

SHOULD JET FUEL SURCHARGES BE REGULATED, AND IF SO, HOW?

Richard KLOPHAUS, Competence Center Aviation Management (CCAM), Worms University of Applied Sciences, Erenburgerstraße 19, D-67549 Worms, Germany, Phone: + 49 6241 509 375, mailto: klophaus@fh-worms.de

ABSTRACT

By adding fuel surcharges to base fares, airlines pass on the impact of higher jet fuel prices to consumers. Given the wide range of design options for fuel surcharge schemes, the reduced price transparency and the question of fair cost recovery, fuel surcharges have become a consumer protection issue. The paper reviews the regulatory approach to fuel surcharges in Brazil, the European Union, Japan and the United States. Further, it addresses the complexity of attempts to construct fuel surcharge schemes that rely on estimates of per-passenger fuel costs. The paper concludes that regulatory activities should aim to include fuel surcharges in all initial fare quotes and advertising. Enforcing fuel surcharge schemes that ensure a fair cost recovery would result in high regulatory costs and would also be in conflict with deregulation policies of removing restrictions on airline pricing.

Keywords: airline pricing, regulation, fuel costs, transportation policy

1. INTRODUCTION

High and volatile fuel prices constitute fundamental challenges to air transportation. The airline industry has no control over the long-term trend towards higher oil prices and the short-term volatility in fuel prices. To mitigate jet fuel price risk, air carriers try to improve the fuel efficiency of their operations. Many of them also apply fuel hedging techniques to lock in fuel costs in advance reducing the potential impact of erratic oil prices (Morrell and Swan 2006). Besides being costly itself, fuel hedging typically does not eliminate fuel price risk, but only a portion of it. Hedging oil prices aims to dampen the impact of price volatility while fuel surcharges (FSCs) compensate higher fuel costs (Air Transport Department, Cranfield University 2009). In other words, hedging is an ex-ante fuel management strategy to offset the potential impact of high oil prices on future fuel costs and surcharges are an ex-post strategy to deal with an actual increase in fuel costs. In this sense, hedging and surcharges can be considered as two sides of one coin (Klophaus 2012).

FSCs are widely applied by airlines. Furthermore, the share of FSCs in the total airfare has been growing during the last decade. For some discount tickets this price component exceeds the base fare questioning whether the term surcharge is still appropriate (CPC 2009). Passenger airlines make it rather difficult to uncover how they calculate FSCs. Knorr (2012) argues that FSCs as applied today are skewed to favor airlines over consumers. FSCs have already triggered regulatory activities in many countries to put more methodology and transparency around their construction (IATA 2012).

This paper reviews the present regimes regulating FSCs in Brazil, the European Union (EU), Japan and the United States (US). Brazil bans FSCs based on the expressed view of the Brazilian civil aviation authority that there is no plausible reason for fuel costs to be charged separately. Therefore, the paper provides a number of reasons why airlines use FSCs instead of adjusting base fares. The European Commission as the executive body of the EU emphasizes the issue of consumer price transparency, i.e., the ability of air transport end users to compare airfares at any point of the booking process. Price transparency may also mean that consumers understand how prices are set. However, this is rather a price calculation issue than a price transparency issue. Public regulators in the US and Japan consider both, the transparency of the total ticket price to be paid by a consumer to a carrier (or agent) but also how FSCs are calculated. The US emphasizes their cost-relatedness while Japan regulates them in detail with a binding calculation scheme for all carriers. The paper discusses both regulatory issues, i.e., the calculation of cost-related FSCs and government-imposed price transparency.

The paper is outlined as follows. Section 2 reviews present regimes in Brazil, the EU, Japan and the US to regulate FSCs. Section 3 provides reasons for the use of FSCs from an airline's perspective. Section 4 discusses to what extent public regulators can estimate the per-passenger fuel costs of airlines, while Section 5 looks at regulatory measures to improve price transparency if carriers are allowed to break down airfares into base fares and carrier-imposed fees such as FSCs. Conclusions are drawn in Section 6. The main conclusion is that current regulatory approaches in the US and Japan contribute to consumer protection but the resulting burden of rules and their enforcement might not be proportionate to the benefits. What is more, enforcing transparency about total ticket prices for passengers at all stages of the booking process might already be sufficient to avoid distorted consumer choices.

2. DIFFERING INTERNATIONAL REGULATORY REGIMES

2.1 Fuel surcharge regulation in Brazil

The Brazilian civil aviation authority ANAC (Agência Nacional de Aviação Civil) prohibits the detached charging of inseparable items in the provision of air transportation services by means of carrier-imposed fees and surcharges to facilitate final price comparisons by consumers. Fuel costs should be covered by the airfare like other operating costs. In

accordance with this principle, no FSCs exist for flights originating in Brazil. In a presentation given at the assembly of the International Civil Aviation Organization (ICAO 2010), Brazil encouraged other contracting states to adopt its ban of FSCs as add-ons to base fares in order to enhance price comparison, competition and, consequently, consumer welfare and economic efficiency.

The Brazilian regulatory approach is simple as it avoids any question with regard to the cost-relatedness of FSCs and contributes directly to more transparent airfares. It does not accept reasons for the ongoing practice of airlines to apply FSCs. The view of the Brazilian civil aviation authority is that there is no plausible reason for fuel costs to be charged separately (ICAO 2010).

2.2 Fuel surcharge regulation within the European Union

According to Article 23 of Regulation 1008/2008 on common rules for the operation of air services each carrier operating from an airport located within the European Union (EU) should indicate the final ticket price from the beginning of the booking process. In addition to the indication of the total fare, at least the following has to be specified: taxes, airport charges, and other charges, surcharges or fees, such as those related to security or fuel when these items are added to the base fare.

With Regulation 2006/2004 the EU member states agreed on cooperation between national authorities responsible for the enforcement of consumer protection. With reference to this Consumer Protection and Cooperation (CPC) regulation, a working group from eleven EU countries jointly investigated taxes, fees and charges levied by airlines on their passengers. The resulting report (CPC 2009) indicates that airlines could be guilty of misleading consumers when they calculate taxes and charges on airline tickets. However, so far no further steps have been taken to regulate FSCs within the EU. Following Regulation 1008/2008, European regulators today seem to be more concerned about the issue of price transparency than about how FSCs are calculated.

2.3 US fuel surcharge regulation

In a notice, the US Department of Transportation (DOT 2012) provided guidance on airfare advertising. The stated purpose is to bring about voluntary compliance by the airlines. Accordingly, any separate listing of taxes and/or fees

“... must accurately distinguish between taxes and government fees on the one hand and carrier-imposed fees on the other. In addition, with regard to information about carrier-imposed fees ..., such disclosure must accurately represent the actual cost of the item for which the charge is assessed ...”

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“When a cost component is described as a fuel surcharge, for example, that amount must actually reflect a reasonable estimate of the per-passenger fuel costs incurred by the air carrier above some baseline calculated based on such factors as the length of the trip, varying costs of fuel, and number of flight segments involved.”

The notice addresses both, how FSCs should be set and the transparency issue associated with FSCs. However, with regard to price transparency, the notice focuses on the correct information about the legal nature of FSCs as carrier-imposed fee. It does not mention the more important consumer protection problem of fare advertisements and initial price quotes that do not include price components such as FSCs and therefore may distort consumer choices.

In theory, the stipulated cost-relatedness of FSCs may make sense. However, in practice it is just about impossible to set a FSC at ticketing date to reflect the per-passenger fuel costs for a flight scheduled to depart up to one year in the future. The issue to what extent public regulators are actually able to estimate per-passenger fuel costs for different airline operations will be discussed in Section 4.

2.4 Fuel surcharge regulation in Japan

FSCs in Japan are subject to approval from the Japanese Ministry of Land, Infrastructure, Transport and Tourism. Furthermore, there is a common scheme for all air carriers serving Japan on how to apply and change FSCs based on length of haul. They are limited to international passenger tickets and are not applicable for itineraries originating in Brazil for reasons discussed in Section 2.1. The applicable FSC is based on a review of the two-month average price of Singapore kerosene-type jet fuel and will be fixed for two months for tickets issued from one and a half months after the announcement of the revision (see Table I).

Table I – Period for application and revision of fuel surcharges for flights from/to Japan

Ticketing date	Announcement	Review period	Applicable FSC
April – May	2nd half of February	December – January	see Table II
June – July	2nd half of April	February – March	
August – September	2nd half of June	April – May	
October – November	2nd half of August	June – July	
December – January	2nd half of October	August – September	
February – March	2nd half of December	October – November	

Source: <http://www.jal.co.jp/en/inter/fuel/kerosene.html>, visited 31 January 2013

Table II depicts how FSCs per person for flights from and to Japan vary depending on the previous review period’s average fuel price per barrel (BBL). The source of the table is the website of Japanese carrier JAL and it refers to ticket sales other than in Japan and Europe where the values are denominated in US dollars (\$). JAL also shows similar tables for other

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sales origins with other currencies. Other carriers operating from and to Japan apply the same FSCs.

Table II – Fuel price (\$/BBL) and fuel surcharge applicable for flights from/to Japan per person (sales other than in Japan/Europe)

Fuel price under FSC	\$60	\$70	\$80	\$90	\$100	\$110	\$120	\$130	\$140	\$150
Japan – Korea	No FSC	\$3	\$4	\$6	\$13	\$19	\$25	\$28	\$31	\$34
...	
Japan – North America, Europe, Middle East, Oceania		\$44	\$88	\$132	\$176	\$220	\$264	\$296	\$327	\$359

Source: <http://www.jal.co.jp/en/inter/fuel/kerosene.html>, visited 31 January 2013

The surcharge for incoming long-haul flights to Japan is the same as for outgoing flights. All FSCs will be abolished if the average fuel price index value falls below a baseline price of \$60 per barrel. For every index value above the baseline, the smallest surcharge applies for travel to/from Korea, the highest for long-haul segments to/from North America, Europe, Middle East and Oceania. The surcharge for tickets issued until January 31, 2013 for travel between Japan and North America, Europe, Middle East or Oceania purchased outside Japan and Europe amounted to \$327 corresponding to an average fuel price of \$130 - \$140 per barrel. The surcharge amounts are the same for adults, children and infants occupying a seat.

The Japanese regulatory framework offers a high degree of transparency on how FSCs are calculated. It provides information about four essential components of fuel surcharge schemes (Klophaus 2012):

- Surcharge type: The surcharge is distance-based and does not depend on class of travel;
- Applicable jet fuel price index, i.e., the surcharge is evaluated based on the price development of Singapore kerosene-type jet fuel;
- Strike price, i.e., the critical value of the fuel price index for revising the surcharge with defined interval sizes of \$10;
- Calculation method, i.e., how the surcharge relates to the index.

The transparency of FSCs for flights from and to Japan does not mean that they are good estimates of the per-passenger fuel costs. For example, a rising fuel price by more than \$10 above the baseline of \$60 triggers a surcharge increase between \$31 and \$44 for long-haul flights between Japan and North America, Europe, Middle East or Oceania. These surcharge adjustments imply a non-linear relationship between additional fuel costs per passenger and fuel prices which can be strongly doubted. More importantly, Klophaus (2012) using the example of Lufthansa shows that based on the FSCs approved by the Japanese

government, Lufthansa does not pass 100 percent of its additional fuel costs on to its customers.

The Japanese government has established a detailed regulatory framework on FSCs which provides a high degree of predictability for airlines and consumers on how FSCs are adjusted to changes in fuel prices. However, the approach is in conflict with efforts to liberalize air transportation and the associated deregulation process of removing restrictions to airline pricing.

3. REASONS FOR AIR CARRIERS TO IMPOSE FUEL SURCHARGES

According to the expressed view of the Brazilian civil aviation authority there is no plausible reason for fuel costs to be charged separately and that fuel costs should be covered by the airfare like other operating costs (ICAO 2010). This also dismisses any justification of FSCs by airline representatives that simply refers to the fact that fuel costs are more volatile and less controllable than other major cost items.

In the past decade, many airlines have implemented a pricing policy that splits airfares into base fares and add-ons. FSCs but also government taxes and airport charges differ from add-ons for à la carte items as they are not optional for passengers (Klophaus 2013). Hence, FSCs do not fit into a more recent pricing strategy of many airlines to split services into basic air transport and complementary à la carte items that are separable from basic air transport (e.g., checked baggage) with the objective to create ancillary revenue. If FSCs are not hidden to consumers in fare advertisements and price quotes they should not create opportunities for shrouded pricing (Meza and Reyners 2012).

Surcharges that lead to higher ticket prices typically have an adverse impact on air travel demand. One good reason for applying FSCs instead of raising base fares would be a differing price elasticity of demand even if airlines apply add-ons transparently. A differing elasticity in comparison to adjustments of basic airfares might result from the potential advantage to passengers that FSCs are refunded if the ticket is cancelled, even though the underlying fare is non-refundable. In practice, however, many airlines regard FSCs as a part of the airfare which will not be refunded. Splitting fares into base fares and FSCs therefore may be attractive to airlines for other reasons:

- Additional revenues from passengers traveling on free or reduced-price tickets (e.g. those issued under frequent flyer programs or under staff travel concessions but also for children and corporate discounts);
- Additional revenues beyond cost recovery when average fuel prices after hedging are below spot market prices and FSCs are calculated with the higher spot market prices;

- Avoidance of commission payments to travel agents if these payments are calculated on commissionable fares excluding FSCs;
- Ease of changing airfares by adjusting FSCs alone which may create some tactical pricing advantage;
- Avoidance of taxes on airline ticket purchases in some countries if these taxes do not apply to FSCs.

FSCs may facilitate collusion as indicated in the long-running price-fixing case involving British Airways which colluded with Virgin over FSCs on long-haul flights between 2004 and 2006 (Bloomberg News 2012). Regulators evidently do not consider this as an acceptable reason for fuel costs to be charged separately.

4. REGULATORY ISSUE OF COST-RELATEDNESS

Regulatory efforts in different countries and regions of the world have not yet converged to establish an international standard to derive FSC values. Except for travel to and from Japan there is only limited transparency around the construction of FSCs. This section examines whether FSCs should be cost-related and how this can be enforced by government authorities. The following considerations refer in particular to the US Department of Transportation (DOT 2012) urging airlines that any disclosure of carrier-imposed fees as add-ons to constant base fares should represent the actual cost of the item for which the charge is assessed. More specifically, FSCs should reflect a reasonable estimate of the per-passenger fuel costs incurred by the carrier above some baseline. Below the baseline, the surcharge value is zero. This leads directly to the question not answered by the DOT how to define the baseline. Should the baseline be associated with a fuel price of \$120 per barrel, \$60 like today in Japan or even \$0?

The DOT wants FSCs to correlate with fuel costs but does not clarify what kind of costs to consider. According to standard microeconomic theory, prices should equal marginal costs. In the airline industry the pricing unit is not the flight itself but the travel of one passenger (or a group of passengers) from A to B. The marginal costs of carrying an additional passenger are low as the operating costs of a scheduled service (e.g. aircraft ownership costs, crew costs, fuel costs) are largely fixed in the short run. With strict marginal cost pricing, an airline cannot cover operating costs. In practice, airline pricing is based on the end user's willingness to pay and considers ticket prices of competing airlines which leads to differential pricing, i.e., complex fare structures with several fare levels. This way, airlines generate incremental revenue from discount fare passengers who otherwise would not fly and from high fare passengers willing to pay more. Consumers may also benefit from differential pricing. Most notably, discount passengers who otherwise would not fly. It is also conceivable that high fare passengers pay less and/or enjoy a higher frequency of flights given the presence of low fare passengers. Airfares in general are no reasonable estimate of per-passenger costs at least since the deregulation of the airline industry.

Regulatory authorities like the DOT may still insist that FSCs should correlate with per-passenger fuel costs. One starting point to assess fuel costs per passenger might be to determine fuel burn per passenger. Airlines have different fuel burn per available seat mile (ASM). A similar value of ASMs flown during a period may result in large variations in fuel costs per ASM due to different airline operations. Klophaus (2012) states the following operational factors influencing fuel consumption and fuel costs per ASM:

- Flight length (short-haul flights have higher fuel consumption per ASM than long-haul flights as takeoff and climb phases with high fuel burn represent a larger share of the flight cycle);
- Load factor (e.g. empty seats reduce fuel consumption per ASM);
- Aircraft fuel efficiency (new vs. older aircraft and engine technology);
- Airport fuel efficiency (e.g. congested large hub airports do not allow fuel efficient operations);
- Flight practices (routing, cruise speed, tankering policy, etc.).

The issue gets even more complicated if air cargo and FSCs applied on cargo rates are also considered.

Another important issue for surcharge calculation is whether the FSC should be set to recover 100 percent of additional fuel costs once the selected fuel price index exceeds the defined baseline value or only a portion of it. This question of risk-sharing between airlines and passengers is further complicated by potential demand reductions due to increasing FSCs. Price elasticity of demand leads to decreasing passenger numbers with rising airfares. For an airline that intends to completely pass on the impact of higher fuel prices to its passengers the surcharge calculation should be based on the expected number of remaining customers with a higher total airfare. Further, the higher the price elasticity of demand, the higher the required FSC per passenger to recover 100 percent of additional fuel costs. Similarly, if flights are forecasted with low load factors, FSCs per passenger need to be higher than for high demand flights. Therefore, it may be better to calculate FSCs per offered seat and not per passenger. However, this would imply that airlines bear some of the fuel costs beyond the baseline when seat capacity remains unsold.

FSCs are add-ons to base fares when consumers buy airline tickets. The surcharge applicable at the ticketing date is not adjusted afterwards. Most airlines allow bookings up to one year in advance. Therefore, passengers may buy tickets with surcharges that differ from the ones valid for new bookings close to or on the day of travel. Theoretically, FSCs could be linked to the fuel price on the date of flight rather than the fuel price on the ticketing date leading to a kind of flexible-priced tickets. This would lead to the awkward situation to bill the base fare and the FSC at two different points in time in order to avoid additional payments or refunds if the applicable FSC changes between ticketing date and date of flight.

A frequently used rationale for the recovery of high jet fuel costs is that the risk of rising fuel prices is out of the carrier's control. The average fuel price paid by an airline depends on market rates, individual fuel supply contracts, and gains or losses from hedging activities. To counter fuel price risk, many airlines apply fuel hedging techniques to lock in fuel costs in advance, reducing the potential impact of volatile prices on fuel costs. In this regard, FSCs can be considered as a complement rather than a substitute to fuel hedging. FSCs in combination with fuel hedging may even create profits for airlines beyond cost recovery. This might be the case when average fuel prices after hedging are below spot market prices and FSCs to base fares are calculated with the higher spot market prices. The FSC may then exceed fuel costs per passenger or at least the fuel costs above a specified baseline.

Choosing values for FSCs that represent per-passenger fuel costs is certainly a difficult task for regulators. However, there are obvious indicators that FSCs do not closely relate to fuel costs:

- Dependence on booking classes, i.e., FSCs differ for full and discount fares;
- No differentiation between cabin classes (Economy/Coach, Business, First);
- No relation to the actual mileage flown from origin to destination, i.e., FSCs do not account for nonstop and connecting flights.

The preceding discussion raises doubts that regulatory bodies such as the DOT will be able to configure fuel surcharge schemes that actually reflect the per-passenger fuel costs. If this is possible at all, it would certainly – like other governmental price controls – involve high regulatory costs.

5. REGULATORY ISSUE OF PRICE TRANSPARENCY

Unbundling airfares into several fare components may reduce the ability of consumers to compare airfares. Consumers may therefore accept increases in total airfares not transparent to them. In general, greater price transparency increases price competition leading to lower and more uniform prices (Piccione/Spiegler 2012). Hence, more price transparency is considered as beneficial for consumers unless it significantly increases the risk of anti-competitive coordination among sellers. As well as potentially increasing competition, enhanced price transparency may directly benefit consumers by reducing search costs, i.e., the time and money they spend to determine prices. When there are search costs, consumer may settle for the initially displayed prices, even though there are lower prices that might be obtained with further search. For these reasons, the implementation of FSCs as add-ons to base fares should not decrease price transparency. However, any regulatory effort to enforce greater price transparency should consider that today's complex fare structures in the airline industry are an outcome of the previous deregulation process of removing governmental restrictions to pricing.

As stated previously, price transparency may also mean that consumers understand how prices are set. In this regard, a comprehensible calculation method for FSCs clarifying how they relate to fuel costs contributes to price transparency. Notwithstanding, the following discussion on price transparency is about how FSCs are presented as add-ons to the base fare during the booking process and how information about their legal nature is provided to consumers.

The wide-spread use of add-ons to base fares in the airline industry may indicate that there is a positive impact of unbundling fares on passenger demand and also the airlines' relative competitive situation because of the resulting lack of transparency and/or consumers who do not act as rational actors (Klophaus 2013). For a perfectly informed and rational consumer, the total price asked for a product or service matters. Hence, demand and also the airline's relative competitive situation should not depend on whether escalating fuel costs are handled with FSCs rather than raising base fares by the same amount. This holds as long as the consumer gets correct and complete information about FSCs. Price transparency about FSCs may be summarized with two questions: (i) Does the initial fare quote show the final ticket price including FSC? (ii) Is the FSC correctly shown as carrier-imposed fee? If the answer is no to at least one of these questions the use of FSCs impedes straightforward price comparisons and may therefore result in market distortions.

5.1 Inclusion of fuel surcharges in initial fare quotes

Assuming no preference for the service of a specific air carrier on the same route, a consumer chooses the carrier offering the lowest total ticket price. The ultimate consumer choice depends on price information available during the booking process. Fare advertisements and initial price quotes that are not complete with regard to applicable add-ons or misleading in other ways may distort consumer choices. The following example serves to illustrate the problem.

Table III – Misleading information about total airfares and fuel surcharges

Stage of booking process	Air carrier					
	A		B		C	
Initial fare quote (fare advertising)	\$500		\$500		\$500	
Initial fare quote (fare advertising)	Fare	Taxes + FSC	Fare + FSC	Taxes	Fare	Taxes
	\$500	\$200	\$650	\$50	\$600	\$50
Total airfare	\$700		\$700		\$650	

Source: Own representation based on ICAO (2010)

Without regulatory standards for registering FSCs, the situation might occur that carriers A and B advertise or initially show base fares without applicable FSCs while carrier C covers fuel costs with the base fare. With this initial price information the consumer might already decide against the service offered by carrier C and continues to compare only the two other carriers. Table III assumes that taxes are \$50 for all carriers and that carrier B and C both

apply a FSC of \$150. Hence, the total airfare charged by B and C is \$700. The consumer might be further misled if carrier A's FSC is filed with YQ code in fare filings via the Airline Tariff Publishing Company ATPCo and therefore collected as a tax amount like a government-imposed charge while carrier B's FSC appears under fares (Q code) as a carrier-imposed charge. This may create a consumer preference for carrier A. Even more important in above example is that carrier C with lowest total airfare of \$650 would not be selected if the consumer stops including this carrier in the further search for the lowest total airfare after comparing initial fare quotes. The consumer would not choose carrier C simply because the presented airfare at some point in the booking process was higher than the ones shown by competing carriers.

Misleading fare quotes ask for regulatory efforts to ensure clarity of airlines' websites and other advertising to allow consumers to compare total fares. EU legislation, more specifically Article 23 of Regulation 1008/2008, requires carriers – when operating from an airport located in the territory of a Member State – to indicate the final ticket price from the beginning of the booking process. To be in accordance with Article 23, services that are in fact unavoidable should be correctly specified and included in the basic airfare and add-on services shown in the booking process should be on an opt-in basis. Such inclusion of FSCs in all advertisements and initial fare quotes results in transparency for consumers about the charged prices for different air services.

5.2 Display of fuel surcharges as carrier-imposed fees

Another transparency issue is the correct display of the true legal nature of FSCs. A presentation of FSCs along government taxes will likely result in wrong consumer perceptions about their legal nature. Therefore, the US Department of Transportation (DOT 2012) urges airlines to distinguish between taxes and government fees on the one hand and carrier-imposed fees like FSCs on the other when they give information regarding the amount of taxes and/or fees included in the total airfare.

Pointing in the same direction, the CPC (2009) report asks carriers to ensure a more accurate and consistent use of the expressions “taxes”, “fees” and “charges”. The report recommends that total airfares should only consist of three components: basic airfare, airport charges and government taxes. Government taxes and airport charges should be used exclusively for components of the final ticket price which are passed on to the government and airport operators, respectively. Other fees and charges should be included in basic airfare.

6. CONCLUSIONS

This paper discussed efforts in different countries and regions of the world to regulate FSCs. The regulatory activities have been triggered by the rising share of FSCs in total airfares during the last decade and allegations that FSCs benefit airlines to the disadvantage of consumers. The underlying consumer protection problem is to find an effective regulatory

practice to protect air transport end users from unfair FSCs. To this end, Brazil simply outlawed the levy of FSCs on airline tickets while the EU emphasizes transparency without providing guidance or enforcing how FSCs should be set. The US and Japan follow a more complex regulatory approach by stipulating cost-related FSCs and a common scheme to calculate FSCs for all carriers, respectively.

The above discussion raises doubts if regulatory bodies will be able to configure or control fuel surcharge schemes that reflect per-passenger fuel costs. If this is possible at all, it would result in high regulatory costs. Furthermore, a detailed and binding regulatory framework for FSCs is in conflict with liberalization of air transportation and the associated deregulation process of removing government restrictions to airline pricing. Hence, the current regulatory approaches in the US and Japan might contribute to consumer protection. But as in other cases of price controls, the resulting burden of rules and their enforcement for airlines and others might not be proportionate to the benefits.

What is more, enforcing transparency about total ticket prices might already be sufficient to avoid distorted consumer choices. If FSCs are not included in the basic airfares as advocated by Brazil because of reasons for imposing such surcharges instead of covering unexpected rises of fuel costs with base fares, consumer protection with regard to FSCs might already be accomplished by ensuring that airlines include all price components from the beginning of the booking process and that FSCs are clearly indicated as carrier-imposed. As a summarizing conclusion, government authorities should not try to regulate the level of jet fuel surcharges or to develop a common methodology to calculate them but enforce complete and correct information about FSCs to consumers.

Price transparency may also mean that consumers understand how prices are set. Providing this kind of transparency is standard practice among cargo operators and integrators (e.g., FedEx 2012). Transparency around the construction of FSCs as add-ons to base fares may be in the own best interest of passenger airlines. Consumers may perceive price increases that are convincingly linked to rising costs beyond the airline's control as fair and more acceptable leading to a lower price elasticity of demand.

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