 2013 HITs required to run once more each year to achieve both HBLB objectives

*Illustrative*

Additional number of HITs required to achieve both HBLB objectives if number of starts per horse remains unchanged\*\*

*Illustrative*



Note: \*Number to meet both objectives of HBLB; \*\*Based upon 2009-2011 average number of starts per horse. Excludes horses categorised as dual purpose or hunters (1080 horses in 2013)  
Source: British Horseracing Authority, PwC analysis, Weatherbys



## ***We do not believe the Levy Board's objectives will stimulate a notable increase in demand for Thoroughbreds. It is important that supply of high quality stock remains the principal objective of British breeders***

**Increasing the number starts per HIT or number of HITs requires additional incentives for owners...**

- To increase the number of horses raced in the Britain, either the existing population of HITs need to race more often, or there needs to be more HITs. The British industry is driven by horse resale values rather than prize money. GB's average prize money per race is lower than a number of other countries, but owners are attracted to the prestige and challenge of British race courses. British race courses are renowned as being some of the most challenging in the world, and as a result, horses that are 'proven' in Great Britain have much higher resale values. The British industry is therefore driven more by resale values than prize money, and so owners are reluctant to run their horses more frequently

– *"The real problem is that you are never going to get people to run horses more often – this is pie in the sky unless prize money goes up... if you have a nice horse (anything rated above 80), you want to protect it, and restrict the number of times it races so that you don't damage its resale value"*

British Trainer

- For there to be more HITs, there needs to be an increase in the number of owners, or incentives for existing owners to own and train more horses. With the number of owners in decline, increased prize money would be required to achieve this objective
- *"[The HBLB's objectives] should generate more money for the industry, but there is only a certain number of owners around. More races does not necessarily mean more owners. Owners might buy more horses, but from my experience I can't really see a direct correlation"*

British Owner/Breeder

**...without which it will be difficult to meet the HBLB's objectives**

- As a result of the above challenges, we believe it will be difficult for the horseracing industry to achieve either the increase in races per horse or increase in HITs required to meet the HBLB's objectives. Attempts to extend the racing programme before the owner or horse population is in place to support it may lead to more fixtures with fewer than 6 runners rather than less

– *"If they reduce the number of fixtures they may get somewhere close to achieving the number of races per fixture. If they don't, you'll end up with 3 horse fields"*

British Bloodstock Agent/Breeder

- It is important that any increase in demand is met by additional supply to maintain a balance. However, breeding high quality racehorses should continue to be the paramount objective for British breeders, to enhance the value of British bred horses in both the domestic and international markets. We believe that increasing the number of horses bred at the expense of quality would represent a significant risk to the industry

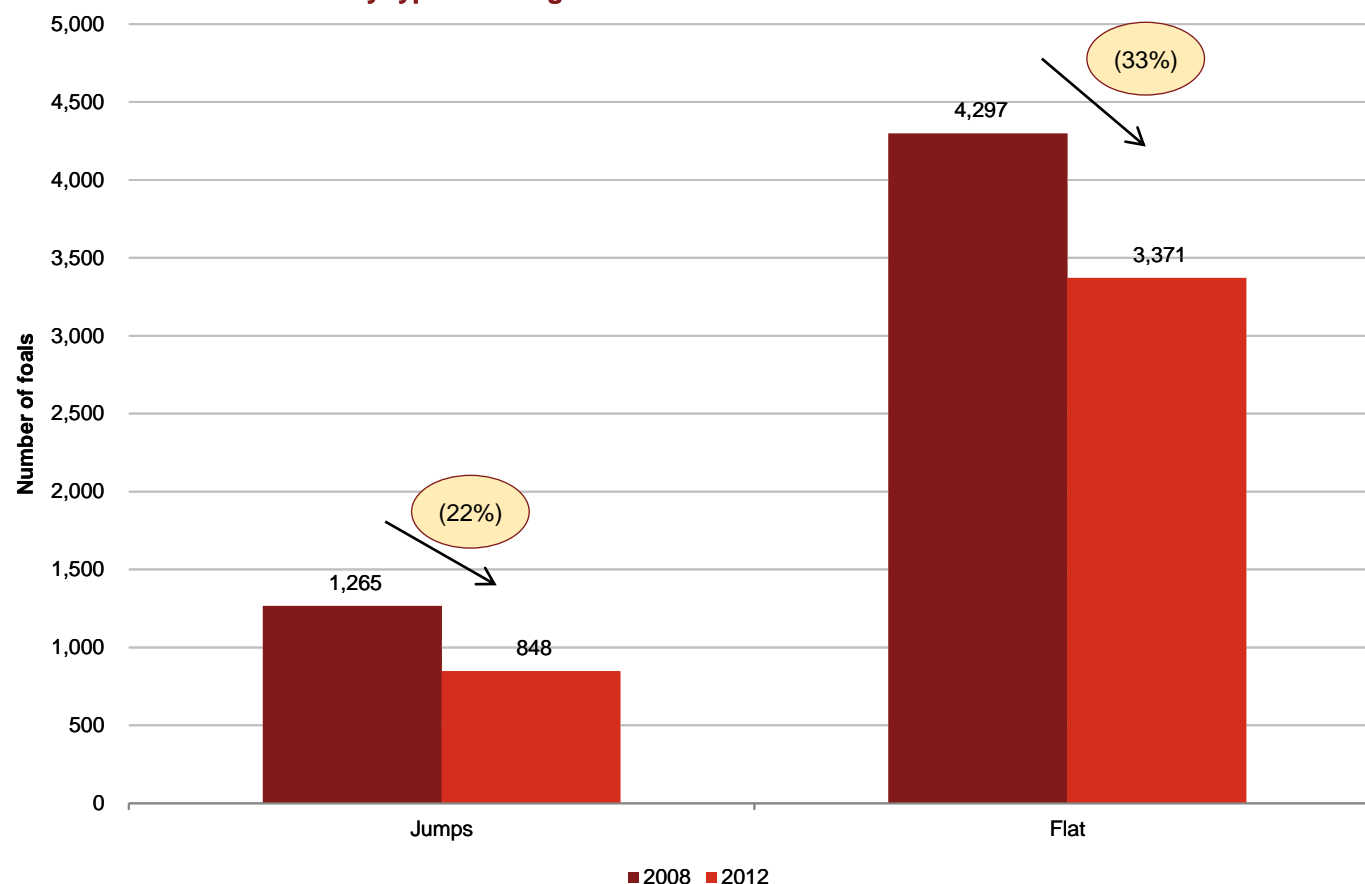
– *"If the racing programme is too full, people put moderate mares in foal which breed to the lower market. This is not an economic way of running things, because these foals often barely cover their costs when sold"*

British Bloodstock Expert

Source: PwC interviews

***Britain has a long-standing reputation for the production of quality NH horses. However, many smaller breeders have recently ceased production as they struggle to cover the costs of production***

Number of foals born in GB by type of racing



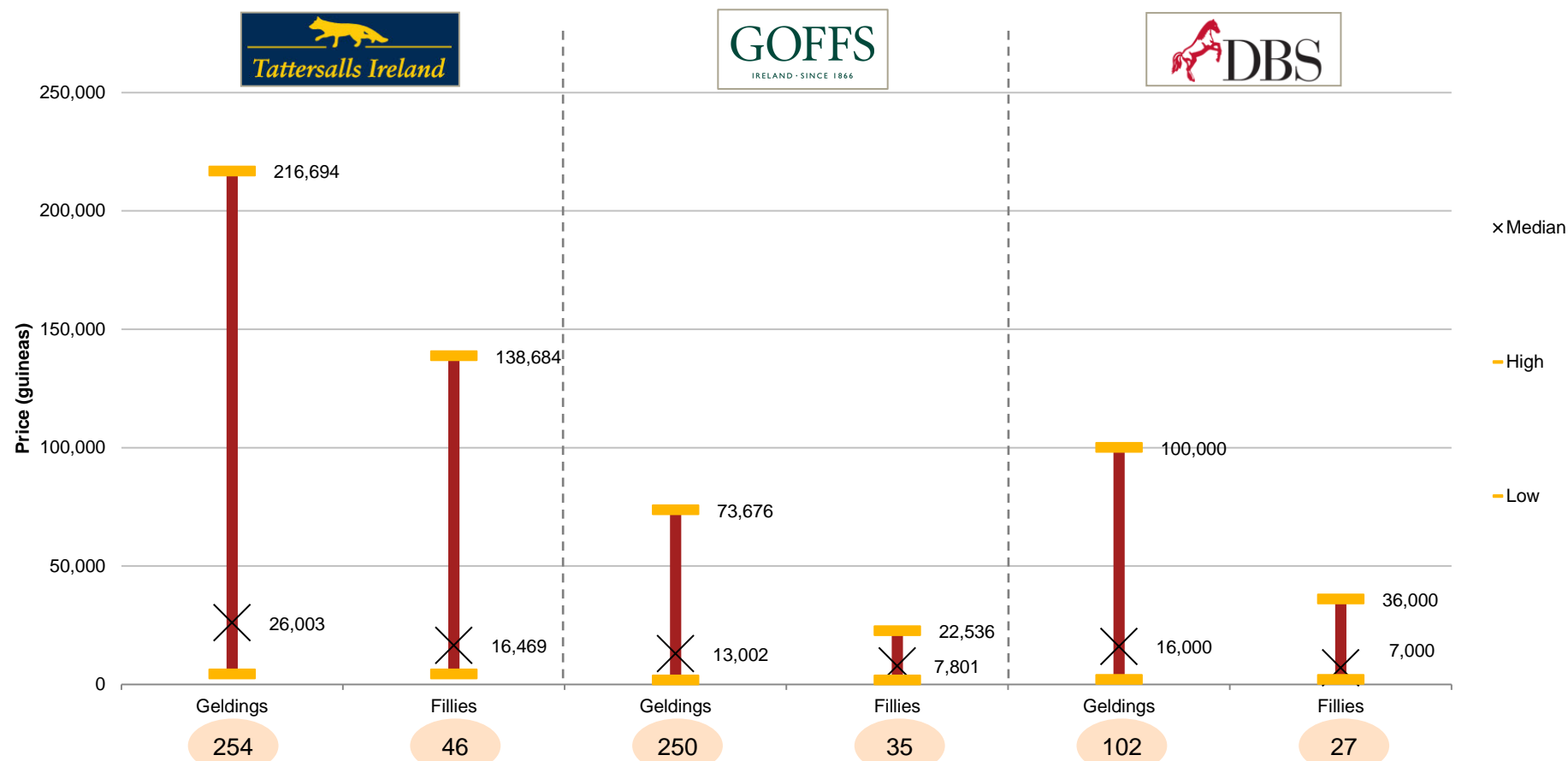
- Although the total number of foals bred in Britain declined between 2008-2012, the impact was more severe in horses bred for the jumps vs. the flat
- This is in part due to the economics of producing a NH foal
  - Whilst the cost of production of a flat and national hunt foal are not materially different, the sales price of jumps horses, and in particular fillies, is significantly less
  - As median sales prices declined during the recession, many smaller breeders struggled to cover the costs of production and as a result ceased to breed foals

Note: number of foals excludes 'unclassified'. A change in the way that unclassified is recorded between 2008 and 2012 may impact these numbers slightly

Source: Racingpost, Weatherbys, PwC analysis

***These issues are exaggerated for NH fillies - far fewer end up in the sales and those that do achieve considerably less at auction. As a result, many breeders, particularly at the lower end, are losing money on each filly sold***

GB &amp; Ireland 2013 NH sales, Geldings and Fillies



Note: analysis based on all NH filly and gelding NH store lots sold. This excludes HIT and lots that were unsold, withdrawn or purchased by the vendor; Prices from Goffs Land Rover and Tattersalls Derby have been converted to £ using a constant rate of 1.5 €/£

Source: Tattersalls Ireland, Goffs, DBS, PwC analysis

## *The TBA and HBLB have worked together to launch three well-received initiatives aimed at improving the quality, popularity and therefore value, of British-bred National Hunt horses, and in particular fillies*

### *Summary*

### *Objective*

1

#### *Improved racing programme for mares*

- Despite a 7lb weight allowance, NH mares struggle to compete with geldings and there is a lack of top quality mares-only racing
- As a result, there are fewer chances to win prize money with mares and they are less popular with owners and trainers

- Encourage more fillies and mares into training, thereby increasing demand and average sales prices
- Provide a suitable test of mares in terms of athleticism, stamina & soundness to ensure the most suitable are sent to stud

2

#### *Elite National Hunt Mares Incentive Scheme*

- Funding is being provided to ease the cost of producing a NH foal and encourage owners of Elite mares to breed with the best British-based stallions

- Encourage retention of the best British NH bloodstock and breeding of exceptional quality horses to compete in the best races

3

#### *National Hunt breeders' prize scheme*

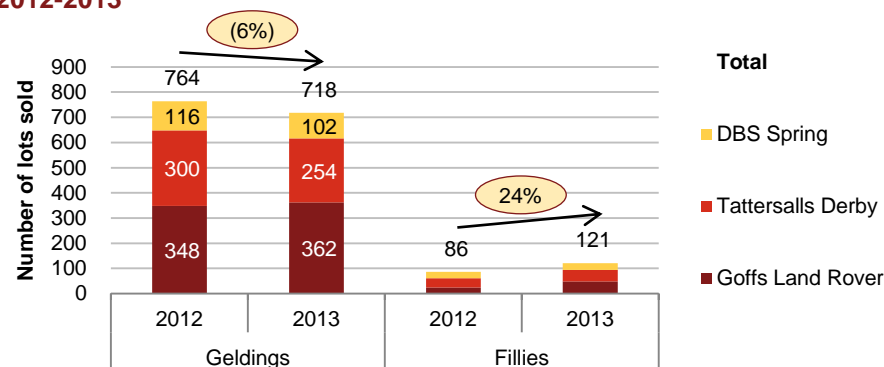
- Additional prizes of up to £10,000 for breeders of British-bred and British-sired horses

- Reward production of high-class NH racehorses to drive improvements in quality and excellence

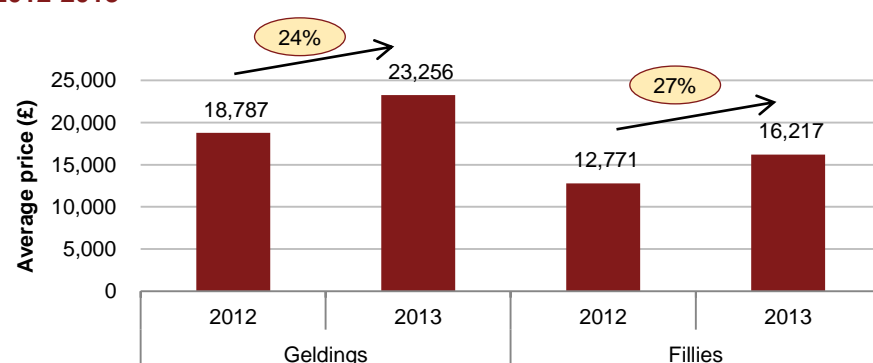
**PwC view:** these three initiatives should stimulate increased demand for NH horses that in turn drives better prices at auction and improved returns to NH breeders. This is a good example of how different stakeholders in the racing industry have worked together to achieve mutually beneficial outcomes – more racing for the HBLB, and more economical breeding for NH breeders

## *Anecdotal evidence from 2013 suggests that these schemes are increasing the number and price of fillies sold. There is however a risk of further significant decline in the number of GB bred jumps horses*

**Number of NH stores sold, geldings and fillies, 2012-2013\***



**Average price of NH stores, geldings and fillies, 2012-2013\***



- Figures from the recent NH sales suggests that that the introduction of mares-only racing is starting to increase demand for fillies
  - Between 2012 and 2013, the increase in both volume and average price of National Hunt store horses was greater for fillies than geldings
- However, while the introduction of more mares-only racing is undoubtedly positive, it is likely that this will take some time to result in material increases in the average prices of fillies at the sales
- In the meantime, there is a risk that that more breeders are forced to cease breeding, resulting in further declines in the numbers of British bred National Hunt horses

*"You really have to ask yourself if this is sustainable. I don't think it is and there is a real risk that National Hunt breeders just stop in this country. I certainly won't be doing it in 12 months time unless there are signs of improvement to the economics of it"*

*British NH breeder*

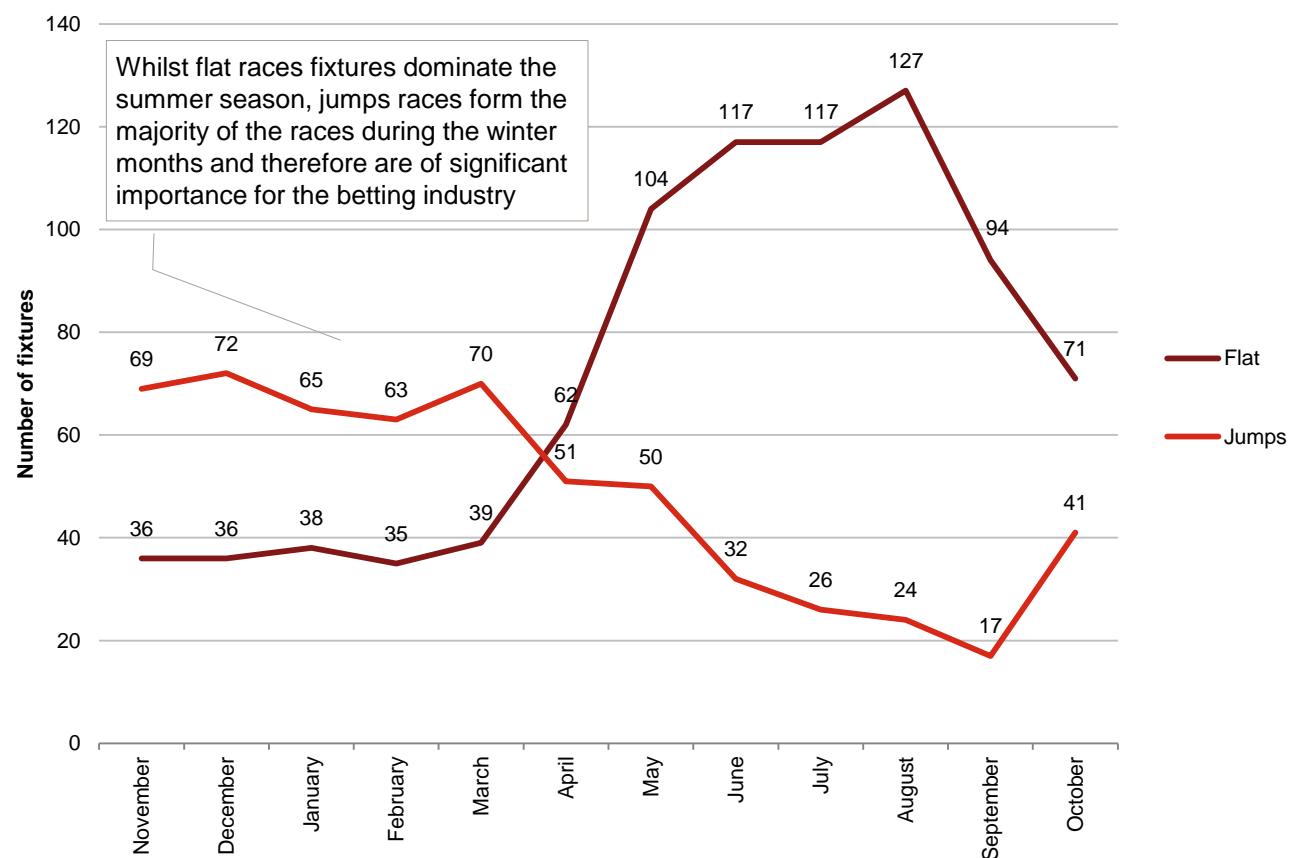
Note: \*analysis based on all NH filly and gelding store lots sold. This excludes HIT and lots that were unsold, withdrawn or purchased by the vendor;

Prices from Goffs Land Rover and Tattersalls Derby have been converted to £ using a constant rate of 1.5 €/£. Store horses refer to horses than have been bred specifically for jumping, rather than having already raced on flat or in Point to Point

Source: Tattersalls Ireland, Goffs, DBS, PwC analysis

## *National Hunt breeding sustains the racing calendar in Winter. An increase in the National Hunt racing programme throughout the year could assist HBLB in achieving its objectives*

Number of fixtures by type of race, 2012



- Between November and April the racing calendar is dominated by Jumps races and the betting industry is reliant on them during this period of the year
- As a consequence, jumps races account for a significant proportion of overall betting revenues
- Jumps races could potentially assist the Levy Board with its objectives to increase the number of races per fixture and the number of horses per race


Source: BHA, PwC analysis

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# *Contract*



Contract (1/3)



The Thoroughbred Breeders' Association ("TBA")  
Stamford House  
8 The Avenue  
Newmarket  
Suffolk  
CB8 9AA

For the attention of Philip Newton

09 August 2013

Dear Sir

**PROJECT ARKLE**

Thank you for engaging us to provide you with services on terms which are described in this letter and the attached terms of business. These together form the agreement between us.

**Background and purpose**

This piece of work has two aims:

- To complete an Economic Impact Study to develop a full fact base on the UK thoroughbred industry and to understand the direct and indirect economic contribution it makes to the UK economy and how that contribution has developed over time
- To understand the future risks and opportunities for the industry in a rapidly changing global horse racing industry and to make recommendations for you to act upon for the benefit of your members.

**The services**


You have instructed us to provide the services set out in schedule 1.

**Timetable and duration**

As agreed with you, we commenced work on 5 August 2013 and estimate that we will submit our draft deliverables to you for discussion by 1 October 2013. We will also update you on our progress at an interim update meeting on 3 September 2013. This is an estimate in advance of starting work and we will keep you informed of our progress and of any proposed changes in this timetable

*PrisonershouseCoopers LLP, 7 More London Riverside, London SE1 2RT  
T: +44 (0) 20 7583 3000, F: +44 (0) 20 7612 4650, [www.pwc.co.uk](http://www.pwc.co.uk)*

PrisonershouseCoopers LLP is a limited liability partnership registered in England with registered number 00003013. The registered office of PrisonershouseCoopers LLP is 11 Colindale Avenue, London WC2N 5NF. PrisonershouseCoopers LLP is authorised and regulated by the Financial Services Authority for designated investment business.



**Staffing**

Neil Hampson is the person in charge of providing the services to you, assisted by Archie Mason and such other staff as we believe are required. If we believe that it is necessary for us to change any of the named individuals we will let you know.

**Client contact**

You have designated Philip Newton to be our primary contact when delivering the services as a person with the knowledge, experience and ability to make decisions in relation to the services and our recommendations.

**Fees**

Our fees will be calculated in accordance with the "Basis of fees" clause in the attached terms of business, unless alternative arrangements are agreed. Details of our fee arrangements are set out in schedule 2.

**Terms of business**

**Liability limitation**

We draw your attention to clauses 8 and 12.3 in the attached terms of business which amongst other things limit (i) our total liability for all claims connected with the services or the agreement, which we have agreed will be 3 times fees or £1,000,000, whichever is greater and (ii) the time for bringing any such claim.

**Provision of deliverables to your members and the public**

We understand that you wish to provide copies of our deliverables to your members and to publish the deliverables on your website for public consumption (the public, including your members, shall hereafter be referred to as the "recipients").

We agree, for the purposes of clause 2.2 (i) of the attached terms of business, that the deliverables may be made available to the recipients, provided that (i) you release them in their entirety and do not modify the deliverables in any way and (ii) you ensure our disclaimer and copyright notice (in the form set out in the deliverables) are clearly visible on the website.

Notwithstanding our consent to the publication of our deliverables on your website, our deliverables remain addressed to you and it is a matter for you to decide whether the publication of the deliverables on your website is appropriate.

2

Contract (2/3)



Further, you agree that we accept no liability (including liability for negligence) to you for any consequences of disclosing the deliverables, or giving explanations concerning the deliverables, to the recipients, including where the disclosure:

a. leads to a claim being brought against you;

b. results in the recipients or anyone else misusing your confidential information.

**Confirmation of agreement**

Please confirm your acceptance of the agreement by signing the enclosed copy and returning it to us.

Yours faithfully

  
**Neil Hampson**  
for and on behalf of PricewaterhouseCoopers LLP

**Copy letter to be returned to PricewaterhouseCoopers LLP**


I accept the terms of the agreement for and on behalf of The Thoroughbred Breeders' Association

  
**RICHARD LANCASTER**  
Signed 

Position 

Date 

3



**Schedule 1**

This schedule sets out the scope of the specific services that we will provide under our engagement letter dated 09 August 2013. Any terms contained within this schedule apply only to the services specified in this schedule.

**Scope of our work**

**A. Economic Impact Study**

We will review the various data sources listed below and comment on the direct and indirect economic contribution the UK thoroughbred industry makes to the UK economy and how that contribution has developed over time.

1. Core industry: Number of Breeders, Number of Breeding entities, Number of Broodmares, Numbers of Stallions, Value of Sales by Public Auction and estimate of Private Sales, Value of Exports by British Breeders, Division of Values of Commercial Farms versus Owner Breeder operations

2. Stud farms: Volume of land in use for Breeding purposes, number and variety of Stud Farms, Employment, comprising full and part time employment of staff, capital expenditure and operating costs

3. Adjacent industries: Feed, veterinary, transportation, sales/auctions, employment, economic contribution etc.

4. Indirect benefits: contribution to rural sustaintment, contribution to the UK racing industry, contribution to taxation and balance of payments, benefits to the wider equine industry, benefits to cultural and other intangible factors

5. Taxation and Revenue generated by Industry

**B. Risks and Opportunities Study**

The purpose of our work is to identify the future risks and opportunities for the British Thoroughbred Breeding Industry in a changing global racing industry. This will include:

1. Evaluation of how the global racing and breeding industry is likely to change over the next 10-20 years

2. Identification of the opportunities that the Thoroughbred Breeding industry in Britain can exploit given its current pre-eminent position

3. Analysis of the absolute and relative impact of the opportunities identified in 2 above on the UK industry over time

4. What options for action could the TBA take to address or influence a changing racing and breeding environment

4

## *Contract (2/3)*



### Your responsibilities

As part of this work, you will facilitate access to all material third party organisations that may have information relevant to this work.

In addition, you will provide access to all your members through a survey to collect information required for the Economic Impact Study

### Deliverables

In undertaking the services, we will produce the following deliverables:

- A written Powerpoint report for each of the two individual studies outlined above