



Air Cargo as an Enabler of Export Growth and Diversification

The Case of Peru

Executive summary

Peru's experience over the past decade provides a clear illustration of how air cargo can support export growth and diversification, and how its contribution evolves as products, logistics capabilities, and markets develop. Following a policy shift toward export diversification under the National Export Strategic Plan (PENX) 2015–2025, Peru's exports expanded rapidly and became more diversified. Alongside traditional mineral exports, non-traditional agricultural products—particularly fresh fruits and vegetables—gained importance as a source of export growth.

Air cargo supported this transformation by sustaining high value traditional exports and enabling the expansion of time and quality sensitive non traditional products. It facilitated market entry, supported product differentiation, and enabled access to distant and premium segments where speed and reliability are critical. Against this background, air cargo is expected to remain strategically important as Peru pursues its next phase of export development and logistics upgrading under PENX 2025. Its contribution is expected to be most pronounced at the frontiers of export growth—supporting high value and time sensitive products, entry into new markets, and premium segments.

Background: Trade liberalization and diversification

Since the early 1990s, Peru has pursued sustained economic liberalization, progressively opening its economy to trade and foreign investment. Growth has become increasingly export-oriented, supported by trade liberalization, foreign direct investment, and an expanding network of free trade agreements. These policies established the basis for export growth and deeper integration into global markets.

The National Export Strategic Plan (PENX) 2015–2025 complemented this approach with a more targeted export development strategy. It focused on the internationalization of Peruvian firms, export diversification, and value addition. The strategy aimed to broaden the export base by integrating non-traditional sectors—particularly perishable agricultural products—alongside traditional exports.

Rather than introducing new agricultural taxes or direct subsidies, PENX coordinated existing fiscal instruments for agro-exports, including the targeted use of drawback schemes and VAT (IGV) refunds, the reallocation of public spending toward priority agricultural products, and multi-year investment planning focused on agro-export regions, particularly irrigated coastal valleys. Export costs were further reduced through the creation of the Single Window for Foreign Trade (VUCE), which digitalized and standardized phytosanitary certificates and export procedures—an essential reform for perishable agricultural products. In parallel, Peru reoriented its sanitary and phytosanitary regime toward market access, negotiating state-to-state protocols that enabled fresh agricultural exports such as grapes, avocados, mangoes, blueberries, and citrus to enter high-income markets. Institutionally, export promotion and diversification were refocused through the Peruvian trade promotion agency PromPerú and the network of trade offices abroad (OCEX), which adopted and

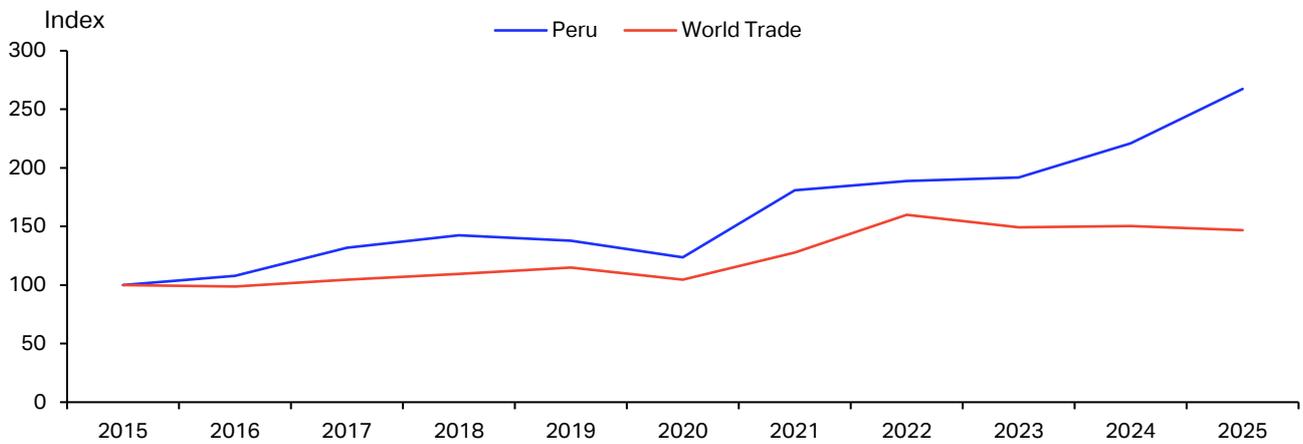
implemented product- and market-specific agricultural strategies. A permanent public–private governance framework led by the Ministry of Foreign Trade and Tourism (MINCETUR) ensured coordination, continuity, and policy credibility.

Implemented through strategic pillars, sectoral, regional, and market-specific plans, and complemented by trade agreements and trade facilitation reforms, PENX 2015-2025 positioned the Peruvian state as a strategic enabler of diversified, value-added, and resilient export growth.

Rapid export growth, with diversification into fresh produce

This policy framework underpinned a sustained period of export expansion. Between 2015 and 2025, Peru’s export values increased by 168%, from USD 33.7 billion to USD 90.1 billion, corresponding to a compound annual growth rate of 10.3%, compared with an estimated 2.2% for global trade over the same period (Chart 1).

Chart 1: Peru’s exports by value, 2015-25, index, 100 = 2015

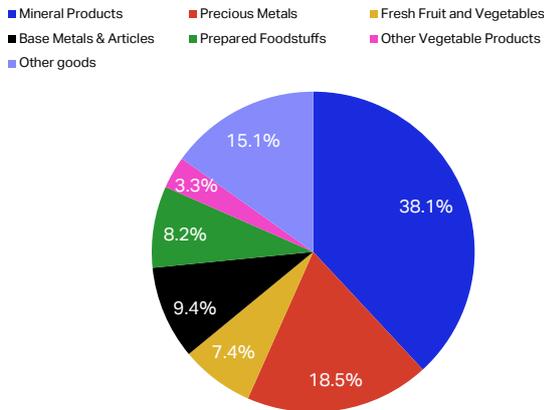


Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism and Global Trade Tracker.

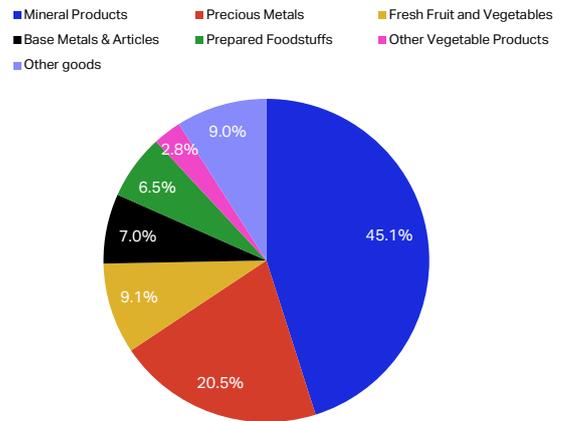
Peru’s export growth since 2015 has been broad-based. Mineral products and precious metals, dominated by copper ores and gold, continued to account for the largest share of export value, but the most notable structural change was the expansion of fresh fruit and vegetable exports¹. Over the decade, these increased from USD 2.4 billion to USD 8.1 billion, more than tripling in value. Their share in total exports rose from 7.4% to 9.1% (Chart 2, panel A), making this category the third largest export sector by value and the second largest by weight.

¹ The category named “Fresh Fruit and Vegetables” includes HS2 codes 07, 08, and the HS code 0910110000 “Ginger, neither crushed nor ground”.

Chart 2: Peru's exports by categories, value 2015 & 2025
Panel A: Peru's export categories² in 2015
by value FOB



Panel B: Peru's export categories³ in 2025
by value FOB



Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

The implications extend beyond aggregate trade figures. Although agriculture, forestry, and fishing accounted for around 6% of GDP in 2024, the growth in fresh produce exports generated spillovers across agro-industrial processing, packaging, cold chain services, and transport. By December 2025, agro-industry accounted for 40.7% of direct export related employment, driven by products such as blueberries, avocados, grapes, asparagus, and mangoes⁴. The production, harvesting, and packaging of these goods is labor-intensive and provides significant formal employment opportunities, including for women.

Peru as a global leader in fresh produce markets

By the mid 2020s, Peru had established a strong position in the global fresh produce markets. In 2025, it was the world's largest exporter of asparagus, blueberries, and fresh grapes (Chart 3), and ranked among the top five exporters of avocados, mangoes, peas, and ginger. This performance reflects a combination of agro climatic conditions, investment in production capacity, and the ability to meet quality, reliability, and timing requirements in international markets.

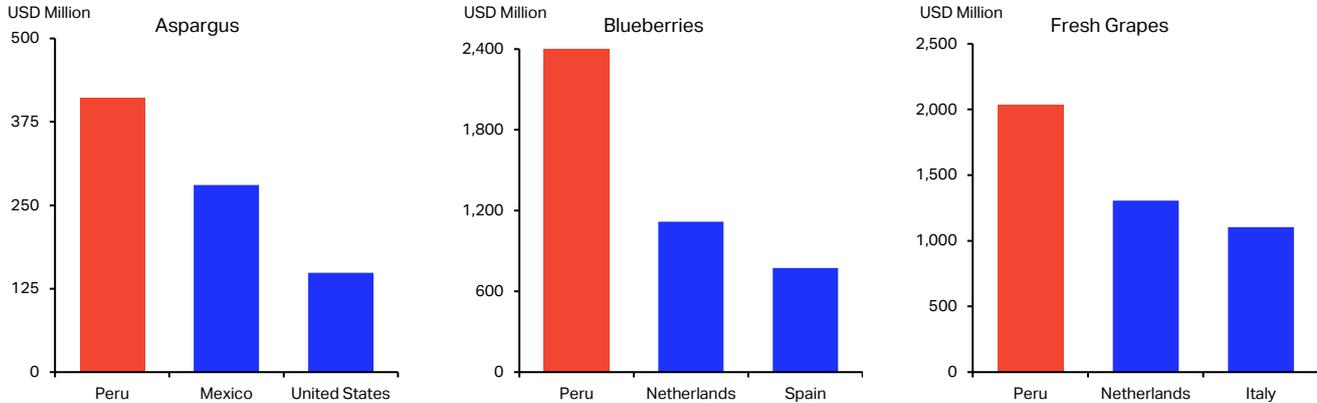
Fresh agricultural exports are inherently time and quality sensitive, requiring fast, reliable, and temperature controlled logistics to preserve product integrity and meet buyer specifications, particularly when serving distant or premium market segments. Air transport plays a critical enabling role by reducing transit times, supporting quality differentiation, and facilitating early market entry. These characteristics were especially relevant during the initial expansion of Peru's non traditional agricultural exports, helping producers establish a foothold in new markets.

² HS sections V "Mineral products", XIV "Precious Metals", XV "Base Metals", IV "Prepared foodstuffs", "Fresh Fruit and Vegetables" includes HS2 codes 07, 08, and the HS code 0910110000 "Ginger, neither crushed nor ground". Other Vegetable Products include the sector II, subtracting HS2 07, 08 and HS code 0910110000 "Ginger, neither crushed nor ground". Finally, other goods include the remaining HS sections I, III, VI, VII, VIII, IX, X, XI, XII, XIII, XVI, XVII, XVIII, XIX, XX, and XXI.

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⁴ CIEN-ADEX (2025): Reporte de Empleo asociado a las exportaciones. https://cien.adexperu.org.pe/wp-content/uploads/2026/02/CIEN_RIEP_Dic2025_vf.pdf.

Chart 3: Top exporters of asparagus, blueberries, and fresh grapes, USD million, 2025



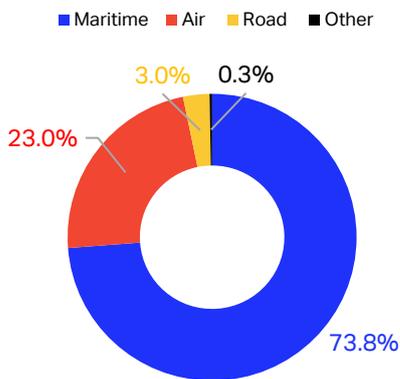
Source: IATA Sustainability and Economics, using data from Global Trade Tracker

The strategic role of air cargo in Peru’s export structure

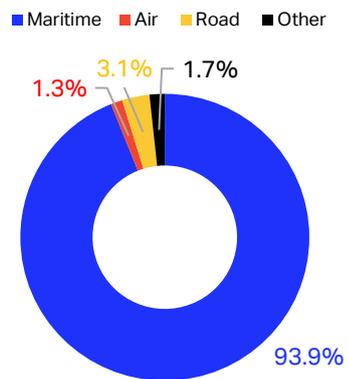
Air cargo plays a specific and well-defined role in Peru’s trade profile. In 2025, air shipments accounted for 23.0% of total export value (FOB), but only 1.3% of total export tonnage (Chart 4, panel A and B). This divergence between value and weight reflects the typical use of air transport for high value, low weight, and time sensitive goods rather than bulk commodities.

Chart 4: Peru’s cargo exports

Panel A: Share by value FOB, 2025



Panel B: Share by weight (tonnes), 2025

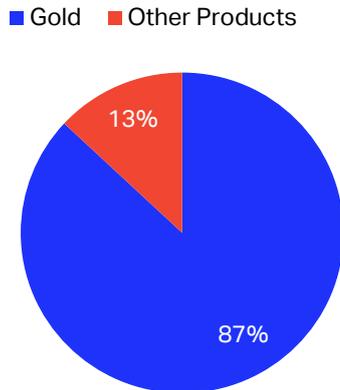


Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

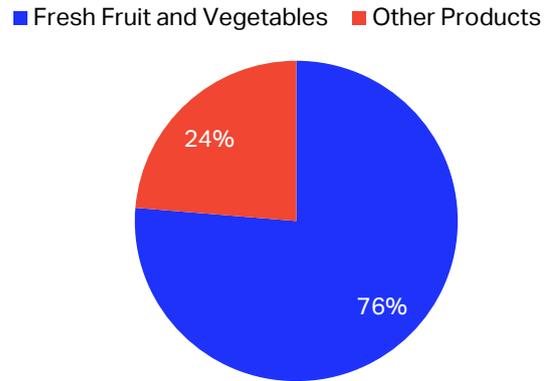
By value, air cargo exports are dominated by gold, which accounted for 87.0% of exports transported by air in 2025 and explained 94.4% of the increase in air export value since 2015 (see Chart 5, panel A), largely due to price effects. By contrast, air cargo exports by volume are overwhelmingly concentrated in perishables: by weight, fresh fruits and vegetables accounted for 76.3% of air cargo exports (Chart 5, panel B), and the six largest products exported by air were all fresh fruits and vegetables. This contrast underscores the dual role of air cargo in Peru’s export structure—supporting very high value traditional exports by value, while playing a critical enabling role for time and quality sensitive agricultural products.

Chart 5: Peru's air cargo exports by goods, % share of the total exports by air.

Panel A: Exports by value FOB, 2025



Panel B: Exports by weight (tonnes), 2025



Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

Three product pathways: asparagus, mangoes, and blueberries

Asparagus, blueberries, and mangoes dominate Peru's air cargo exports of fresh fruits and vegetables. Together, they account for 93% of such exports both by value and weight. Asparagus leads both, with close to 50%. Blueberries are second in value, but third in weight, highlighting a relatively high weight-to-value ratio. Mangoes are third in value but second in weight, reflecting a lower unit value. Ginger, peas, and other fresh fruits, albeit much less important, also feature among Peru's top six products exported by air (Table 1).

The evolution of these three leading air exported perishables illustrate how air cargo supports exports in different contexts. Beyond its traditional role of facilitating exports of highly perishable goods by overcoming fragility through rapid transport—especially where product characteristics, logistics, or infrastructure constrain alternative modes—air cargo has also enabled product differentiation and supported entry into new markets.

Table 1: Peru's top air cargo export products in fresh fruits and vegetables, weight and value, FOB

Exported Products	Value, USD million			Volume		
	2015	2025	% Share of FFV	2015	2025	% Share of FFV
Asparagus	\$ 363.5	\$ 147.5	43.2%	113,020	35,128	43.9%
Cranberries and Blueberries	\$ 18.8	\$ 89.9	26.4%	1,920	13,018	16.3%
Mangoes	\$ 26.2	\$ 53.6	15.7%	9,604	20,675	25.9%
Other fresh fruits	\$ 1.0	\$ 12.8	3.7%	405	1,465	1.8%
Peas	\$ 9.6	\$ 5.2	1.5%	2,665	1,472	1.8%
Ginger	\$ 1.0	\$ 4.3	1.2%	408	2,259	2.8%

Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

Overcoming product and logistics constraints: asparagus

Fresh and chilled asparagus is Peru's largest air cargo export across all products by weight and the fourth largest by value. Peru had already established itself as the world's leading exporter of asparagus in the 2000s,

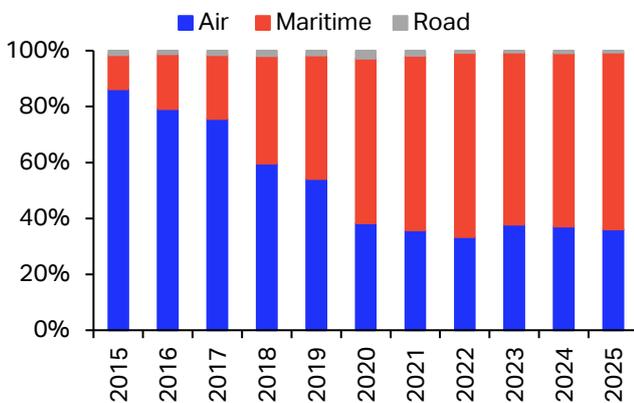
and since 2015 the total value of asparagus exports has remained broadly stable. This reflects, in part, intensifying competition particularly from Mexico in the US market, which remains Peru’s principal destination market.

Asparagus is highly perishable and sensitive to handling, making it strongly dependent on air transport during the initial phase of export expansion. In 2015, the share of asparagus exports transported by air exceeded 80% in both value and weight, and this share stayed elevated throughout the late 2010s. At that time, limited shelf life and logistics constraints made maritime transport difficult.

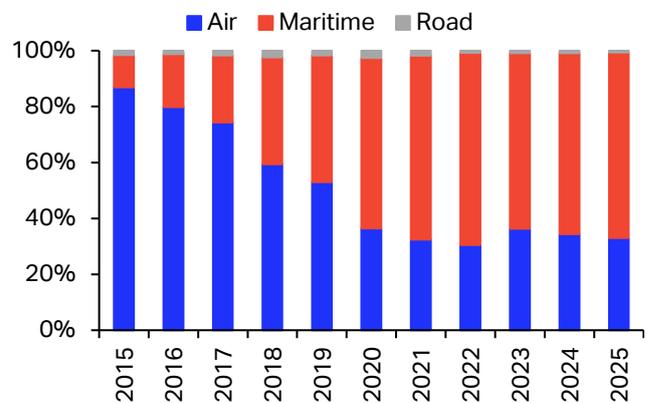
Over the following decade, a growing share of asparagus exports was carried by maritime transport, as shelf life was extended through improvements in post harvest handling, cold chain management, and maritime logistics. Air cargo nonetheless remained important, particularly for time-sensitive shipments and specific market requirements.

Chart 6: Exported asparagus by mode of transport, % share.

Panel A: Exported asparagus by value FOB



Panel B: Exported asparagus by weight (tonnes)



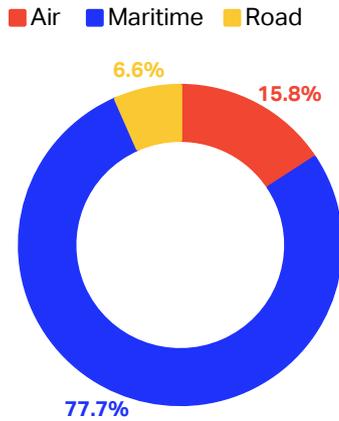
Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

Product differentiation and premium segments: mangoes

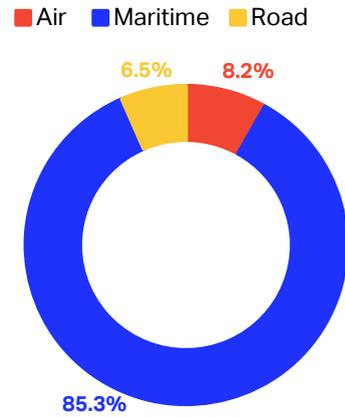
Mangoes are Peru’s third most important perishable export product, with export values having doubled over the past decade. Compared to asparagus, mangoes are less fragile and have a longer history of being transported by sea. Mango exporters have consistently relied on a mix of transport modes over the past decade.

The distinction between transport modes for mangoes is primarily one of quality and price differentiation. In value terms, 15.8% of mango exports are transported by air, while in volume terms the share is only 8.2% (Chart 7, panel A and B). In other words, mangoes shipped by air command significantly higher prices on world markets, because mangoes destined for air transport are harvested closer to physiological maturity, allowing them to maintain superior quality and develop better flavor profiles. Sea-freighted mangoes, by contrast, are harvested earlier to withstand longer transit times. While it is not the dominant transport mode for mangoes, air cargo therefore supports market segmentation and higher average export revenues.

Chart 7: Peru's mango exports by mode of transport, % share
Panel A: Exports by value FOB, 2025



Panel B: Exports by weight (tonnes), 2025

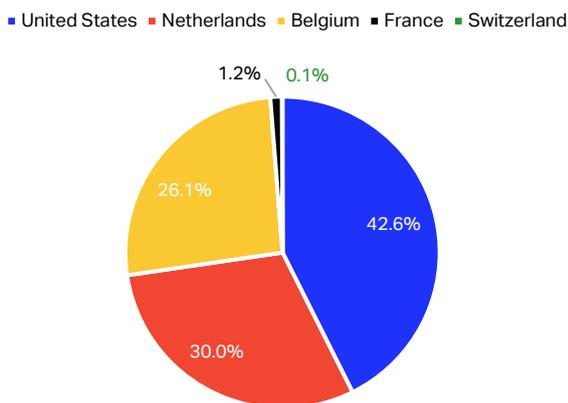


Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

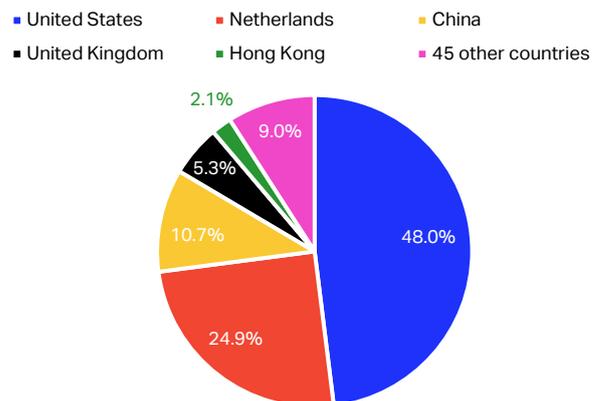
Market entry and diversification: blueberries

Peru emerged as the world's leading exporter of blueberries by 2019. As production expanded rapidly, blueberry exports also became markedly more diversified across destination markets. In 2011, the first year for which data on trade by air are available, Peru's blueberry exports were small and highly concentrated, reaching only five destinations: the United States (40%), the Netherlands (29%), Belgium (27%), France (3%), and Switzerland (less than 1%). By 2025, Peru exported blueberries to 50 markets worldwide (Chart 8, panel A and B).

Chart 8: Peru's blueberries export destinations, % share
Panel A: Export destinations by value FOB, 2011



Panel B: Export destinations by value FOB, 2025



Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

While air cargo played a central role in the initial expansion of blueberry exports, other transport modes have gained importance over time. The introduction of longer-lasting blueberry varieties, along with improvements in infrastructure and logistics, enabled a gradual shift toward sea transport⁵. As larger volumes became feasible by maritime routes, the share of blueberries exported by air fell from 100% in 2011 to 3.6% by 2025. This shift

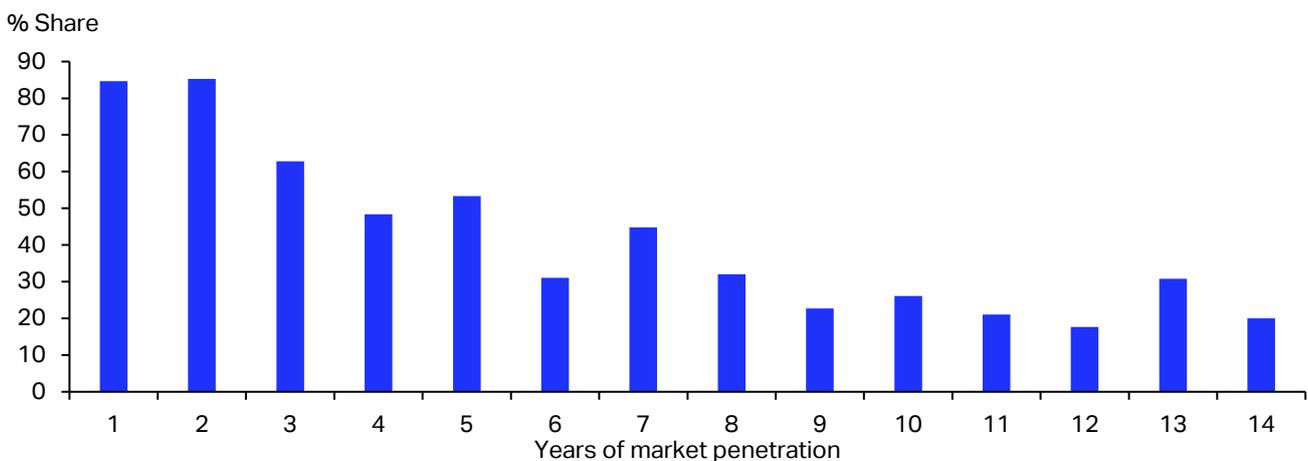
⁵ Ministerio de Desarrollo Agrario y Riego - MIDAGRI 2025: Nota técnica de coyuntura económica #002-2025 "El comportamiento de las exportaciones de arándanos y sus perspectivas al 2025"

reflects relative changes rather than a diminished role for air cargo, with exports transported by air growing from USD 84,000 in 2011 to USD 89.9 million in 2025.

Importantly, air cargo proved critical for market entry and diversification. Between 2012 and 2025, Peru began exporting blueberries to 65 new destination markets. In 55 of these, exports were delivered exclusively by air during the first year of market penetration, equivalent to around 85% of new destinations. This reliance on air transport for new markets remained similarly high in the second year of export activity, before declining over time and stabilizing around the low-20% range after approximately a decade of market presence (Chart 9).

This pattern highlights the strategic role of air cargo in enabling market entry. Although early air shipments are often associated with relatively small initial volumes, they facilitate access to new and smaller destinations, supporting export diversification and providing a buffer against market-specific shocks.

Chart 9: Share of Peru’s blueberry export destinations served exclusively by air



Source: IATA Sustainability & Economics using data from the Peruvian Ministry of Commerce and Tourism.

Conclusion

Peru’s export experience over the past decade illustrates how air cargo can function as a strategic enabler of trade within a broader logistics system. As the country pursued export diversification under the National Export Strategic Plan (PENX) 2015–2025, air transport played distinct but complementary roles across products, stages of development, and market contexts, supporting the expansion of non-traditional agricultural exports alongside traditional high-value commodities.

The three perishable product case studies highlight the dynamic nature of this role. Asparagus demonstrates how air cargo can be critical in overcoming product and logistics constraints when limited shelf life and infrastructure restrict the use of alternative transport modes. Mangoes illustrate how air transport supports product differentiation and access to premium market segments, enabling exporters to capture higher unit values even where maritime transport remains dominant by volume. Blueberries, in turn, show how air cargo facilitates market entry and diversification, allowing exporters to establish a presence in new destinations and stabilize demand.

Peru’s experience underscores that the contribution of air cargo goes well beyond its share in total trade values and volumes. As logistics systems, product characteristics, and supply chains evolve, air cargo’s strategic importance is most evident at the frontiers of export growth—supporting new products, new markets, and quality sensitive segments where speed, reliability, and flexibility remain critical. Ensuring efficient air cargo connectivity therefore remains central to sustaining diversification, resilience, and value creation—both for



Peru as it enters the next phase of its export development strategy, and more broadly for economies seeking deeper integration into global markets.