



A 1594 engraving of Columbus being greeted by a local chief in Haiti



The explorer Christopher Columbus, in a 16th-century Spanish painting

Christopher Columbus died 500 years ago this month. His famous 1492 crossing to America sparked an explosion in global trade that has echoed down the centuries, say RONALD FINDLAY and KEVIN O'ROURKE

Mr Columbus's economic bombshell

THE WORLD economy has been transformed out of all recognition in the half millennium since the death of Christopher Columbus in May 1506. Much of that transformation has been due to the integration of the Americas with the world economy, a process which followed his famous voyages.

When the explorer's Spanish-funded fleet crossed the Atlantic in 1492 and landed for the first time in a "new world", in what is now the Bahamas, the western hemisphere was a place apart, playing no role in the economic life of Europe, Asia or Africa. But today, the United States is the centre of the world economy, and for many the symbol of early 21st-century globalisation. The story of the American shift from autarky to worldwide economic engagement and influence provides a

coherent framework within which to interpret many of the great themes of modern economic history.

The nature of the Americas' interactions with and influence on the rest of the world has depended critically on transport technologies. Columbus's fastest westward crossing of the Atlantic occurred on his fourth and final voyage in 1502, and lasted three weeks, while his first voyage cost more than a million *maravedis* to fund. Today a trip to the Americas takes less than a day to complete and costs just a few hundred pounds, a journey by sea takes no more than a week or so, and

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an article like this can be co-authored by academics in Dublin and New York, instantaneously communicating via email.

Successive phases of world economic history can be understood as being the results of gradually declining transport costs between America and the rest of the world, with each phase then being defined by the types of inter-continental interactions that were possible at the time.

The stowaway in the hold - smallpox

With very high transport costs, the only goods that could be economically transported across the Atlantic were those with a very high value to weight ratio. As transport costs fell, the range of goods transported expanded, to include progressively bulkier and less valuable commodities. Columbus, like da Gama, hoped to find spices and was happy to stumble on precious metals; but the full economic implications of his discoveries would only be fulfilled when the holds of ocean-going ships were filled with such humble everyday necessities as wheat and iron.

Initially, the most significant trans-oceanic shipments consisted of genetic information, with America exporting species such as maize, potatoes, sweet potatoes, and tomatoes, and importing among other things horses, cattle, sugar, coffee, wheat – and smallpox. The result was sharply contrasting demographic experiences in the Old and New Worlds, with catastrophic population declines in the native Amerindian population during the 16th century, the result of the spread of new diseases, and a series of population booms in Europe and Asia based on high-yielding American food crops which were introduced over the course of the 16th century but whose full effects took longer to work out.

Thus, China experienced a “second agricultural revolution” during the 17th and 18th centuries based on the introduction of maize, the sweet potato and peanuts, with a population boom in the 18th century and subsequent migrations to regions such as the Tibetan plateau. Ireland’s population boom occurred in the 18th and early 19th centuries, was based on the white potato, and was only brought to a halt by the arrival of another New World species, *phytophthora infestans*, in 1845. Trade in DNA could take place even with prohibitively high transport costs;

Christopher Columbus, like Vasco da Gama, hoped to find spices and was happy to stumble on precious metals



SMALL BUT PRECIOUS CARGOS Genetic information, in the form of species new to Europe, joined New World silver (shown above in production c 1630) as an important early commodity



one ship was sufficient to transfer species between continents with enormous long-term consequences.

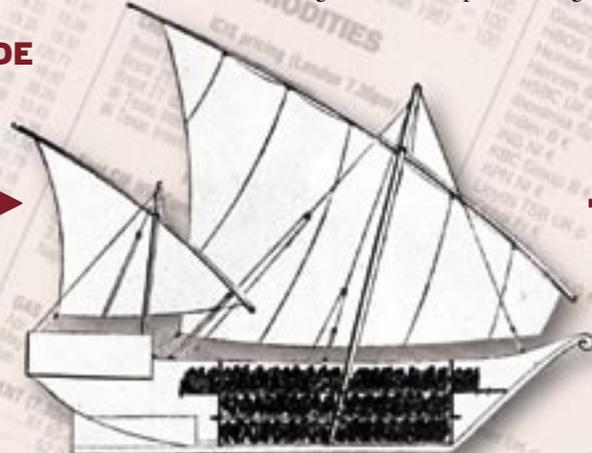
But the European nations who controlled the Atlantic wanted more immediate financial returns from their new colonies. With high transport costs, the New World commodity of greatest importance in world trade in the first 100 to 150 years after Columbus was silver. From 1500 to 1800, there was a steadily increasing silver flow from Latin America to not only Europe, where it led to widespread price inflation, but to Asia as well, either directly (via the Philippines) or indirectly (via Europe, which used the silver to pay for imports of Chinese goods such as silk and ceramics, Indian cotton textiles and Indonesian spices).

It was not the existence of silver deposits, however, which truly distinguished the New World from the Old. There were other important sources of silver at the time – notably Japan – while Africa had always exported significant quantities of gold to Europe and the Islamic world. Above all, the Americas were vast, and once Eurasian diseases had done their work they were relatively unpopulated as well. Their discovery increased the land endowment per European by a factor of six, in an era in which living standards depended largely on land-labour

SHIPS THAT CHANGED THE FACE OF TRADE

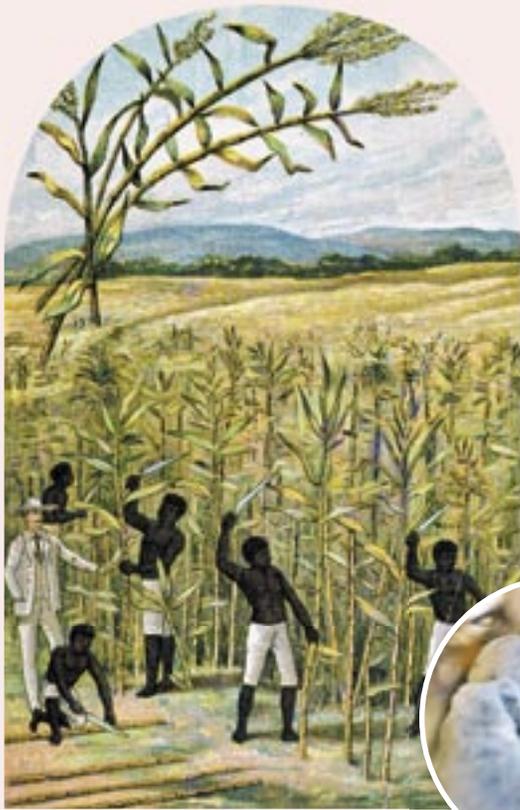


In 1492, Columbus's small sailing ships were only suitable for high-value, low-bulk goods



By the 1750s, larger sailing ships were used to transport a large human 'cargo' – the slave trade – to the New World





NEW FIELDS TO FARM The cultivation of the Americas for sugar (shown left, in the 18th-century) and cotton (below) became viable due to the slave trade



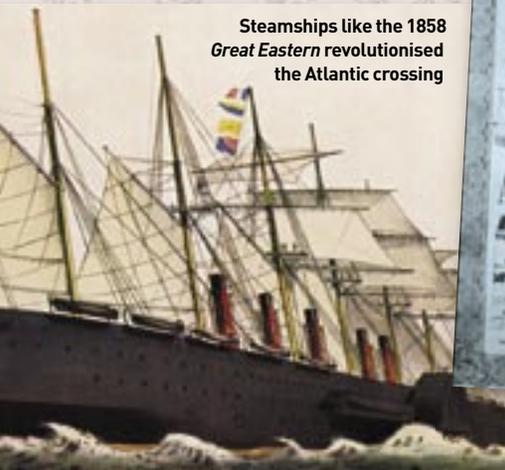
SEEKING A NEW LIFE The Americas attracted millions of immigrants (like these Norwegians, 1870) whose labour helped produce cheap food for export to Europe

ratios. If this land could be brought into cultivation the benefits for Europe's inhabitants were potentially enormous, helping them pull decisively ahead of China which had possessed the capacity to settle the Americas in the early 15th century, but not the incentives.

The biggest American import - people

However, this required a workforce in America, as well as the ability to ship American agricultural products to Europe. With transport costs still extremely high, few Europeans could afford the passage, and the goods produced had to command sufficiently high prices in Europe to warrant being exported there. The solution was to ship African slaves to work on New World plantations, where they produced sugar and other commodities that were not grown in Europe due to its temperate climate. In turn, these colonial products served as important raw materials for a range of processing industries, and transformed European consumption habits, in the process, some historians maintain, helping to stimulate an "industrious revolution" that played an important role in boosting 18th-century

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Steamships like the 1858 *Great Eastern* revolutionised the Atlantic crossing



Railroads connected the interior with the East coast, enabling US wheat exports

European living standards. A little later, raw cotton would provide the crucial input for the single most important industry of the Industrial Revolution

Until the early years of the 19th century, it was the Caribbean and Latin America that had the most important impact on the world economy, since these regions had the tropical climate, or the silver deposits, which Europe lacked. The temperate zones of North America might offer furs to the world market, but its farming land was best suited to producing crops such as wheat, which were already produced in Europe. To be sure, wheat was produced more cheaply in North America, but such basic commodities could never bear the cost of ocean transport; not until the introduction of the steamship and railroad during the 19th century. Steamships made it economically viable to ship grain to Europe, while railroads made it possible to ship wheat and other "European" agricultural commodities from far in the interior to the cities and ports of the East Coast. The result was a dramatic convergence between low American and high European grain prices, and a boom in wheat exports.

It thus became profitable to farm the western frontiers, not just in the US and Canada, but in areas such as the Argentine pampas as well. This required abundant labour and capital, and both were forthcoming from Europe, which supplied 60 million emigrants in the century between Waterloo and the First World War. New World land boosted European workers' living standards directly, by providing them with cheap food; and indirectly, by pulling in European emigrants, and raising the wages of those who were left behind (by some 30 per cent in Ireland and Italy). Thus it was that the full economic implications of Columbus were finally manifested, some four centuries after he first set sail. **II**

JOURNEYS

BOOKS

The Triangular Trade and the Atlantic Economy of the 18th Century by Ronald Findlay in *Essays in International Finance 177* (Princeton University Press); **Globalization and History: The Evolution of a 19th Century Atlantic Economy** by Kevin O'Rourke and Jeffrey Williamson (MIT Press 1999)