Postal services in the internet age

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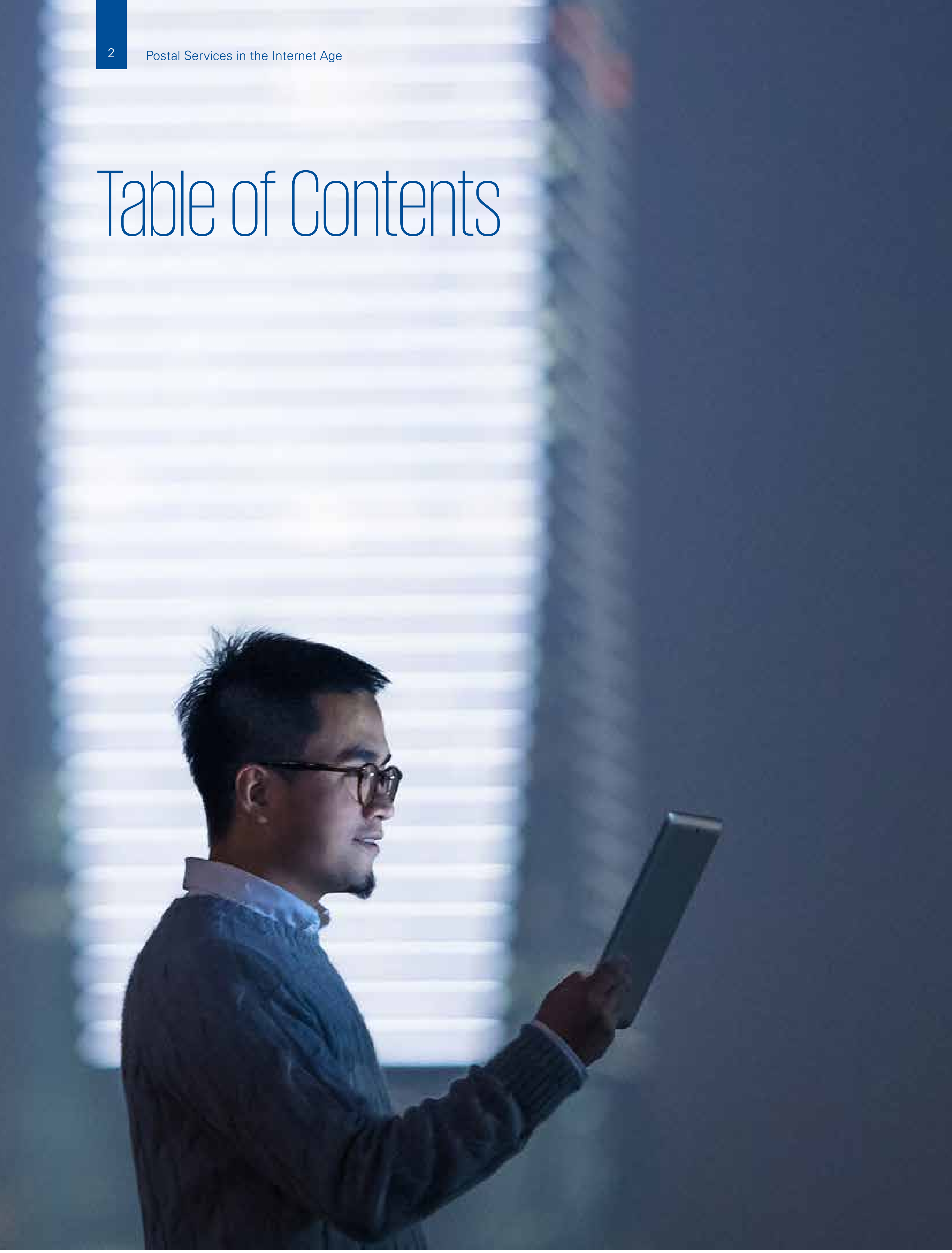


Introduction: a troubled industry

The focus of this study is incumbent postal operators in the major economies around the world. Incumbents have long borne the burden of the Universal Service Obligation ("USO"), which obliges them to deliver at a uniform price to every home and business in the land, although the costs of delivery in remote areas may often be much greater than the uniform price. This burden has become heavier over the past thirty years for three reasons.

Firstly **the privatization revolution** of the 1980s confronted the incumbents with competition from new players not burdened with the USO. These entrants often had a lower cost base and could set lower prices, thereby eroding the margins formerly achieved by incumbents in the more profitable urban market. Many incumbents, still subject to the USO, saw margins fall below the cost of capital and many went into loss.

Secondly, **the internet revolution** (dating from the early 1990s) has transformed the economics of postal services around the world. It has reduced the demand for letter mail because emails are a cheaper and quicker means of communication, thereby reducing revenue. On the other hand it has boosted the demand for parcel mail as online shopping has taken a growing share of the retail market, to the detriment of the high street and the shopping mall.

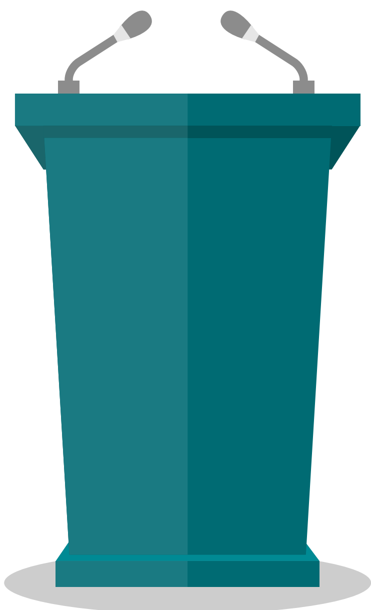
An industry struggling to adapt to these seismic changes was further hit in 2007 by **the Great Recession** the worst of the post-war era. Some countries recorded a 4% decline in real output at the low-point of the crisis and the subsequent recovery was anaemic by past standards, leaving economic activity subdued for a decade or more. The impact on postal volumes, which track GDP growth very closely, was huge. The Great Recession ushered in a new era of falling letter volumes.

These three factors - the internet revolution, the privatisation revolution and the Great Recession - have affected incumbent postal operators everywhere. But the scale of the threat differs widely from country to country depending on:

— the regulatory environment in the jurisdiction and intensity of competition from new entrants;

— how badly their economy was affected by the Great Recession; and

— how rapidly they have responded to falling demand for letters by switching into the fast growing market for parcels.



Problem: How to pay for the Universal Service Obligation in post

The historic bargain: profitable letter monopoly pays for losses on USO

The role of government

Postal networks were, in the 19th and 20th century, the main method of communication between people, and between governments and their citizens. They have never been purely commercial enterprises. Governments have always taken a close interest in them, typically requiring postal operators to provide a universal service, reaching every home in the land, at a uniform price.

Historically, in many countries, governments achieved this by directly owning and running a national postal service. Today it is more usual for postal services to be provided by an independent corporation, subjected to economic regulation. The government is often a majority shareholder (see Box 3 for more detail) and governments also have, or had, a significant minority stake in the four privately owned postal companies in Europe. The public policy aspects of postal provision are pervasive.

Profits on urban post pay for losses on rural post

It is a basic feature of postal services, unchanged by the disruptions of the past thirty years, that the unit cost of collecting and delivering mail is high in sparsely populated rural areas and much lower in densely populated urban areas. A uniform price, which allows operators to recoup their country-wide running costs, including a reasonable return on capital, necessarily implies an element of cross-subsidy. In towns the average cost of delivering a letter will be significantly less than the uniform price. In the countryside it will be greater. Across the jurisdiction as a whole therefore, profitable urban services pay for loss-making rural deliveries (see Box 1).

This cross-subsidy was inherent in the standard bargain struck between governments and their incumbent national postal service providers: a monopoly over the delivery of letters was granted in return for the promise that those letters would be delivered everywhere at the same price. The licensed postal monopoly generated excess profits on urban deliveries, which had to be used to subsidise rural deliveries.

The basic economic theory is set out in Box 1 overleaf (pp 8-11) The reader familiar with the basic economics of the postal industry should skip to page 12.

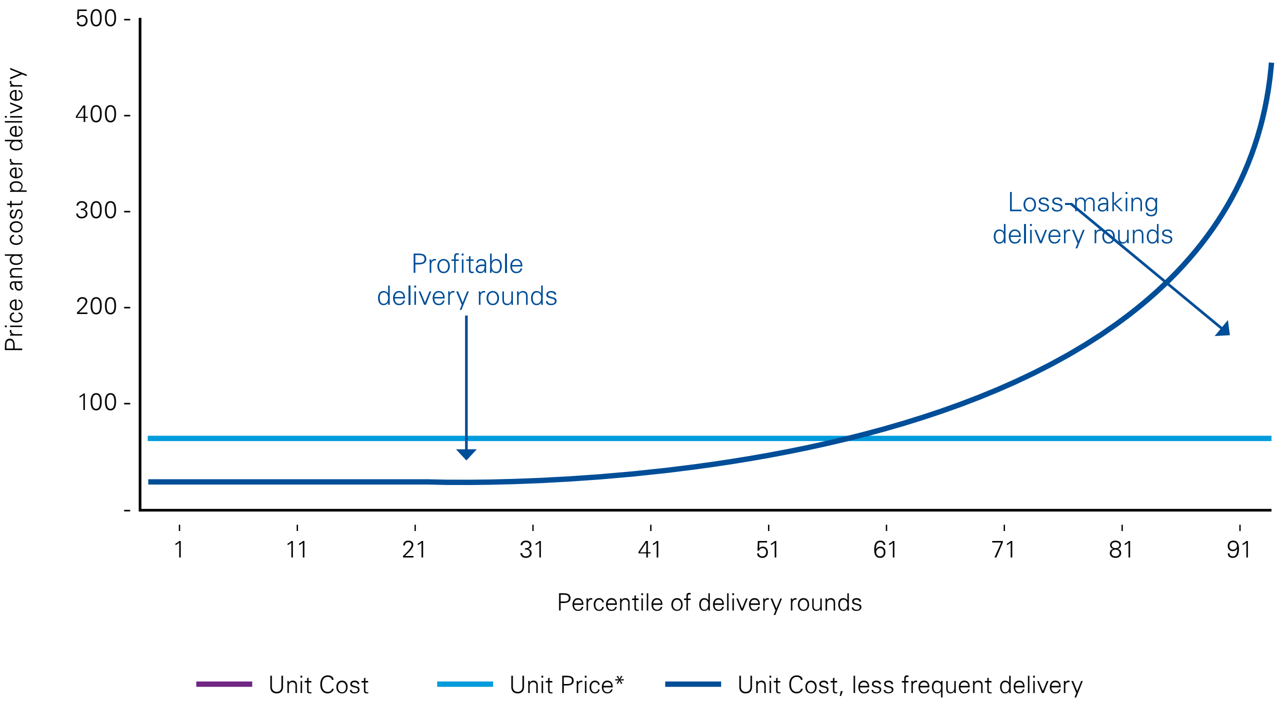

POST

Box 1: Understanding the universal service obligation

Measuring the cost

Chart 1a plots the cost per unit of delivering mail and the (uniform) price charged. Each point on the cost curve represents a postal delivery round, ranked in order of unit cost. The delivery rounds on the left of the chart are the urban rounds where the mailbags are full and the cost per unit low. Those on the right are the rural rounds where the number of units delivered in the course of the round is insufficient to pay the postman's wages. Profits on the urban rounds, where the unit cost is below the uniform price, subsidise the losses on the rural rounds, where the unit cost is higher than the uniform price.

Chart 1a: Unit cost and the uniform price in rural and urban delivery rounds

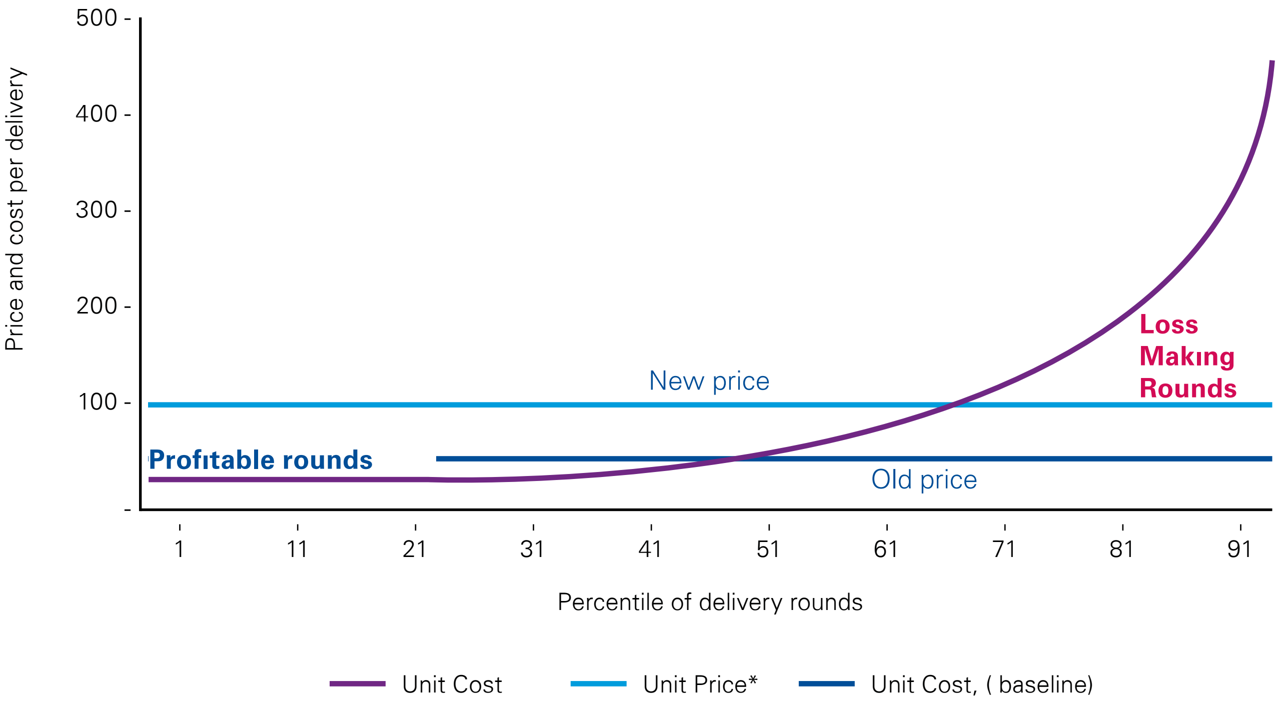


Source: Illustrative KPMG calculations

The effect on the cost of the USO of putting up prices

The business shown in Chart 1b below is loss-making. Chart 1b shows the effect of putting up the price of postal services. By increasing the profits on the profitable rounds and reducing the losses on the loss-making rounds, the business as a whole is restored to profit – on the crucial assumption, now rarely true, that the volumes of mail are unchanged.

Chart 1b: The effect of putting up prices



Source: Illustrative KPMG calculations

However, the effect of introducing competition into postal networks was to make the demand for letters more price-sensitive, particularly in the profitable urban delivery rounds. The internet revolution introduced a further element of competition: letters could now be replaced by emails and visits to websites. The effect of these two changes was to make it very much more difficult for incumbent postal operators to restore their businesses to profitability by putting up prices.

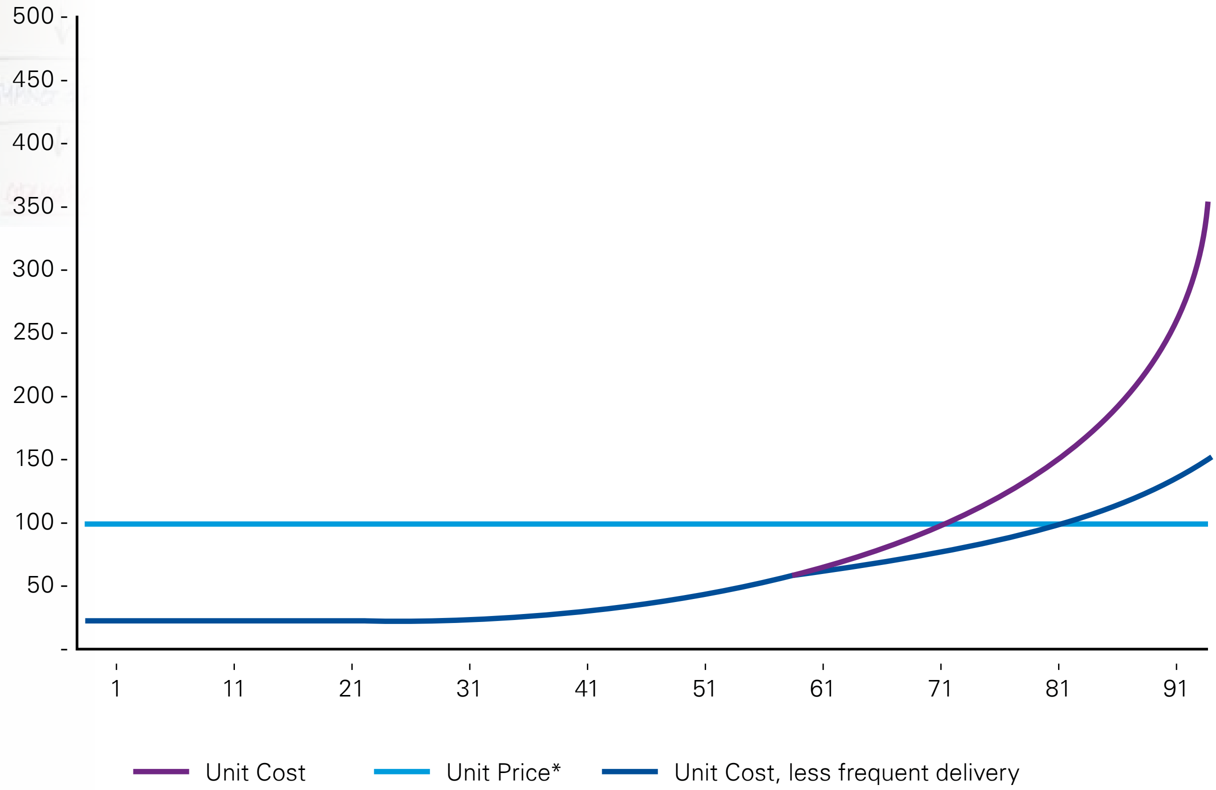

WHO
WHAT
WHERE
Home Broadband Penetration
PRICING
EXPENDITURES
SWOT analysis report
YEAR
TOOLS
41%

Reducing the cost of the USO by reducing delivery frequency

As a consequence, postal operators have been under pressure to find ways of reducing the cost of the USO, and this remains a policy option under discussion in most jurisdictions. The most viable options are a reduction in the frequency of delivery, and in the number of delivery points (e.g. by making rural households collect mail from a local delivery office, school or supermarket).

Chart 1c below shows how the KPMG cost modelling approach, based on delivery rounds, can be used to quantify alternative options. The cost model allows the user to specify the number of deliveries per week and the unit cost point at which reduced delivery frequency kicks in. The chart below shows the effect on the cost of the USO (the area above the black price line) of reducing the number of deliveries from 6 per week to 2 per week in all delivery rounds where the unit cost was above a chosen threshold. That threshold could be set at the uniform price, but in the example shown it is set at a lower level to illustrate the flexibility of the model.

Chart 1c: The effect of reducing delivery frequency



Source: Illustrative KPMG calculations

Given data on unit costs per delivery, by delivery round or (if the data only supports a less granular approach, by delivery office) the KPMG cost model can be used to quantify the cost savings from a wide range of options.

The strategic threats to the historic bargain

The nature of the problems facing the postal industry as a result of the three strategic threats discussed above (competition, internet revolution, Great Recession) are explored in more detail below.

Problem 1: Emails and texts are cheaper and quicker than letters

When mail services were first established in the 19th century they had a virtual monopoly of the market for transmitting messages. Mail volumes grew rapidly because it was much cheaper to send a letter than to send a runner. Even after the invention of the telegraph in the 19th century and the spread of the telephone in the 20th century, the letter post retained a dominant position in the transmission of written messages.

The arrival in the 1980s of cheap fax machines, which used the telephone network to transmit text, presented the first serious challenge to postal services. The subsequent creation of the worldwide web in 1989 enabled a superior exploitation of the telephone network. Email was born, websites proliferated and their use expanded rapidly throughout the 1990s as broadband spread. The rapid penetration of mobile phones in the 1990s created another formidable competitor - the text message - to the letter post.

Emails, websites and texts provide, for the tech-savvy, an almost instantaneous way of transmitting messages at a fraction of the price of a letter. As computer literacy spread, digital communications disrupted the letter post just as railways disrupted the canal business in the 19th century and smart-phone digital cameras disrupted the photographic film industry in the 20th. Letter volumes, which grew steadily in the 19th and 20th centuries went into decline in the 21st. The success of email in replacing letters raises the question as to whether the USO should now be placed on broadband rather than the post (see Box 2).

Box 2: Should a broad band USO replace a postal USO ?

One of the justifications for the USO is the need for government to communicate with all of its citizens. Increasingly these communications, previously carried out by post, take place online via websites, telephone and email:

- Vehicle licences, driving licences, television licences and residential parking permits can be purchased (and paid for) online;
- Utility bills can be viewed online and paid without using the post;
- Parking fines and speeding fines can be settled without using the post;
- Bank balances are now widely viewed online rather than via a posted monthly statement;
- Holidays are booked online and travel documents sent by email.

These uses of the internet, once the prerogative of the computer-using few, have become the norm for a generation which expects to carry out most transactions using a smart phone. In the not-too-distant future it will be more efficient to provide the universal service via broadband rather than by post. Of course the complete replacement of postal communication would require both 100% broadband coverage and 100% computer or smart phone ownership and literacy. Both are some way off.

But at some point in the future it will become cheaper to subsidize the provision, to sparsely populated rural areas, of broadband and computers, rather than postal services. As that trigger point approaches (and it is not many years away) Governments will wish to make those calculations. That is why the accurate measurement of the cost of the postal USO will become more, not less, important as internet usage approaches 100 per cent.

Problem 2: Growing demand for packets and parcels is met by competitors

The internet revolution, which has reduced demand for the letter post, has had the opposite effect on packets and parcels. It has become easier to find what you want by searching online than by visiting the shops, and cheaper to have it posted than to fetch it yourself. Online shopping is taking an ever-increasing share of total retail activity and as declining footfall threatens the viability of high streets and shopping malls, trips to the shops are being replaced by visits from vans delivering goods ordered online.

The growth of the parcels business could potentially offset the loss of revenue from letters. But though many incumbents have a large share of the letters market, which is still a licensed monopoly in some jurisdictions, they face fierce competition from new entrants both to the parcels market and to the lucrative urban letter market for bulk mail. The incumbents' share of rising parcels revenue is not enough, in some jurisdictions, to offset the fall in their letter revenue.

Problem 3: Competition has eroded revenue and makes it difficult to raise prices

Competition from cream-skimming private postal operators (in addition to that from alternative messaging technologies) has eroded the urban letter post revenue the incumbents needed to pay for loss-making rural delivery services.

In the letter market the combination of falling volumes and the large fixed element in cost (see below) is pushing up unit costs. In the past incumbents could recoup the extra cost by putting up prices, with little if any volume loss. But in the internet age, following a cost-plus pricing policy, as many incumbents have done, risks accelerating the volume loss. Emails and texts are a close substitute for letters, and already, for most people, very much cheaper, quicker and more convenient. This points to a high price elasticity of demand, which means that putting up the price can actually provoke a fall in revenues, because the loss of mail volumes outweighs the increase in revenue per unit.

In the parcels market, where there should be more scope to raise prices, the incumbent faces competition from established specialists in parcel delivery. This competition both puts downward pressure on prices and ensures that incumbents get only a fraction of the growing revenues from parcels.

Problem 4: Mail is a fixed-cost business, and incumbents' labour costs are less flexible than those of entrants.

Postal networks require a significant infrastructure for the collection, sorting, trunking and delivery of mail. The main cost is the labour required to carry out these tasks, but there is also capital equipment – vans, sorting machines, buildings. The cost of maintaining this infrastructure cannot easily be reduced in response to falling mail volumes.

In particular, the incumbents have a legacy of large, unionised work forces which has made it difficult for them to cut labour costs to match the decline in revenue from letters. The universal service obligation is another important constraint, guaranteeing the continued employment of rural postman whose costs are not covered by the (steadily falling) revenue from the mail they deliver.

The mail business thus has a high operational gearing: relatively small fluctuations in revenue can have a large effect on profit. Falling letter revenues have led to losses in many incumbent postal operators. Both the fixed-cost nature of the business and the universal service obligation make it difficult for incumbents to restore profitability by cutting costs.

Problem 5: Many incumbents have faced worsening pension fund deficits

Postal employees' terms of employment often include relatively early retirement on public sector pensions. The net present value of these future pensions obligations has risen steadily in all jurisdictions over the past quarter century as global interest rates have declined. The employers have been required to make increasing contributions to eliminate the resulting pension fund deficit.

Problem 6: Postal volumes are linked to slower-growing national income

The long term future of any industry depends on how demand for its services changes with income. As people get richer their consumption of some goods (air travel, entertainment, restaurant meals) increases faster than their incomes while that of other goods (food bought and cooked at home, clothing, gas and electricity) increases more slowly.

Historically communications services have been on right side of this great divide. The desire to send messages – which until the early 1990s meant letters – has risen closely in line with national income. The arrival of the internet did not, as many supposed, break that link. Letters started to grow more slowly than GDP because they took a falling proportion of messages. But the Great Recession, which slowed internet penetration as well as letter mail growth, revealed that the link still existed. The postal industry was badly affected by the global decline in GDP in 2007-9 and the subsequent anaemic recovery. The US data, set out in the next section, illustrates this very clearly.

As a consequence, with revenues below expectation, and costs relatively fixed (Problem 4 above) postal operators everywhere have seen margins suffer over the ten years since the onset of the Great Recession.

Responding to the threat: alternative ways of paying for the USO

The difficulties faced by the industry have reduced the profits on urban deliveries to the point where they no longer everywhere cover the rural losses. Incumbents have thus sought alternative means of finance, notably:

1. From the profits of other businesses bundled with the postal business;
2. From an explicit government grant; or
3. By allowing the incumbent postal operator to make a loss, or a return below the cost of capital

Different countries have reacted in different ways.

- In Germany and the UK the incumbent has expanded into the more profitable international parcels and logistic market, by linking up with a private sector operator (DHL in Germany, GLS in the UK), so the cost of the USO is borne entirely by users of the (privatised) mail business, more broadly defined than hitherto.
- France has also spread the USO burden over a more widely defined mail business, but any residual loss is covered by the profits from the successful savings bank, Caisse des dépôts, which is part of Groupe La Poste, so the cost is borne by savers to the extent that they get a lower return on their deposits.
- In Japan, which has also spread the USO burden onto a successful domestic and international parcels business, any residual loss is offset by the profits of the bank and insurance company which are part of Japan Post Group and the cost borne by savers and purchasers of insurance.
- In Italy there is an explicit government subsidy to cover the cost of the USO, so the taxpayer picks up part of the cost. However the postal business remains loss making even after receipt of the subsidy. So the remaining losses are paid for, as in Japan, by those who deposit their savings with, or buy their insurance from Poste Italiane.
- In the US, Canada, Australia and Spain, where the mail business is bundled with the Post Office network and makes a loss or a return lower than the cost of capital, it is ultimately the taxpayer who bears the cost of the USO.

Changing margins over time: the US experience

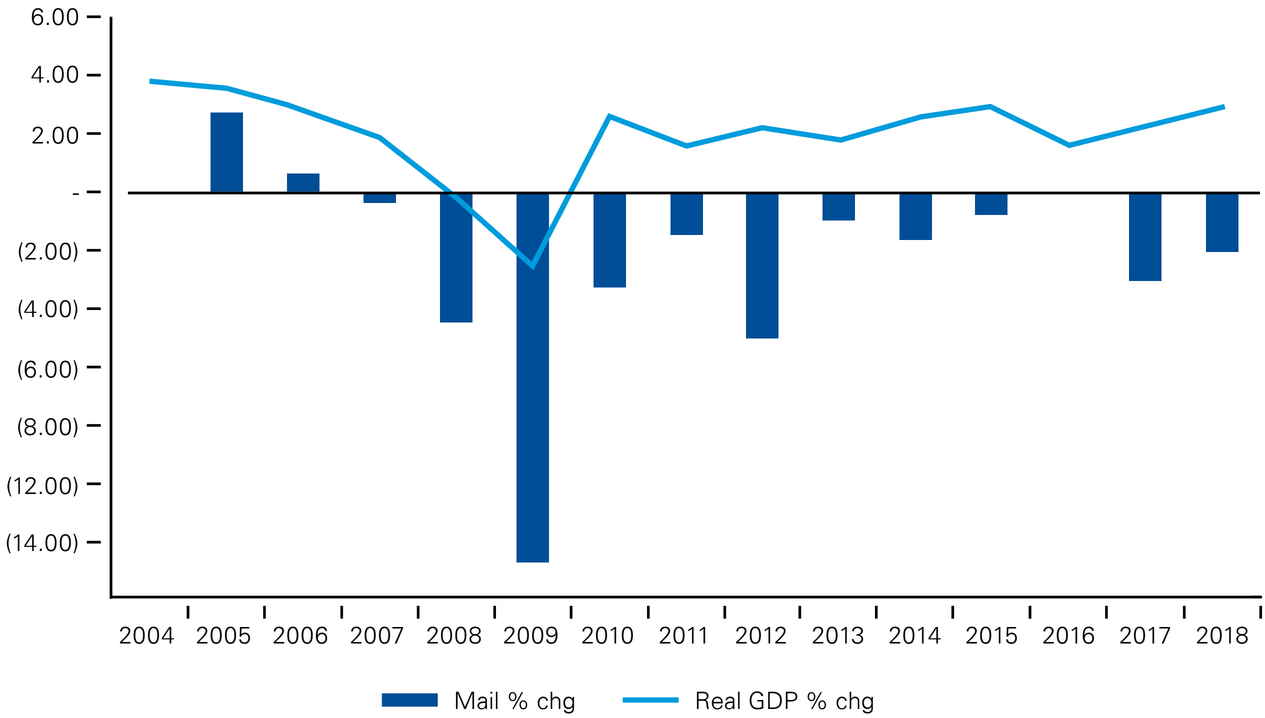
The next two sections of this report present data showing the decline in postal margins over time (this section) and across countries (next section).

The United States Postal Service (USPS), run directly by the Federal government, is the largest postal operator (measured by employment, revenue and volume of mail delivered) in the developed world. Its performance over the past 15 years exemplifies two key characteristics of the mail business: it is highly correlated with economic activity; and it has been massively disrupted by the arrival of the internet.

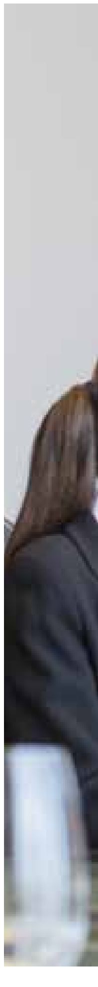
GDP growth drives mail volume growth

Figure 1 shows annual changes in mail volume and GDP since 2004. It reveals that volumes started to fall in 2007 and have fallen in every year since. There is a clear correlation with economic activity - mail volumes fell particularly sharply in the Great Recession and the subsequent economic recovery has reduced the rate of decline. But the striking feature of Figure 1 is that mail volume growth has, in every year, been lower than GDP growth.

Figure 1: US mail volumes and real GDP (annual per cent changes)

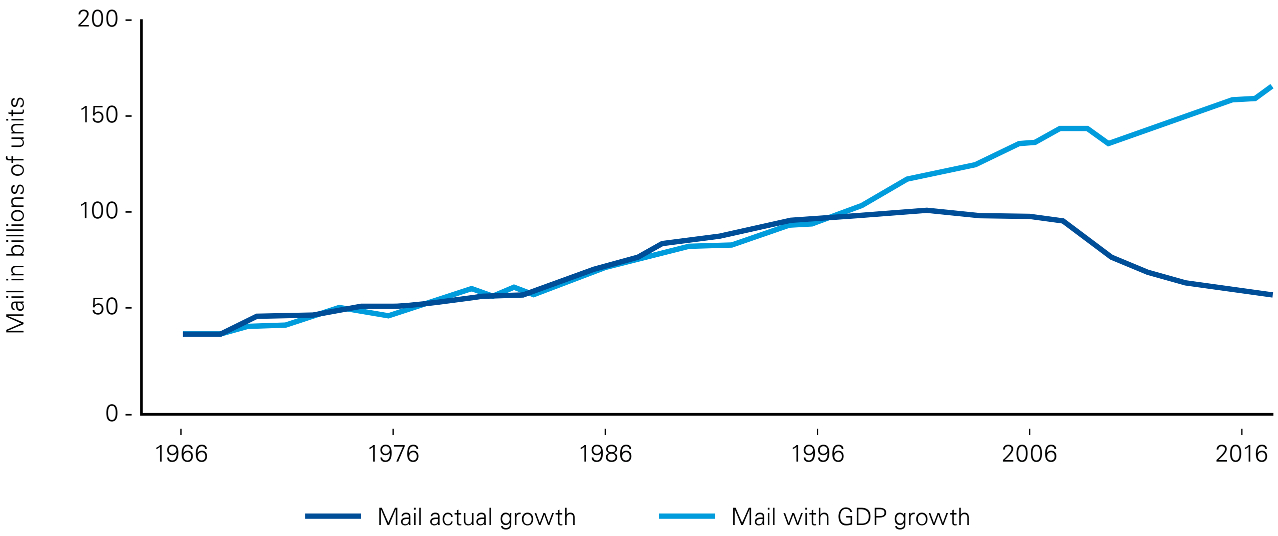


Source: US Postal Service and IMF



This is a new phenomenon, as Figure 2 shows. For 30 years, from 1966 to 1996, mail volumes rose closely in line with GDP. Then in the ten years of robust economic growth starting in 1996, mail volumes stagnated. Since 2006 they have fallen continuously, despite resumption of GDP growth.

Figure 2: US mail volumes in billions of units



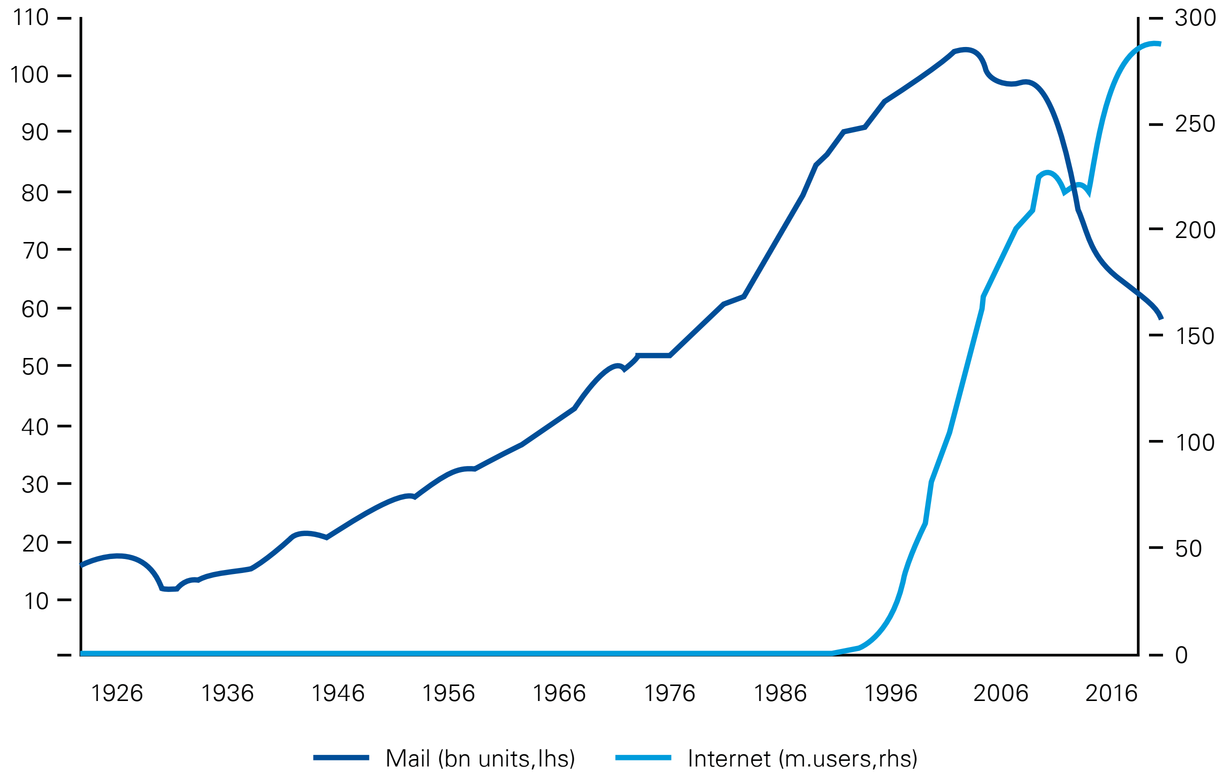
Source: US Postal Service, US Bureau of Economic Analysis

Rising internet penetration slowed mail growth, recession led to falling volumes

The fall in mail volumes relative to GDP since 1996, and the absolute fall since 2006, are essentially due to the spread of internet usage. This is very apparent from the long-term perspective provided by Figure 3, which shows how the rapid rise in internet use in the US between 1986 and 2006 halted the steady growth in mail volumes as those who gained access to email used it in preference to the (slower and more expensive) post.

The Great Recession marked an important watershed: internet penetration stalled, and mail volumes declined sharply as businesses sought to reduce costs by using email and websites instead of post to communicate with their customers. From 2007 onwards sharply declining mail volumes became the new normal.

Figure 3: Mail volumes and internet usage in the US

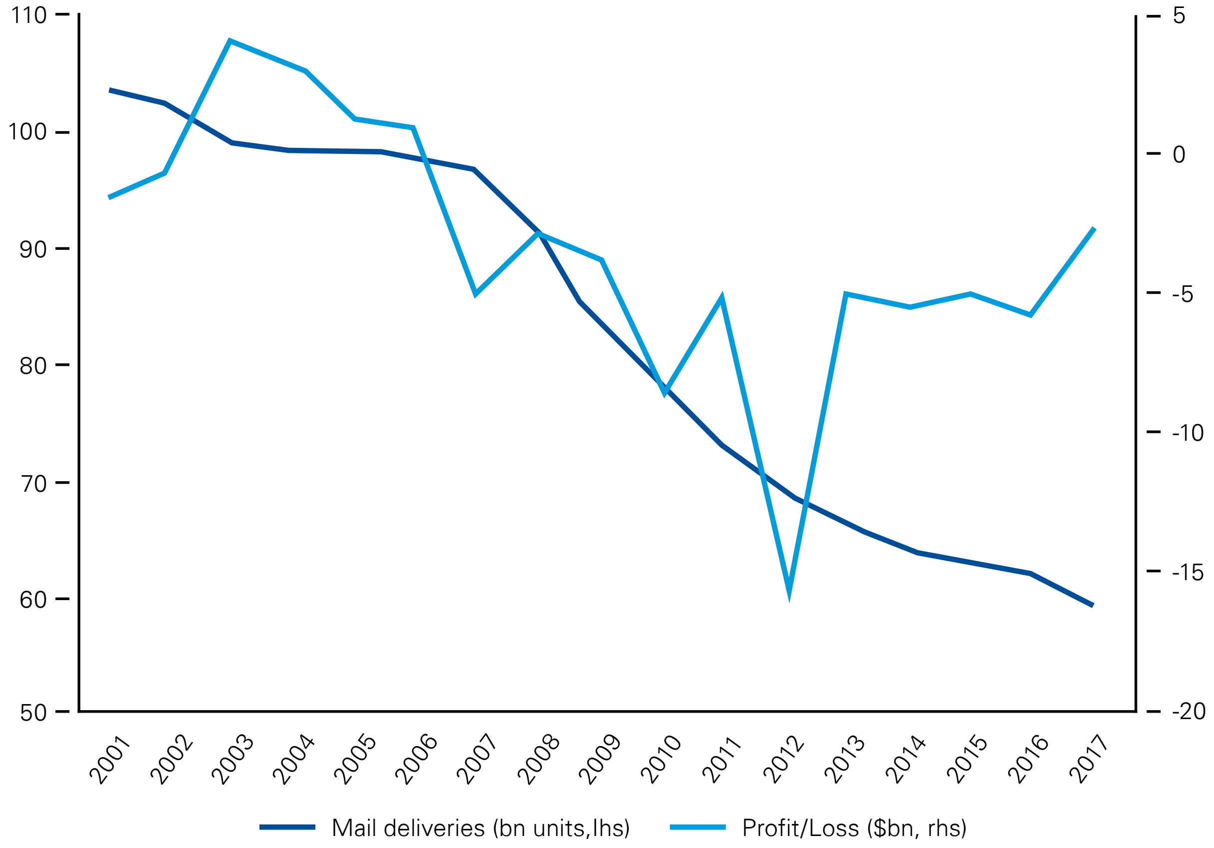


Source: Statista and USPS

Falling mail volumes, with costs relatively fixed, have plunged USPS into loss

Mail services have substantial fixed costs. When volumes fall, revenues fall faster than costs and profits fall faster still. As Figure 4 shows, these basic economic realities have hit the US Postal Service, turning profits of $3.9bn in 2003 into a loss of $15.9bn in 2012, followed by $5bn pa losses for the next four years. These losses suffered by the world's largest postal service vividly illustrate the threat posed by the internet.

Figure 4: Falling volumes have generated losses for US Postal Services



Source: US Postal Service

Changing margins across countries

The ongoing link between GDP and postal activity, and its disruption by the internet, is revealed clearly by the time series data for the US analysed in Section 3. It is also revealed by cross section analysis. GDP per capita varies widely around the world, and so does postal activity. Internet penetration also varies and there are significant international differences in attitude to computer use. These differences mean that the two major effects of the internet revolution (letter volumes falling, parcel volumes rising) play out very differently in different jurisdictions.

Three statistical analyses and the data sources used

KPMG professionals have carried out three separate statistical exercises. The purpose of the first is to show how profits margins have changed in 17 countries. The second provides more information on the underlying causes of those margin changes for a smaller group of 9 countries. The third broadens the geographic scope of the analysis and looks in more detail at the breakdown between letters and parcels, and at the effect of price. Geographic coverage and sources are set out below

— **The change in profit margins since 2007 of 17 incumbent postal operators** (US, Canada, Australia and Japan, Germany, UK, France, Italy, Spain Netherlands, Belgium, Sweden, Norway, Denmark, Finland, Austria, and Switzerland). This country coverage starts from the Hooper Report (which focussed on Europe) and adds four large advanced economies (US, Japan, Canada, Australia) outside Europe. The data comes from the Hooper Report and the Annual Accounts of the incumbent postal operators.

— **The change in revenues, employment and margins since 2007 of 9 postal operators:** the five largest European countries (Germany, UK, France, Italy and Spain) together with US, Canada, Australia and Japan. This analysis is based on published Annual Accounts for 2007 and 2017 of the incumbent postal operators in those 9 economies.

— **Mail volumes, prices, and revenues relative to GDP in 2016 for 16 countries.** This analysis is based on The Office of Communications (Ofcom) the UK government-approved regulatory and competition authority for the broadcasting, telecommunications and postal industries of the United Kingdom data for 2016 for UK, France, Germany, Italy, USA, Japan, Australia, Spain, Netherlands, Sweden, Poland, Korea, Brazil, Russia, India and China. The selection of countries was determined by OFCOM and adds an interesting dimension to this study by including Poland (the only representative of Eastern Europe), Korea.

How margin changes have been measured

Comparisons of margins changes over a ten year period for 17 postal operators are beset with difficulty. The comparison can never be entirely exact because there are differences between postal operators in accounting year end, differences in the measure of profit they choose to focus on and differences in the scope of the activities reported in the headline accounts. Our decisions on time period, profit measure and scope of business are set out below:

[1]Hooper, R., Hutton D. and Smith I.R. (2008) Modernise or decline: Policies to maintain the universal postal service in the United Kingdom.

[2]OFOCM (2017) The International Communications Market

— *Time period:* we have chosen the financial years which include the fourth quarter of 2007 and 2017, which means the accounts for years ending in December 2007, or March, June or September 2008.

— *Measure of profit:* where available we have used EBIT, or failing that profit before tax.

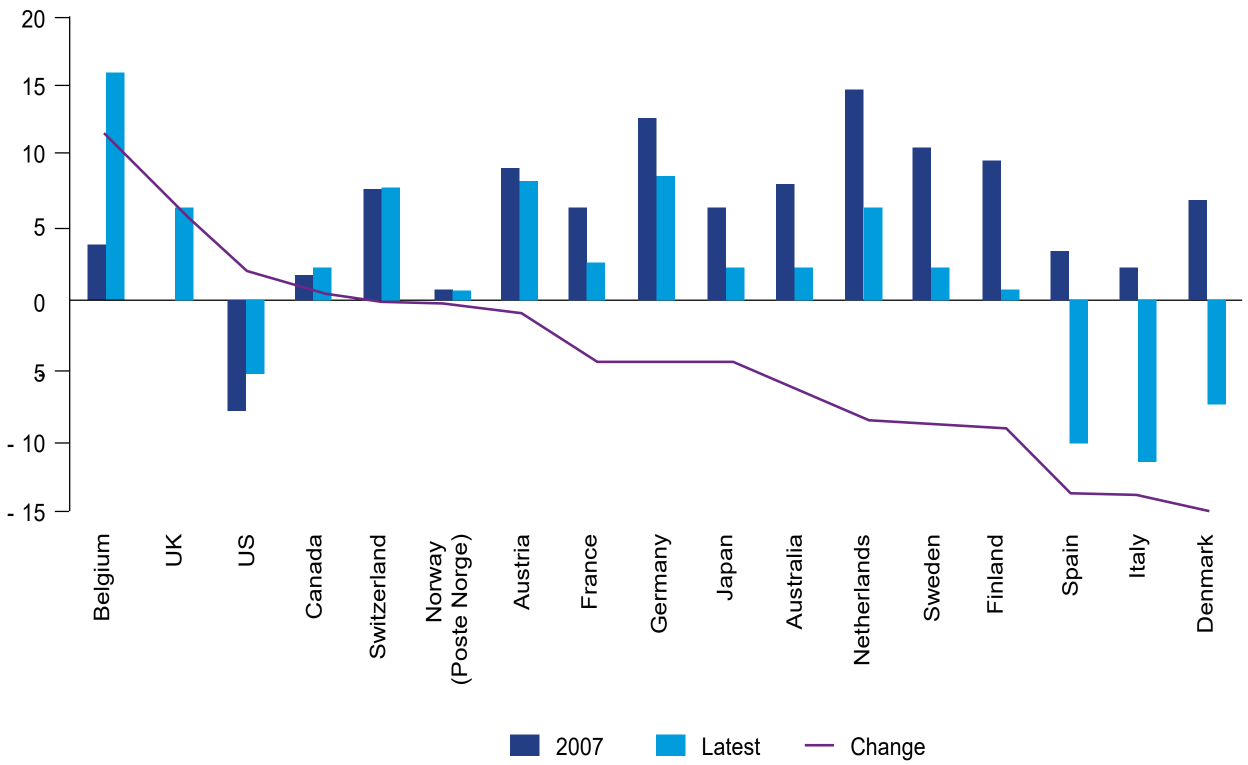
— *Scope of business:* as discussed above, postal operators around the world undertake different ranges of activities (see Annex Table A2). The focus of this paper is on the mail collection and delivery business, letters plus parcels. However, many operators have expanded their activities to include international logistics and in these cases we have adopted the wider definition. The retail network is not part of the mail delivery business but for some countries we have been unable to find segmental accounts which exclude it.

In all cases we have used the same year-end, profit measure and scope for 2007-08 as for 2017-18.

How margins have changed since 2007

Figure 5 shows a very wide dispersion of outcomes. Six countries (Belgium, Norway, UK, Switzerland, Austria and Canada) have seen an improvement in margins and are profitable. Another six postal operators (in Japan, France, Finland, Germany, Australia and Sweden) have seen a deterioration in margins but remain profitable. Four countries (US, Spain, Denmark and Italy) have seen a deterioration in margins and are lossmaking.

Figure 5: Operating profit margins for 17 incumbent postal operators in 2007 and 2017 2017



Source: Margins in 2007 from Hooper Report (Europe) and Annual Accounts USPS and Japan Post. Margins in 2017 from Annual Accounts.

The causes of margin changes in each country: insights from international comparisons

Profit margins change for different reasons in each jurisdiction. To understand the reasons behind these divergent outcomes it is necessary to look at the key drivers of operating margin (operating profits as a percentage of revenues), which are:

- Revenues, driven by:
  - Mail volumes
  - Mail prices
- Costs, driven by:
  - Staff numbers
  - Staff unit costs (wages and salaries per head)

The thesis of this study is that it is possible to identify, for each incumbent postal operator, the main reason why their performance is out of line with their peers. So, for example, if a country has suffered an unusually sharp decline in margins, we can ask whether it is:

- Because mail **volumes** have fallen more than in other countries; or
- Because mail **prices** are unusually low relative to other countries; or
- Because **headcount** has not been reduced as much as in other countries; or
- Because postal employees are **paid more per head** than in other countries.

To answer these questions KPMG professionals have constructed a series of scatter diagrams for the nine major postal operators showing changes over a ten year period in postal revenues, revenues per employee and margin. Each diagram displays a simple trend line[3], which represents the international average of the countries examined.

[3]The trend line is calculated by the Excel function which uses the standard Ordinary Least Squares technique to minimise the sum of the squares of the distance between each point and the fitted line.

Causes of the 10-year changes in margins for the 9 major postal operators

1. Growth in revenue

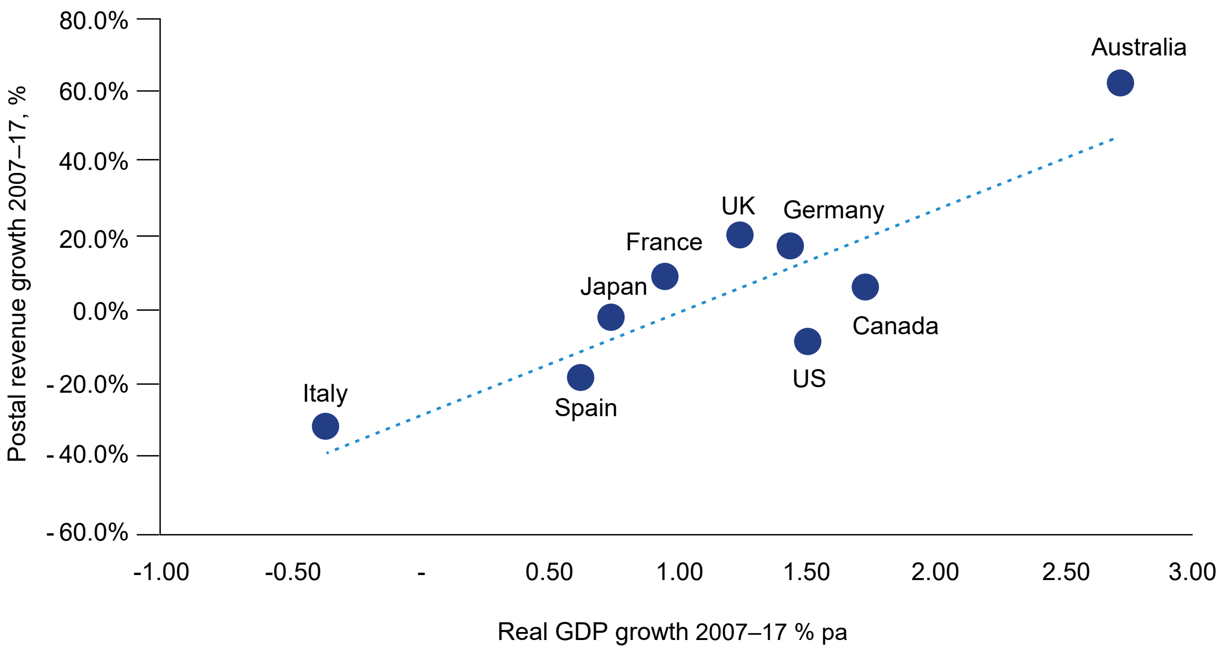
The first scatter diagram, shown in Figure 6 below, reveals a strong relationship between growth in revenues and growth in real GDP. The analysis of the US in Section 3 showed how postal revenues were linked to GDP growth over time. Figure 6 shows the relationship also very clearly holds across the nine countries examined: the faster the real GDP growth rate, the faster the growth of postal revenues.

So, for example, Australia, which was barely affected by the Great Recession, has had the strongest GDP growth rate over the period, and has also had the strongest postal revenue growth. At the other end of the spectrum Italy and Spain, both badly affected by the Great Recession and the ensuing Eurozone crisis, have had the slowest GDP growth rates and the slowest growth in postal revenue. Italy has seen both GDP and postal revenues shrink.

The scatter diagram approach enables us to identify countries which are an exception to this general rule. The fitted linear trend line shows the ten-year growth of postal revenue that could be expected for a given annual rate of GDP growth. Countries above the line have enjoyed greater postal revenue growth than would be expected given their GDP growth. Countries below the line have had less postal revenue growth than the international norm, given their GDP growth.

On the upside the UK, France, Japan and Australia have achieved a better-than-average revenue growth, given their GDP growth performance, helped by diversification into international logistics. Of the countries below the regression line, the US Postal Service has had revenue growth that was particularly sluggish given the relatively rapid GDP growth in the US. This is due to the sharp decline in letter volumes from a starting point that is very high by international standards (as will be shown in the next section).

Figure 6: Growth in real GDP (% pa) and postal revenue (%) 2007-17



Source: OECD and Annual Report and Financial Statements of incumbent postal operators

2. Growth in revenue per postal employee

Figure 7 is a scatter plot of revenue growth per postal employee against GDP. The international differences in revenue growth are much greater than the differences in employment growth. A comparison of Figure 7 with Figure 6 reveals:

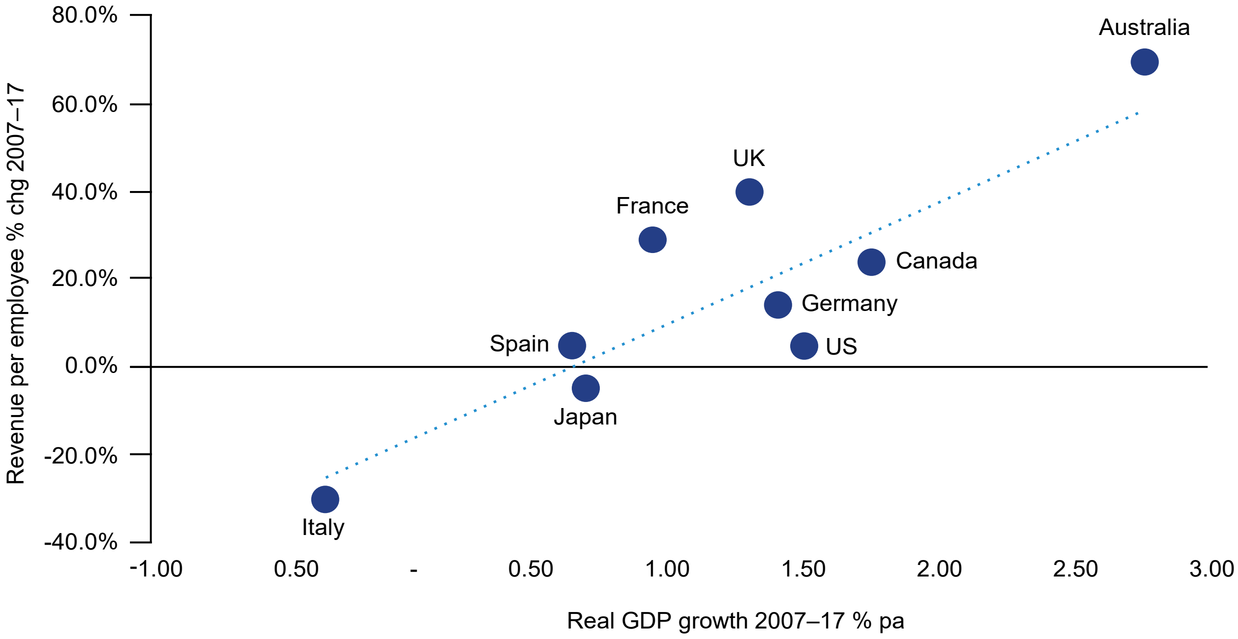
— Germany has had good revenue growth, but has also seen a significant increase in headcount and has moved from just above the regression line on a revenue basis to below the line on a revenue per employee basis;

— Spain has managed to maintain revenue per employee, despite falling revenue, by cutting headcount;

— Italy, which also suffered from falling revenues, has managed to reduce headcount, but not by as much as revenues, so revenues per employee have fallen by a quarter, the weakest performance of the nine countries examined

— The UK and Canada are unusual in having achieved both positive revenue growth and a significant reduction in headcount;

Figure 7: Growth in real GDP (% pa) and postal revenue per employee (%) 2007-17

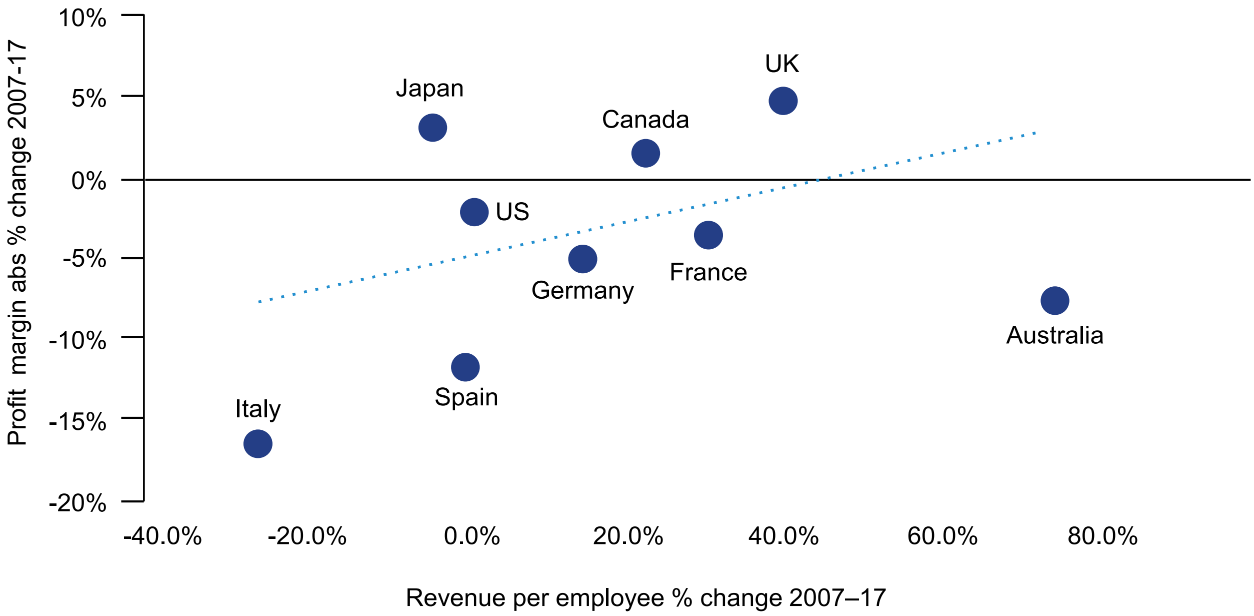


Source: OECD and Annual Report and Financial Statements of incumbent postal operators

3. Growth in profits and revenue per employee

Figure 8 plots the change in revenue per employee against the absolute change in profit margin expressed as a percentage of revenue. It shows the expected positive relationship. There are three clear outliers on the downside. In Australia, Spain and Italy, the growth in profits over the ten year period is lower than would be expected given the growth in revenue per employee. The implication is that in these countries the average cost of a postal employee has grown faster than the international norm. Japan is an outlier on the upside, implying slower growth of postal wages than the international norm.

Figure 8: Growth in revenue per employee and profits (%) 2007-17

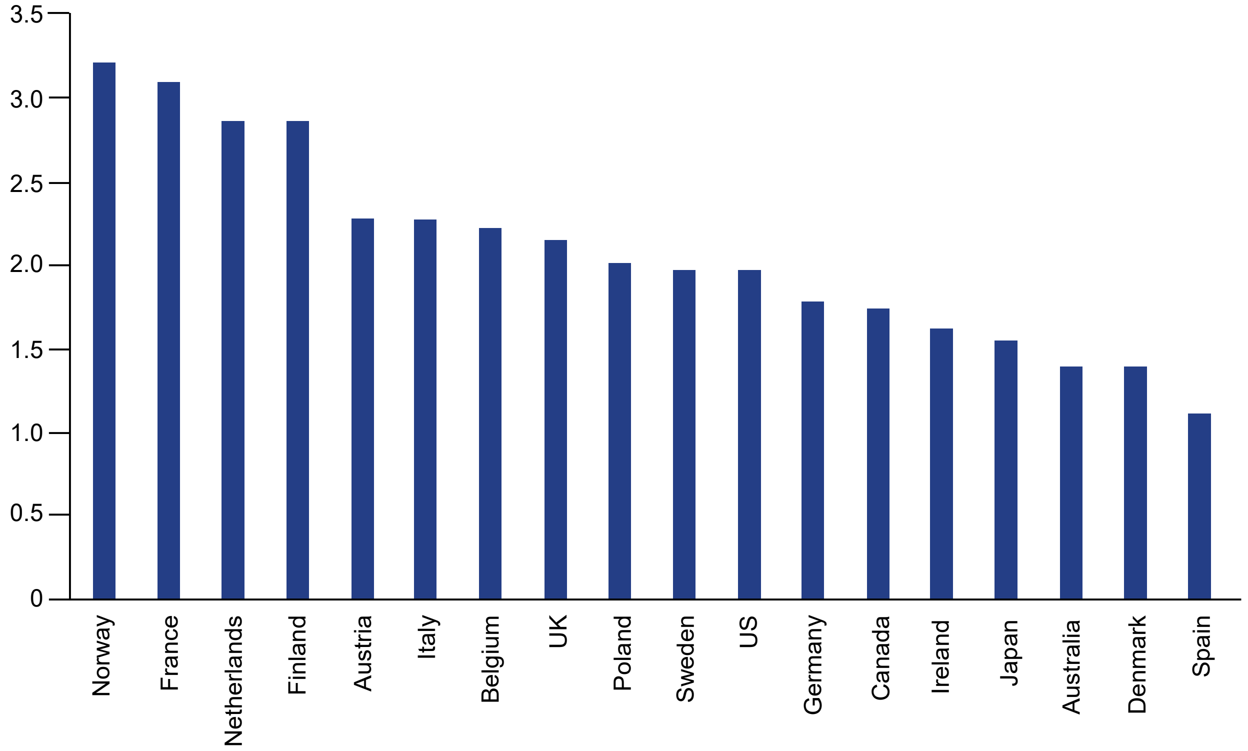


Source: OECD and Annual Report and Financial Statements of incumbent postal operators

4. Level of profits and revenue per employee

A useful indicator of the efficiency of postal services is the number of postal employees per thousand of the population served. Figure 9 below shows there is a wide variation in this metric, from over 3 in France and Norway to 1.5 in Spain[4]. These variations are not readily explained by obvious factors such as the size of the land mass served, population density or (most surprisingly of all) the number of letters or parcels delivered per head of population.

Figure 9: Number of postal employees per thousand of population



Source: http://ec.europa.eu/growth/sectors/postal-services/statistics_en, World Bank

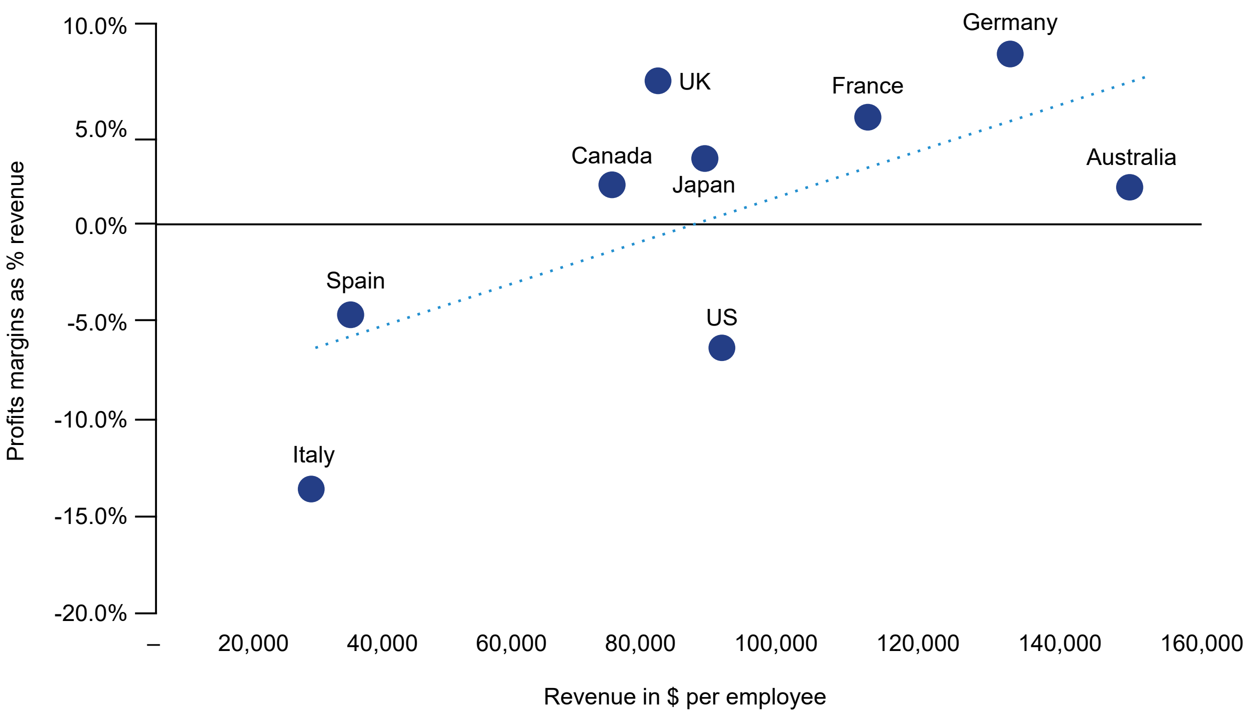
Figure 10 below plots revenue per employee against margins in 2017 for the nine incumbent postal operators. As expected there is a strong positive correlation. Deutsche Post, with nearly $135,000 of revenue per employee makes a profit. Italy, with less than $30,000 of revenue per employee, is in loss. Revenue per employee is not the only determinant of profits, which also depend on the cost of each employee. However, other things being equal, those postal operators with relatively high revenue per employee will be more profitable than those with relatively low revenue per employee and the scatter diagram bears this out with a clearly upward sloping fitted trend.

Three countries stand out: Italy, US and Australia are all well below the regression line, which means that in those countries the revenue per employee generated by the business delivers less profit than the international average. This suggests that more of the revenue per employee accrues to the employees in those three countries.

The analysis of the level of profit in 2017 in Figure 10 broadly confirms the analysis of changes in profit 2007-17 shown in Figure 8. Italy and Australia are downside outliers in both. The US is an outlier in Figure 10 but not in Figure 8, implying that employee costs were high in 2017, but no more so than in 2007. For Spain the reverse is true. Employee costs are not an international outlier in 2017, but have risen relatively rapidly over the past ten years.

[4]Employment figures for US, Canada, Australia and Japan from the Annual Accounts of the incumbent postal operator; for the European countries from official EU figures. Figures are for the most recent available year.

Figure 10: Revenue per employee ($) and profit margins (% of revenue) in 2017



Source: OECD and Annual Report and Financial Statements of incumbent postal operators **Revenue and volume 2007 and 2017.xlsx – Excel** > scatter plots

5. Summary

Figure 11 below summarises the ten-year changes in margins, revenues and the number of postal employees. The results are colour coded on a traffic-light system: numbers highlighted in red show changes with a negative effect on margins, those highlighted in green show a positive effect on margins. Data on the ten-year changes in employment numbers are available, but not on total employment costs. However it is possible to make a qualitative assessment of the position on unit wage cost from the data on margins and revenue per employee. In the final column of Figure 11 red implies that unit wage costs are high relative to the international norm (see Figure 10), green that they are below.

Figure 11: Changes 2007-17 in margins, revenue and employment of 9 major postal operators

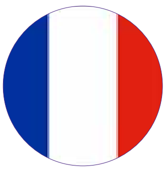
	Changes 2007-17			Current position	
	Margins	Revenue	Employment	Margin	Unit wage costs
Australia	-7.7%	69.5%	-1.1%	2.0%	■
Canada	0.8%	7.8%	-12.0%	1.3%	■
France	-1.1%	11.2%	-15.3%	5.8%	■
Germany	-4.7%	17.3%	1.3%	8.3%	■
Italy	-16.4%	-34.6%	-11.8%	-14.2%	■
Japan	1.9%	5.4%	8.3%	4.3%	■
Spain	-12.4%	-22.4%	-23.0%	-5.3%	■
UK	5.4%	20.5%	-13.0%	6.8%	■
US	-1.6%	-5.8%	-7.3%	-5.4%	■

Australia

was of the nine countries considered the least affected by the Great Recession and achieved strong revenue growth, especially in parcels; but profitability has declined despite falling headcount, pointing to a problem with unit employee costs.

Canada

was among the countries least affected by the Great Recession. It enjoyed modest revenue growth and also managed to reduce headcount. It was one of only three countries to register both positive margins in 2017 and an improvement in margins over the ten year period.



France

has a uniquely small parcels market given the size and sophistication of the French economy. It nevertheless achieved positive revenue growth thanks to unusually high letter volumes and prices, but saw profit margins decline despite a significant reduction in headcount.

Germany

was among the better performing economies in the Great Recession, and relatively strong economic growth has translated into good postal revenue growth. But the number of postal employees has increased and profitability has declined.

Italy

was very badly affected by the Great Recession and ensuing Eurozone crisis. The resulting fall in GDP led to the largest decline in postal revenues of the 9 countries considered. The cuts in manpower have been insufficient to prevent a sharp fall in revenue per employee, so there has been a large decline in margins, from small profit to substantial loss. The poor profit performance, given the revenue per employee, suggests there is also a problem of too-high unit costs for postal employees.

Japan

has addressed the problem of slow GDP growth by achieving an astonishing growth in parcels revenues (albeit at very low prices). The increase in profitability despite a significant increase in employment, points to good control of unit wage costs.

Spain

was very badly affected by the Great Recession and ensuing Eurozone crisis. The resulting fall in GDP led to the second largest decline in postal revenues of the 9 countries considered. Despite cutting employee numbers, profits have declined and remain surprisingly weak, with unit costs per employee the likely culprit.

UK

came through the Great Recession better than the other European countries and Japan, and achieved relatively good postal revenue growth (second best, after Australia). Thanks to significant cuts in headcount and improved labour productivity ahead of privatisation, which ensured strong revenue growth per employee, the UK is one of only three countries to have improved margins that are also positive.

US

was one of the stronger performers in the Great Recession, but postal revenues fell because of the severe decline in letters revenue from a uniquely high starting position. Despite a significant cut in headcount margins have worsened and one of the reasons why the USPS remains loss-making is that its unit wage costs are high.

There are three clear conclusions from this exercise:

1. The profits of incumbent postal operators are very dependent on the performance of the economy they serve.
2. International variations in revenue growth over the ten years are much larger than variations in employment growth.
3. Revenue per employee is a good predictor of profit margin in general, but in Japan, Australia, Spain and Italy a greater proportion (than the international average) of the increase in revenue per employee has been absorbed by the postal workforce.

These conclusion are based on changes over a ten year period. We now turn to an international comparison of mail businesses based on the levels of the key postal metrics in 2016.

Lessons from OFCOM data on 16 countries in 2016

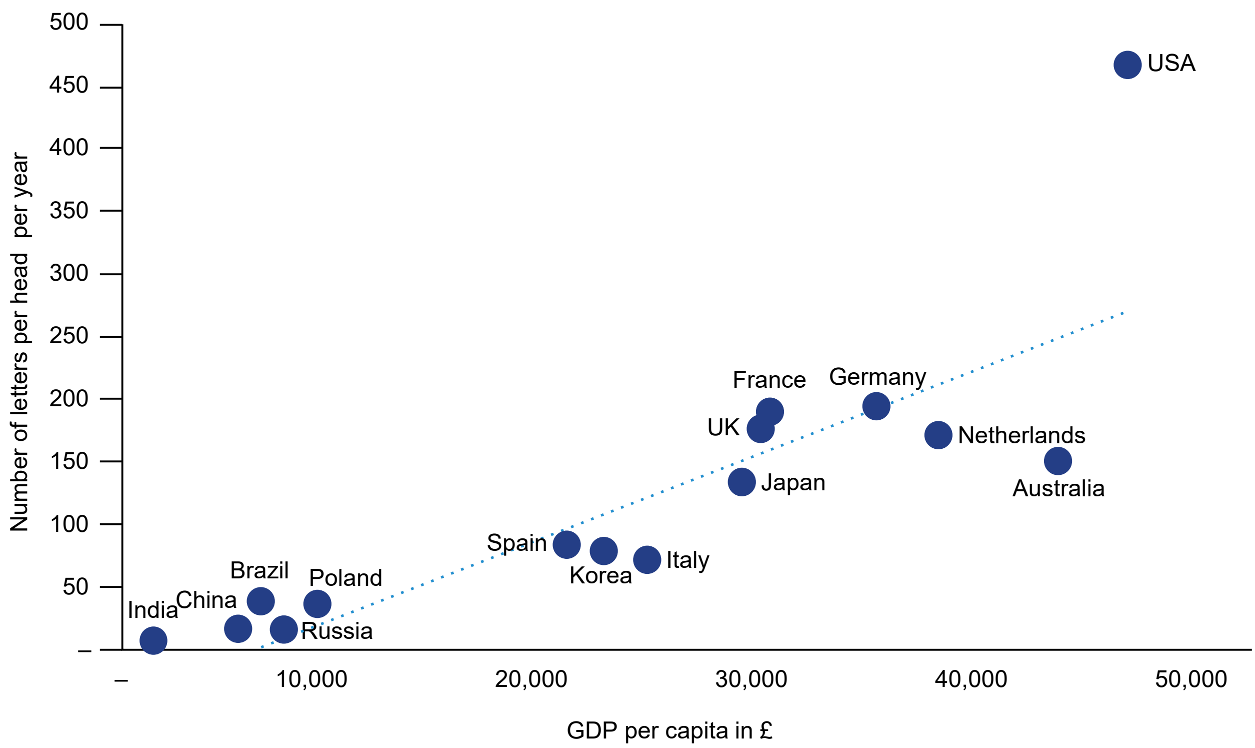
The International Communications Market Report 2017 from OFCOM provides comparative data on 16 postal jurisdictions. Crucially it provides separate data on letter and parcel volumes per head of population, which can be related to economic data on income per capita. The analysis proceeds using the same scatter diagram technique to identify key relationships and outliers.

1. Letter volumes: people in richer countries send and receive more letters

Beginning with letter volumes and GDP, the cross-country comparison shown in Figure 12 confirms that economic development (higher personal incomes) clearly drives letter mail volumes. People in richer countries (measured by average per capita income) send and receive more mail. The average American received 458 letters in 2016, the average Chinese only 16. Americans are a little more than 6 times richer than Chinese, but letter volumes are nearly 30 times greater.

The US is clear outlier in Figure 12. The number of letters sent is larger than elsewhere to an extent that cannot be fully explained by higher US incomes. The explanation probably lies in the role played by bulk advertising mail shots in generating postal volume in the US. Figure 12 also reveals that letter volumes are lower than would be expected, given their per capita income, in Australia, Italy and (to a lesser extent) in Spain, Korea, the Netherlands and Japan.

Figure 12: Letter mail and GDP per capita in 16 countries in 2016



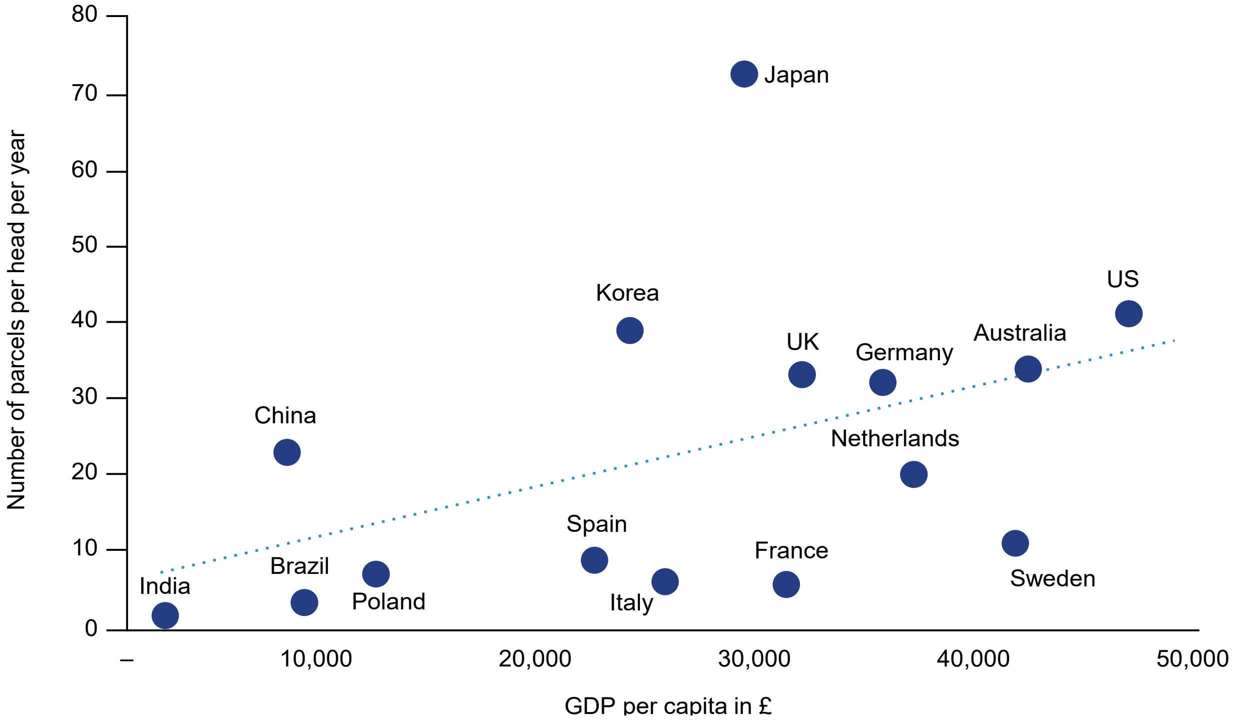
Source: OFCOM International Communications Report and IMF

2. Parcel volumes: people in richer countries also send more parcels

Figure 13 shows that while it is generally true of parcels, as for letters, that richer countries generate more mail traffic, there is much more variation around the trend line. Factors other than income per capita play a much bigger role in determining the size of the parcels market.

Relative to GDP three Asian countries (Japan, Korea and China) stand out as having highly developed parcels markets. In these countries – and especially in China – the internet shopping revolution has come at a relatively early stage of economic development, rather as mobile phones have in Africa, where the population has moved directly from having no phone to having a mobile phone, by-passing the need to roll out expensive national landline networks. Something similar may now be happening in China – a move from no shopping to internet shopping, by-passing the need to roll out expensive retail distribution networks.

Figure13: Parcel mail and GDP per capita in selected countries in 2016

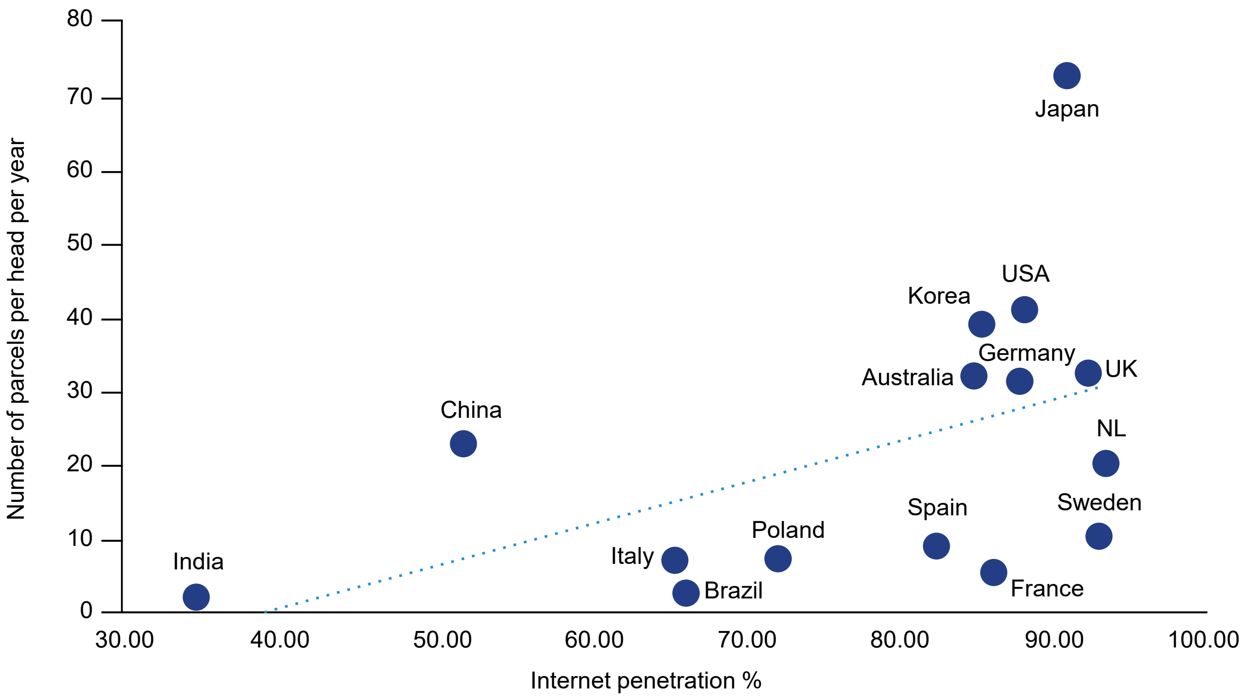


Source: OFCOM International Communications Report and IMF. No parcels data for Russia

A striking feature of Figure 13 is how European countries with similar levels of income per head, history and culture have very different parcel markets. In the UK and Germany over 30 parcels are sent each year per head of population. In Spain, Italy, France and Sweden the number is 10 or fewer.

One possible explanation for this, given that the parcels market is driven by online shopping, might be differences in internet penetration. However Figure 14 shows that this is not so. The same European countries (Italy, Poland, Spain, France, Sweden and Netherlands) still have a less developed parcel post than the international norm, given their degree of internet penetration. The outliers on the upside are still Japan, Korea and China. The countries above the trend line are (except for India) the same in Figure 14 as in Figure 13. Both charts show that the developed Asian economies (plus Australia) lead the world in parcel traffic, and that there is a significant divide in the West between the US, UK and Germany on the one hand and the rest of Western Europe on the other.

Figure 14: Parcels and internet penetration in selected countries in 2016[5]

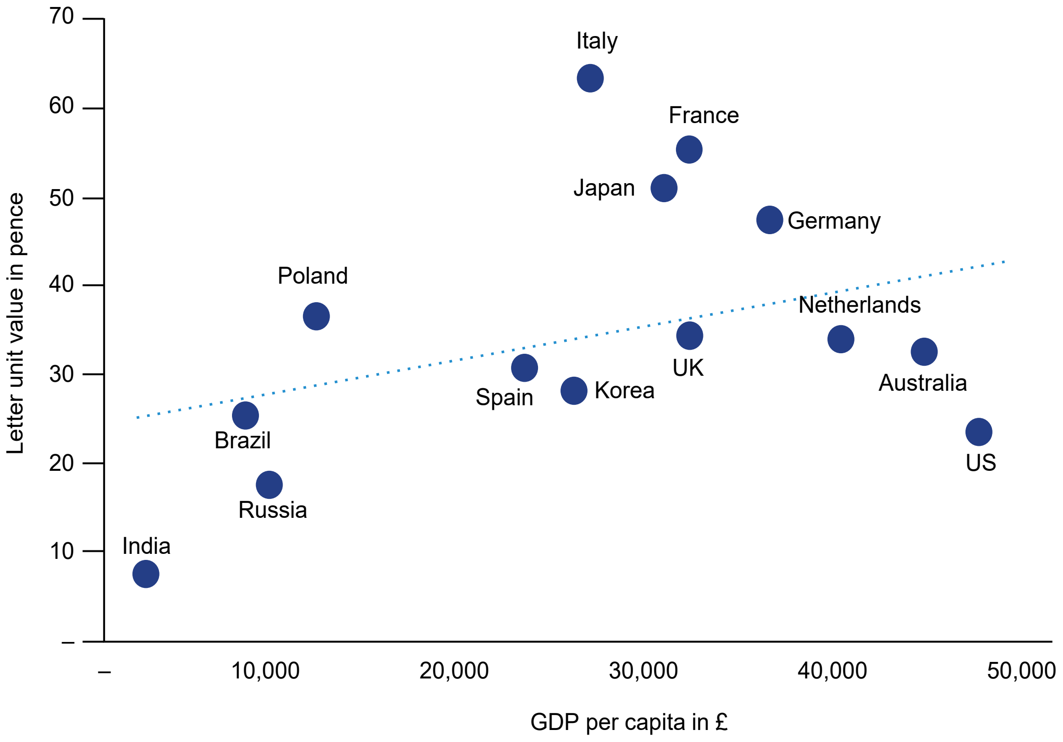


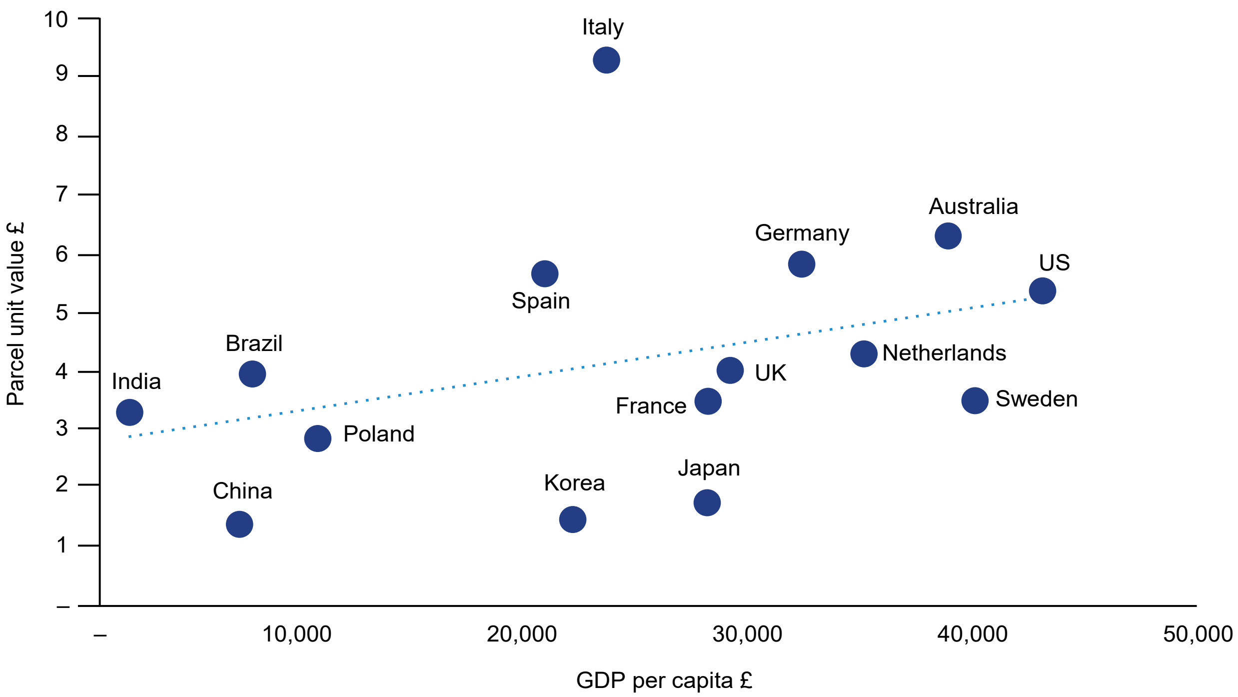
Source: Ofcom International Communications Report 2017, and http:/www.internetlivestats.com/internet-users-by-country

Source: [5]Russia not included owing to absence of parcels data in the OFCOM dataset.

3. Price: a wide variation in international pricing policies for both letters and parcels

Figure 15: Letter and parcel unit values and GDP per capita in selected countries in 2016[6]





Source: OFCOM International Communications Report and IMF

Source: [6]Incomplete OFCOM data set does not permit calculation of letter unit values for China and Sweden or parcel unit values for Russia.

In postal markets, as in any other, price matters. But postal prices are not easy to measure or compare internationally because (a) there is a wide variety of prices for different sizes and weights of letter, and (b) the price for bulk franked mail despatched by large companies (utility bills, bank statements) is always far lower than for stamped personal mail. This study is based on unit values, a reasonable proxy for letter or parcel prices that is calculated by dividing total revenue per head from letters or parcels by the number per head of letters or parcels delivered.

Figure 15 plots these unit values against GDP per capita, with letters in the top panel, parcels in the lower panel. The simple trend line reveals a tendency for postal prices to be higher in richer countries. The tendency is more pronounced (i.e. the fit is better and the effect of GDP per capita on price greater) for parcels than for letters. But the main message of Figure 15 is that there is an astonishingly wide variation in postal prices between countries of similar income levels.

As regards letter prices we find:

— Italy has an extraordinarily high "headline" price (a postage stamp costs over £5). The average unit value, at 63p, is less of an outlier but still nearly treble the US equivalent, even though average Italian incomes are little more than half US levels;

— France, Japan and Germany all have high unit values for letters, around 25% higher than in the UK, which has similar income per capita;

— Poland is another outlier on the upside, because its letter prices are comparable to those in the rest of Europe while Polish income per capita is very much lower

— Spain has low letter prices – less than half the Italian level even though its income per capita is only slightly lower;

— The US stands out as having extraordinarily low letter prices, which is perhaps one reason for the unusually high letter volumes in the US.

As regards parcels, we note:

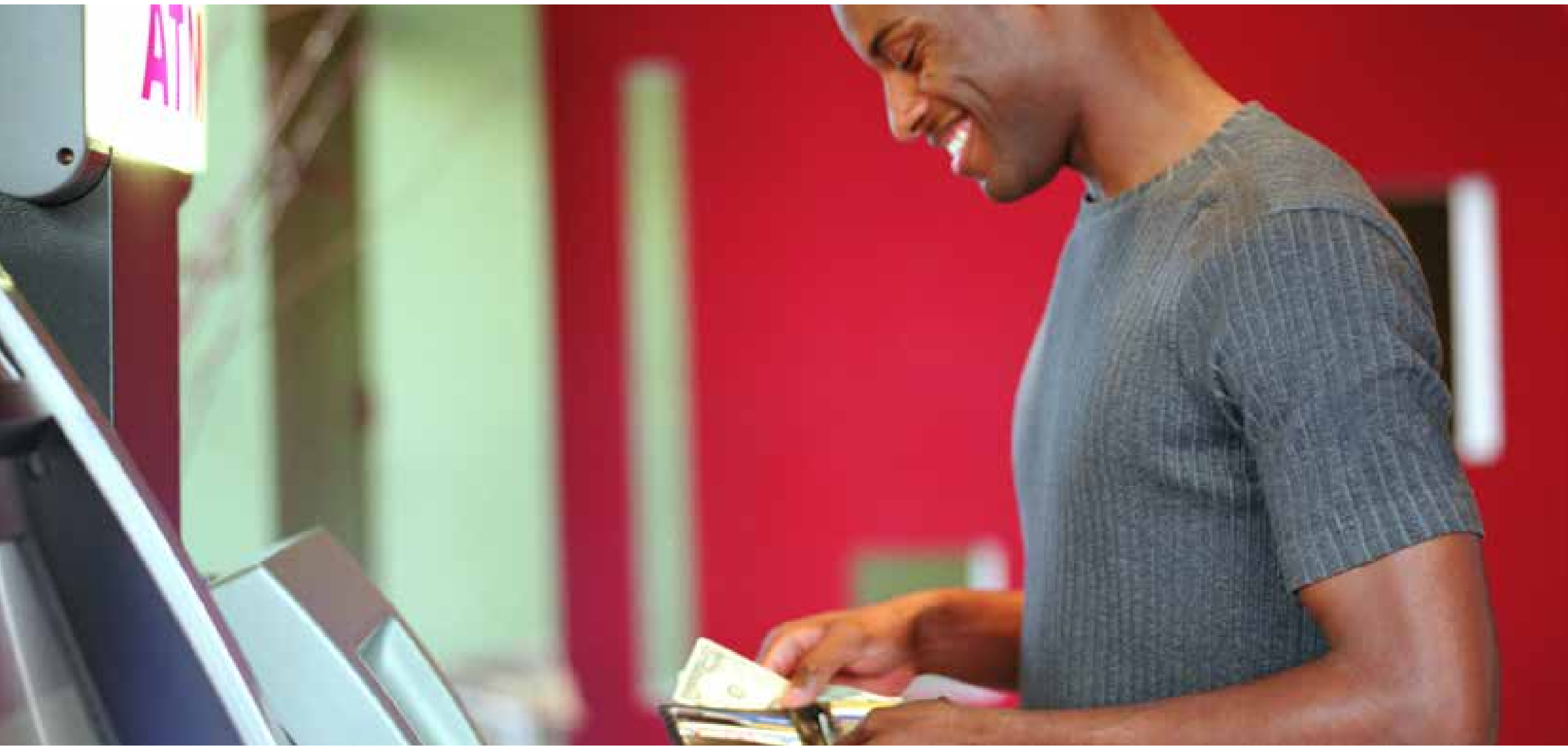
— China, Korea and Japan have unusually low parcel unit values, which may be linked to the unusually high parcel volumes shown in Figure 13;

— Italy again has extraordinarily high unit values;

— Spain, Germany and Australia have unit values that are high by international standards;

— The contrast between Europe and Asia is striking: comparing pairs of countries with similar income per capita we find parcel prices in Spain are nearly 4 times Korean levels, parcel prices in the UK are twice as high as in Japan, and parcel prices in Brazil are nearly three times as high as in China

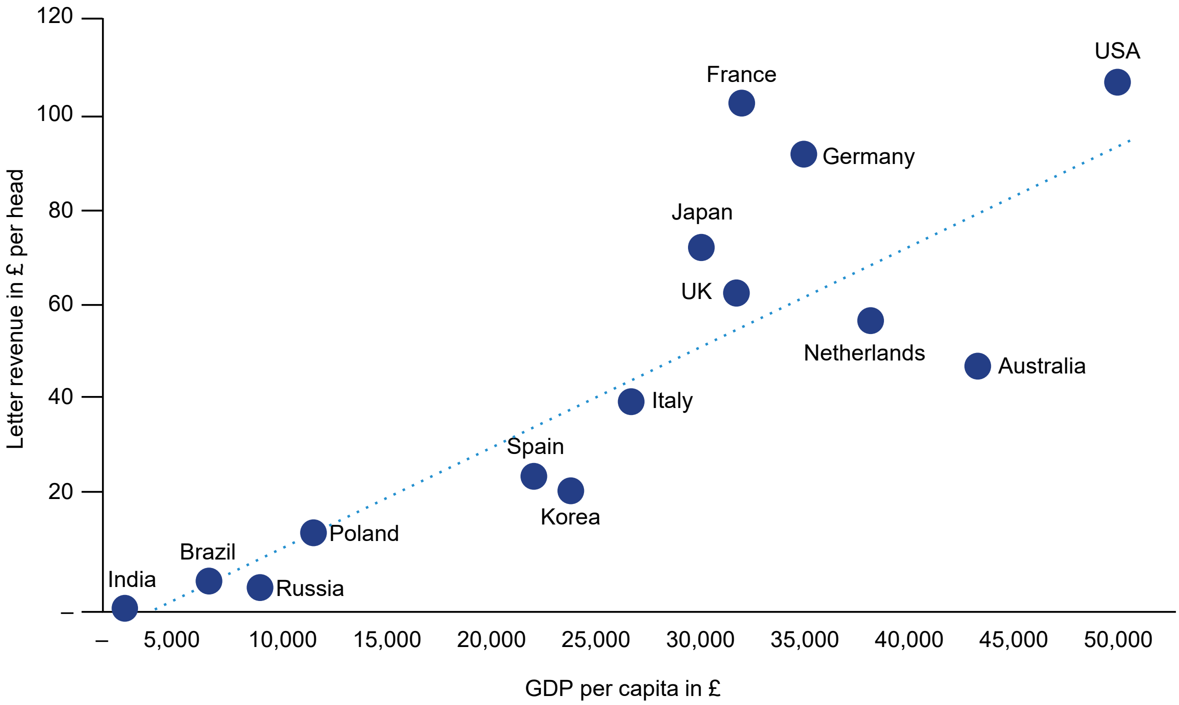
— Even within Western Europe there is a wide divergence, with prices in Italy nearly three times as high as in France.



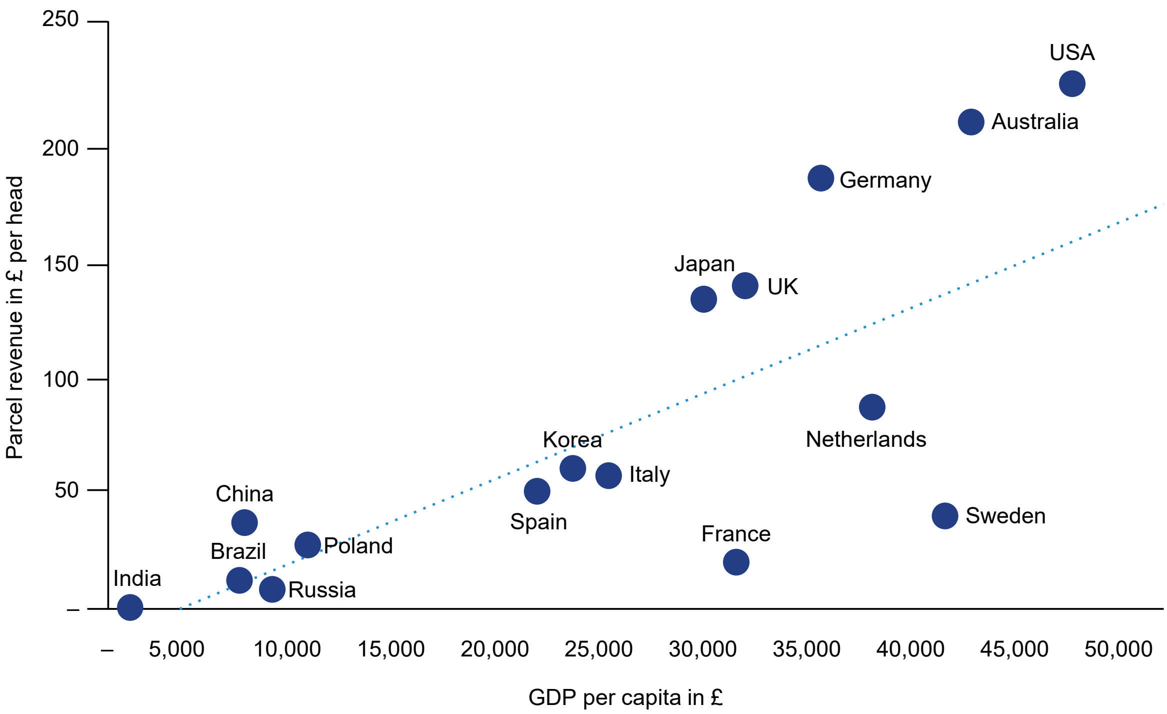
4. Revenues are also clearly linked to GDP per capita

Postal revenues, which are jointly determined by the volume and unit value of mail delivered, are also clearly related to GDP, as Figure 14 shows. Spending per capita on mail services, both letters and parcels, is lower in countries with relatively low per capita incomes (India, Brazil and Poland) than in higher-income countries (USA, Australia and the Netherlands). The US has the highest per capita income in the world and more is spent on both letters and parcels in the US than anywhere else.

Figure 16: Letter and parcel revenues and GDP per capita in selected[7] countries in 2016



Source: OFCOM International Communications Report and IMF



Source: OFCOM International Communications Report and IMF

[7] No letter revenue data for Sweden or China in OFCOM data set

As always there are interesting deviations from the fitted trend line, which may contain lessons for postal operators interested in finding a pricing strategy which maximises revenue. It is clear from Figure 16 that (given their GDP per head) France and Germany (and to a lesser extent US and Japan) have unusually high letter revenues per head of population, while Australia and Korea (and to a lesser extent Spain, Italy and Netherlands) have relatively low letter revenues.

Figure 15 above showed that France, Germany and Japan also had letter prices (unit values) well above the trend line. In those countries it appears that a policy of relatively high prices for leters has delivered relatively high revenues. Figure 15 also showed that Australia, Korea and Spain had relatively low letter prices, which have delivered relatively low letter revenues. The implication is that letter prices in Spain and Australia might be below the revenue-maximising level.

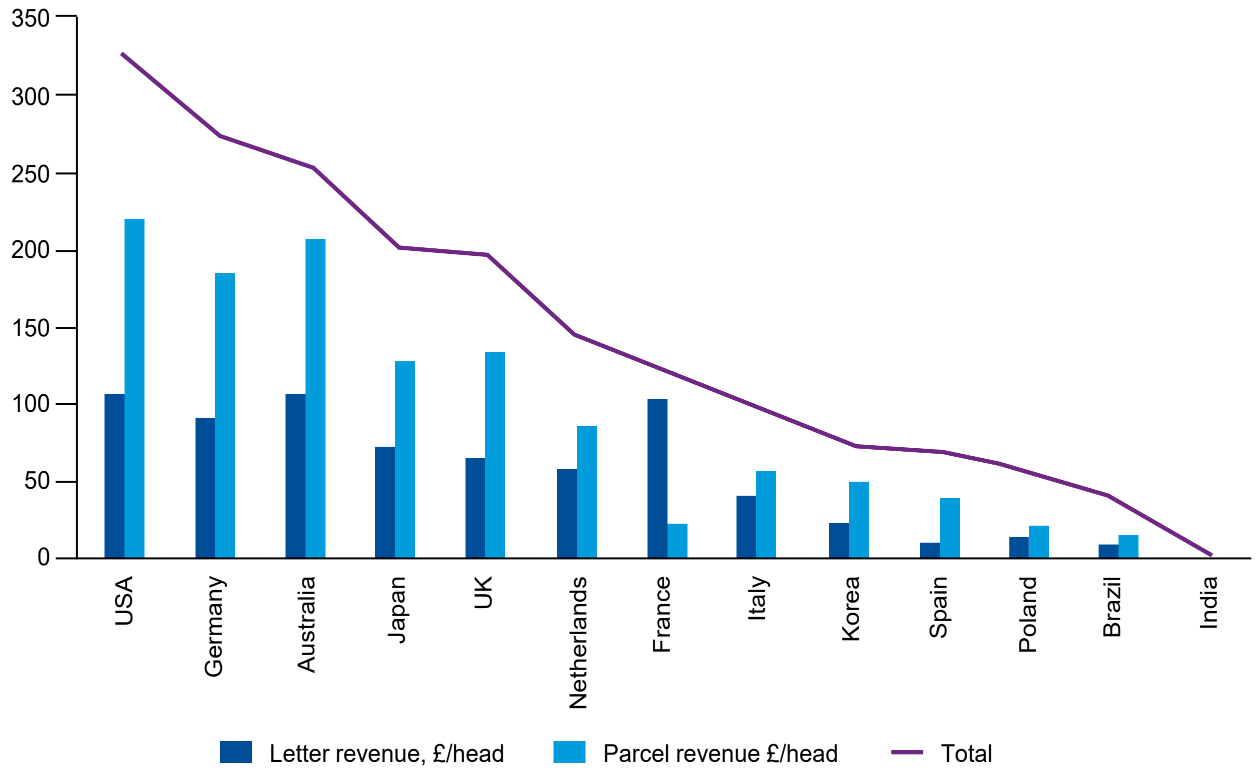
However, putting up the price does not always yield higher revenues, as the case of Italy shows. Italian letter prices are the highest of the 16 countries in the OFCOM study, and Italy is the extreme outlier in Figure 15. Perhaps for this reason per capita letter volumes in Italy are the lowest of the advanced countries considered. The net effect of high prices (Figure 15) and low volumes (Figures 12 and 13) is that Italian postal revenues are a clear below-trend outlier. These results suggest that Italian letter and parcel prices might both be above the revenue-maximising level.

5. Postal revenues are dominated by parcels and growing again

Total postal revenues are probably the variable of most interest to postal operators around the world. Whether the booming parcels business can save the failing letters business depends on the relative size of the two. Figure 17 shows per capita revenues from letters and parcels in 2016 and reveals that the parcel revenues are larger than letter revenues in every country except France.

In the past letters were more important than parcels both in terms of revenue and number of items delivered and in 2016 letters still outnumbered parcels by an average factor of 6 across the main jurisdictions considered. But since each parcel generates on average 12 times as much revenue, parcel revenues now account for more than half of total revenue in all countries analysed except France (17 per cent). In Australia and India parcels provide over three quarters of all revenue; in the US, Japan, Germany, Spain and the UK they provide over two thirds.

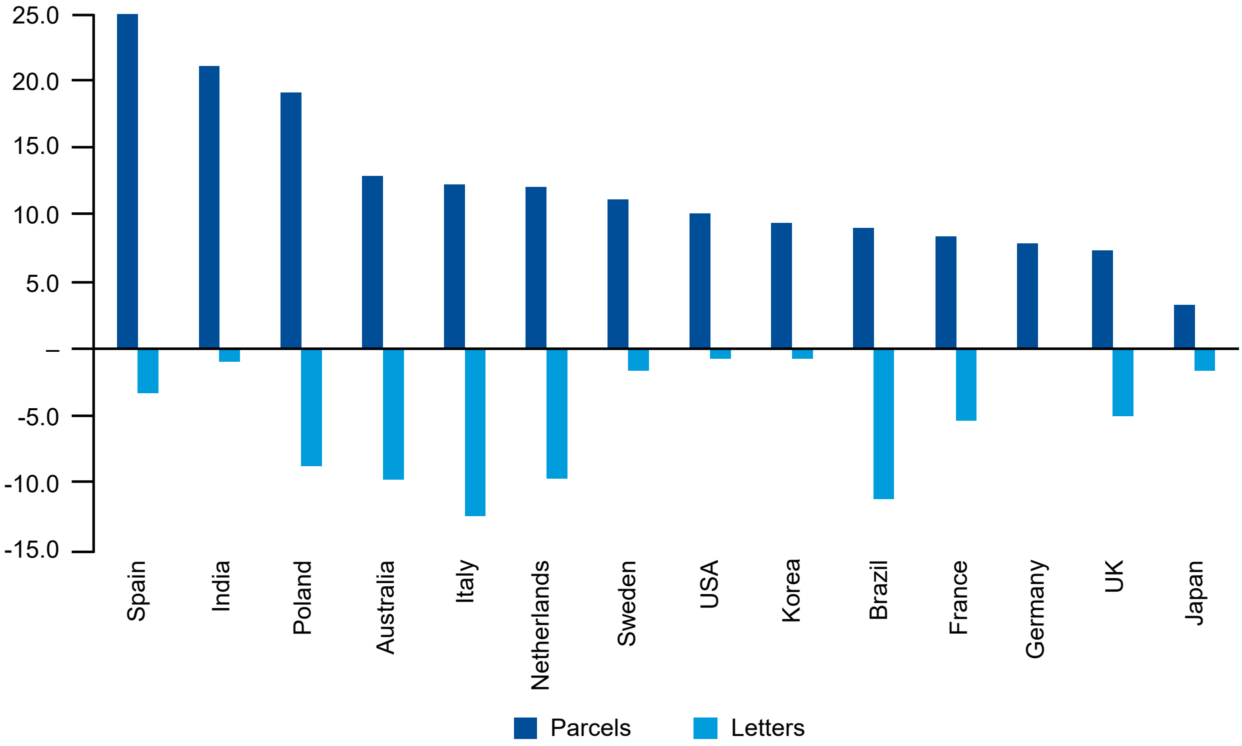
Figure 17: Postal revenues in £ per head of population



Source: OFCOM International Communications Report

Figure 18 below shows that in 2016, with the notable exceptions of Italy and Brazil, the year-on-year increase in parcel volumes was everywhere greater than the fall in letter volumes . So in most jurisdictions, given that parcels also account for more than half of postal revenue, it follows that post was in 2016 an expanding business in revenue terms.

Figure 18: Mail volumes percentage change between 2015 and 2016



Source: IMF, Ofcom International Communications Report, 2017

However, a note of caution is in order from the perspective of the incumbent postal operators. Competition in the parcels market is much more intense than in the letters market. Figure 19 shows that incumbents generally have less than half the parcels market in their jurisdiction, much smaller than their share of the letters market. So although the postal industry may be expanding, because faster-growing parcels revenues outweigh falling letter revenues, this is not necessarily true of all incumbents.

Figure 19: Share of parcel revenues taken by the incumbent postal operator

Countries	Share (%)
Spain	20
Italy	21
US	35
Japan	45
Germany	46
UK	40-60
Brazil	54
France	60

Source: OFCOM International Communications Report

Conclusions

Incumbent postal operators around the world have faced three major disruptions to their business over the past 30 years: the introduction of competition; the arrival of the internet; and the Great Recession.

The key findings are as follows:

- Though letter revenues are almost everywhere in decline, **parcels are now more important than letters in revenue terms**, and typically growing faster than letters are falling. **So post is once again a growing business.**
- **The parcels business is particularly well developed in Asia,** especially in Japan, and much less developed in France, Spain and Italy. High parcel volumes in Japan are associated with very low prices.
- **Postal revenues remain highly dependent on economic activity,** so the Great Recession had a very uneven impact across the countries studied. The fall in output in Italy and Spain has been a major cause of the poor performance of Poste Italiane and Correos. By contrast the incumbents in Canada and Australia, relatively unscathed by the Great Recession, have performed much better.
- Postal prices tend to be higher in higher-income countries, **but there are astonishingly large differences in pricing policies** across the countries studied. **Countries where revenues are below the international trend line might consider reviewing their pricing policies.** Italy has low revenues associated with unusually high prices for both letters and parcels. Australia and Spain have low revenues associated with low letter prices.
- There are also very **large international differences between postal operators in staffing levels,** ranging from over 3 postal employees per 1000 of population in Norway and France to only 1.5 in Spain.
- **Postal revenues per employee are a good indicator of profitability** (higher revenues are generally associated with better margins) but in the nine counties studied in depth there is a clear divide between France, Germany, Canada and the UK, where margins are relatively high given the level of revenue per employee, Australia, US and Italy, where they are relatively low. **This suggests that more of the revenue is absorbed by higher pay of postal workers in the second group of countries.**


Sep
Oct
Nov
Trade Finance

Box 3: The political economy of post

Who owns the incumbent postal operators?

Postal businesses in all countries were set up by government and in the majority of countries they remain government owned. The privatisation revolution that swept across the world from the mid-1980s has left most incumbent postal operators designated as Public Corporations, operating at arms' length from government, run by their own management board which is obliged to provide an annual report and financial statements.

The public sector retains a strong interest in post. Table A1 provides a brief description of the governance of 18 major postal operators in the OECD, ranked very roughly by degree of public ownership.

Table A1: Ownership structure of postal operators

Country		
US	USPS	Public "independent establishment of the executive branch of the Government of the United States"
Australia	Australia Post	Public corporation, 100% state owned
Canada	Canada Post	Public corporation, a Crown corporation since 1981
Japan	Japan Post	Public corporation, largely state-owned, with shares publicly traded since 2015
Norway	Post Norge	Public corporation, wholly owned by the Norwegian government
Spain	Correos	Public corporation, 100% state owned
Switzerland	Swiss Post	Public company owned by the Swiss federalgovernment
Denmark	Post Nord	Public corporation, 60% owned by Swedish government, 40% owned by Danish government
Finland	Post Nord	Public corporation, 60% owned by Swedish government, 40% owned by Danish government
Sweden	Post Nord	Public corporation, 60% owned by Swedish government, 40% owned by Danish government
France	La Poste	Public corporation owned 73% by government, 27% by Caisse des dépôts
Italy	Poste Italiane	Public corporation owned 65% by Ministry of the Economy, 35% by Borsa italiano
Austria	Austria Post	Private company, formed in 1999, majority stake held by OBIB, state-owned national wealth fund
Belgium	Bpost	Private company since 2006 when 50% less 1 share was sold to post Danmark and CVC capital partners
Germany	Deutsche Post	Private company, privatised in 1995, independent in 2000, acquired DHL in 2002
Netherlands	Post NL	Private company, privatised in 1989, IPO in 1994
UK	Royal Mail	Private company, privatised in 2013 with government retaining 30% stake, sold off in 2015
Korea	Korea post	Public corporation, wholly owned by Korean government
India	India post	Public corporation, wholly owned by Indian government
China	China Post Group Corporation	Public corporation, wholly owned by Chinese government

Source: Annual Reports of postal operators

What is the scope of their business?

Table A2 below shows, for the nine postal operators examined in detail in this study, the activities most often bundled with post. These include the network of post offices dealing with government matters such as payment of pensions and other state benefit and the issuance of car, television and dog licences. In some countries post offices also operated in effect as a branch network for a savings bank. In others the functions of the network extended to include insurance. When the UK mail business was privatised it was separated from the Post Office Counters network which was losing business as the government increasingly dealt with licensing via websites and payments via the banking system. Something similar occurred in Germany. In the US, Canada, Australia and Spain these networks of post offices are still bundled with the mail business. In France the bundle includes the Caisse des dépôts, a larger and more successful version of the Post Office Savings Bank, which was hived off with Post Office Counters. In Japan and Italy the bundle includes an insurance business.

Table A2: Scope of services provided by incumbent postal operators

<table>
<tr><th>Country</th><th>Domestic Mail</th><th>International Mail</th><th>Post Office Network</th><th>Saving Bank</th><th>Insurance Company</th></tr>
<tr><td>Italy</td><td colspan="5">Poste Italiane</td></tr>
<tr><td>Japan</td><td colspan="5">Japan Post Group</td></tr>
<tr><td>France</td><td colspan="4">La Groupe La Poste</td><td></td></tr>
<tr><td>Spain</td><td colspan="3">Correos</td><td></td><td></td></tr>
<tr><td>US</td><td colspan="3">United States Postal Service</td><td></td><td></td></tr>
<tr><td>Canada</td><td colspan="3">Canada Post Group</td><td></td><td></td></tr>
<tr><td>Australia</td><td colspan="3">Australia Post</td><td></td><td></td></tr>
<tr><td>Germany</td><td colspan="2">Deutsche Post DHL Group</td><td></td><td></td><td></td></tr>
<tr><td>UK</td><td colspan="2">Royal Mail</td><td></td><td></td><td></td></tr>
</table>

Source: Annual Reports of postal operators

Contact Us

Justin Zatouroff
Global Head of Post and Logistics
KPMG International and Partner

KPMG in the UK

T: +442073118415
E: justin.zatouroff@kpmg.co.uk

Bill Robinson
Senior Adviser,
Economics and Regulation

KPMG in the UK

T: +442073113515
E: bill.robinson@kpmg.co.uk