The secret to Winter Olympic success: cold or hard cash

Money helps countries with warmer climes excel

Sofia Goggia's hometown of Bergamo, Italy, gets an average of just 7 centimetres of snow a year. The average temperature is 12°C. But in 2018, Ms Goggia won the gold medal for downhill skiing in the Winter Olympics. Ragnhild Mowinckel of Norway and Lindsey Vonn of America took silver and bronze. Both live in towns where it snows more than 100 centimetres a year.

In general, cold countries do better at the Winter Olympics. A culture of recreational skiing, skating and snowboarding lends itself to good slopes and training facilities. The more people who participate, the larger the talent pool. The Jamaican bobsleigh team, despite their fame, never won an Olympic medal: their four-man team's best result was 14th in 1994.

Norway, with a population of just 5.5m, is a Winter Olympics superpower. It has amassed 368 medals to date, more than any other country. Its climate (more snowy days than any other country in Europe) helps. So, too, does its long tradition of skiing: one of the earliest depictions of the activity is a stone-age petroglyph from Rødøya, a Norwegian island. A survey in 2013 found that 70% of Norwegians own a pair of cross-country skis.

Warmer countries that buck the trend tend to spend big. An analysis by The Economist in 2021 found that a country's share of world GDP was the best predictor of Summer Olympic glory. America does exceptionally well at the winter games, too. Italy, Spain and Australia command a higher share of global GDP than the vast majority of countries that compete in the Winter Olympics. They are also the only three countries with average temperatures above 13°C to have won medals.

Since Australia increased funding for its Olympic Committee by over 60% a year in the mid-1990s, nearly all its future gold medalists have set up training headquarters in Canada or Europe. The American Olympic Committee helps cover costs for coaching, training, health care and housing. Cash prizes for medallists may also make a difference. Italy pays $214,000 to

athletes who bring home gold; Spain gives them $112,000. Other countries are more creative. In 2016 Germany gave Olympic medallists a lifetime supply of free beer. South Korean winners are exempt from national military service. All four countries have punched above their weight at past Winter Olympics.

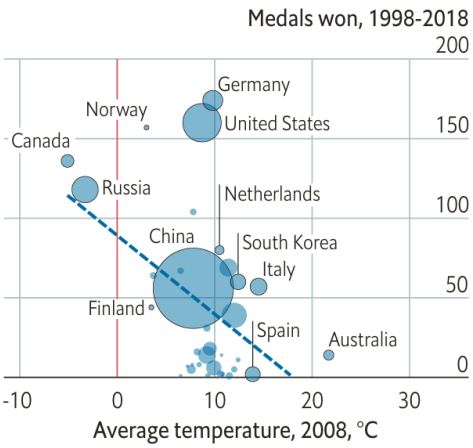
But access to snow is still important and in some places it is becoming harder to find. Ms Goggia trains at Stelvio Pass in the Italian Alps, where temperatures are rising at double the rate in the rest of the northern hemisphere. Half of the glacier ice there is expected to melt by 2050. As this problem spreads, more and more training grounds are switching to artificial snow, which is icier and thus more dangerous for athletes. As the world warms, cash will become even more important to countries going for gold.

Going for cold

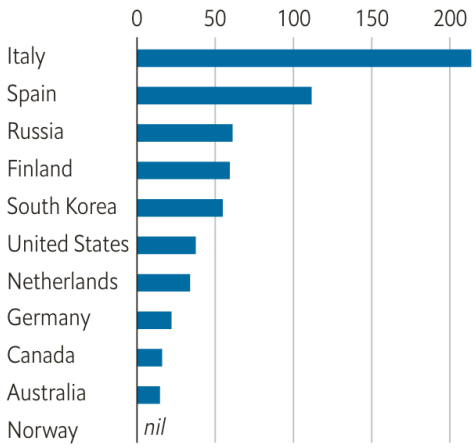
Olympic medals

Medals won at Winter Olympics and country's average temperature

Circle size=population, 2008



Tokyo 2020 Olympics, gold medalists' cash reward from home Olympic committee, $'000



Sources: Climatic Research Unit, University of East Anglia; International Olympic Committee; Olympian Database; ESPN; World Bank; USA Today Sports; Forbes; Korea Times; MoneyUnder30