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Fairer flying: an international air travel levy for adaptation

For the world's poorest countries and communities, adaptation to climate change is urgently needed, but costly: estimates run into tens of billions of dollars a year. Given the shortfall in current international adaptation funding, how can resources for the developing world be raised? An adaptation levy on international air travel could help fill the gap. A small per-trip payment by passengers could contribute US$8 billion to US$10 billion a year towards adaptation. Similar schemes in France and elsewhere show that this kind of ethical solidarity and 'polluter pays' approach would be simple to implement in practical and institutional terms.

Policy pointers

- **Innovative international** financing instruments are key to overcoming the gap in adaptation funding.
- **An International Air Travel** Adaptation Levy (IATAL) would generate significant additional funds for adaptation in predictable amounts and with minimum impact on passengers, poor countries and the aviation industry.
- **Such a levy would** be based on personal responsibility (carbon footprints) and capability – both outlined in the UN Framework Convention on Climate Change (UNFCCC) as key to achieving its goals.

Why this levy?

As aviation grows, so does its impact on climate change (see Box). Given that wealthier people travel most by air – while the poor bear the brunt of the impacts – redressing the balance is key, both ethically and practically.

Yet funding to help poor countries and communities adapt to climate impacts does not match projected needs. Oxfam has estimated that at least US$50 billion will be needed to support adaptation in developing countries each year. This figure will be even higher if greenhouse gas emissions are not cut soon. In any case, it is many billions over what's actually available.

An internationally collected levy on international air passengers could contribute significantly to existing adaptation funding without burdening national budgets. Known as the International Air Travel Adaptation Levy (IATAL), this proposal is a distinct 'win-win' solution.

The key principles

The IATAL concept demonstrates two key principles: solidarity and 'polluter pays'. It is an innovative way for relatively wealthy international air passengers to show their solidarity with the poorest, most vulnerable countries and communities – and compensate those countries and communities for the climate impacts they generate through international air travel.

Upward trend: aviation and climate change

The last decade has seen air travel grow by 45 per cent. In the European Union, aviation emissions of greenhouse gases rose by an average 4.3 per cent a year from 1990 to 2003. Greenhouse gas emissions from all aviation now account for about 1.6 per cent of the global total.

Because planes release not just carbon dioxide but other warming gases such as water vapour at high altitude, the impact of aviation emissions is amplified. Taking into account these multiplier effects, aviation will contribute about 5 per cent of the total warming effect by 2050.

Meanwhile, the International Air Transport Association (IATA) forecasts that international passenger demand is expected to rise from 760 million in 2006 to 980 million in 2011 – and overall demand will grow by 620 million to 2.75 billion passengers by that year. This forecast growth and the limited options to drastically cut emissions indicate that aviation emissions will increase in absolute terms. Greenhouse gas emissions from aviation are excluded from the Kyoto Protocol, as the international nature of aviation and the complexity and rules of the industry make the choice of appropriate carbon tax instruments difficult.

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Fairer flying: international air travel and adaptation

The solidarity principle is the key driver behind the existing French solidarity levy on air passengers, which helps fund the fight against HIV/AIDS, malaria and tuberculosis. However, adaptation is unique among the many good causes that could be financed in this manner because it is directly linked to the behaviour that is being levied.

The proposed levy would be US$6 and US$62 for international economy and business travellers respectively, an amount that could potentially generate US$8 billion to US$10 billion a year. As it would be collected directly from international air passengers rather than domestic passengers, an IATAL would not only be predictable, but also genuinely additional to national assessed contributions to climate change financing.

The overall approach

Approaches for implementing an IAPAL could be either voluntary or mandatory. Each has advantages and disadvantages in terms of potential revenues, the cost of implementation, and impacts on passengers, airlines and other industries such as tourism and travel businesses.

A voluntary levy While this could raise adaptation resources, it fails to address both the principles of responsibility and capability, as it is subject to passengers' willingness to pay and ultimate action. Even in a voluntary opt-out scheme where the percentage of passengers who eventually pay is likely to be higher than in an opt-in scheme, administrative problems and high implementation costs are likely. Sustained and massive campaigns would be needed to raise awareness throughout the implementation, raising the cost for revenues that cannot be predicted. The voluntary approach therefore does not raise the maximum possible revenue to support adaptation.

A mandatory levy This approach would involve a set levy for all international air travellers, supporting adaptation by taking responsibility for the impacts of their emissions. Like the French solidarity levy, this is specifically designed to fund a cause commonly accepted as a global problem affecting poor countries. The European Union also explored a similar scheme to help meet the Millennium Development Goals (MDGs) in 2005.

Mandatory levies can be added to the price of the ticket, or collected in the same way as an airport duty or fee. Passenger duties are already commonplace: in 2003-04, about US$1.2 billion in air passenger duties was collected on commercial flights from the United Kingdom.

Ticket value or trip: what type of tax?

Aside from excise taxes on fuel, taxes levied on aviation come in two main types: a ticket tax based on its value or a trip tax.[1] A trip tax or passenger charge is the preferred route for an IATAL. This is similar to existing per-passenger charges. The most common is an airport charge accruing to the airport authority. There are also arrival/departure taxes that accrue to government. In several countries, both levies are applied.

Passenger charges vary from country to country, and in some cases are also differentiated by class of travel. The highest passenger charge is the UK tax on first-class travel outside the EU, which is currently US$120.

Passenger charges can either be included in a ticket and collected by airlines/travel agents, airport authorities or government revenue departments, or paid by passengers at the port of exit or entry. Systems for collecting passenger levies already exist in many countries. Revenue projections are easy to make and audits are no more complex than ticket taxes.

An approach that generates the maximum possible revenues with little impact on passengers, airlines and development is the best option, given the aim of an IATAL. The approach should also be simple and transparent, likely to generate consensus at international level and require as little legal manipulation as possible. A mandatory levy on individual international air passengers and involving a specified sum meets these conditions.

How much might it generate?

The main factors determining revenue generated from an IATAL are the size of the levy, the number of international passengers, the level of international participation by countries/airlines, and the efficiency of collection. In the long term, trends in international air travel demand will affect the revenues generated.

In 2006, the airline industry handled 760 million international passengers.[2] IATA forecasts that international air passenger numbers will grow at an annual average rate of 5.1 per cent between 2007 and 2011.[3] The liberalisation of markets and emergence of new routes and services will drive this growth, while slower global economic growth may constrain it. Based on the high rates of efficiency in collecting passenger taxes, close to 100 per cent efficiency could be attained.

How many countries might participate in an IATAL? Going by signatories to the Kyoto Protocol (92 per cent of all countries) and participation in the International Civil Aviation Organization (ICAO), it looks likely to be high. Also, 94 per cent of all airlines with scheduled international flights participate in IATA.

Expected revenues Going by a five-year forecast of passenger numbers from 2007 to 2011, and assuming 9 per cent of all international passengers are in business class, the baseline scenario for an IATAL could be a potential US$7.8 billion in the first year. This would increase annually to about US$10 billion in the

sixth year as a result of growth in international passenger numbers.

Factoring in the variations A key factor in this analysis is the size of levy that can be charged. If a levy with minimum impact on travellers is charged (US$1 for economy and US$5 for premium passengers), an IATAL would generate US$1 billion in the first year, rising to US$1.2 billion in the sixth. If a uniform levy of US$2 is charged on all passengers, revenues rise from US$1.4 billion, to US$1.8 billion in the sixth year.

The IATAL can also be assessed under worst-case, conservative and best-case scenarios (see Table). Total annual revenues under the conservative assumption would reach US$1.1 billion after six years, while the figure for the best-case assumption would be US$24.6 billion.

Revenues compared with adaptation needs Given international consensus by countries and business and an appropriate implementation mechanism, an IATAL could contribute significantly to an adaptation fund for developing countries of US$50 billion, as estimated by Oxfam. Under the baseline scenario outlined above, raising US$7.8 billion in the first year would generate about 16 per cent of this, assuming no growth in air travel demand. In the worst-case scenario, an IATAL can generate revenue almost equal to the US$232 million pledged by a range of sources to all international adaptation funds (Least Developed Country Fund, Special Climate Change Fund, Adaptation Fund, Strategic Priority on Adaptation) by 2007, and more than the US$139 million actually received by these funds.[4]

Potential impacts

How might an IATAL affect tourism, airline business and passenger welfare?

Tourism and development Reduced demand for air travel and destination switching could result, with a ripple effect such as loss of employment in tourism, travel and supporting sectors. Developing countries where tourism is a significant source of income, employment and foreign earnings could suffer.

A look at the expected response to specific levies can help in estimating effect. A US$6 levy for a US$500 trip represents a price increase of 0.8 per cent. This would result in a drop in demand of 0.52 per cent and 0.47 per cent respectively for short-haul and long-haul flights – much less than the expected growth in air travel demand of 5.1 per cent per year. One study suggests that a carbon tax equivalent to up to US$11 per round trip would hardly deter many passengers from travelling.[5] The IATAL would cover all regions to avoid affecting any regions' tourism disproportionately.

Airline business and competition A levy on passengers will not impose operational costs on airlines. Any significant drop in demand, as shown above, would be less than the percentage increase in the cost of travelling. A selective instrument may affect airlines differently, however, and airlines operating in the concerned countries/routes may lose business.

As the IATAL is proposed for all international passengers irrespective of destination/origin or airline, any impact on airlines is related to overall losses in the industry as a whole linked to decline in demand. Differential impact arises if passengers from some regions/countries are poorer and more sensitive to price changes than others.

Passenger welfare A higher price on travel could be a hurdle for the poor. The size of the levy should also be compared against a passenger's total income or expenditure to assess effect. An analysis of data from a 2006 UK Civil Aviation Authority survey shows

Table: Revenues under different scenarios

Variable	Worst-case scenario	Conservative scenario	Best-case scenario
Variation of levy by capability (flight class)	Same for all passengers	Same for all passengers	Varied by class
Levy size	US$2/passenger	US$2/ passenger	US$20 economy; US$100 premium
Passenger demand growth rate	0%	2%	5.1%
Collection efficiency	50%	80%	99%
Participation/compliance rate	30%	80%	94%
Revenue in 6th year	**US$228 million**	**US$1.1 billion**	**US$24.6 billion**

that the average income of international business and leisure passengers arriving at 11 UK airports was about £61,000 and £50,000 (US$91,000 and US$74,000), respectively. The proposed IATAL levies represent about 0.6 to 0.07 per cent of these incomes.

Overall, the impact of an IATAL on developing countries and passengers is likely to be minimal. Passengers who travel an average of once a year on international leisure trips will be affected least, with a small levy, while premium passengers are not likely to suffer much from an average levy.

The way forward

An international air travel adaptation levy redistributes resources from those contributing to climate change to those who contribute least but suffer most from the impacts. Even in a worst-case scenario, an IATAL could generate more than the total of all international adaptation funds in one year. The impacts of an IATAL are more than offset by the benefits, especially to poor countries. But some more detailed analysis can take place, specifically in:

1. the cost of setting an IATAL up
2. cost-benefit analyses for specific poor countries whose tourism industries will be most affected by an IATAL
3. new international travel demand forecasts, including any expected reduction in demand due to an IATAL.

An IATAL is of necessity a group effort, and a range of stakeholders will need to be involved in, or consulted during, this analysis. They include developing countries, international air travel organizations such as IATA, the ICAO, other players in the aviation industry and the UNFCCC Adaptation Fund Board. Given the predicted ease of implementation, it is political will that will get this innovative, multifunctional and pragmatic solution to the adaptation funding shortfall off the ground.

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Further reading & websites

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Notes

■ [1] Keen, M. and Strand, J. 2006. *Indirect Taxes on International Aviation.* Fiscal Department, International Monetary Fund, Washington DC. ■ [2] IATA. 2007. Passenger numbers to reach 2.75 billion by 2011. IATA Press Release No. 37. Geneva. ■ [3] IATA. 2007. *Passenger and Freight Forecasts 2007 to 2011.* IATA Economic Briefing. Geneva. ■ [4] Oxfam International. 2007. *Adapting to Climate Change: What's needed in poor countries, and who should pay.* Oxfam Briefing Paper 104. Oxford. ■ [5] Tol, R.S.J. 2006. *The Impact of a Carbon Tax on International Tourism.* Working Paper FNU-120. Research Unit Sustainability and Global Change, Hamburg University.

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