News release

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**The economics of sport:**

**PwC study seeks to benchmark Olympic medals tally**

* *Brazil team set to benefit from ‘home town’ effect*
* *Economic size matters in medal tally – but David can still beat Goliath*
* *GB loses home advantage, but still set to finish fourth*
* *US and China to renew their top-of-the-table tussle in 2016*

With the 2016 Olympic Games in Rio de Janeiro fast approaching, speculation turns once again to how many medals each country will win. So PwC economists have stepped up to the starting blocks to produce some benchmarks against which performance at the 2016 Olympics can be measured.

The following economic and political factors were found to be statistically significant in explaining the number of medals won by each country at previous Olympic Games:

* Size of economies (measured by GDP at purchasing power parity (PPP) exchange rates)
* Performance in the previous two Olympic Games
* Whether the country is host nation

In general, the number of medals won increases with the population and economic wealth of the country; but there are exceptions like Jamaica and Kenya. Jamaica, for example, is projected to win 0.4 medals in Rio for every $bn of GDP, while the same ratio is only around 0.02 for the UK and Russia, and around 0.005-0.006 for the US and China.

“David can sometimes beat Goliath in the Olympic arena, although superpowers like the US and China continue to dominate the top of the medals table,” says PwC chief economist John Hawksworth.

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*In the extract below, our model estimates the top 12 medal-winning countries in Rio compared to London 2012 – for the full table of 30 countries see later in the release.*

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| --- | --- | --- | --- |
| **Country** | **Model estimate of medal total in Rio 2016** | **Medal total in London 2012** | **Difference** |
| 1. US | 108 | 103 | +5 |
| 2. China | 98 | 88 | +10 |
| 3. Russia1 | 70 | 81 | -11 |
| 4. Great Britain | 52 | 65 | -13 |
| 5. Germany | 40 | 44 | -4 |
| 6. Australia | 35 | 35 | 0 |
| 7. France | 34 | 34 | 0 |
| 8. Japan | 33 | 38 | -5 |
| 9. South Korea | 27 | 28 | -1 |
| 10. Italy | 26 | 28 | -2 |
| 11. Brazil | 25 | 17 | +8 |
| 12. Ukraine | 20 | 20 | 0 |

Past Olympic performance is important, reflecting the stronger sporting traditions in some countries, and the level of government funding for Olympic sports. Adds John Hawksworth: “We can see this effect at work in China recently, where state support contributed greatly to their Olympic success in Beijing and London.”

Some of the more interesting conclusions to be drawn from the PwC model are:

* The model suggests that once again, the **US** will head the table**,** capturing a few more medals than in London. **China** will again be in second place in the table.
* Now it is no longer the host country, **Great Britain** may find it difficult to match its exceptional performance in London 2012 – though the PwC model suggests it should remain as high as fourth in the medal table. This reflects the success of carefully targeted government support in Britain that focuses on the strongest medal contenders.
* Host nations generally ‘punch above their weight’ at the Olympics, which bodes well for the **Brazil** team in Rio, despite the country’s recent economic problems. The model projects they could win around 25 medals in Rio, up from 17 in London.
* Of the under-performing nations relative to population and GDP, the model still suggests that **India** leads the way; though if it achieves the model target of 12 medals in Rio, this would be double the haul the country achieved in the London Olympics.
* All models are subject to margins of error and can never take full account of the human factor of exceptional individual performances.

**Notes to Editor:**

1. This assumes Russian track and field athletes being allowed to compete in Rio. An IAAF decision on this is due on 17th June. If Russian athletes are not able to compete, this will have a material impact on the medal totals of other countries, and we may issue an updated set of projections in that event.
2. Model estimates of Rio 2016 Olympics medal totals as compared to London 2012 results

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| --- | --- | --- | --- |
| **Country** | **Model estimate of medal total in Rio 2016** | **Medal total in London 2012** | **Difference** |
| 1. USA | 108 | 103 | +5 |
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| 3. Russia | 701 | 81 | -11 |
| 4. Great Britain | 52 | 65 | -13 |
| 5. Germany | 40 | 44 | -4 |
| 6. Australia | 35 | 35 | 0 |
| 7. France | 34 | 34 | 0 |
| 8. Japan | 33 | 38 | -5 |
| 9. South Korea | 27 | 28 | -1 |
| 10. Italy | 26 | 28 | -2 |
| 11. Brazil | 25 | 17 | +8 |
| 12. Ukraine | 20 | 20 | 0 |
| 13. Canada | 17 | 18 | -1 |
| 14. Netherlands | 17 | 20 | -3 |
| 15. Spain | 17 | 17 | 0 |
| 16. Cuba | 16 | 15 | +1 |
| 17. Belarus | 13 | 12 | +1 |
| 18. Hungary | 13 | 18 | -5 |
| 19. India | 12 | 6 | +6 |
| 20. Kazakhstan | 12 | 13 | -1 |
| 21. Kenya | 11 | 11 | 0 |
| 22. Jamaica | 10 | 12 | -2 |
| 23. New Zealand | 10 | 13 | -3 |
| 24. Poland | 10 | 10 | 0 |
| 25. Iran | 8 | 12 | -4 |
| 26. Romania | 8 | 9 | -1 |
| 27. Azerbaijan | 8 | 10 | -2 |
| 28. Czech Republic | 8 | 10 | -2 |
| 29. Denmark | 7 | 9 | -2 |
| 30. Turkey | 7 | 5 | +2 |
| **Top 30 total medals** | **771** | **801** | **-30** |
| Other countries | 190 | 160 | +30 |
| **Total medals** | **961** | **961** | **0** |

*Note: the table shows rounded medal estimates from the model, but the country rankings reflect unrounded model estimates.*

Source: PricewaterhouseCoopers model estimates using data for actual medals won in London 2012 that takes accounts of medals reallocated after the Games (e.g. due to drug use violations) where a firm decision has been made on this by the Olympic authorities as of late May 2016. For the sake of comparability, we assume the same total number of medals are awarded in Rio as in in London.

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1. The information in this press release is drawn from the full study produced by the UK firm of PwC entitled **Economic Briefing Paper: Modelling Olympic Games performance.** This paper updates similar studies published at around the time of the 2000, 2004, 2008 and 2012 Olympics.
2. At PwC, our purpose is to build trust in society and solve important problems. We’re a network of firms in 157 countries with more than 208,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

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