

European Air-Rail-Bus Price Comparison

Final Report



1	Executive Summary	3
2	Background and Purpose	4
2.1	Airlines' price campaigns have altered customer perceptions	4
2.2	Important environmental impact of mode choice	4
2.3	Additional traveler potential for European railway operators?	5
2.4	Fair, transparent price competition?	5
2.5	German case study: Rail is the price leader	5
3	Methodology	6
3.1	Route Selection	6
3.2	Booking Lead Times	6
3.3	Travel Types	7
3.4	Price Investigation	8
4	Results	9
4.1	Overall Results	9
4.2	National Results	10
	France	10
	Spain	11
	Germany	12
	Italy	13
4.3	International Results	14
4.4	Bus Connections	15
4.5	Luggage, Credit Card & Co.	16
5	Conclusions	17
6	Possible Actions	18



1 Executive Summary

The European railway system, according to public opinion, suffers from extraordinarily high fares. Liberalization in the European passenger aviation market has led to cut-throat price competition on many domestic and international air connections. As a result, the airlines have heavily advertised extremely low airfares. Despite the fact that only small numbers of tickets are available at these low prices, this marketing has had a strong effect on the public perception of intercity rail fares.

The purpose of this study is to review the current ticket prices on trains, planes and busses on selected national and cross-border routes in Europe, where air and rail can be realistically substituted due to similar overall travel times. Including more than 2,200 travel prices from several online sales platforms, this survey primarily compares the fares of air and rail travel, based upon three typical traveler types and four different booking lead times.

The results show the complete opposite of popular opinion. Rail – not air – dominates the air-versus-rail price comparison, and it is far and away the best-priced travel option. The five train operators surveyed won in 82% of more than 720 investigated booking cases. One can save an average of 37% by taking a train instead of a plane. The French train operator SNCF provides the greatest price advantage when compared to the airlines, winning in 96% of all travel cases. This result is closely followed by Renfe in Spain with 83%, Deutsche Bahn in Germany with 79% and Trenitalia/NTV with 78%.

A closer look at the survey in regard to types of travel reveals a correlation between price and booking lead time. While holiday trips booked a day in advance show the biggest saving potential when taking the train, business and weekend trips generate comparably smaller but still significant savings. The highest savings can be realized by booking three months in advance. Overall, the different booking lead times show a heterogeneous picture, but taking the train will nearly always save money. Only on certain single connections are airlines cheaper than the railway companies due to intense airline competition (e.g., London-Paris).

A further outcome of the study is that the sales practices of many online flight distribution portals are still non-transparent and unfair. The airfare initially displayed is rarely the price customers have to pay at the end of the sales process.

The price positioning of railway operators in competition with airlines is considerably better than expected. However, there is obviously a lot of work to do before consumers are convinced of this rail price advantage.



2 Background & Purpose

Based on the INVERMO project results, it seems that a significant number of long-distance travelers do not make active mode choices at all. Only a small group of travelers gives serious consideration to an alternative mode during their pre-trip planning.¹ For this group, the price of travel plays an important role in influencing customers' decisions in choosing their mode of transport.

2.1 Airlines' price campaigns have altered customer perceptions

Airfares dropped dramatically after the creation of a single market for aviation in the 1990s. The rise of low-cost carriers in the European passenger aviation market induced cut-throat price competition. Consequently, airlines spent large marketing budgets to attract new customers. Many established network carriers copied the successful business model of the low-cost airlines.

A key factor in current airline marketing is an aggressive pricing policy based upon the promotion of extremely low airfares, but usually no more than 10% of the seats on any flight are offered at such prices. Nevertheless, the airlines' intensive price campaigns have had a great impact on consumers' price perceptions in regard to long-distance travel. Advertised starting prices of the airlines have become an important reference point for consumers' price assessment of all competing travel options.

The assumed price advantage of air travel also affects the mode choices and booking behavior of the travelers. Consumers, expecting to find the best travel prices at airlines,

narrow the search to online flight-booking engines such as Kayak, ebookers and eDreams.

Due to the absence of an intermodal price comparison in most of these online tools, the majority of travelers probably do not even check rail fares. To make things worse, travelers usually compare the journey times of air and rail travel without taking into account the additional access and processing times at airports.

2.2 Important environmental impact of mode choice

Consequently, European air passenger transport showed growth of 25.5% from 2000 to 2012. During the same period, rail passenger transport in Europe increased by only 12.5%.² The strong growth of air traffic has serious implications on Europe's climate footprint. According to estimates by the EEA, CO₂ emissions of aircraft average out at 286 g per kilometer, which is more than 20 times the figure in regard to railway emissions.³

Although long-distance trips account for just a small portion of trips, approximately 50% of the total distance traveled (pkm) in Europe comes from trips exceeding 100 km, according to matrices developed in the TRANSTOOLS project.⁴ This is consistent with the estimates from the EEA, suggesting that slightly more than 20% of all passenger kilometers are allocated to distances above 300 km. Consequently, the shift of long-distance travel from air to rail could have a significant effect on the overall greenhouse gas emissions.

¹ Last/Manz (2003): Unselected mode alternatives: What drives modal choice in long-distance passenger transport? 10th International Conference on Travel Behaviour Research, Lucerne

² EU Commission (2014): EU transport in figures. Statistical pocketbook 2014, p. 46

³ EEA (2014): Focusing on environmental pressures from long-distance transport. TERM 2014: transport indicators tracking progress towards environmental targets in Europe, p. 104

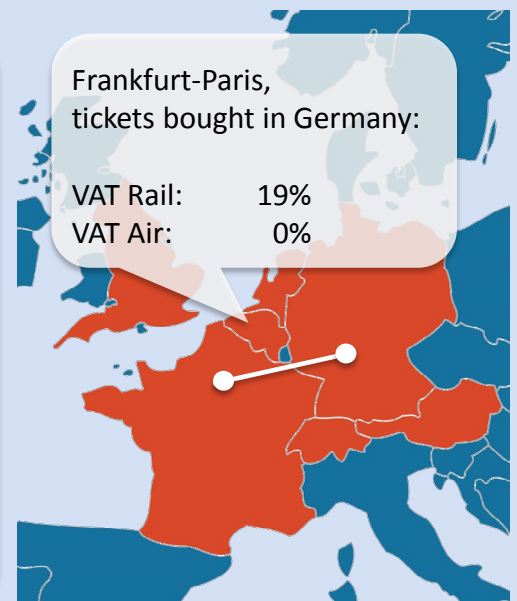
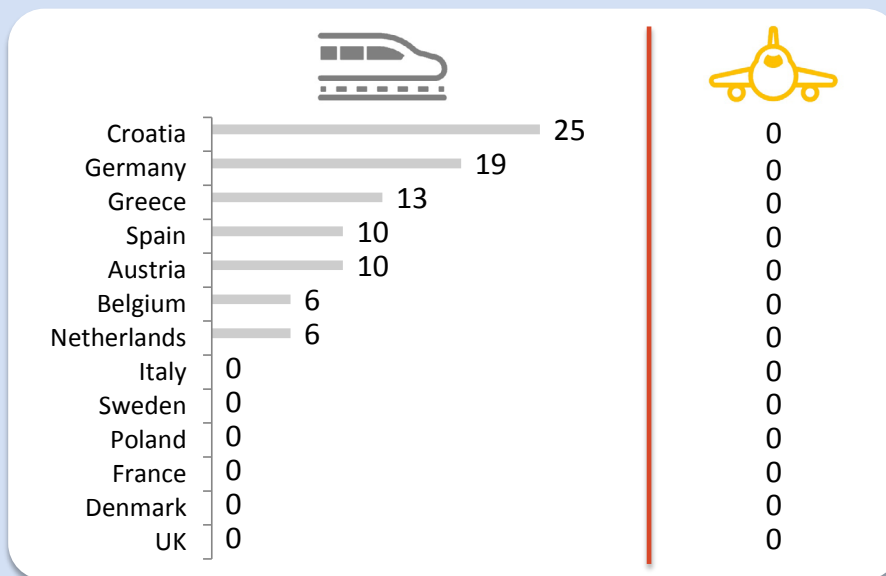
⁴ Rich/Mabit (2012): A Long-Distance Travel Demand Model for Europe. In: EJTIR 12(1), 2012, pp. 1-20

VAT Rate of European Cross-Border Rail vs. Air Travel

(in %, Source: Allianz pro Schiene, based on EU Commission 2014)

Example

Frankfurt - Paris



2.3 Additional traveler potential for European railway operators?

High-speed rail has already achieved a modal share of more than 50% in recent years in many European city pairs, such as Madrid-Seville, Paris-London and Paris-Brussels.⁵ On these city connections, the high-speed infrastructure allows train operators to realize competitive travel times. Modern rolling stock provides comfortable travel experiences. However, many O&D (origin and destination) travelers still prefer planes for routes where air and rail can be substituted due to similar overall travel times. Thus, the question is whether effective price advantages or simply traditional booking routines lead to air service as a preference. Do travelers really get the best price by going with a so-called low-cost airline? Could consumers save significant amounts of money by choosing the train instead of a plane? Are there any differences among the European countries?

2.4 Fair, transparent price competition?

The sales process in the passenger aviation industry, in contrast to the ticket distribution and pricing systems of European railway companies, has more stakeholders and a more complex fare system. For example, when one travels by rail, baggage is always included, and is not subject to limits. Airlines deal with baggage pricing very differently. EU Regulation 1008/2008 and Directive 2005/29, or the „Unfair Commercial Practices Directive,“ should tackle misleading advertising and unfair practices on airline ticket selling. The regulation should ensure that the final price displayed on airline or travel websites includes the applicable fare as well as all taxes charges, surcharges and fees which are unavoidable and foreseeable

at the time of publication (Article 23).⁶ Random testing leads to the assumption that, in many cases, the advertised flight price on intermediary distribution platforms is still not the final price. Subsequently, it is presumed that the price competition between rail and air travel offers is distorted by a lack of transparency.

2.5 German case study: Rail is the price leader

The project team had already explored the price competition between air and rail travel options in Germany on behalf of the German NGO Verkehrsclub Deutschland e.V. (VCD). In 2012, the observation of the ten most important domestic flight routes showed a stunning price advantage of intercity rail services. In more than 91% of all simulated booking cases, traveling by rail was the cheaper alternative.⁷ In an additional survey conducted in 2013, the VCD Bahntest investigated rail and airfares on ten major flight connections between Germany and neighboring countries. The study focused on cross-border routes with competitive rail travel times. Again, rail was the clear winner (93%).⁸

The general conditions for rail travel in other European countries differ from those in Germany, e.g., taxes for cross-border rail services are much lower in several European countries. So, would the results of a European price investigation be different?

⁵ Finger et al. (2014): High-Speed Rail vs. Low-Cost Air: competing or complementary modes? p. 4

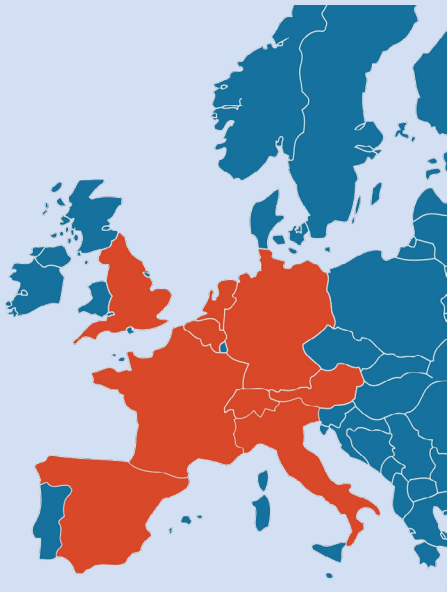
⁶ European Commission (2013): Annual Analyses of the EU Air Transport Market 2012. Final Report, p. 284

⁷ VCD Bahntest 2012/2013 – Preisvergleich von Flug und Bahn. Berlin.

⁸ VCD Bahntest 2013/2014. Grenzüberschreitender Bahn-Flug-Preisvergleich. Berlin.

INVOLVED COUNTRIES

National City Connections



FRANCE

Marseille	– Paris
Bordeaux	– Paris
Montpellier	– Paris
Lyon	– Paris
Hyerès	– Paris

GERMANY

Berlin	– Cologne
Berlin	– Duesseldorf
Berlin	– Frankfurt
Cologne	– Munich
Frankfurt	– Hamburg

SPAIN

Barcelona	– Madrid
Alicante	– Madrid
Madrid	– Malaga
Madrid	– Seville
Jerez	– Madrid

ITALY

Milan	– Rome
Naples	– Milan
Rome	– Turin
Rome	– Venice
Rome	– Bari

3 Methodology

To ensure a meaningful, comprehensive air-rail-bus price comparison, a six-month study (from June to December 2014) was agreed upon. During that period the project collected price data from 30 European city connections regarding four different booking lead times and three typical travel types.

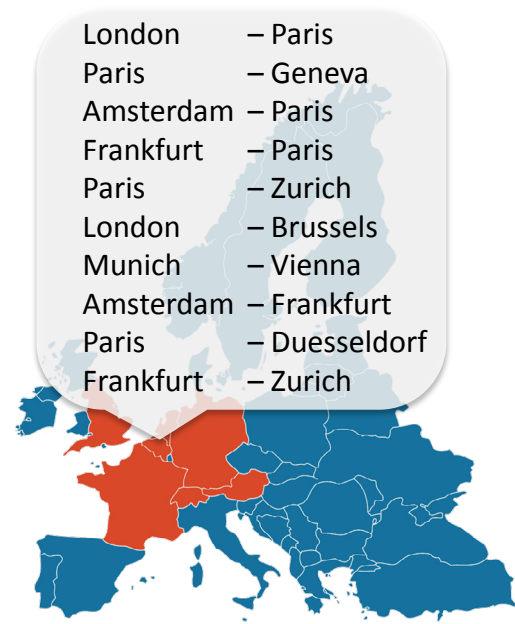
3.1 Route Selection

The mode choice of the passenger is mainly driven by travel time. Hence, air and rail travel are only substitutable within a certain distance range when overall travel times for both travel alternatives are similar.

According to this determining factor the price comparison within this study focuses on the most travelled domestic and international flight connections in Europe where rail operators can offer competitive travel times. Eurocontrol states added travel times (access to station/airport, security, boarding, etc.) of 180 minutes for air and 70 minutes for rail travel.¹ Consequently, in order to compare total travel times of both means of transport, two hours were added to the scheduled flight times. Rail travel was considered to be competitive if its scheduled travel time did not exceed the adjusted flight time by more than 90 minutes.

For the four European countries with the largest land area and a relevant high-speed rail network - France, Spain, Germany and Italy - the busiest domestic passenger air routes based upon Eurostat statistics were identified.² The five busiest air routes in each country with competitive rail travel times were observed in the price survey.

Additionally, the ten busiest cross-border passenger air routes with competitive rail travel times were selected.



3.2 Booking Lead Times

Prices were collected for the following four typical booking lead times:

- One day
- One week (seven days)
- Four weeks (approx. 28 days in advance)
- Three months (approx. 92 days in advance)

¹ Cokasova (2003): Air-rail intermodality from the passenger perspective, Eurocontrol Research Centre

² Eurostat online data (2014): <http://ec.europa.eu/eurostat/web/transport/>



	Booking Lead Times	1 day – 7 days – 4 weeks – 12 weeks before start of travel
	Travel Period	September 15 th to December 18 th , 2014
	Survey Period	June 30 th until December 18 th , 2014

The total database consists of 2,232 tests, being divided into 1,440 air tests, 720 rail tests and 72 bus tests. The air tests are subdivided into 720, direct bookings on the online sales platforms of the airlines (e.g., Air France or Lufthansa) and 720 bookings on the intermediary distributor kayak.com.

Every flight connection was directly compared to a rail connection (same day, same time frame, same constellation). Additionally, five bus connections were checked on selected routes.

The final prices considered for the air-rail-bus price comparison are economy class prices including reservation fees and credit card charges. In the case of additional luggage (e.g., family and couple constellation), likely additional fees were added to the total price. This approach ensures the final total price considering all hidden fees guaranteeing a full and fair price comparison.

3.3 Travel Types

This study analyzes the travel prices for three main travel types. These travel types are characterized as follows.



Business trip

The business trip simulates a business person traveling to a meeting within one day. This person travels without luggage. Journey time frame: outbound journey between 6 a.m. and 2 p.m. (latest arrival). Return journey between 4 p.m. and 11 p.m. (latest arrival).



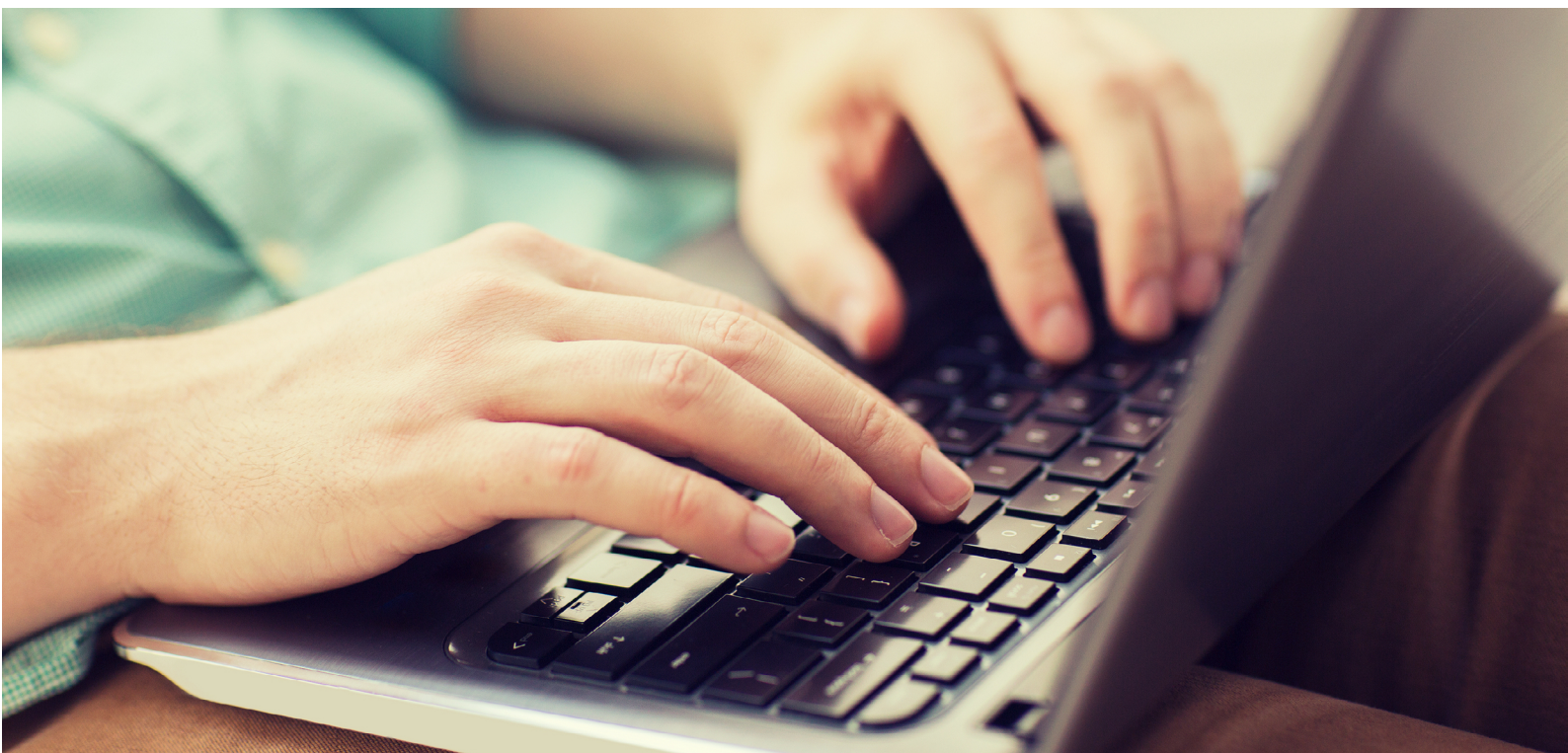
Weekend trip

The weekend trip simulates a couple (age > 18 years) visiting a city (corresponding to the defined connections). The couple travels with one piece of luggage each. Journey time frame: outbound journey between 8 a.m. and 10 p.m. (latest arrival) on a Friday. Return journey between 12 p.m. and 10 p.m. (latest arrival) on the following Sunday.



Holiday trip

The holiday trip simulates four people traveling for two weeks. The group consists of two adults and two children (8 and 10 years old) each traveling with one piece of luggage. Journey time frame: outbound journey between 8 a.m. and 8 p.m. (latest arrival). Return journey between 8 a.m. and 8 p.m. (latest arrival).



3.4 Price Investigation

The assorted constellations on the defined connections were booked with consideration for the following rules:

Air travel



Every connection was first checked on the well known intermediary distribution platform kayak.com. This sales portal led to the cheapest price meeting our conditions. The final "booking" (the price considered in the inquiry list) took place via

an online agency (e.g., eDreams) suggested by Kayak. This agency sells tickets on behalf of the airline (e.g., Air France). Being aware that these travel agencies may impose additional charges for their service, a separate booking directly at the online sales platform of the airline company (e.g., airfrance.com) was done.

Criteria:

- Lowest price without transfer (nonstop flight) at given conditions.
- Methodical example:
Generally, the travel agency prices were below the direct airline prices. If the price of the airline's sales website was lower, then this price was considered in the inquiry list.

Rail travel



To determine the rail fares, the study used the online booking tools of the national railway operators:

France:	snCF.com
Germany:	bahn.de
Italy:	trenitalia.com / ntv.com
Spain:	renfe.es

Criteria:

- Lowest price without transfer at given conditions; only mainline traffic connection (no local trains).
- In the case of international connections, various websites were checked. For example, Frankfurt (GER) - Paris (FRA) was checked both via the German booking machine of bahn.de as well as the French site of snCF.fr. In this case, the cheapest connection was included in the investigation list.

Bus travel



Every bus connection was first checked at www.goeuro.com, an independent portal which shows Europe-wide connections at the lowest available prices. This portal links directly to the bus company with the lowest price (meeting fixed conditions). The final price stated on this bus company page was considered in the inquiry list.

Criteria:

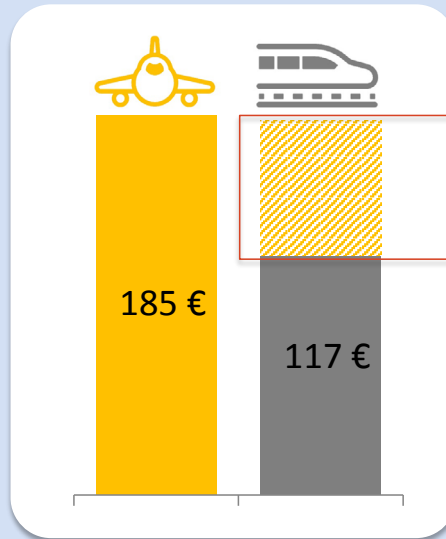
- Lowest price without change at given conditions.

INVOLVED COUNTRIES



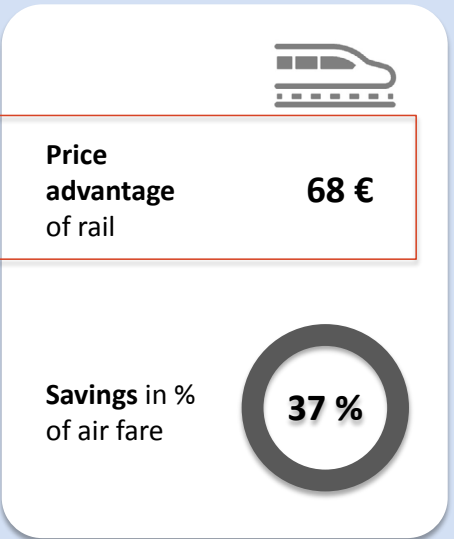
AVERAGE TICKET PRICE

Average ticket price (all routes)



PRICE BENEFIT RAIL

Savings of taking the train versus flying



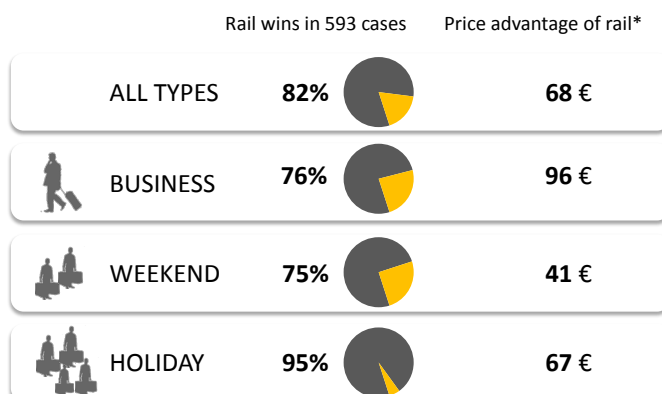
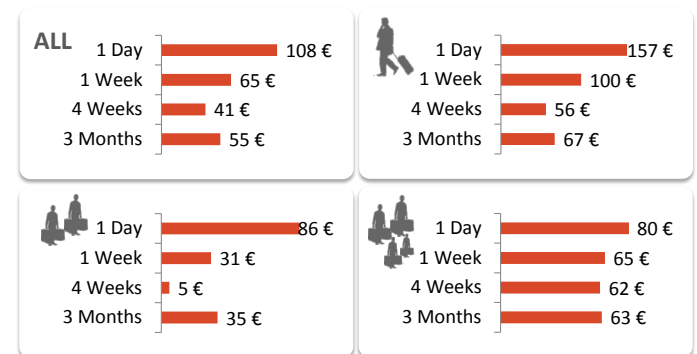
4 Results

4.1 Overall Results

Summary

- Rail dominates the air-versus-rail price comparison, winning in 82% of more than 720 investigated booking cases.
- SNCF in France shows by far the best prices in competition to the airlines, winning in 96% of all travel cases.
- The competitive position for rail prices is best on holiday trips. Rail wins nearly all price comparisons with large savings.
- 2/3-price travel: Total savings of taking the train versus flying average 37% of airfare.
- Looking at the prices for different booking lead times shows a heterogeneous picture, but taking the train will almost always save money.
- Bus dominates the bus-rail-price comparison, winning in 95% of 74 investigated booking cases.

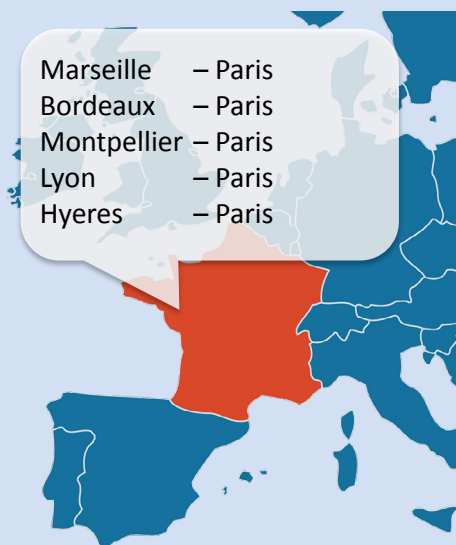
In all observed investigation areas, rail operators dominate the price comparison with the airlines significantly. SNCF shows by far the best prices compared to the airlines, winning in 96% of all travel cases. Italian, German, Spanish and international connections show similar results. The total savings taking the train average 37% of airfare – meaning a monetary saving of 68 Euros on average.



*Average savings per passenger

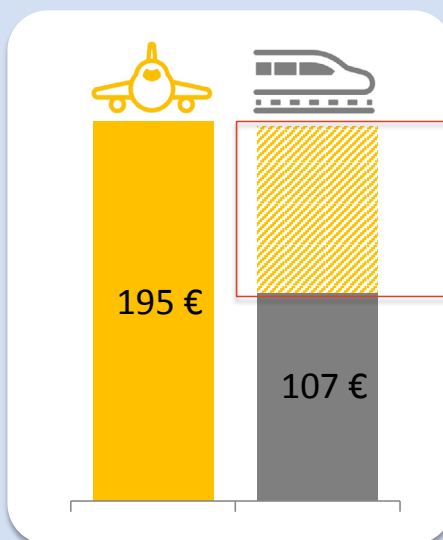
A closer look at the types of travel, however, reveals a correlation between price and booking lead time. The lowest absolute price can be realized by booking three months in advance in all travel types. The later you book, the greater the price advantages of train against plane. All traveler types booked one day in advance show the biggest savings potential. Overall, the different booking lead times show a heterogeneous picture, but taking the train will nearly always save money.

FRANCE



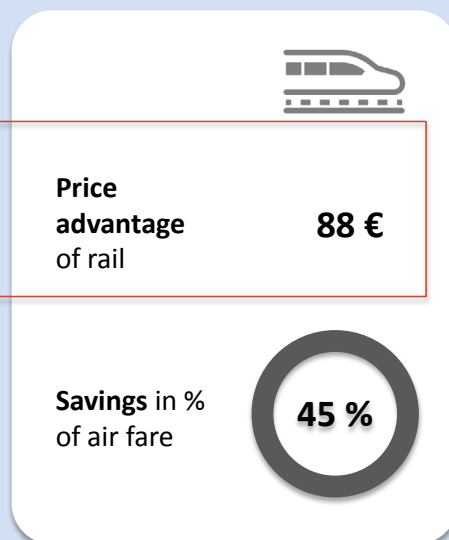
AVERAGE TICKET PRICE

Average ticket price
(all routes)

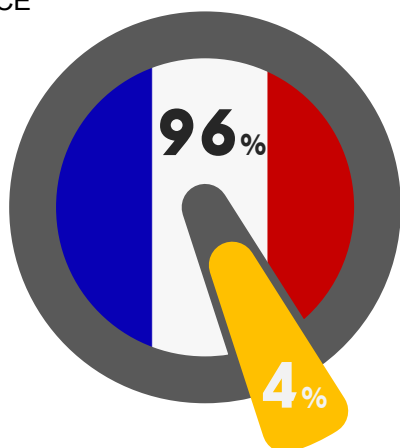


PRICE BENEFIT RAIL

Savings of taking the train
versus flying



FRANCE



■ Rail cheaper ■ Air cheaper

In France rail dominates the air-rail price comparison as in no other country. In 96% of the price tests, rail is cheaper than taking a plane. Particularly, business travelers could save 166 Euros on average and up to 265 Euros when booking a day in advance by taking the train instead of a plane. Rail dominates this comparison in all cases. For groups, booking three months in advance each family member saves 72 Euros on average by taking the train. Furthermore, only in three out of five connections is air travel quicker, and only in one case is it considerably so (53 minutes, Hyeres-Paris). The highest potential savings, considering all types of traveler and booking lead times, can be achieved between Marseille and Paris. Taking the train save travelers an average of 54% of the airfare (117 Euros).

- The highest price advantages of rail travel can be achieved in regard to single-day business trips. In all

Rail wins in 115 from 120 cases

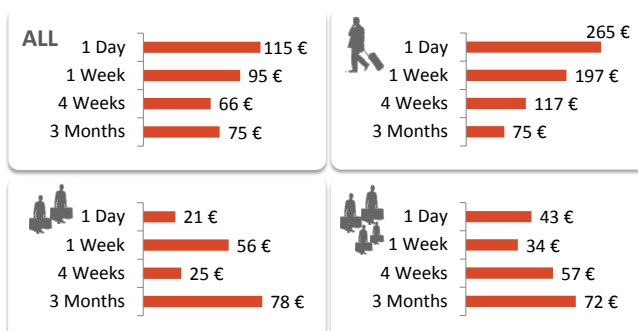
Price advantage of rail*

ALL TYPES	96%	88 €
BUSINESS	100%	166 €
WEEKEND	86%	42 €
HOLIDAY	100%	52 €

*Average savings per passenger

investigated cases, rail is cheaper than plane.

- All holiday trips investigated are dominated by lower rail prices. For this type of travel, rail has a particular advantage over air due to the occasionally deep discounts rail offers for children.
- The price advantages of taking the train grow as booking lead times get shorter. Lower overall prices can be obtained by booking well in advance.
- On the Lyon-Paris route, rail is cheaper than air in every case. The largest savings of taking the train are on the Marseille-Paris route.



SPAIN

AVERAGE TICKET PRICE

PRICE BENEFIT RAIL

Average ticket price
(all routes)

Savings of taking the train
versus flying

Barcelona – Madrid
Alicante – Madrid
Madrid – Malaga
Madrid – Seville
Jerez – Madrid



167 €

96 €

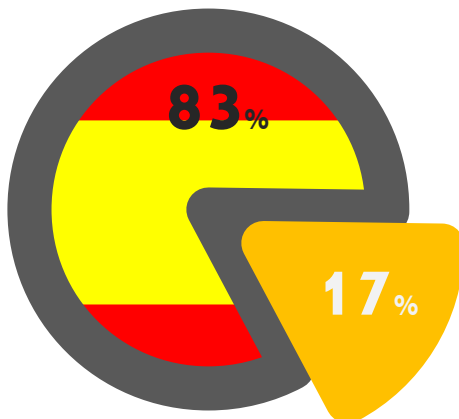
Price
advantage
of rail

71 €

Savings in %
of air fare

42 %

SPAIN



■ Rail cheaper ■ Air cheaper

Flight prices in Spain are slightly more competitive with rail than in France, but Spanish rail operator Renfe still wins the price comparison in 83% of all cases. Customers of all travel types save around 70 Euros on average by taking the train instead of a plane. While holiday trips are dominated by cheaper rail connections (97% of cases), business travel by train is cheaper in 66% of all cases. On the average, rail connections save 42% compared to air. The highest price advantage of rail travel is achieved on holiday trips. Couples find the highest potential savings by booking a day in advance (139 Euros on average). It is noticeable that the average savings for couples who book four weeks in advance is only 16 Euros. Another peculiarity is that, for business travelers, air is cheaper than rail between Barcelona and Madrid in 78% of the cases. Interestingly, train travel is faster on this and three other connections in Spain (in the range from 26 to 47 minutes).

- The highest price advantages can be found in the con-

Rail wins in 100 from 121 cases

Price advantage of rail*

ALL TYPES

83%



71 €



BUSINESS

66%



72 €



WEEKEND

85%



66 €



HOLIDAY

97%

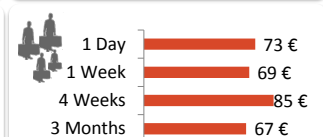
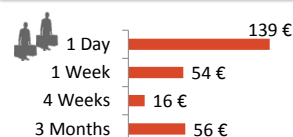
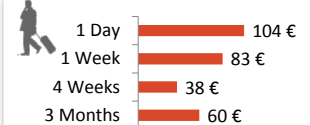
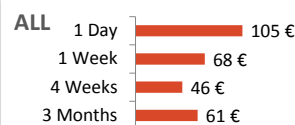


73 €

*Average savings per passenger

text of holiday trips. In nearly all investigated cases rail is cheaper than plane. In this type of travel, the train has a particular advantage over a plane due to the occasionally deep discounts for children.

- On business trips rail is usually cheaper than air. However, the results aren't as clear as in France.
- The price advantages of taking the train grow as booking lead times get shorter. Regardless, the earlier you book, the lower the price for travel will be.
- Rail wins most of the price comparisons on the Alicante-Madrid connection. One sees the highest average savings by taking the train between Jerez and Madrid.

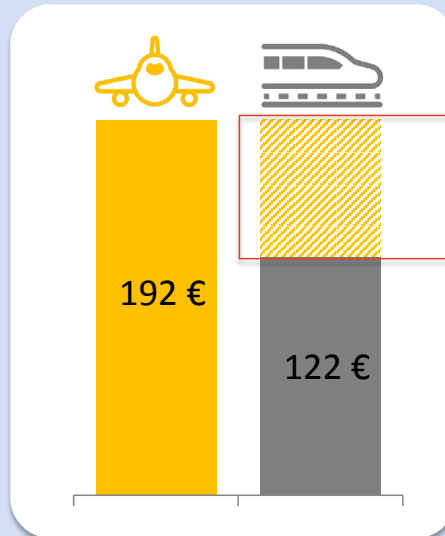


GERMANY



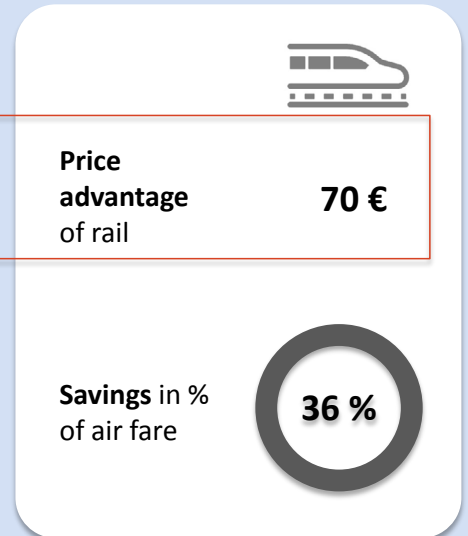
AVERAGE TICKET PRICE

Average ticket price
(all routes)

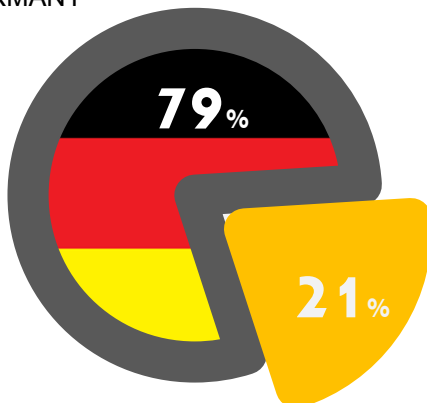


PRICE BENEFIT RAIL

Savings of taking the train
versus flying



GERMANY



■ Rail cheaper
 ■ Air cheaper

In more than three quarters of all cases, German railway is cheaper than the airline offer. Particularly, holiday trips are clearly dominated by cheaper rail tickets. Each holiday traveler saves 105 Euros on average. The total average savings of taking the train over all traveler types are 70 Euros. Couples booking three months in advance are advised to take a plane, as they will be able to get a cheaper connection. Booking a day in advance shows the complete opposite: Couples have to pay 132 Euros more on average when taking a plane instead of the train. The connection between Frankfurt and Hamburg is dominated by rail savings of at least 97 Euros (weekender) and up to 214 Euros (business). Concerning travel times, the plane clearly wins the comparison. Travelers save between 56 and 146 minutes when taking a plane instead of the train.

- The highest price advantages of rail travel appear in the context of holiday trips. In all investigated cases, rail is cheaper than air. In this type of travel, the train

Rail wins in 96 from 121 cases

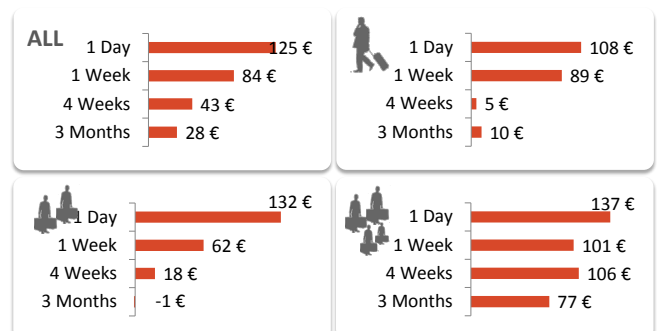
Price advantage of rail*

ALL TYPES	79%	70 €
BUSINESS	61%	54 €
WEEKEND	77%	53 €
HOLIDAY	100%	105 €

*Average savings per passenger

has also a particular advantage over the plane due to the occasionally deep discounts for children.

- On business trips rail is mostly cheaper than air. However, the results are not as clear as in France.
- The price advantages of taking the train grow as booking lead times get shorter. Regardless, a lower price can be obtained by booking well in advance.
- Rail wins most of the price comparisons on the Frankfurt-Hamburg connection. Moreover, on this route the largest savings can be achieved by taking the train.

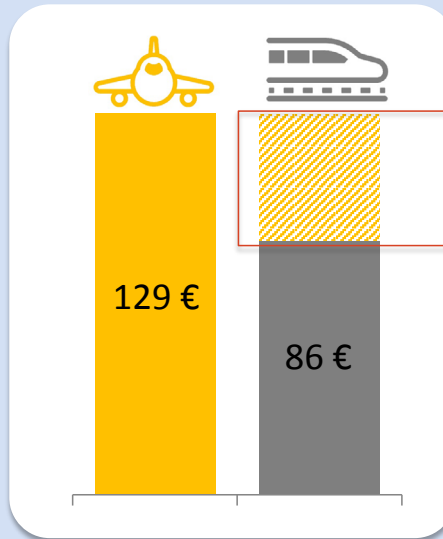


ITALY



AVERAGE TICKET PRICE

Average ticket price
(all routes)

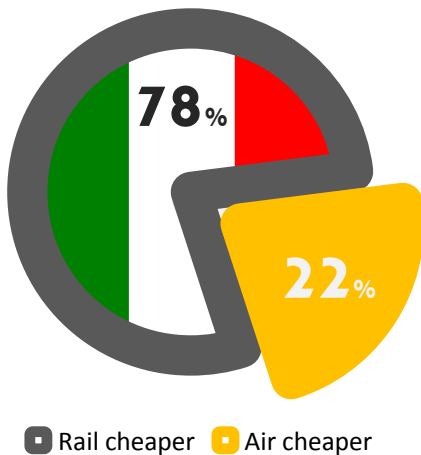


PRICE BENEFIT RAIL

Savings of taking the train
versus flying



ITALY



Rail dominates the air-rail price comparison in Italy, winning in nearly 8 out of 10 price comparisons. However, the flight prices in Italy are more competitive than in France. The average price advantage of the train compared to a plane comes down to 43 Euros. In nearly every case (95% of cases), holiday traveling is cheaper by train, saving 47 Euros on average. Over all traveler types, booking a day in advance means the greatest savings (105 Euros on average). Quite the contrary, business travelers (day trips) and couples (weekend trips) booking four weeks in advance save money by taking a plane. Taking a look at the city-to-city connections, rail wins in all cases between Rome and Venice, saving an average of 121 Euros. Between Milan and Rome, a plane is cheaper in three out of four cases. In total, air travel is faster except for Milan-Rome (10 minutes faster by train).

- The highest price advantages of rail travel appear in the context of holiday trips. In nearly all investigated

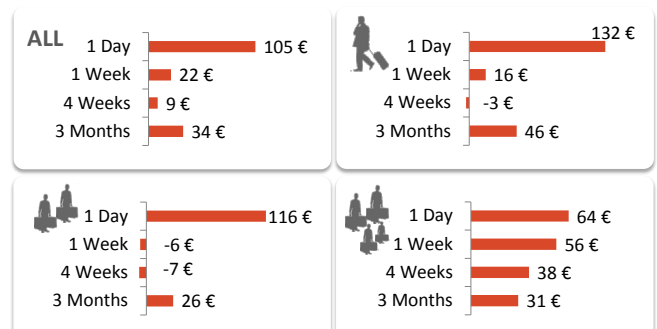
Rail wins in 94 from 122 cases Price advantage of rail*

ALL TYPES	78%	43 €
BUSINESS	73%	50 €
WEEKEND	65%	32 €
HOLIDAY	95%	47 €

*Average savings per passenger

cases rail is cheaper than air. For this type of traveler, the train has a particular advantage due to the occasionally deep discounts for children.

- For weekend trips rail is usually cheaper than air. However, the advantages for this traveler type are smaller compared to the other investigated countries.
- The price advantages of taking the train grow as booking lead times get shorter. Regardless, the earlier you book, the lower the price for travel.
- Rail wins most of the price comparisons on the connection Rome-Venice. Moreover, on this route the largest savings can be achieved by taking the train.

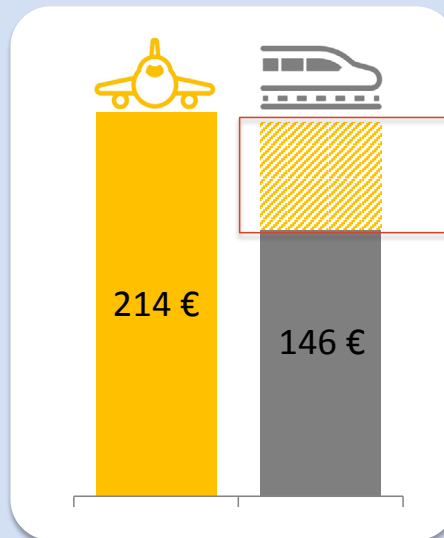


INTERNATIONAL



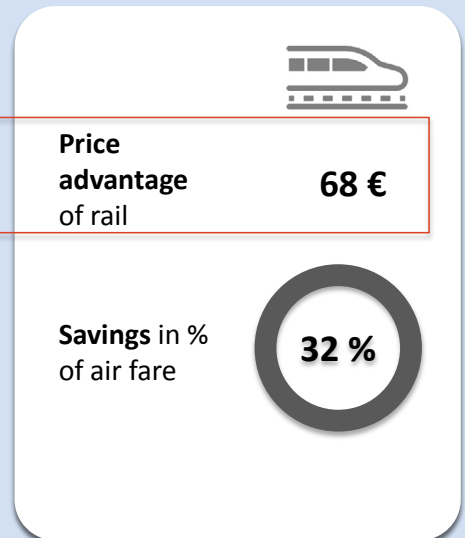
AVERAGE TICKET PRICE

Average ticket price
(all routes)

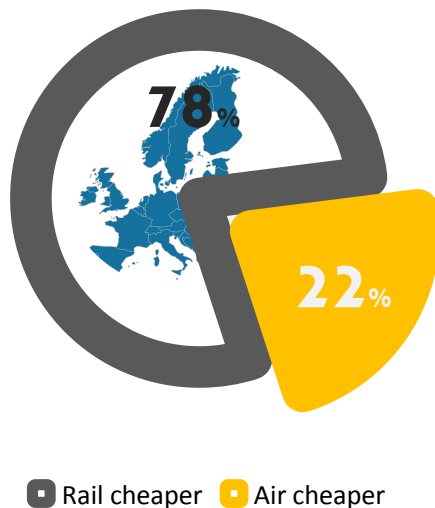


PRICE BENEFIT RAIL

Savings of taking the train
versus flying



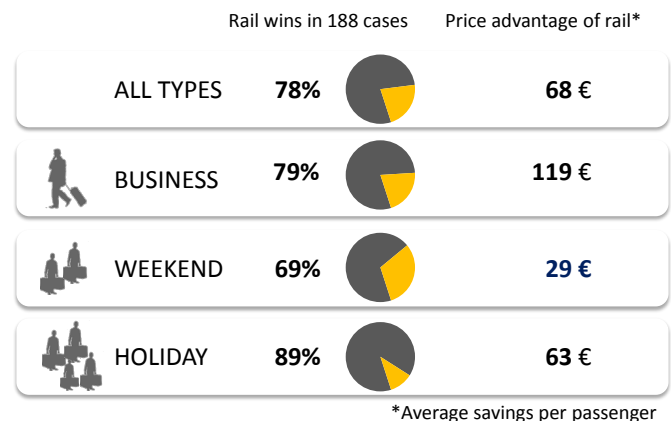
4.3 International Results



In addition to the individual country analysis a trans-European price comparison was executed. The results show the same trend as the national comparisons. In 78% of the 240 tests, rail was cheaper than air connections. It becomes clear that there are huge saving potentials between different types of travel. It varies between 29 Euros for weekenders and 119 Euros for business travelers. However, the single connections show major differences.

Paris shows a variety of prices depending on the target connection. When traveling from London to the center of France, rail only wins in seven cases. On this connection, business travelers save more than 100 Euros on average when taking the plane instead of the train. This leads to the total average of 45 Euros potential savings by plane over all traveler types between London and Paris. However, for business travelers, traveling from Amsterdam to

Paris is always cheaper by train and saves 199 Euros on average. Cross-border connections between Paris and Frankfurt are cheaper by train regardless of the travel type. The potential savings vary between 72 Euros (holiday) and 130 Euros (business trips). The average savings is at 104 Euros. Switzerland to Paris shows a different result. Rail wins in 54% of all cases while business trips have a greater savings potential than the other types of travel.



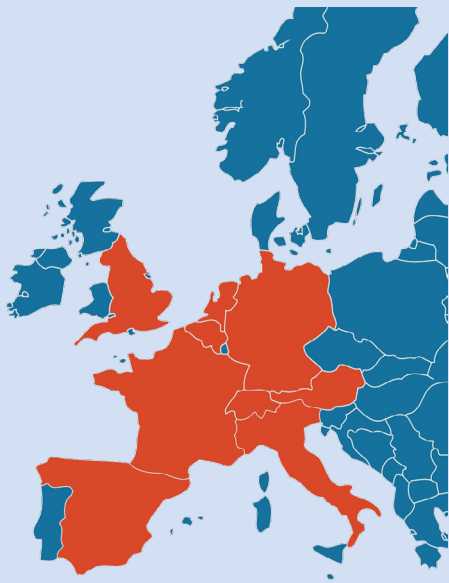
The most significant result is on the connection between Paris and Dusseldorf. Weekend trips have a potential savings of 45 Euros on average when taking the plane. In 88% of the cases, the plane is cheaper than the train. Further, the plane saves 43 minutes travel time.

Outside of France, one can see a variety of different study results. Between London and Brussels business trips are generally cheaper by plane (63% of cases). Here, weekenders and holiday trips are cheaper by train in more than 60% of all cases. Between Germany and

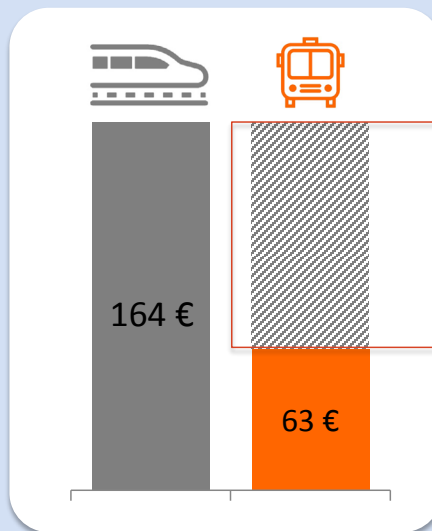
INVOLVED COUNTRIES

AVERAGE TICKET PRICE

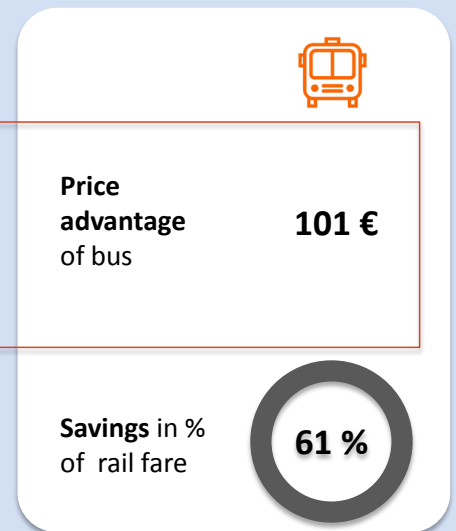
PRICE BENEFIT BUS



Average ticket price
(all routes)



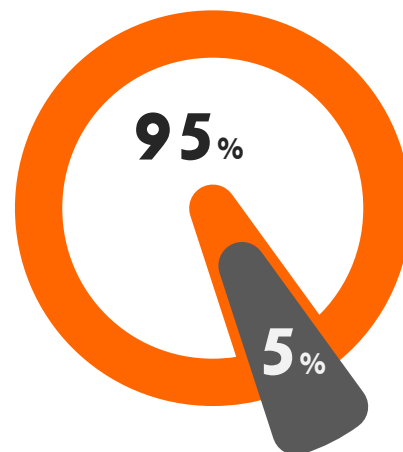
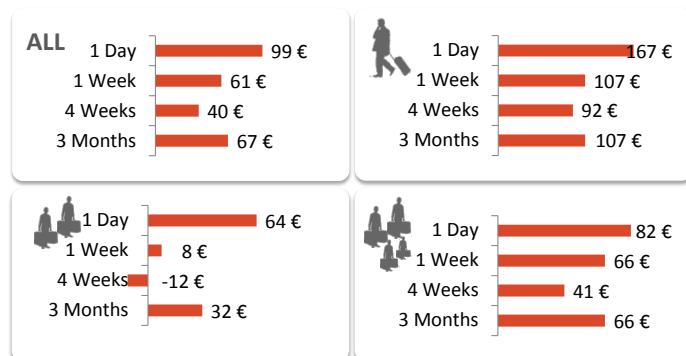
Savings of taking the bus versus rail



Austria, train travel is the cheapest possibility in all cases. The business type saves 146 Euros on average when the train is used instead of the plane.

4.4 Bus Connections

Eight out of ten times, the plane is the faster mode of travel (exceptions: London-Paris and London-Brussels). The plane is up to 68 minutes faster (Frankfurt-Zurich). Between Amsterdam and Paris, the travel time is equal for both modes at 3 hours and 22 minutes.



☒ Bus cheaper ☐ Rail cheaper

In addition to the air-rail price comparison, a bus price comparison was added to the study. It includes four cross-border connections with four booking lead times and two types of travel. The overall result shows a price advantage for the bus in 95% of cases. Holiday trips are on average 53 Euros cheaper by bus; weekenders save 130 Euros per trip. While bus is the cheapest mode of travel, one has to consider that the travel time by bus is always significantly longer than train and plane. For example, on the Amsterdam-Paris connection the travel-time average on a train is 3:23 hours, which is much faster than a bus (7:25 hours). The average bus price, at 61 Euros, is more than 100 Euros cheaper than train, at 164 Euros, but the bus also needs over 4 hours longer. Consequently, on the observed city connections, trains and planes do not really compete with bus services on price.



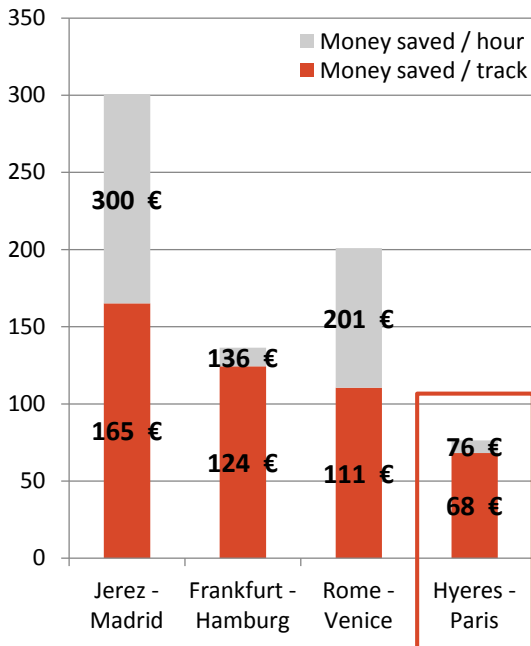
4.5 Luggage, Credit Card & Co.

The price investigation team dealt extensively with the various online booking tools of airlines and railway companies. In addition to the price survey some of the characteristics of the booking process could be identified that knowingly or unknowingly impede a fair, transparent price comparison.

1. Prices for additional luggage vary. Providers such as eDreams demand different prices as direct flight vendors. Generally, online brokers such as eDreams take higher fees than airline vendors such as Lufthansa or Air France; although in 86% of all cases the final airfares of intermediary sales platforms are better priced than direct bookings from the airline websites.
2. Credit card charges vary significantly. While some providers take no credit card surcharges, others add high amounts increasing the total price substantially. As a result, the cheapest offers often shifted and may not have been the lowest price anymore. Consequently, it was replaced by an alternative cheaper offer from the inquiry list. While credit card fees for air travel are charged for every single return ticket (4 travelers = 4 fees), railway companies such as Deutsche Bahn charge a much lower fee depending on the total travel price for all travelers.
3. International train connections: In many cases, prices vary depending on the provider (e.g., Deutsche Bahn shows a different price than SNCF on a connection between Germany and France). In this case, the lower price was considered for the comparison.
4. Almost every provider uses pop-up warnings (large red signs) that can confuse the user into spending additional money on extra services. They recommend choosing flight insurance coverage, special seating, etc. This can result in psychological strain on the customer. These optional charges have not been taken into account in this survey.
5. Renfe's website changes language during the booking process. International customers can suddenly find they are confronted by the need to understand Spanish.

AIR every traveler, including children, pays credit card fees

RAIL the credit card fees are payable once for the entire journey and party



Money saved / hour			
Money saved / minute		Time saved	
🇫🇷 Hyeres - Paris	0:53	1,27 €	76 €
🇪🇸 Jerez - Madrid	0:33	5,01 €	300 €
🇩🇪 Frankfurt - Hamburg	0:55	2,26 €	136 €
🇮🇹 Rome - Venice	0:33	3,35 €	201 €

🇫🇷 Calculation Hyeres - Paris Ø money savings of rail: 68€ Ø time savings of plane: 0:53 min			
Costs per minute		Costs per hour	
= 68€ / 53min = 1,27€/min		x 60min = 76€/hour	

5 Conclusions

In 82% of 720 investigated booking cases the train is the cheaper way of travel in the air-rail price comparison.

In France, rail wins the air-rail price comparison as in no other country. The SNCF in France shows by far the best prices compared to the airlines and wins 96% of all cases. This result is closely followed by Renfe in Spain with 83%, Deutsche Bahn in Germany with 79% and Trenitalia / NTV with 78%. The picture is similar for the ten European cross-border connections, where the train wins in 78% of all investigated cases. However, there are connections where a plane is the cheaper alternative. For example, on the cross-border connection from London to Paris the average savings when taking a plane is 45 Euros. On business trips, 80% of all trips are cheaper by air on this city-to-city connection.

To sum up, especially families benefit from lower prices on domestic as well as cross-border connections via train. For this type of travel, rail has a particular advantage over air due to the occasionally deep children's discounts granted by all train operators. A huge marketing potential lies hidden in this particular target customer segment.

Additionally, there is a good competitive situation for single-day business trips and for two-person-weekend-trips. Furthermore business trips on short notice (booking a day in advance) can save up to 265 Euros on average when taking the train instead of a plane (France). Generally, the train is also competitive in terms of travel time. Considering the additional processing time when using planes, sometimes the train is even faster than a plane.

One key result: taking the train means paying only two-

thirds of the price. The total savings of taking the train versus flying averages 37% of airfare.

If you look at the prices for the three different booking lead times, a heterogeneous picture is shown, but taking the train will almost always save money. The price advantage of rail versus air increases as lead times get shorter. Regardless, the earlier you book in advance, the lower the total price for travel.

In the additional bus price comparison the overall result shows a price dominance of bus in 95% of all cases. While the bus is the cheapest mode of travel in nearly every case, one has to consider that the travel time by bus is always significantly longer than by train or plane.

Finally, in all observed investigation areas rail operators offer significantly lower prices compared to airlines. The results offer a striking contrast to the public perception of pricing for flight and rail.



6 Possible Actions

Rail dominates the air-rail price comparison. The results show consistent price savings for travel within Europe by taking rail.

With this in mind, rail operators are strongly encouraged to exert all possible influence on relevant parties in order to achieve fairer and more transparent pricing practice across all travel industries. The pricing of a carrier does not only depend on operating expenses but is also the result of other factors:

- Taxation on carrier
- Train path prices
- Road tolls
- Airport fees

These additional regulatory costs are often not levied in the same manner for the different types of carriers.

In public opinion, there often is a misperception of both the final ticket cost and railway travel times. Thus, for the railway companies, it is an important task to extend their marketing to specific customers. Here, the most promising target groups are business people and families with children. It should be demonstrated that rail travel prices often are considerably lower than air charges and that travel times are often quite similar.

In a second marketing initiative, railway companies should exert influence on public flight booking portals / search engines. These portals can be asked to allow an intermodal overview of the various travel options, comparing the transport alternatives in a fair manner, including all processing and access times. This could be an ideal way to break up established mobility routines. The study shows that the railways are competitive on all observed routes regarding travel time and price. Additional advantages are

higher travel comfort (travel space / less fragmented travel time) and less environmental impact.

Thirdly, flight booking portals should be urged to show end prices including all possible additional fees. Currently, it is often a problem that flight portals do not show the final prices at first glance. Hidden costs such as credit card surcharges, luggage fees and insurance costs may only appear later during the booking process. As these additional costs vary between providers, the initially cheapest travel option may in the end turn out to be more expensive than other alternatives. It should be noted that for example in Germany the Federation of German Consumer Organizations issued an official warning demanding more transparency from some flight portals.

Finally, in their marketing efforts, railway operators should emphasize that short processing times before and after train trips are a big advantage. Travelling by air requires comparatively high processing times before departure and after landing. This affects the total air travel time and makes taking a plane less attractive. Many customers only look at scheduled flight times without considering extra time spent getting to and from the airport, or processing and waiting time in the airport.



Your Notes

Zürich University
of Applied Sciences



School of
Engineering

Dr.-Ing. Thomas Sauter-Servaes
Programme Director Transportation Systems

Phone +41 58 934 71 77
Mail thomas.sauter-servaes@zhaw.ch
Web www.engineering.zhaw.ch



Thomas Krautscheid
Head of Department Transport & Environment

Phone +49 40 410 969-24
Mail t.krautscheid@quotas.de
Web www.quotas.de