Multi-modal Competition and the Future of Mail

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ADVANCES IN REGULATORY ECONOMICS

20. UPU terminal dues: winners and losers*

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1 INTRODUCTION

Modern industrialized countries have long accepted the principle that postage rates should be based on the costs of production. Yet what is taken for granted in regulating postage rates at the national level is almost wholly ignored when it comes to international postage rates. Post offices do not charge each other the same for delivery of inbound international mail as they charge their own citizens for delivery of similar mail. For example, the US Postal Service charges substantially less for delivery of German and Japanese letters than for delivery of identical American letters.

Why have international postage rates resisted the otherwise universally accepted principle that postage rates should be based on costs? For more than 40 years, the Universal Postal Union (UPU), the intergovernmental organization which establishes rules for exchanging international documents and parcels, has labored to develop a fair and efficient approach towards 'terminal dues' – fees that a destination post office collects for delivery of inbound international mail. For at least 20 years, officials in the US government, the European Union, and the UPU itself have recognized that the only reasonable solution is to align terminal dues with already cost-based domestic postage rates. Yet little progress has been made.

A primary obstacle to reform has been the system's impenetrable complexity. A system of non-cost-based terminal dues results in winners and losers. Some post offices are underpaid for delivery of inbound international mail forcing up prices of domestic mailers. Other post offices benefit from overpayments and are effectively subsidized by mailers in other countries. Yet policy makers are wholly in the dark as to who wins and who loses and by how much. Without such basic information it is impossible to propose solutions.

This chapter seeks to clarify how the UPU terminal dues system produces winners and losers. It is divided as follows. Section 2 briefly describes the historical development of terminal dues. Section 3 explains the mathematical model used to estimate bilateral payments for delivery of inbound international mail under different compensation schemes. Section 4 analyzes the distortions created, that is, the discrepancies between UPU terminal dues and delivery charges aligned with domestic postage. Section 5 summarizes our conclusions.

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2   UPU TERMINAL DUES IN 2008

Until 1969, each UPU member country delivered inbound international mail without charge. This system benefited post offices that exported more mail than they imported (usually in industrialized countries) and penalized those that imported more than they exported (usually in developing countries). In 1969 a UPU Congress recognized the problem but was unable to agree on a simple, economically sound principle for compensating post offices for inbound imbalances. Instead, the 1969 Congress adopted an arbitrary 'terminal dues' charge of 0.50 gold francs per kilogram (about 0.16 SDR: special drawing rights). Henceforth, if post office A sent post office B more kilograms of letter post mail than B sent A, then B could demand terminal dues for the excess.

Terminal dues introduced a divisive factor into UPU congresses. Countries benefitting from higher terminal dues far outnumbered net payers. The terminal dues rate was tripled in 1974 to 1.5 gold francs (about 0.49 SDR) and more than tripled in 1979 to 5.5 gold francs (fixed at 1.90 SDR). In the 1984 Congress, major post offices joined forces to prevent a similar increase. Delegates compromised on a 45 percent increase, to 2.641 SDR per kg.

In holding down terminal dues, however, industrialized countries inadvertently created incentives for bypassing regular international mail channels. Typically, a post office would charge outbound international mailers much more than justified by the cost of terminal dues paid to destination post offices. In the 1980s, outbound mailers began to work with private transport companies to circumvent the UPU system. Private carriers would collect international mail from mailers in country A and convey it to country B, where post office B would forward the mail to other post offices (C, D, E, and so on) for rates that were more closely aligned to terminal dues charges. Why? Post office B offered this 'remail' service for a small markup because remail allowed post office B to profit from international distribution of mail that would otherwise never pass through post office B – that is, it would go directly from post office A to post office C. Remail offered international mailers lower rates – and often better service – for mail sent to industrialized countries where domestic postage rates exceeded UPU terminal dues.

Growth of remail required the UPU to reconsider the principles of terminal dues. Ten years later, in 1999, the UPU officially accepted the principle that terminal dues should reflect the costs of services rendered. In practice, this implied that terminal dues should be equal to domestic postage rates for comparable mail. In reality, however, the UPU has done little to make it so. Instead, starting in 1989, the UPU adopted a two-tiered approach to terminal dues designed to protect industrialized countries against remail while satisfying demands of developing countries for continuation of artificially low terminal dues rates for their mail. Evolution of the terminal dues system for industrialized countries since 1989 has been convoluted. For our purposes, it is sufficient to summarize the terminal dues system as it existed in 2008, the date of key data in the terminal dues model presented below.

In the Universal Postal Convention of 2004, in effect in 2008, the terminal dues system for industrialized countries was called the 'target system', and the one for developing countries the 'transitional system'. These labels implied that the 'transitional' countries (that is, the developing countries) would one day adopt the terminal dues system of the 'target' countries (that is, the industrialized countries). Omitting territories not

UPU members in their own right (for example, Gibraltar, Norfolk Island), the 28 target system countries were Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Liechtenstein, Luxembourg, Monaco, the Netherlands, New Zealand, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, the United Kingdom, the United States, and the Vatican.

The target terminal dues system of 2004 applied only to mail that both originated in and was destined for a target system country. For 'letter post' items – regular letters, large flat envelopes, and small packets weighing up to 2kg – target system post offices charged each other terminal dues calculated by applying a charge per item and a charge per kilogram. In 2008, the charges were supposed to be related to 66 percent of the domestic postage rate for a 20 gram letter sent by priority or first class domestic postal service. In fact, terminal dues charges were constrained within tight cap and floor provisions. Charges could not exceed 0.237 SDR per item and 1.858 SDR per kg, or fall below 0.158 per item and 1.598 per kg. Terminal dues for almost all industrialized countries were established by this rate band, not the link to domestic postage rates. Hence, the target system was not truly cost based. For letter post items sent to, from, or between 'transitional' countries, the terminal dues rate in 2008 was 3.727 SDR per kg regardless of the number of postal items per kilogram.

3   TERMINAL DUES MODEL

As neutral observers have recognized, the straightforward way to eliminate distortions in payments for delivery of international letter post items is for each post office to charge other post offices the domestic postage that would be due for delivery of similar items. Domestic postage is the proper standard for two reasons. First, while it is impossible to obtain definitive cost data for inbound delivery services of most national post offices, one may reasonably rely on domestic postage rates as a proxy for costs. Indeed, in most industrialized countries, national law requires domestic postage rates to be based on costs. Second, domestic postage is the proper standard because in the modern world it is unjustifiable to discriminate against foreign mailers in the pricing of universal postal services. Put simply, it is no more acceptable for the French post office (for example) to charge the British post office a rate for delivery of inbound international letters that differs from comparable domestic postage than it would be for a Parisian postal clerk to charge English tourists a higher or lower postage rate than paid by local French citizens.

Therefore, in order to estimate the economic distortions caused by UPU or other terminal dues arrangements, the authors have developed a mathematical model that estimates differences between delivery charges for inbound international mail calculated according to (i) domestic postage rates and (ii) the terminal dues scheme under study. Our model focuses on the exchange of letter post mail among the 34 member countries of the Organization for Economic Cooperation and Development (OECD) and mail exchanges between OECD and non-OECD countries collectively. To simplify the exposition, we shall refer to OECD countries as industrialized countries (ICs) and non-OECD countries as developing countries (DCs) even though not all OECD member countries are included in the UPU's target system for terminal dues purposes. Similarly, rather than using the UPU's confusing 'target' and 'transitional' labels for its two terminal dues regimes, we

shall refer to the IC and DC terminal dues systems. In the model itself, however, calculations conform to the rules for the target and transitional systems in effect in 2008.

What, precisely, is the domestic postage that would be due for delivery of inbound international letter post items? The appropriate rate is not the full retail rate but something closer to the discounted rates charged bulk domestic mailers. Typically, a bulk mailer receives a discount of about 15 to 25 percent from the retail rate because the post office does not have to collect bulk mail and bulk mail is already sorted by the mailer. For non-priority mail, often advertisements, post offices usually offer additional discounts that can be as high as 50 or 60 percent off the priority retail rate. Calculating the domestic bulk-mail postage that post office A should pay to post office B requires several bits of information: (i) the volume of mail dispatched by post office A; (ii) the postage rates of post office B; and (iii) the distribution of post office A's mail according the rate categories of post office B. Most of this information is not publicly available so our model necessarily relies on proxies and reasonable assumptions. This section describes the premises of the model.

Estimating Bilateral Mail Flows

Figures for bilateral volumes of mail are derived from the total outbound letter post volumes of each post office for 2007 (available from the UPU) and from OECD statistics for bilateral trade in goods and services. These calculations require several steps.

According to UPU statistics, in 2007 the world's post offices dispatched about 5.85 billion outbound letter post items and received about 7.52 billion inbound items. Obviously, there is a statistical mismatch. For the world as a whole, total outbound volume must equal total inbound volume. If inbound figures are correct, then the origin post office is unknown for 30 percent of all outbound international mail (1.7 billion items). In developing a terminal dues model, the first question that must be asked is whether the total volume of mail received by post offices is 5.85 or 7.52 billion items? As noted above, in the last 15 years large mailers have begun to tender significant amounts of international mail to foreign post offices, that is, to a post office other than the national post office where the mailer resides. This 'extra-territorial' mail might be physically transported to a foreign post office ('remail,' in UPU parlance), tendered to the local office of a foreign post office (an 'extra-territorial office of exchange' or 'ETOE'), or electronically transmitted to a foreign country where it is printed and tendered to the post office ('non-physical remail'). Indeed, some post offices appear to be using such practices to save costs on outbound mail. Since competition among post offices is considered unseemly at the UPU, it may be that post offices that handle large amounts of extra-territorial mail are omitting this mail from their reported outbound volumes. Whether the large discrepancy between the reported outbound and inbound mail volumes can be explained by extra-territorial mail of unknown origin or by systemic accounting errors is unknown. The model therefore considers both possibilities. The 'known origin' and 'unknown origin' calculations may be considered as, roughly, lower and upper boundaries for the estimated distortions caused by non-cost-based terminal dues.

The next step is to allocate 'known origin' *outbound* mail volumes sent from IC post offices. UPU studies and our analyses suggest that the amount of outbound international

mail sent to a given country is closely correlated to revenues earned from the export of commodities and services to that country. For the OECD as a whole, trade data imply that between 75 percent (commodities) and 83 percent (services) of outbound IC international mail is destined for another IC. The model adopts a figure of 80 percent. Intra-OECD mail is then allocated to bilateral pairs of ICs based on bilateral trade statistics.[1] For example, if 15.1 percent of French exports go to Germany, then the model assumes that 15.1 percent of the outbound international mail reported by La Poste also goes to Germany. For each IC post office, the letter post volume sent to DCs – that is, to the rest of the world – is the mail not allocated to another IC country. As with trade generally, the result is that ICs differ significantly in the proportion of mail sent to DCs.

The volume of known origin *inbound* mail for each IC post office is determined as follows. The volume of inbound mail received from other ICs is given by the outbound analysis. The volume of mail received from DCs is unknown, but an approximation is suggested by UPU studies. It appears that DCs receive from ICs about twice as much mail as they send to ICs. The model assumes that this is the case for the OECD as a whole and then allocates the inbound mail to individual ICs in proportion to their shares of the outbound mail from ICs collectively. For example, if France accounted for 9.7 percent of all IC to DC letter post items, then the model assumes that 9.7 percent of DC to IC letter post was destined for France. In a few countries, these calculations imply a total inbound volume that exceeds what the IC post office reports. In such cases, all bilateral flows have been adjusted proportionally to avoid this contradiction.

At this point, the model addresses the mail of *unknown origin* described above. The foregoing calculations imply that IC post offices received 4.25 billion items whereas they reported a total inbound volume of 5.20 billion items. This is 953 million of the global 1.67 billion discrepancy between inbound and outbound volumes reported by the world's post offices. The model assumes, as an upper limit possibility, that all of these 953 million letter post items of unknown origin actually originated from mailers in other ICs and were tendered to foreign post offices using remail, ETOEs, or distant printing but not reported as outbound mail by those post offices. Half of the mail is assumed to have been presented to IC post offices and half to DC post offices.

In sum, the model begins with a plausible pattern of bilateral mail flows among ICs (the OECD countries) and between ICs and DCs (the non-OECD countries) that fits known facts. According to the model, the IC to IC letter post consisted of about 3.77 billion items (65 percent of the world total) or 4.73 billion items if inbound items of unknown origin are included (63 percent of the world total that includes all mail of unknown origin). The ICs exported 943 million letter post items to DCs and received 472 million items in return.

Domestic Postage Rates

The second requirement for the model is domestic postage rates. An almost complete set of 2008 retail priority postage rates for each country is available from the UPU. In the model the appropriate domestic postage for delivery of inbound international priority letter post items is assumed to be 80 percent of the retail rate for delivery in ICs and 100 percent in DCs. Since UPU data are limited to priority or first class services, it is also necessary to make an assumption about the extent of non-priority mail in international

mail flows and the discount from priority rates given to non-priority mail. The model assumes that 40 percent of letter post items sent by ICs are non-priority and 10 percent of letter post items sent by DCs. The discount from delivery of non-priority inbound mail is assumed to be 40 percent for mail delivered in ICs and 20 percent in DCs.

Profiles of Outbound International Mail

The third piece of information needed in our model is the distribution or 'profile' of letter post items across the shape- and weight-based categories of domestic postage rates in the destination country. UPU studies indicate that the average weight of cross-border items has increased since 1998. A recent survey provides a breakdown by shape and weight of letter post items dispatched by 12 countries and less detailed information about a larger number of countries. While it is unclear how representative these figures are, it appears that the increase in average weight per item is due primarily to a decrease in the proportion of small letters and a corresponding increase in the proportion of large envelopes and small packets and, to a lesser extent, to a decrease in the lighter items within each shape. In our model, we use the 12-country profile as a starting point and adjust these proportions to modify the average weight per letter post item to 80.0 grams (12.50 items per kg) for mail dispatched by IC countries and 75.5 grams (13.25 items per kg) for mail dispatched by DCs.

Domestic Postage for a Typical Letter Post Item

Using these assumptions, it is straightforward to calculate the domestic bulk-mail rate that would be charged for delivery of a typical letter post item. The amount varies according to the postage in each destination country and the profile of mail dispatched by the origin post office. For example, the model posits that a shipment of letter post mail from an IC post office includes 69.8 percent letter envelopes, 19.1 percent large envelopes, and 11.1 percent packets. Forty percent of these items are assumed to qualify for a non-priority discount. In 2008, the average bulk domestic postage per item for a shipment of such mail was (in SDRs) 1.14 in Italy, 0.71 in Germany, 0.47 in the United States, and 0.47 in Spain.

Table 20.1 shows, for each of the ICs, the estimated domestic postage charges in SDR that would be assessed for delivery of a typical inbound international letter post item (using the profile of an IC post office). The table also shows the UPU terminal dues charge assessed on the same mail if received from a DC (second column) or an IC (third column). The model can also calculate the delivery charge under alternative terminal dues schemes. The fourth column shows the delivery charge that would result from the UPU IC terminal dues without the floor and cap provisions.

As shown in Table 20.1, UPU IC terminal dues are substantially below comparable domestic postage rates in almost all ICs. Because of tight cap and floor constraints, UPU IC terminal dues rates poorly reflect variations in national postage rates. On average, UPU terminal dues payments are 31 percent below domestic postage charges for comparable mail. Even if the cap and floor constraints are removed, terminal dues remain about 27 percent too low.

Table 20.1   Domestic bulk rates versus UPU terminal dues systems for a typical IC origin letter post item (SDR)

		Estimated domestic postage	UPU DC terminal dues	UPU IC terminal dues	UPU IC w/o floor or cap
AT	Austria	0.544	0.298	0.386	0.436
AU	Australia	0.429	0.298	0.286	0.261
BE	Belgium	0.588	0.298	0.386	0.430
CA	Canada	0.718	0.298	0.332	0.323
CH	Switzerland	0.736	0.298	0.386	0.486
CL	Chile	0.319	0.298	0.298	0.281
CZ	Czech Republic	0.362	0.298	0.298	0.281
DE	Germany	0.706	0.298	0.386	0.436
DK	Denmark	0.826	0.298	0.386	0.550
EE	Estonia	0.295	0.298	0.298	0.281
EL	Greece	0.584	0.298	0.386	0.430
ES	Spain	0.468	0.298	0.286	0.277
FI	Finland	0.899	0.298	0.386	0.497
FR	France	0.659	0.298	0.386	0.424
HU	Hungary	0.420	0.298	0.298	0.281
IE	Ireland	0.684	0.298	0.386	0.436
IL	Israel	0.423	0.298	0.386	0.442
IS	Iceland	0.382	0.298	0.368	0.359
IT	Italy	1.136	0.298	0.386	0.467
JP	Japan	0.582	0.298	0.386	0.420
KR	Korea	0.238	0.298	0.298	0.281
LU	Luxembourg	0.543	0.298	0.386	0.406
MX	Mexico	0.348	0.298	0.298	0.281
NL	Netherlands	0.888	0.298	0.378	0.370
NO	Norway	1.303	0.298	0.386	0.615
NZ	New Zealand	0.423	0.298	0.368	0.360
PL	Poland	0.455	0.298	0.298	0.281
PT	Portugal	0.521	0.298	0.384	0.376
SE	Sweden	0.840	0.298	0.386	0.446
SI	Slovenia	0.328	0.298	0.298	0.281
SK	Slovak Republic	0.383	0.298	0.298	0.281
TR	Turkey	0.370	0.298	0.298	0.281
UK	United Kingdom	0.499	0.298	0.355	0.347
US	United States	0.473	0.298	0.286	0.261

4   WHO WINS, WHO LOSES?

Whether or not a post office wins or loses using the understated charges of the UPU terminal dues system rather than comparable domestic postage depends on two major factors. First, low, relatively uniform rates favor exporters over importers for the simple reason that they are buying more of an underpriced service, inward mail delivery. Second,

Table 20.2   Gain or loss from UPU terminal dues compared to domestic postage

		ICs to ICs				ICs to/from DCs	
		Gain (loss) known origin mail (mil SDR)	Per outbound item (SDR)	Gain (loss) all inbound mail (mil SDR)	Per outbound item (SDR)	Gain (loss) inbound mail (mil SDR)	Per outbound item (SDR)
AT	Austria	7.3	0.110	0.9	0.014	–1.7	–0.180
AU	Australia	11.7	0.105	5.9	0.053	–6.2	–0.114
BE	Belgium	12.9	0.080	11.5	0.071	–6.5	–0.201
CA	Canada	–32.7	–0.160	–106.8	–0.521	–17.0	–0.262
CH	Switzerland	2.2	0.012	–26.2	–0.146	–3.9	–0.278
CL	Chile	0.2	0.177	0.2	0.171	0.0	–0.018
CZ	Czech Republic	13.7	0.328	12.5	0.299	–0.2	–0.042
DE	Germany	1.5	0.003	–150.8	–0.262	–29.4	–0.262
DK	Denmark	–15.1	–0.298	–22.8	–0.450	–4.4	–0.326
EE	Estonia	1.2	0.546	1.2	0.546	0.0	–0.004
EL	Greece	4.4	0.114	3.6	0.094	–2.3	–0.200
ES	Spain	41.6	0.183	41.4	0.182	–3.4	–0.135
FI	Finland	–11.9	–0.558	–11.9	–0.558	–4.7	–0.359
FR	France	–5.7	–0.020	–16.8	–0.059	–21.8	–0.238
HU	Hungary	2.5	0.190	2.5	0.190	–0.2	–0.070
IE	Ireland	–10.1	–0.151	–10.1	–0.151	–4.1	–0.249
IL	Israel	0.4	0.090	0.2	0.040	–1.3	–0.118
IS	Iceland	0.4	0.295	0.4	0.271	0.0	–0.094
IT	Italy	–135.9	–1.836	–135.9	–1.836	–9.7	–0.481
JP	Japan	–27.9	–0.583	–35.4	–0.739	–7.2	–0.198
KR	Korea	4.3	0.649	4.3	0.649	0.2	0.028
LU	Luxembourg	6.3	0.194	6.3	0.194	–0.4	–0.178
MX	Mexico	2.0	0.068	2.0	0.068	–0.3	–0.033
NL	Netherlands	–8.1	–0.042	–8.1	–0.042	–12.9	–0.350
NO	Norway	–47.3	–1.556	–86.1	–2.831	–2.8	–0.570
NZ	New Zealand	1.4	0.100	0.5	0.035	–1.3	–0.114
PL	Poland	9.3	0.236	9.3	0.235	–0.6	–0.091
PT	Portugal	5.6	0.137	5.2	0.127	–0.7	–0.166
SE	Sweden	–4.1	–0.045	–6.7	–0.075	–6.7	–0.331
SI	Slovenia	2.8	0.435	2.8	0.432	0.0	–0.018
SK	Slovak Republic	3.2	0.219	3.0	0.205	–0.1	–0.053
TR	Turkey	6.4	0.317	4.3	0.211	–0.5	–0.044
UK	United Kingdom	68.6	0.172	68.6	0.172	–21.2	–0.152
US	United States	88.8	0.131	88.8	0.131	–21.1	–0.137

the UPU system favors low-cost post offices over high-cost post offices, because they are, in effect, trading their own low-cost delivery services for the more costly delivery services of other post offices. Thus, a low-cost exporter such as the UK's Royal Mail wins, and a high-cost importer such as Italy's Poste Italiane loses.

Table 20.2 shows the estimated net gains or losses on the exchange of international mail between IC countries if UPU terminal dues were charged consistently by all post offices

instead of bulk domestic postage charges. Since some post offices participated in alternative non-UPU terminal dues arrangements in 2008 (REIMS or bilateral agreements), this table shows the effects of the UPU terminal dues scheme *in principle*, not actual net payments among IC post offices. Net gain or loss per country is derived by comparing the balance that remains after paying UPU terminal dues for outbound mail and receiving UPU terminal dues for inbound mail and comparing that figure to the balance that would result if the same country had paid and received charges based on domestic postage rates. For each IC, the net gain or loss is calculated by disregarding inbound mail of unknown origin and again by including inbound mail of unknown origin.

The overall effect of the UPU terminal dues system is to transfer a substantial sum of money from losers to winners. Taking into account only the outbound mail reported by origin post offices ('known origin' mail), it appears that winners gain about 299 million SDR. The big winners are the Royal Mail (UK), the US Postal Service, and the Spanish Post Office. The major losers are Poste Italiane, Norway Post, Japan Post, Canada Post, Irish An Post, Finland Post, and Post Denmark. If mail of unknown origin is also taken into account – that is, if post offices actually received all of the inbound mail they reported – then losses are exacerbated significantly, especially for Deutsche Post, which reports much more inbound mail than our trade-based model predicts. Counting unknown origin mail also implies major losses for Swiss Post and La Poste (France), and the transfer from losers to winners jumps to 618 million SDR. Assuming that half of the intra-OECD mail of unknown origin is posted via IC post offices and half via DC post offices, post offices dispatching this unreported extra-territorial mail collectively gain 133 million SDR on mail dispatched via IC post offices and 187 million SDR on mail dispatched via DC post offices. These economic distortions result primarily from underpayment for inward delivery services. According to the model, IC post offices collectively undercharge each other by about 1.1 billion SDR, 1.4 billion SDR if unknown origin mail is included.

Table 20.2 also presents gains or losses per outbound letter post item. Typically, an IC post office is required by law to set domestic postage rates to cover costs. This implies that outbound international postage rates must also be adjusted so that total international mail revenues cover the costs of international services. If a post office gains in the exchange of international mail, then outbound mailers are, in effect, subsidized by foreign mailers. If a post loses, then the loss is reflected in higher outbound postage rates. For example, Italian outbound mailers would need to pay about 1.84 SDR more per typical outbound letter post item to offset net losses incurred in the exchange of mail among ICs. In Norway, outbound mailers would need to contribute between 1.56 to 2.83 SDR per typical outbound item depending on how much unknown origin mail is received. For Japanese mailers, the comparable figures are 0.58 to 0.74 SDR. On the other hand, mailers in the United Kingdom could benefit by 0.17 SDR per outbound item while Spanish and American mailers could receive a subsidy of 0.18 and 0.13 SDR, respectively.

The last two columns in Table 20.2 show the effects of the UPU system on exchanges of mail between ICs and DCs. For outbound letter post items, the model calculates that in 2008 ICs paid DCs about 281 million SDR for delivery under the UPU terminal dues system. If they had paid domestic postage rates instead, the bill would have been about 253 million SDR, essentially the same. Thus, ICs collectively paid DCs collectively

about the right amount for delivery of international mail. The story is much different for inbound letter post items. Assuming that ICs received half as much mail from DCs as they sent to DCs, the model indicates that the ICs charged DCs about 133 million SDR in UPU terminal dues whereas they would have received 297 million SDR in domestic postage. The effect is a subsidy of 164 million SDR for DCs in the form of low postage charges. The burden of this subsidy falls unevenly on IC post offices. For an average letter post item received from DCs, UPU terminal dues come to only 0.28 SDR. High-cost post offices are more adversely affected than low-cost post offices because the UPU terminal dues cover a smaller percentage of costs incurred. For example, Norway Post loses about 1.08 SDR per average letter post item received from a DC, and Poste Italiane loses 0.90 SDR, whereas the Spanish Post Office and the US Postal Service lose about 0.21 SDR.

Peering deeper into the model yields additional insights. It is clear, for example, that net gains and losses do not capture fully the distortions caused by the UPU terminal dues system. Consider the case of Sweden Post. Sweden Post's net loss under the UPU system is a composite of positive and negative distortions in bilateral relations with other IC post offices. For example, Sweden Post would pay the UK's Royal Mail 3.00 million SDR for delivery of 8.44 million inbound letter post items, an underpayment of 1.21 million SDR compared to the domestic postage charge. On the other hand, Sweden Post would charge Royal Mail 3.88 million SDR for delivery of 10.05 million items, 4.57 million SDR less than comparable domestic postage. In this bilateral exchange Sweden Post suffers a net loss of 3.36 million SDR. If the absolute values of the bilateral losses and gains are added up, the *total bilateral distortions* (as we shall term it) in Sweden Post's postal relations with other ICs is almost 34.2 million SDR, including 2.7 million SDR in underpayment for delivery of inbound international mail of unknown origin. Indeed, if all of the individual underpayments and overpayments are added together – instead of offset against one another in each bilateral exchange – the sum would come to 76 million SDR.

Table 20.3 shows the sum of net gains and losses in bilateral relations for IC post offices. Predictably, net winners tend to have more net gains than losses while net losers exhibit an opposite balance. For the IC to IC international mail market as a whole, the total value of the delivery of known origin letter post – measured by the domestic postage that should have been paid – is about 2.4 billion SDR. The total distortions implied by UPU terminal dues – both gains and losses experienced in bilateral exchanges – is about 0.92 billion SDR. Taking into account unknown origin mail would add another 0.34 billion SDR in distortions.

The terminal dues model also allows analysis of alternative terminal dues scheme. One often proposed variation of the UPU terminal dues system is to eliminate floor and cap restraints. The last four columns of Table 20.3 give the net gains and losses by country if the UPU terminal dues system were applied without cap and floor limits.[2] Elimination of the cap provides some relief to high-cost post offices but fails to change significantly the pattern of distortions. The essential problem is that the UPU terminal dues formula is too simplistic and fails to reflect accurately variations in domestic postage. Without floor and cap constraints, the total economic transfer from losers to winners is reduced from a range of 299 to 618 million SDR to a range of 258 to 545 million SDR (the higher figures assume that unknown origin mail is included). Total distortions decline correspondingly.

Table 20.3   Total bilateral distortions from UPU terminal dues and net gains or loss from UPU terminal dues without cap

		ICs to ICs UPU TDs		ICs to ICs UPU TD uncapped			
		Bilateral losses (mil SDR)	Bilateral gains (mil SDR)	Gain (loss) known origin mail (mil SDR)	Per outbound item (SDR)	Gain (loss) all inbound mail (mil SDR)	Per outbound item (SDR)
AT	Austria	−1.8	9.1	8.0	0.122	2.5	0.038
AU	Australia	−0.8	12.5	8.3	0.074	2.0	0.018
BE	Belgium	−5.6	18.5	15.5	0.096	14.2	0.088
CA	Canada	−35.5	2.7	−32.1	−0.157	−107.0	−0.521
CH	Switzerland	−15.8	18.0	10.6	0.059	−14.2	−0.079
CL	Chile	−0.1	0.3	0.2	0.177	0.2	0.171
CZ	Czech Republic	0.0	13.7	13.7	0.328	12.5	0.299
DE	Germany	−50.9	52.3	3.7	0.006	−137.9	−0.240
DK	Denmark	−20.0	4.9	−5.8	−0.115	−12.2	−0.241
EE	Estonia	0.0	1.2	1.2	0.546	1.2	0.546
EL	Greece	−0.7	5.1	4.8	0.123	4.0	0.105
ES	Spain	−0.8	42.5	32.6	0.143	32.3	0.142
FI	Finland	−13.1	1.2	−9.0	−0.421	−9.0	−0.421
FR	France	−28.3	22.7	−2.7	−0.009	−13.1	−0.046
HU	Hungary	−0.3	2.7	2.5	0.190	2.5	0.190
IE	Ireland	−17.7	7.5	−7.1	−0.105	−7.1	−0.105
IL	Israel	−0.2	0.6	1.3	0.263	1.1	0.230
IS	Iceland	0.0	0.5	0.3	0.225	0.3	0.199
IT	Italy	−135.9	0.0	−122.4	−1.654	−122.4	−1.654
JP	Japan	−28.7	0.8	−21.6	−0.450	−28.5	−0.595
KR	Korea	0.0	4.3	4.3	0.649	4.3	0.649
LU	Luxembourg	−0.3	6.6	5.4	0.164	5.4	0.164
MX	Mexico	−0.2	2.2	2.0	0.068	2.0	0.068
NL	Netherlands	−22.6	14.5	−16.9	−0.087	−16.9	−0.087
NO	Norway	−47.4	0.1	−34.7	−1.143	−68.9	−2.266
NZ	New Zealand	0.0	1.4	1.2	0.087	0.2	0.018
PL	Poland	−0.5	9.8	9.3	0.236	9.3	0.235
PT	Portugal	−0.7	6.3	4.2	0.101	3.7	0.091
SE	Sweden	−17.8	13.7	−5.6	−0.062	−8.1	−0.090
SI	Slovenia	0.0	2.8	2.8	0.435	2.8	0.432
SK	Slovak Republic	−0.3	3.4	3.2	0.219	3.0	0.205
TR	Turkey	−0.1	6.6	6.4	0.317	4.3	0.211
UK	United Kingdom	−4.5	73.0	53.2	0.133	53.2	0.133
US	United States	−8.2	97.0	63.1	0.093	63.1	0.093

5   CONCLUSIONS

Because details of international exchanges of mail among post offices are, for the most part, hidden from public view, this terminal dues model can only demonstrate the basic effects of the UPU terminal dues regime. It does not attempt to calculate financial effects

with precision. Moreover, post offices have, to some extent, ameliorated the effects of the UPU terminal dues system through bilateral or multilateral, non-UPU terminal dues agreements, although the extent is unknown.

These caveats notwithstanding, divergences between delivery costs and terminal dues charges are still very much part of the international postal system. It is hoped that the model presented in this chapter will help policy makers to understand better what players in the game of international postal politics have long known: that the UPU terminal dues regime produces significant distortions in the flow of international mail. These distortions are not random or peripheral to the terminal dues system. Countries with low domestic postage and/or net exports benefit, while countries with high domestic postage and/or net imports are disadvantaged. Distortions have been perpetuated by the winners to gain at the expense of the losers. More fundamentally, the system creates a pervasive pattern of distortions that affects international postal relations generally. Overall, in postal relations among OECD countries, the sum of the distortions – net gains and losses in bilateral relations taken together – would equal about 40 percent of the value of the market if appropriate domestic postage were charged for delivery of inbound international mail.

NOTES

*   This chapter presents the personal views of the authors only.
1.   The model uses revenues from service exports plus 25 percent of revenue from commodity exports. In a few cases, revenues from service exports are reported as negative, for example, when insurance pays out more in claims than collected in insurance premiums. In such cases, the model uses the absolute value of the export revenues since mail is likely generated regardless of the direction of the revenue flow.
2.   UPU IC terminal dues are calculated in two steps. Step 1 calculates a per kg rate and applies per kg floor/cap constraints. Step 2 calculates a per item rate from the – possibly constrained – per kg rate and applies per item rate floor/cap constraints. Step 1 reflects the weight and item relationships in the UPU's floor constraints. An 'uncapped' version of the UPU terminal dues system could be constructed by either of two methods. The first would calculate both steps without reference to floor/cap constraints. The second method would be to calculate the per kg rate with floor/cap constraints and then calculate the per item rate without floor/cap constraints. The second method results in somewhat higher terminal dues for high-cost post offices, and this is the method used in the model.

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