6. Broadening the picture – two national regulatory agencies

Many of the core (or inalienable) functions of government are regulatory ones, concerned with the establishment of the legal identities of citizens and with the registration of roles and granting of permissions. Constitutional and legal provisions cluster thickly in regulatory areas, normally requiring that government involvement is undertaken by civil servants or independent agencies, but still squarely within the government sector. In the two areas we examine here, the provision of passports and the government registration of drivers and motor vehicles, there is also a high potential for corruption and malversation. Hence, directly employing public officials to administer these services has historically been seen as important for assurance and effectiveness. In addition, other governments will only accept foreign citizens and vehicles entering their territory on an inter-state basis. So international treaties and protocols all require that passport provision and vehicle licensing remain government controlled.

Both these policy areas have many important points of continuity with the departments examined so far. They are old-style regulatory functions, requiring the 'case management' of millions of forms and applications. Passports and driver/vehicle licensing are relatively discrete and specific services, and hence were early candidates to be allocated to executive agencies in the UK in the late 1980s. In both cases the development of business process outsourcing has also reshaped how they are delivered to citizens. As in taxation, social security and customs, both functions are run by machine bureaucracies, where first computerization, then service automation and most recently online access to services have all had major impacts. Accordingly, we discuss the two functions in a comparative mode, beginning with passports and moving on to driver and vehicle licensing.

6.1 ISSUING PASSPORTS

In modern times we tend to take it for granted that the whole territory of the globe is carved up amongst nation states, and that to move legally from any one part of it to any other it is essential to have a passport,

identifying you as a citizen of one country or another. Yet in fact this situation is a recent administrative construction. Only from the closing years of World War I onwards did it become the norm. The shift to our modern world, where governments collectively try to 'lock down' the citizenship of 7 billion people before allowing any of them to move across national borders, has required constructing a sizeable bureaucratic apparatus for certifying citizenship. We begin by examining the background growth in demand for travel and why passports are needed. Next we look in more detail at how this function has been organized in the UK. The final subsection here analyses passports productivity data, finding a complex overdetermination of the essentially static picture in the UK.

The Demand for Passports

In the eighteenth century a passport was a letter of government safe conduct, issued in varying forms to specific people, mostly for short times and specific purposes. They were often given by one state A to citizens of *another* state B, to allow them to visit A's territory. During the early French Revolution, its embattled republican regime launched the first efforts to enumerate the entire population of the state, mainly with a view to mobilizing larger armies via conscription. The innovation also allowed the French state for the first time to rigorously discriminate between its citizens and others, and hence to comprehensively close its own borders to outsiders (non-citizens) when needed.

These intensive bureaucratic efforts at identification were long denounced as the hallmark of tyrannical government by most sections of the British, US and similar societies. Only in 1857 did the UK begin to systematically limit the issuing of passports to its own citizens. And even then many millions of British people and of the subject races of the British Empire moved across the huge British global territories without much significant documentation – a pattern applicable too in much of the French overseas empire. Until well into the late nineteenth century, mass immigration into the United States especially (and some other rapidly growing countries) also involved huge waves of people acquiring their first state-issued identity documents only *after* they had landed in Ellis Island or thousands of other entry ports. So it was not until 1917 that a model of systematic passport issuing was generalized to cover most countries at a Geneva conference.

In a world of closed and comprehensive borders, a passport has become the sine qua non of foreign travel, a carefully controlled record of citizenship that also guarantees a right of readmittance and continued residence in your home country on returning back from overseas. The reciprocal

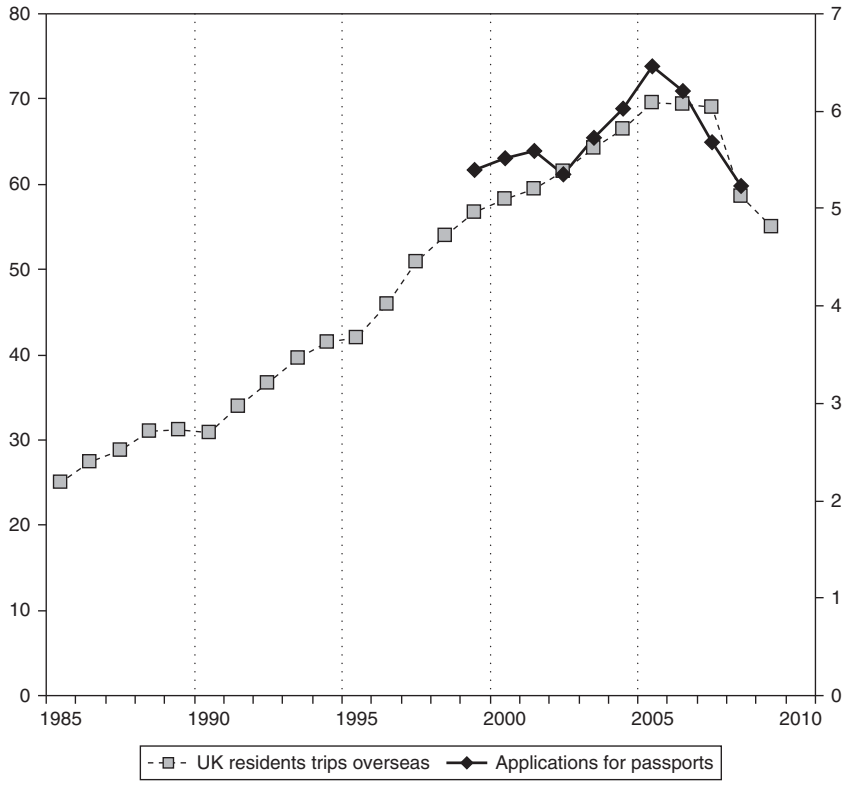
nature of passport treaties and conventions means that a person has to be certain of being able to return to country A before countries B or C will admit them within their frontiers – for otherwise B or C might fear that if they admit someone they will get stuck with housing a 'stateless' person, who could not later be deported to a 'home country' if need be.

Countries still vary sharply in the extent to which their citizens hold passports. In the USA, the continent-spanning size of the country, plus the relatively small scale of overseas trade as a proportion of the domestic economy, meant that for much of the post-war period only a very low proportion of citizens had passports. In 1989 there were just 7.3 million US passport holders (Department of State, 2012), although by 2001 this had grown strongly to 51 million. In the tighter security regime following 9/11 the ability for US citizens to enter Canada and Mexico on an identity card was rescinded, and passport holders subsequently doubled to 110 million by 2011. Even now, though, this is still only 36 per cent of US citizens. Even inside the legislature, amongst US Senators who are key actors for setting foreign policy, the proportion of passport holders for many years was just over half – far less than might be expected for such elite decision-makers.

By contrast, in the modern period, the great bulk of UK citizens have held passports, which are still needed to travel to the country's nearest neighbours in continental Europe. With the removal of exchange controls on sterling in the 1970s there was a rapid expansion of cheaper overseas holidays, later further fuelled in the 1990s by the development of low-cost airlines in Europe. Figure 6.1 shows that before and during our study period overseas visits by people resident in the UK (including some overseas residents of course) grew by 180 per cent between 1986 and 2006. Greater household incomes and cheaper holidays and flights meant that more and more UK citizens visited, first, European countries bordering the Mediterranean, and later more far-flung destinations across the world. A 1989 change of the law also meant even the youngest children needed to have their own passport, complete with a photograph and biometric information before they could leave or re-enter the UK.

As a result, around five-sixths (84 per cent) of the UK population now hold passports and the context of passport operations in the UK has consistently been one of buoyant and rising demand. For the most recent ten years, Figure 6.1 demonstrates that the demand for new or reissued passports is closely linked to travel patterns. In addition, UK residents' overseas trips concentrate somewhat more in the summer months (27 per cent in the second quarter, and 36 per cent in the third). By contrast, fewer people travel overseas in the first quarter (17 per cent) and the last quarter (20 per cent) of each year. As overseas trips grew every year from 1991

Figure 6.1 The growth in the number of overseas visits made by people living in the UK, 1986 to 2009, compared to passport applications 1999 to 2008



Sources: Overseas trips – Office for National Statistics (2000, Table 2, p. 4); and Office for National Statistics (2010a, Table 2, p. 8). Passport applications – data from Identity and Passport Service (2009).

to 2006, so the trend for UK passports issued was consistently upward. Passport applications rose from just over 4.5 million a year in 1999–2000 to peak at just under 6.5 million in 2005–06, before falling back by a fifth to 5.2 million in 2008–09. The number of UK passport holders reached a peak at 50 million in 2006, falling back somewhat to 45 million in 2011. In 2009 and 2010 the economic recession and the depreciation of sterling relative to the euro and other currencies meant that many fewer British people could afford to take foreign holidays. But this is the only decline shown in the figure.

The Administration of UK Passports

Throughout the twentieth century the Home Office was the Whitehall department responsible for issuing passports and checking the identity of citizens at the point of issue and reissue. Its responsible division was called the Passport Office, and like the rest of the department it operated under full ministerial control. In 1988 the Conservative government of Margaret Thatcher launched the 'Next Steps' programme of moving operational elements out of main Whitehall departments and into executive agencies (James, 2003; Pollitt et al., 2004). The passport operation was transferred out of the main Home Office into a newly created agency with its own management team, the Passport Service, which was still of course staffed by civil servants and remained part of the wider Home Office departmental group.

This change greatly boosted the 'freedom to manage' of top officials in the service, and the agency negotiated its own pay and conditions arrangements with staff. The requirements for reporting to ministers were also radically reduced, and formalized. Henceforward the Passports Service principally accounted for its performance against a restricted set of ministerial operational targets governing the costs of passports, speed and regularity in normal passport issuing, security standards, and the speed and quality of customer service responses to users, as well as a key batch of aggregate financial requirements. Gradually over the next decade, as the Passport Service no longer functioned as part of an integrated department, the number of Home Office staff who knew how the passports operation worked in detail fell, and the ability of ministers or top civil servants to influence its operations insensibly reduced, year on year – a pattern apparent across Whitehall (James, 2003).

The ethos of Next Steps agencies (especially under the Conservative governments under Margaret Thatcher and John Major) was strongly shaped by 'new public management' (NPM) ideas. This approach had three main component themes (Dunleavy et al., 2006a):

- *disaggregation*, the splitting up of large, hierarchical organizations into smaller units, of which the Next Steps agencification process was a leading example;
- *competition*, especially promoted in central government via compulsory competitive tendering of blocks of work that could be taken over by private sector contractors; and
- *incentivization*, especially bringing in 'performance-related pay' for staff, and large bonuses for top managers paid for strong agency performance against its targets.

In its new agency format, the Passport Service closely followed all these elements, developing its own operational independence strongly. Many of its key business processes (such as the 'industrial' task of securely printing and despatching passports to citizens) were outsourced to private companies, in line with Conservative party doctrines. And the agency was run by top managers who paid strong attention to meeting ministerial targets, in order to maximize their own pay and bonuses.

Throughout the 1990s the agency was pressured by the Treasury and its parent department to expand its outsourcing further, to modernize its business systems and to minimize or even reduce the costs of passports to citizens. Under agencification the Passport Service was increasingly financed by the fees it charged to citizens for issuing passports. But Conservative ministers were at first wary of allowing fees to increase in a manner that could encourage lax administrative practice in the agency. Hence the service was expected to deliver more surplus within a pretty static level of fees. By 1999 under a Labour government the core passport fee was £21 for a standard passport. Cost-cutting and using new technologies were both very fashionable amongst NPM managers. The Passport Service top echelon became strongly committed to a scheme for using a private contractor to speed up and cheapen the 'ancillary' process of collating citizens' details from handwritten application forms onto the service's databases, preparatory to in-house civil servants deciding whether or not to issue a passport. At that time all passport applications were made by means of paper forms submitted by mail, or in some cases pre-checked (for an extra fee) at Post Offices.

The major IT contractor Siemens won the tender for converting written forms by using optical character readers (OCRs) to scan paper forms and produce electronic versions of each application. In summer 1998 the firm conducted pilots of machinery and software for accomplishing this. The pilots were strongly adverse, with many warning signs that the scanning process was working poorly. However, the agency hierarchy ignored these teething problems and committed 25 per cent of its passport-handling capacity to the new process (National Audit Office, 1999). Evidence quickly emerged that the Siemens process was hardly working at all. Nonetheless, in early autumn 1998 the agency top brass committed a further 25 per cent of their passport-handling capacity to the same process. At almost the same time, Labour ministers made a policy decision that henceforward all children would have to have their own UK passport, instead of being included on their parents' passports as was previously the normal practice until they were teenagers. At a stroke the demands on the agency mushroomed, while half of its capacity was bound up with a new IT function that was apparently not working at all. Fortunately though,

demand for passports is lower in the winter and so for a time the service was able to cope.

However, it was apparent early on that in the run up to the next holiday season the agency could face problems. Yet the service's top management hoped all the time that the Siemens process could be made to work, and that the many teething difficulties in extracting complete data from handwritten forms could be ironed out. It became taboo to envisage any other eventuality, so top managers did amazingly little to prepare for the administrative storm that was looming. By Easter 1999 people applying began to notice that they had sent in applications and their old passports but had not got any renewals back. Maximum processing times stretched beyond the agency's ten-day target, to between 25 and 50 days (National Audit Office, 1999, p. 8). As rumours spread virally amongst customers that the service was overstretched, many people reacted by bringing forward the time when they applied for passport renewals, so as to offset against possible delays in time for their holidays. An avalanche of early applications built up, which progressively began to almost shut down the agency. One after another all of the Passports Service's English centres became swamped with millions of unopened sacks of mail containing a backlog of 565 000 applications (almost double the normal backlog). So many sacks were unopened that urgently needed documents were often unable to be found (ibid., p. 1).

As the peak holiday season came perilously close, so all the Passport Service's phone lines in England were swamped by enquiry and complaint calls, rapidly becoming permanently unobtainable. By early summer, long queues of emergency customers were waiting around several blocks to try to get a passport in person from the London office before losing their holiday. The volume of public complaints reached a crescendo. Even acquiring any information about how long passport renewals would take became almost impossible, since the phones rang unanswered. Tellingly, senior service officials left their website completely unaltered throughout the crisis. Eventually in July 1999 ministers stepped in to renew many passports for a further year until the service could get sorted out, and also continued for a year a short-term British Visitors' Passport that was previously intended to be phased out. Compensation for cancelled holidays was paid to thousands of customers, and the agency's Chief Executive resigned.

In late 1999 a National Audit Office report on the unprecedented crisis and virtual collapse of the agency's operation in England found that the primary motivation of the service's top officials had been to slightly reduce the £21 fee for the standard passport. Yet what customers wanted above all was a responsive and completely reliable service; most did not

care about such a small price difference, compared with knowing that they could submit an application and reliably get a passport in a decent timescale. In response to the crisis, the Passport Service had to reorganize its services in a root and branch way, reverting for a time to manual processes until the OCR system could finally be debugged. The agency revised its staffing upwards, installed new, high-capacity call centres and at last transformed its previously 'desert' website into a more modern means of communication with all its customers. The service also greatly expanded the use of its higher-fee emergency service that provided passports after a face-to-face interview in a single day. All of this cost money and the passport fees were raised to pay for it, reaching £27 in 2000, and then £43 in 2003 (more than double the 1999 fee).

The 9/11 attack on the USA and the massacres of citizens and passengers involved occurred two years later. The aftershocks produced a worldwide strengthening of passport controls and security, strongly driven by the US authorities. International passports agreements were progressively revised to include new requirements for extra security checks on applicants and their family histories, and new provisions for 'biometric' passports incorporating much better photographs. New questions were introduced about the citizenship of applicants' parents and grandparents. There were teething difficulties. In mid-2006 the press reported that 10 000 applications a week were being rejected for having the wrong kind of photograph (Jenkins, 2006). So-called 'e-passports' were brought in towards the end of the noughties. They looked almost the same as conventional passport documents but in fact incorporated a chip that allowed all the component information to be electronically readable by scanners used by immigration staff at border gates.

All of these changes, and normal levels of associated teething difficulties, also began to raise the Passport Service's staffing and costs by the middle of the decade. Later, at the very end of the noughties, came new international requirements for all new passport applicants to be interviewed in person by civil servants, which radically increased security and administration costs. Back-office processes also had to be greatly strengthened. By 2005 the 'standard' passport cost rose to £51, and then jumped to £72 in autumn 2007 and £77.50 in 2009, an increase of 270 per cent on its 1999 level.

The costs of running the agency also increased in several dimensions. Staffing levels progressively grew across this period, from 1800 employees in 1999 to 2400 by 2003, and then reaching 3600 in 2006, finally peaking at nearly 4000 staff in 2008–09 (a 230 per cent growth on 1999 levels), before falling slightly later. Partly these increases reflected the new security demands on the agency, but they also stemmed in part from the decisions

to stick with mail applications, and to opt for OCR technology in 1999, followed by the commitment of huge resources to making it work. These steps locked the Passport Service into pre-digital modes of customer applications and into a long-term relationship with its main contractor Siemens. Applying OCR to handwritten paper forms (with their inevitable variability) was a very early form of automation, and one that almost inherently set the agency up for bad customer relations because OCR cannot tolerate spelling mistakes or corrections. Not surprisingly a 2003 NAO study of *Difficult Forms* found that the passport application was seen by the public as one of the most difficult government forms to complete (Dunleavy et al., 2003). Unclear questions (especially for the children's application) added to the perceived complexity caused by the agency's inability to accept a form with any kind of correction, deletion or ambiguous lettering. The new photograph requirements in 2006 later increased the rate at which forms were being rejected and sent back to customers to redo. Around 40 per cent of the agency's wealthier customers also paid the Post Office an extra fee (initially £3.50 in 1999, later £5) for counter staff to check that their applications were in a satisfactory condition for submitting, because of the service's extreme pickiness on how forms looked.

In fact the agency introduced OCR at just the moment when the growth of the internet made this technology very dated as a way of semi-automating customer transactions. The Blair Labour government requirement that all public services be available online by 2005 caught the Passport Service by surprise. Top officials saw e-submission as an unnecessary twiddle to their main technology (OCR from handwritten forms) of minor importance, since renewal applicants still had to send in their old passports and new applicants had to send in birth certificates and often other paper documents. UK government more generally also had no recognized electronic signature or identifier (Dunleavy et al., 2002). Hence Passport Service managers consequently implemented only a hard-to-use application passport form online, which applicants filled in electronically (thereby eliminating the handwriting problems) and submitted to the agency online. The forms were then subjected to some preliminary checks, printed off by the agency and mailed back for the applicant to sign the form and return with their required documents. This time-consuming 'double application' provision nominally met the letter of Prime Minister Blair's pledge to allow online services, but of course was far from being a complete electronic application. Because it took many days longer than going down to the Post Office and using paper forms sent in by snail-mail, very few customers initially took up this little publicized option.

In 2008 the Passport Service finally got out from under its long-term ICT contract with Siemens and constructed a new technology contract

with a group of eight different IT providers, who all became recognized suppliers but had to compete or collaborate amongst themselves to win specific blocks of work. Signed at the peak of expectations that the service would be enlarging its wider government role in verifying identities (see below) the deal saw the agency at last increasing its use of background database checks in deciding whether to approve or further investigate passport applications. For most UK citizens, the information provided online for instant checks by government databases and private suppliers (such as credit rating agencies) had radically improved. In other countries, like the USA, this expansion of available online data (including facsimiles of documents online) underpinned maintaining a wholly remote passport applications system. However, the UK's Passport Service was initially reluctant to use credit rating agencies' information.

The expansion of online applications elsewhere in government, especially at Her Majesty's Customs & Excise (HMRC) for self-assessment income tax, and improvements made in the Government Gateway first stage of access, finally persuaded the top Passports officials to improve their online application offer. From 2007 onwards, access to the service was feasible via the super-site Directgov (see Dunleavy et al., 2007) and increasing numbers of applicants began to use electronic applications. Demand was later boosted by a guarantee that online applications would be posted back to people within 48 hours of receipt for them to sign. In fact, this online promise often got suspended in the summer because of high take up for the partly electronic service. The Service also discouraged people who were close to travelling overseas from using the online process. People with under three weeks to go had to show up in person with documents at service offices and so sign their forms then (for an extra fee).

A wider context for improvements in passports checking technologies, and for the agency's staffing growth, was a long-time preoccupation of the service's top managers and the Home Office with broadening the agency's mission beyond simple passport issuing – to become instead the preeminent central government centre of excellence in identity verification and management. There was a large potential 'market' for the agency here, since UK government lacked any central or definitive register of citizens, as well as any modern form of electronic identifier (LSE Identity Project, 2005). There were a number of rivals for the position as central register:

- The National Insurance (NI) number issued by the Department for Work and Pensions (DWP) and supposedly comprehensive for adults over 16. It suffered from there being many more numbers in use than the relevant population and did not cover children under 16.

- The National Health Service (NHS) number run by the health service, covering the whole population, but which also had a problem with duplicates.
- The driving licence, covering around five-sixths of the adult population, but again not children (see below).

Both the NI and NHS numbers were supposed to be 'lifetime' numbers, issued to people once only and held for many decades. In fact duplicate numbers arose because people lost or forgot their previous numbers, and the government computer systems and office files could not then unambiguously re-find their old numbers – for instance, if people changed their addresses or could not remember their address when their initial numbers were issued. Hence, the Home Office saw a potential for its departmental group to accrue revenue if a broadened passport number could become the basis for all government identification – because then they could charge other departments and new commercial users to access the new database.

In 1998 the Passport Service was temporarily renamed the United Kingdom Passport and Records Agency (PRA), when it took on the provision of a criminal records database, but after problems this extra function was then rapidly hived off again to a separate organization (the Criminal Records Bureau) in 2002. The short-lived PRA label was scrapped, but the passports agency was now renamed the Identity and Passport Service (IPS) to signify its widened remit and ambitions. By the mid-2000s the Home Office assigned IPS a central role in the administration of the new national identity card that the Blair government envisaged, backed by a huge database of more than 60 million UK citizens. It would include a mass of information held electronically on chip and a biometric photograph.

However, the proposal attracted a storm of criticism on cost and invasion of privacy grounds. Academics from the London School of Economics (LSE) ran into unprecedented flack from ministers when they independently estimated that the total costs for ID cards would be £11–18 billion, far more than the £5.5 billion admitted by the government (LSE Identity Project, 2005). The government numbers implied a cost of £36 for an ID card alone, but a combined cost of £96 for the five-sixths of people getting a card at the same time as renewing their passport. However, the LSE costs implied a combined fee of £110 (more than five times the £21 passport charge in 1999), so media and public criticisms of rising costs levels were strong, especially given the series of passports fee hikes across the decade.

As Labour Prime Minister, Gordon Brown was more sceptical about the ID cards project. He and the Treasury insisted on a fixed commitment

of funding, which radically cut down the scale of the proposed new ID database. Yet still Labour ministers funded the Identity and Passports Service to do preparatory work for the electronic ID card's introduction. Following the 2010 general election, however, the new Conservative–Liberal Democrat government scrapped the whole ID cards plan and the associated database.

So, after many years of striving to go beyond passports the only extension of the Identity and Passport Service's role came from its 2008 takeover of the General Register Office. This was a small central agency setting policy, supervising and providing some central facilities for the nationwide network of local register offices run by English local authorities. These provide the UK's system of official registration for births, stillbirths, adoptions, civil partnerships, marriages and deaths. This limited area of central services for non-passport work only accounted for 5.1 per cent of the agency's revenues in 2009–10 (Identity and Passport Service, 2010, p. 41).

The Evolution of Productivity in UK Passport Services

One benefit of the agencification process is that some kinds of information provision improved. We focus attention solely on the passport-related work of the Identity and Passport Service and its predecessors (taking out of analysis the small non-passport activities present in a few years of the study period, from 1998–2002 and since 2008). Table 6.1 shows the evidence used to determine the Passport Service's productivity for our study period, the ten years following the crisis year of 1999. The key output activity is the supply of passports to UK citizens – all the rest of the agency's administrative work (such as customer service activities) is concerned with and funded by passport applications and their accompanying fees.

Because the agency's outputs are essentially similar across different 'products' (e.g., different types of passports and normal versus urgent service streams) we treat them in the aggregate. But we allow for cost-weighting variations across years to influence the estimate of output levels. Over time there has been more and more take up by customers of the agency's more expensive services, especially in-person applications close to travel dates; passports with more pages (needed by frequent overseas travellers); more secure and expensive forms of postage and delivery; Post Office checking and so on. Similarly the growth of children's passports (which are sold at a cheaper cross-subsidized price, but are actually no less costly to administer) affected the activity mix in some years. So we cost weight to reflect this activity mix over time.

Are quality adjustments of outputs needed? Since the short-lived crisis of 1999, the agency has met its ministerial targets for passport service quality

Table 6.1 Data availability and methodology for the measurement of productivity in passport issuing

Variable	Evidence Used, and Adjustments Made
Outputs for processing of import and export declarations	Total number of passports issued, obtained from annual reports for IPS and its predecessor
Cost-weighting of outputs	Unit costs for different passport types, obtained from IPS
Inputs, for total factor productivity	Deflated staffing, outsourcing, procurement and capital costs published in IPS and predecessor annual reports
Inputs for staff productivity	Number of full-time equivalent (FTE) staff allocated to passport sales and to general administration, obtained from annual reports

Note: We thank IPS staff for supplying us with details of application numbers for the period 1999 to 2008 – earlier data were not available.

in a scrupulous way, and there is no evidence of any major subsequent fluctuations in the efficacy of services. There have been recurrent media and public complaints about the high levels of cost increases in passport fees, which ranged from 20 to 27 per cent hikes at intervals of two or three years. However, on its website the agency has consistently defended its fees record in two ways: (1) IPS argues that the UK had to conform to the new, post 9/11 tightened security rules and associated requirements, and that worldwide agreements on the UK are binding and require that it implement exactly the same changes as other countries; (2) the agency publishes comparator information on how much standard passport fees are in other OECD countries. The UK's fees position has consistently been in the middle of similar countries, charging less than some high-fee countries (such as New Zealand, Belgium or the Netherlands), but somewhat more than other large countries (like the USA and France). Despite the near tripling of customer charges therefore, these arguments are fairly plausible. Accordingly we conclude that quality adjustments are not needed in assessing passport agency productivity during our study period.

Turning to inputs measures, the executive agency status of IPS (and its predecessors) means that its annual reports provide excellent quality information on the full range of costs. By comparison with the mainline Whitehall departments discussed so far, there is particularly good coverage of capital depreciation. Also well described are procurement and outsourcing costs; consumption of materials and external services (such as on

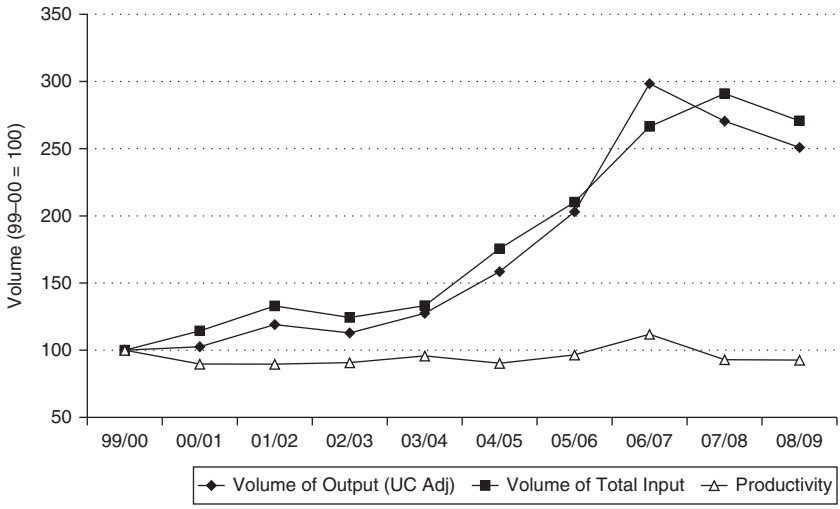
passport printing and delivery); and subventions paid by IPS to the Foreign and Commonwealth Office (FCO) for consular services to help UK passport holders who lost or damaged their passports while overseas. FCO re-charged the cost of this last element and IPS picked up the bill because passport replacement is an essential part of any passport service. Accordingly, a soundly based total factor productivity estimate can be calculated.

For labour productivity purposes, IPS and its predecessors recorded their staffing costs in detail. The agency initially employed mainly full-time staff, but later began to employ more temporary staff to cope with peak flow variations. In particular years more numerous extra people were taken on to cope with backlogs accumulating, or with larger than normal clusters of renewals. Later still, IPS switched to using agency staff from private contractors, so that additional staffing now appeared in their accounts under the outsourcing costs heading, which otherwise is principally concerned with information technology and secure printing costs. There are some indications that IPS has at times 'lent out' its staff to other agencies over its lower-activity winter months (which are peak time for most other government departments), but we could get no over-time data on this practice. In default of better information we assume that the over-time incidence of any such practice is standard across years, and the staff segment involved is small for our study period. As in earlier chapters, in all cases the outputs and inputs measures were set to 100 for a common base year, the financial year (April to March) 1999–2000, in this case the beginning of our study period.

Figure 6.2 shows that from 1999–2000 to 2006–07 the volume of activity in IPS and its predecessors tripled, before falling back in the next two years. However, this impressive output growth was almost exactly tracked by the growth of the agency's inputs costs. This is unsurprising since the IPS remit meant that it could neither produce passports at less than their costs (plus a substantial amount for consular support overseas), nor could it make a profit (beyond its required surplus for reinvestment). Given ministers' willingness to agree substantial fees increases after the 1999 crisis, in order to restore capacity and regularity to key transactions, and later in response to the post-9/11 demands for increased passport security, it is scarcely surprising that inputs have risen so far and so fast. The result is that total factor productivity in passports has remained almost completely flat throughout our study period, despite the partial and slow (but still increased) use of ICT and the advent of online transactions capabilities elsewhere in government.

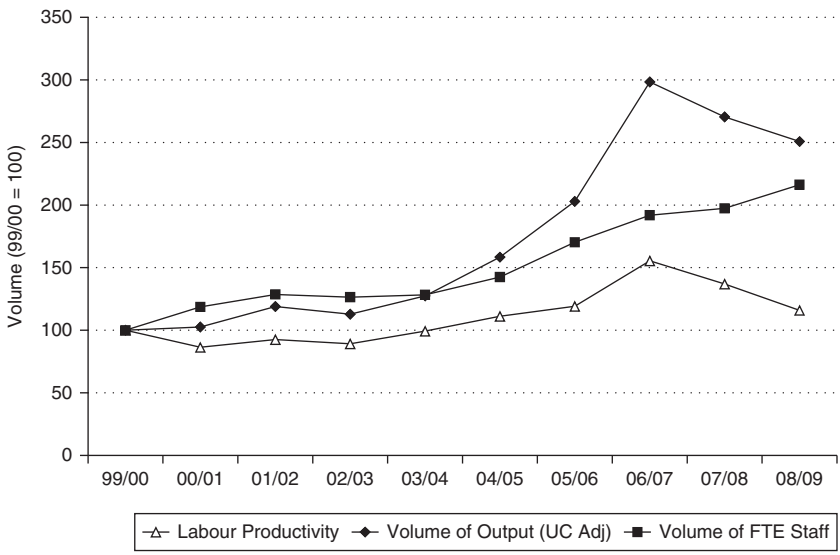
Turning to Figure 6.3, the outputs curve is the same as before. But because of the strong growth of outsourcing costs in ICT and secure printing operations, and later in securing the services of temporary staff, the inputs curve here is different. The numbers of FTE (full-time equivalent)

Figure 6.2 Total factor productivity in passport issuing



Source: Computed by authors from data supplied the Passport Service and successor agencies.

Figure 6.3 Staff (labour) productivity in passport issuing



Source: Computed by authors from data supplied the Passport Service and successor agencies.

civil service staff grew consistently across the period, largely because of the introduction of more documentation and face-to-face interview requirements for new passports and renewals in the latter part of the period. This growth was at a somewhat slower rate than total factor inputs. This growth continued into 2009–10 despite the downturn in passport applications. Consequently, labour productivity was stable for the first three years in the figure, but then grew to 150 per cent of the 2002–03 level by 2006–07. However, it then turned down in the closing years of our study period, to finish barely 15 per cent higher than in 1999–2000.

Conclusions on Passports

At first sight it might seem straightforward to chalk up the UK passports case as yet another area where assuming flat productivity in government is not (after all) such a bad approximation. But in fact the picture is considerably more complex than that. A nexus of three main factors more than accounts for the stagnation in passports productivity, in a fashion that is in many ways over-determined.

First, from 1988 onwards the governance arrangements around the passports function created strong incentives for the executive agency responsible to budget maximize (Dunleavy, 1991, Ch. 6). It was given the power to raise its own expenditures by levying fees from a completely 'captive' and dependent customer base, in a market where it was the monopoly supplier. This was a classic instance of the potential downsides of 'hypothecated taxation', because the agency could neither make a loss, nor accrue a super-profit (beyond its reinvestment needs) for its parent department, the Home Office. Little wonder then that the IPS's top management became preoccupied with constantly trying to expand and 'deepen' activities around passport security. They also sought (as it turns out, unavailingly) to increase the agency's 'turf' in the arena of establishing identity for government. The decision to vest the passport function in an executive agency pre-set many of these responses, which were further accentuated by the gradual loss of expertise about passports within the Home Office over time. So it is hardly surprising that the agency should end up by tripling its staff and almost tripling its administrative budget, on the back of sharply raised passport fees. Labour ministers' concerns to avoid any repeat of the 1999 passport crisis also ensured that in deepening its activities the agency was always pushing at an open door.

A second factor behind the productivity stasis was the agency's early (troubled) adoption of OCR technology from paper forms, followed by the trauma of sorting out the difficulties entailed by this highly conservative technology choice. The agency's reluctance to repeat its first bad experi-

ence of the risks with new technology, and similar ministerial concerns to stick to 'tried and tested' approaches, were given concrete form in the long-term contract with Siemens, the agency's main IT supplier. There was almost complete conservatism on the technology for handling all customer transactions for over a decade, despite the evident demand from customers to be able to apply online by the late noughties. As more and more applicants needed to be interviewed face to face anyway, the previous barriers to online applications over documentation and establishing identity could have been completely removed – but they were not. The agency's abortive effort to become a centre of excellence in identity management within government did at least mean that the Identity and Passports Service became much more adept at using other electronic sources of identity information in the course of its applications checks than it was at the start of the period. The re-contracting of IT services (at higher cost) to a more competitive group of contractors also marked a step forward. But the agency's progress in business process re-visioning and re-engineering customer transactions for the internet era was still feeble – especially compared to taxation and customs (discussed in Chapters 3 and 4), and in driver and vehicle licensing (see the next section). This contrasts with the agency's smoothly successful incorporation of new physical technology (such as chips and some biometric elements) into the passports themselves, and the ambitious plans made for the planned identity card and its databases, which came to nothing.

A third factor, of course, was the Passport Service's dependence on the international environment. After 9/11 there were strong environmental pressures led by the USA (and rapidly internationalized) for enhanced document security, and for the introduction of new checks into passports issuing processes. Labour ministers also became increasingly concerned in the noughties to be seen as 'tough' on admitting people into British citizenship. In defence of much higher fees, greatly expanded staffing and rising administrative budgets, the IPS top management attributed all cost growth and increased personnel to environmental changes and took refuge in the 'averageness' of the UK's passport fees. Yet the failure to grow productivity at all over a decade, in an area that was ripe for technological change, seems to underline the hollowness of this defence.

6.2 LICENSING DRIVERS AND VEHICLES

The development of new technologies, and their dissemination across society, often occasion strong demands for government to monitor and regulate the coming trends, and often to react in ways that are very different from what has gone before. Most innovations are disruptive and

occasion alarm in some groups, and some are clearly dangerous. The development of cars, trucks and buses from their late nineteenth-century origins through to the 1960s clearly had huge implications for the speed at which travel could take place, and for the dangers faced by all road users. We begin by briefly considering growing motor vehicle numbers and the regulatory and taxing regimes that governments generally have created to cope with them. Next we describe the arrangements for administering driver and vehicle licensing (and associated taxation) in the UK, implemented by the Driver and Vehicle Licensing Agency. The last sub-section examines the organization's generally declining productivity in our study period.

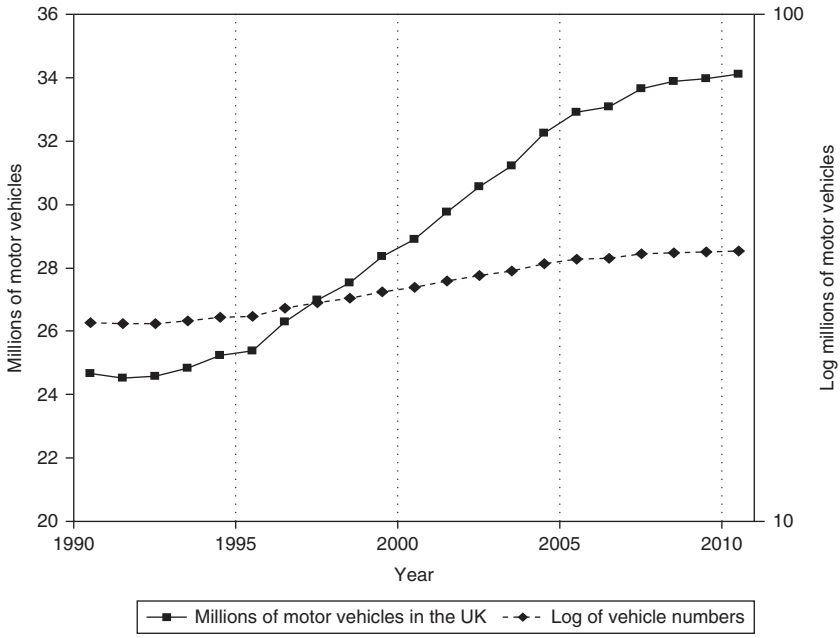
The Growth of Motor Vehicles and their Regulation

The predecessors of 'horseless carriages', of course, were real (horsed) carriages, which in most countries were never regulated by the state. If you wanted to own a carriage, and could afford to do so, you could go ahead without obtaining any government permission, and drive around in it without any official certification of your skills as a driver. The normal civil law provided the main protection against reckless driving behaviours or other practices that damaged (or threatened to damage) the welfare of others.

From the outset, cars, trucks and buses have all been handled by legislatures and governments in very different ways, beginning with the famous early UK law that the first cars had to be preceded by a man carrying a red flag (and hence could only move at walking pace). The evident capacity for fast-moving motor vehicles to cause more damage to others (especially 'scaring the horses' or running down pedestrians), plus the enormous growth in their numbers over time, led to increasing numbers of accidents, especially before safety legislation and driver training belatedly caught up with traffic conditions and driving risks. The close and pervasive involvement of vehicles in many forms of crime, supplemented later still by their use by terrorists, have meant that all governments in advanced industrial states still closely regulate who owns and drives each motor vehicle, and monitor who in their populations is qualified to drive which type of vehicle.

In the 1880s when Daimler experimented with early automobiles there were less than 1000 cars in existence anywhere. By 1900 there were 8000 in the USA alone, and just under 4200 new cars were built in that year, to drive on the country's 144 miles of paved roads. There were at least as many cars in Europe. From there the numbers in use rapidly mushroomed in ways that were poorly documented at the time. By 1968 estimates suggested there were 170 million cars worldwide and nearly 47 million trucks and buses, a total of nearly 217 motor vehicles. These numbers

Figure 6.4 The growth of motor vehicles in the UK, 1990 to 2010



Note: Zero is suppressed on both axes.

Source: Department of Transport (2011, Table VEH0103).

grew rapidly to 375 million cars and 109 million commercial vehicles (484 million vehicles in total) by 1985; and then again to 486 million cars and 185 million other vehicles by 1996, a global total of 671 million motor vehicles. By the end of the twentieth century there are at least 750 million motor vehicles worldwide, with China a new arrival in the major league.

More recently there have been some signs of stabilizing numbers of vehicles in advanced industrial states. Data from the USA show that the numbers of automobiles has remained almost static in the recent period, growing from just under 134 million in 1990 to 137 million in 2008, whereas the number of vehicles classed as 'trucks' doubled from 54 million in 1990 to 110 million in 2008 (Census Bureau, 2012). In part this reflected the growth of vehicle types like pick-ups and minivans, classed as trucks in US statistics. Total US vehicle numbers thus still expanded from 189 million to 248 million in the 1990 to 2008 period.

Figure 6.4 shows that total UK vehicles grew from 24.7 million to 34.1 million between 1990 and 2010. At the start of the period, the recession

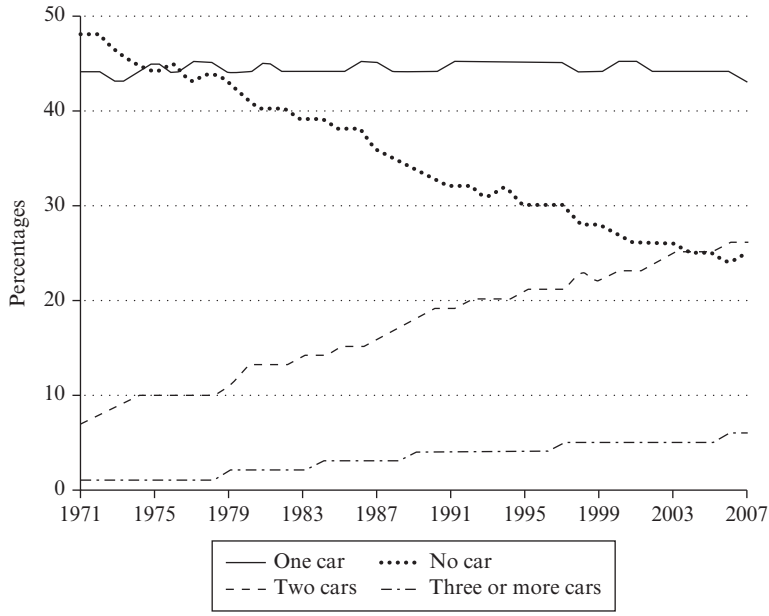
of 1989–92 produced the only substantial exception to the regular annual growth in new car numbers, which froze for six years, before something like normal growth resumed in 1996. Almost stasis returned in 2007, and was sustained by the recession that began in late 2008. Press reports in 2009 said that the number of cars on UK roads fell for the first time, but later official numbers still showed a small increase. The log value version of the same graph (scaled on the right-hand axis) demonstrates the static periods at the start and end of our study period, and the relatively slow growth in the middle. Looking in a bit more detail, the numbers of licensed cars grew from 19.7 million in 1990 to 27 million in 2010, with seven out of eight owned by private individuals and the remaining fraction by companies. All non-car vehicles grew from 4.8 million in 1990 to 7.1 million by 2010. Clearly then the vast mass of car-licensing transactions for the UK government were carried out by individual households and related to automobiles, and not by companies.

Driver licensing historically lagged behind vehicle licensing. The first US state to require drivers to register did so in 1903, while linking driver licensing with tests of drivers' skills began in 1908. For several decades, however, many US states only required drivers to pay a small fee to cover the cost of issuing their first licence, with no tests of driving proficiency in most areas, even when three-quarters of households owned a car by the end of the 1920s. It was not until 1959 that the last US state came into line and began testing drivers before issuing a licence – and the standard of the US test still varies somewhat across states.

Driver licensing differs from that for vehicles in a fundamental way, because once a driver has been registered they normally stay registered with no further questions asked until they reach an upper age limit, at which periodic checks or re-testing are introduced – in the UK at age 70. Most countries have imposed a legal obligation on drivers to keep their home address up to date, but the penalties for not doing so varied a good deal over time and across countries. Often the most important reason for someone to update the address on their long-held driving licence was to carry on using it as a form of personal identification in commercial transactions.

The driver licensing workload for governments is also influenced by the changing relationship between cars (especially) and households. For most of the post-war period the UK norm was that many poorer and older households, along with younger households in large cities like London, did not have cars. The vast majority of households with cars had only one, often with two or more drivers, while women historically drove less often than men. Households with two cars gradually expanded, and the proportion of women driving increased to parity with men, but only a few exceptional or larger households had three cars. However, Figure 6.5 shows that

Figure 6.5 The proportions (%) of UK households owning different numbers of cars, from 1971 to 2007



Source: Office for National Statistics (2010b).

in the period from the 1970s to the noughties the proportion of households without a car fell sharply to around a third, and the number of households with two cars rose above a quarter, while the proportion of single-car households was static. Up to one in 16 households now have three or more cars (reflecting mainly young adults living in larger households with their parents, or people owning specialist cars as leisure interests).

The UK pool of drivers now stands at 42 million (an average of 1.56 per car) and comprises more than two-thirds of the total population. However, more than a fifth of the population cannot legally be drivers, because young people can only start driving at 17 at the earliest, while few people over 85 are drivers for health or eyesight reasons. So the proportion of the age-eligible population who are drivers is 83 per cent of adults in the relevant age ranges, slightly more than for passport holding. Despite the much smaller spatial scale and far more urban setting of the UK overall, these numbers are not much different from the USA, where almost 69 per cent of the population are drivers, or 87 per cent of adults in the legally eligible age range (Bureau of Transport Statistics, 2008).

Western governments now impose five almost universal regulatory requirements on vehicles and drivers – covering vehicle registration, certifying roadworthiness, paying special vehicle taxes, driver registration and driver insurance:

1. *Vehicle registration*. All cars, trucks and buses must be licensed and uniquely identifiable by a number plate and ownership and address details must be kept up to date. In addition, registration details also include the vehicle's make and often engine block numbers to help safeguard against illegal vehicle sales and thefts. Normally vehicles must be re-licensed (for a substantial tax fee) at least once a year, or the registration lapses and the car cannot be driven on pubic roads.
2. *Certifying roadworthiness*. To be licensed, vehicles must normally be certified as safe to drive and roadworthy (established by regular testing), and operated within appropriate weight or usage limits. Annual checks on vehicles (in the UK called an 'MoT test' and covering cars three or more years from manufacture) are generally administered on the government's behalf by a list of registered and approved garages or service stations. They assess vehicles against a long list of government-set requirements and issue certificates, without which the car cannot be re-registered or driven.
3. *Paying vehicle taxes*. Vehicles must normally be taxed by the government before they can be licensed or driven, with tax revenues used either to supplement general state revenues, or to defray some or all of the costs of building and maintaining public roads.
4. *Driver registration*. Anyone in charge of a given type of vehicle must be certified as sufficiently proficient (and sufficiently healthy) to be driving. All governments now operate driving tests that new drivers or long-term residents from overseas must pass to be able to drive. These are sometimes organized by the same agency that does driver and vehicle licensing, and sometimes entrusted to a separate agency, (as in the UK where they are carried out by the Driver Standards Agency).

   At the other end of the age spectrum, driver licensing normally also requires getting older drivers to take periodic re-tests of their capacities at age 70 and above. The driver licensing agency also has to remove licences from people reported by their doctors as being chronically unfit to drive because of medical conditions (such as blindness, deteriorating eyesight, heart conditions or epilepsy). At the same time agencies must allow disabled people with the right capacities to drive appropriately adapted vehicles.

   Driver licensing also involves monitoring sentences given by the courts for speeding and dangerous driving, driving under the influ-

ence of drugs and alcohol, driving without insurance (see below), and traffic offences. Given people's dependence on cars for transport, a key penalty that the courts impose is deprivation of a licence or the adding of 'endorsements' to it. In the UK, drivers making smaller offences accumulate 'points' on their licence, which sit on their licence for three years. If their points total reaches a threshold during a given time period, drivers lose the freedom to drive for six months or a year – a system designed to make them drive carefully after having had one or two minor offences.

In most countries the police (or a specialist traffic police) are responsible for ensuring that the vast bulk of traffic and licensing laws are adhered to. In some countries the driver and vehicle licensing agency may take part more selectively in special sweeps or surveys, alongside the police, as happens to a small extent in the UK. For the police, driver and vehicle licensing is a key source of intelligence in tracking criminals and identifying people under suspicion. So cooperation between the police and the driver and vehicle licensing agency is of great importance for the effectiveness of the overall law and order function. This is especially true with the development of new technologies, such as automatic number plate recognition, where police forces can auto-access the data held on the vehicle-licensing database, using digital photographs of car number plates from roadside cameras.

All these elements mean that the driver licensing agency can hold a lot of sensitive personal information, and has to interact with a wide range of other public and professional actors to carry out its basic role. In the UK, the high proportion of foreign drivers from nearby continental Europe and Ireland also entails a great deal of extra work in tracking drivers and vehicles.

5. *Driver insurance*. One of the key roles of government is to regulate mainly private activities in such a way that the burdens of risk involved are allocated to those actors most appropriate or most able to bear the costs involved (Horn, 1995, Ch. 3). For road users, this means that they must have confidence that if someone else causes an accident they can recover the costs involved from the driver concerned, as well as being themselves covered for their own damage and their liabilities to others. Accordingly, Western governments require that all drivers must be insured against the 'third party' damage they may cause to others. Unless the owner can produce a certificate from an insurance company that his or her vehicle is currently insured then it cannot be re-registered. In theory then, people adversely affected in an accident can always secure adequate compensation for damage to their vehicles, property or health. But in practice, insurance is only

needed at the annual re-licensing date and it may well have run out when an accident occurs. Police checks again play a key role in combating drivers being on the road without insurance.

Given the huge numbers of motor vehicles in the modern world, this complete ensemble of requirements is a very tough task to undertake. Substantial resources are needed to ensure that the full agenda of controls is defined and systematized into administrative practices. Even in small countries monitoring all these aspects is still relatively difficult. For large countries (like the USA) or medium-sized ones (like Britain or France), it requires major administrative organization.

In the USA, driver and vehicle licensing is a function carried out by the 51 states, and federal involvement is limited to linking up state databases so that police in one state can trace cars or drivers from other regions, and states and insurers can also track drivers' and vehicles' records over time. One or two states have even delegated the function further so that it is delivered to citizens by counties or cities. The DMV (Department of Motor Vehicles) has long been a staple archetype of American public sector bureaucracy, with attendance in person required and frequently long queues to get or renew licences. A decentralized pattern is also followed in Italy, where cities and regions run most regulatory functions, and the national government's role is limited to integrating the data thus created. The great virtue of decentralized delivery in this fashion is that face-to-face interviews and the establishment of the driver's identity in person are still feasible. In addition, the scale of databases held at state or city level is much less than for the country as a whole.

However, in Great Britain and some other large European countries (like France) driver and vehicle licensing started off running in a decentralized manner, but has now been centralized and become a national government task. The registration function is run in a unitary way across the country (in this case meaning England, Scotland and Wales, with a small separate unit in the Northern Ireland Civil Service managing the function in that province).

The Administration of Driver and Vehicle Licensing in the UK

Since 1974 driver and vehicle licensing has been a discrete part of the Department of Transport, which has had various manifestations at Whitehall level over the post-war decades (White and Dunleavy, 2010).[1] However, these changing top-level architectures have not often (and not deeply) affected the staff running the driver and vehicle licensing functions. The car registration system in Britain began in 1903 with the intro-

duction of number plates for vehicles. Responsibility for issuing vehicle licences was assigned to the largest local authorities (called county boroughs in main cities and county councils elsewhere), and for many decades number plates included both year date and area identifiers. The set up was highly localized, with staff in each area accepting applications and checking documents face to face. Local authorities were then reimbursed their costs by the Ministry of Transport. Since police forces were also organized at county borough and county council level, cooperation between licensing offices and their local police force was also high.

The system grew rapidly after 1919 in line with the number of vehicles, creating some difficulties along the way in extending the old number plate system in a consistent way across local areas. There were many problems also in the 1960s with the slow and variable pace of computerization of local authorities. In addition, the extent to which cars, trucks and even buses moved outside their local area all greatly increased, making locally organized registration less and less of a fit with citizens' behaviour. Meanwhile, the separate driver registration function was undertaken at Post Offices and enforced by local police.

In 1974 both the driver registration and vehicle licensing functions were decisively centralized away from local government control entirely, with the creation of the Driver and Vehicle Licensing Centre (DVLC) under the Department of the Environment. DVLC pulled many of the former local authority staff into its network of 81 local offices. In addition, however, DVLC began using Post Offices to renew vehicle licences, to replace the more extensive local authority office network that was now lost. DVLC notified car owners every year (or six months) to renew their cars' registration, and owners took their documents (chiefly the 'MoT' test certificate and evidence that the vehicle was insured) to be checked by Post Office staff, who also accepted vehicle excise duty payments and issued tax discs for cars to display. This system grew progressively to eventually reach 3000 main Post Offices able to renew vehicle licences. People could also direct mail their renewals forms plus key documents to DVLC, but many were reluctant to risk valuable papers in the mail. DVLC responded by radically shrinking its own local office network, losing the last vestiges of the earlier face-to-face service. By 2011 there just a handful of local offices left. The core of DVLC's work shifted dramatically to the 'back-office' role of checking licence applications and vehicle registrations, and compiling and maintaining huge computerized databases for vehicles and drivers.

Like the Passports Service, DVLC was an early candidate in 1988 for executive agency status in the 'Next Steps' changes. Its operational tasks were substantial and specific, and there was no evident needed to keep driver and vehicle licensing functions integrated with the core Department

of Transport in Whitehall. Transport became a fairly small policy ministry after the change. Slightly relabelled and reformatted, the Driver and Vehicle Licensing Agency (DVLA) was able to operate in a reasonably self-contained way, little affected by which cabinet ministry's departmental group it fell into.

In functional terms, DVLA carried out all the five licensing, registering and taxing functions set out above, that is, registering drivers, licensing vehicles, checking that cars and trucks are safe and insured, and collecting 'vehicle excise duty' (VED) – a specific consumption tax levied on running a motor vehicle on the roads, for which all cars must display a 'tax disc'. The agency also records courts' rulings imposing loss of licences and more latterly the imposition of points on drivers' licences, and their removal at the end of the relevant time periods. To accomplish its tasks the agency fields millions of enquiry phone calls a year from its customers, asking about fees, forms and procedures. The 2003 NAO study of *Difficult Forms* identified the registration for a photocard driving licence as one of the most problematic of commonly used administrative forms across central government, and so the level of calls was always great.

Financially, the agency's key activity is collecting the VED tax for the government. The duty is levied at a rate that far outweighs the administrative costs of vehicle licensing, raising £5 billion in revenue in 2006 (when DVLA costs were £470 million), rising to £5.7 billion in 2010 (when DVLA costs were £550 million). Vehicle excise duty contributes to the general Exchequer funding. Once collected, it is passed over in whole to the Treasury, while collection costs are assigned to the agency in return by the Department of Transport. In UK budgetary structures, VED is not hypothecated or tagged in any way to pay for roads building or improvements. In addition, the agency charged fees to cover its £250 million costs for driver registration. DVLA also built up a lucrative business in controlling the trade in high-value or desirable number plates, a side-line strongly developed in a more commercial manner by top managers after the organization moved to executive agency status. DVLA additionally charges for breaches of its rules at a level sufficient to cover the costs of its enforcement activities, debt collection and pursuit of legal cases.

The tripling of the numbers of vehicles from 1959 to 1970 was the primary reason behind the centralizing of driver and vehicle licensing in the DVLC in the mid-1970s to create a single automated database for recording vast numbers of details. Since then a key function of the organization has been to provide a continuously available computerized data service (with a phone back up) to police forces tracking or tracing any of the 34 million vehicles or 42 million drivers for which DVLA holds records. However, the demands on this function have also continuously

increased over time. The police had a strong need for information that could be supplied in real time to officers in the field, checking misbehaving or suspicious vehicles or drivers. More recently the development of ANPR (automatic number plate recognition) technology for tracking vehicle movements via roadside cameras has many applications, both in real time for crime and terrorism prevention, and post hoc in criminal investigations. For a fee, DVLA also provides information on vehicles to local authorities and quite a wide range of private businesses that have a legitimate need to identify those cars that have been abandoned, mis-parked or are otherwise causing a problem.

There has been a substantial evolution in the development of the DVLA functions. The records inherited from local authorities in 1974 were in a relatively poor state of consistency and integration. Despite DVLC's efforts these legacy problems with its new databases persisted and proved hard to eradicate over many years. Drivers were legally supposed to update their licence details whenever they moved address, but many millions failed to do so. And unless they were stopped by the police for some reason, the incentives to comply were weak, with small fines and little enforcement.

Having a correct address would be more important for people if the driving licence was widely used for identification purposes, but historically the UK driving licence was not much used as a personal identifier because not everyone was a driver, and the licence itself long consisted just of a printed paper document, with no photograph. DVLA did not introduce an optional plastic card form of driving licence with an integral photograph of the driver until 1997, years behind US and European practice, and then primarily to facilitate UK drivers travelling to EU countries, where photo driving licences were already standard. Even at this late stage though the photocard alone did not constitute a licence for legal purposes, and the paper licence was retained (for instance, to show endorsements). (This situation continued to the time of writing, in 2012.) With this weak incentive for people to keep their DVLA details up to date, it was little wonder that the DVLA driver database was widely seen as out of date and full of holes into the early noughties. Some informal estimates put to us by senior government officials in central departments in the late noughties suggested that at any one time up to two-fifths of driver entries were out of date in some respect, usually the address details.

Vehicle licences are renewed every year, and owners are supposed to notify DVLA whenever they transfer ownership of a vehicle. As a result the vehicle databases were much more up to date than the drivers' register. Yet, they too had many holes and duplicate entries as a result of owners' failing to register transfers, or the systems failing to detect out-of-date

addresses. Owners did not need to keep their vehicles continuously in registration, and so could easily say that a car had been taken off the road when skipping months out of insurance, or running other scams. In 2002 one in 25 vehicles stopped in random checks was unlicensed (and often uninsured), and loss through tax evasion was estimated at £193 million. Linking driver and vehicle databases effectively was also difficult given the prevalence of out-of-date driver address information. There were also reputedly large numbers of fake vehicle number plates and identities in the system, estimated at 100 000 as late as 2006 by the *Guardian* (Bowcott, 2008).

In the mid-noughties, Labour ministers launched a programme of legal and implementation changes, partly as an element of their drive to improve public services. But the government was also responding to police and intelligence service demands to strengthen counter-terrorism surveillance in the wake of the 9/11 attacks in the USA and the 7 July 2005 attacks in London. The changes made were designed to greatly improve the accuracy of both DVLA's driver and vehicle databases, and to strengthen their read-across capability. The subsequent introduction of compulsory photo driving licences in July 1998 was one element of the changes, plus the imposition of much stronger charges and fines for people failing to quickly update their address details. The rules governing when cars were regarded as 'taken off the road' and hence not liable for tax, and for how long, were also greatly tightened. Owners were now required by law to tell DVLA exactly when a car was back on the road before they could drive it again. The penalties for breaching the new tougher rules were also increased, with unregistered cars being liable to being taken away and crushed. To support this new regime, DVLA both employed more staff and increased the sophistication of its computer systems. Its top officials claimed that the quality and accuracy of its databases had radically improved as a result by the end of the noughties. The estimated levels of VED evasion fell to around a quarter of their 2002 level in cash terms, and under 1 per cent of vehicles were now estimated to be unlicensed, again radically lower.

Part of the agency's success in boosting citizen compliance with both driver and vehicle registration requirements lay in the development of its approach to transacting with its customers. The reliance on Post Office branches to process the vast majority of licence renewals on paper and face to face was a fairly expensive strategy for DVLA and its predecessors. The forms involved also made it difficult for customers to readily check if they had all the information, testing and insurance documentation and payment needed for renewing vehicle registrations. Nor was it easy for customers to ask Post Office staff questions because of long queues and shortages of time there. So DVLA was an early leader in developing contact centres

where customers could phone up, overwhelmingly with enquiries. In the 1990s and early noughties the volumes of phone traffic and the numbers of call centres needed to handle them both grew considerably.

DVLA developed a basic website by 2002, initially using it as just a kind of online 'poster site' displaying the requirements for licensing, fees and other information. The Blair government requirement that all public services be electronically deliverable by 2008, later brought forward to 2005, was a strong stimulant for DVLA to try to get licence renewals online by the general government deadline. However, the agency initially interpreted the requirement as being met if they providing licence renewal forms online for customers to print off and fill in by hand, before taking them to a Post Office or DVLA local office for document checking. Only later on did better versions let customers fill in the forms online and print them, before taking them to the Post Office with their documents or mailing them in – so that they could sign the forms, still the key legal identity requirement.

However, the agency did later launch a much more ambitious and long-term effort to make the whole vehicle licensing process electronic, with people applying for licences online and the agency then checking online with garages that a valid MoT certificate was issued, and with insurance companies that vehicle insurance was in place. This entailed DVLA being able to recognize electronic identifiers, certificates and tokens from two very different kinds of organizations. Thousands of the UK garages conducting vehicle tests are small or medium-sized businesses, often with little formal organization. British private insurance companies, on the other hand, are mostly large or very large firms, with strong administrative capacities and operating in a basically oligopolistic market. Getting such a diverse range of actors to work together with government was a huge achievement, and the launch of the completely online vehicle registration process was very successful. In 2007 online registration was transferred from the DVLA website to the overall government 'super-site' Directgov. The transfer boosted the service, because its new web interface was simplified and improved – while the traffic generated also bucked up the fortunes of the super-site itself. Public recognition of the new service increased because customers could more quickly complete a previously complex transaction electronically, and without having to visit a Post Office in person.

The benefits of fully electronic transactions were substantial:

- DVLA no longer had to pay the Post Office a transactions fee for this business.
- The agency also did not have to handle millions of paper forms.

- Customers completing forms online had far more time to check that their responses to questions were correct. There were also no problems with handwriting and so on, hence error rates were less.
- The information from online applications dropped straight into the DVLA databases with no re-keying needed, speeding up the checking process.

However, the cost implications of the success in moving transactions online were limited by a range of factors. In 2010–11 nearly three-tenths (29 per cent) of driver registration was online, while for vehicles taxing the proportion reached two-fifths, up from only a quarter in 2007–08. However, there were indications that this proportion was tending to stick (DVLA, 2011, p. 3). It is much more expensive for government agencies to run two different systems in tandem, the paper forms and Post Office route versus the online route. Civil servants and contractors working in these areas have a rule of thumb that the largest cost savings only occur when the electronic route reaches 80 per cent or so of overall transaction volumes (as achieved, for instance, in HMRC's successful push for online income tax self-assessment). Yet this was difficult for DVLA to get to. It still lacked any agreed electronic identifier number that can be used across national government, so DVLA customers still had to register with the cumbersome Government Gateway before they could use the car tax/renewal facility. And not all forms of vehicles could be registered electronically. The result was that the agency achieved only a slightly stalled or halfway transition to electronic transactions.

The Development of Productivity Within DVLA Services

Again agency status is useful because a lot of relevant information is available for the analysis of productivity, but only for a shorter time than our normal study period, from 2002 to 2009. We show the evidence used to fix outputs and inputs in our usual format in Table 6.2. The agency's data on key output activities are finely granulated and so we cover six different main types of vehicle licensing and 11 kinds of driver licensing activities. In considering costs, the DVLA datasets unfortunately do not distinguish unit costs, nor tell us what proportion of total administrative costs can be assigned to different activities. This presents some difficulties in weighting outputs. However, DVLA activities are highly automated and hence the agency's finance and strategy team have adopted the practice of measuring the complexity of achieving outputs by the time taken to process a given transaction. There are three classifications – the output takes less than a minute to do; it takes one to three minutes; or it takes over three minutes.

Table 6.2 Data availability and methodology for the measurement of productivity in licence issuing

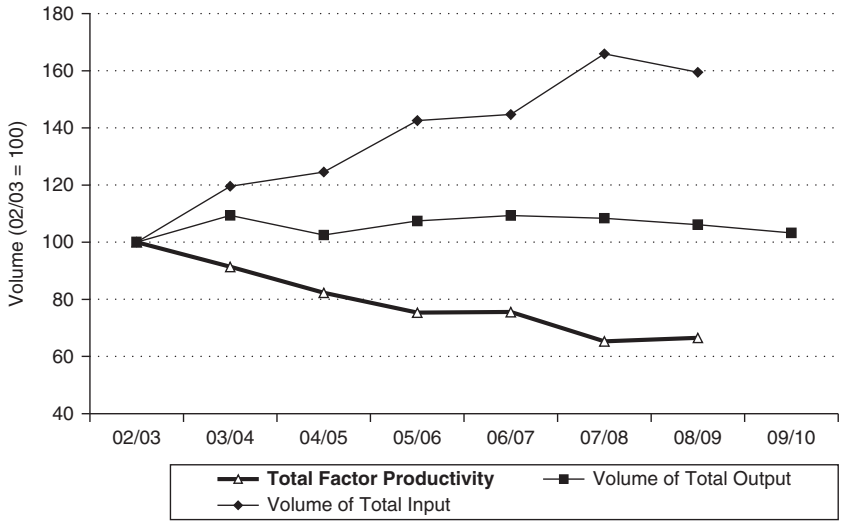
Variable	Evidence Used, and Adjustments Made
Outputs for vehicle and driver licensing	Total number of vehicles licensed per year, defined in terms of six activity streams: first registrations; changes of registration documentation; cherished transfer marks; duplicate registration documents issued; the number of police enquiries; and the number of customer enquiries Plus, total number of drivers licensed per year, defined in terms of 11 activity streams: renewals of driving licences; replacement driving licence issued; first applications processed; duplicate driver licences issued; exchange driver licences issued; vocational driving licences issued; medical renewals; Smart Tachos (for lorry drivers); ten-year renewals; the number of customer enquiries by drivers; and other driver transactions
Cost-weighting of outputs	Data provided by DVLA show outputs performed in under one minute; those lasting between one and three minutes; and those more than three minutes. We used this information as a proxy for costs. We weight adjusted transactions under one minute by 0.25; those taking one to three minutes by 0.35; and those over three minutes by 0.4 (thus a full transaction might involve four activities of less than one minute; or 2.5 activities lasting more than three minutes)
Inputs, for total factor productivity	Deflated staffing, outsourcing, procurement and capital costs published in DVLA annual reports
Inputs for staff productivity	Number of FTE staff in DVLA, obtained from annual reports

Note: The Atkinson Report (2005b) did not comment on DVLA activities.

This information is carefully measured, so weighting by time taken can serve as a reliable proxy for our more normal cost-weighting of outputs.

Turning to quality-weighting, the record of DVLA (and DVLC before it) was remarkably uniform, without any periods of administrative crises and without any marked changes in the apparent quality of the services provided. The introduction of the photocard driving licence was a substantial technical task for the agency, but it lagged years behind similar agencies in other countries shifting to this form of licence. It proved popular with

Figure 6.6 Total factor productivity in DVLA

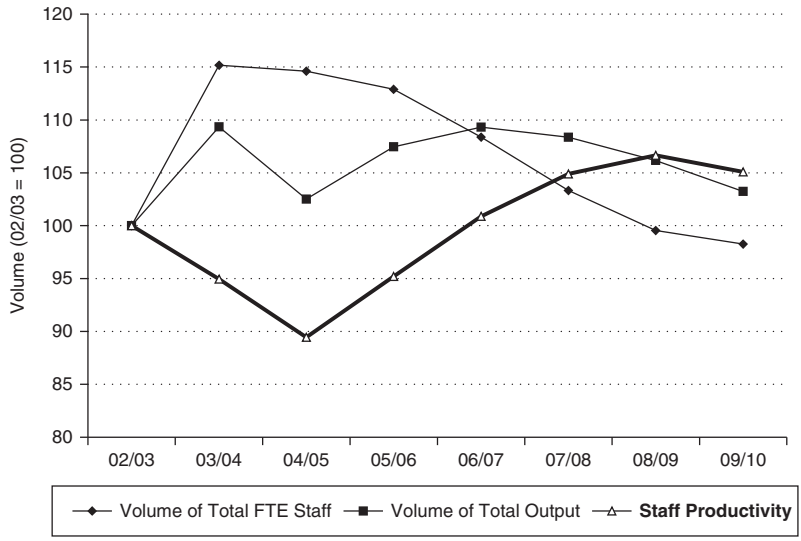


customers, but since it is now compulsorily consumed we can see no basis to treat it as a quality enhancement. The inauguration of online vehicle re-licensing was a genuine boost to quality for those customers using it, yet it seems entirely analogous to other e-commerce changes occurring across the economy at around the same time because of technological change. Clearly DVLA's estimates of vehicle tax evasion fell radically, which might imply a quality increase, but this was mainly due to stronger and more demanding regulatory powers given by Labour ministers in the mid-noughties. Claims that the quality of DVLA databases has improved could be a stronger basis for some re-weighting. But there is no quantitative evidence to back up this suggestion. And with increased computerization and more automatic enforcement by police there are several possible sources of improvements.

Turning to input costs, as with passports, for the total factor productivity analysis DVLA's agency status means that excellent information is provided in annual reports on staffing costs, the costs of outsourcing (mainly to the agency's main IT supplier, IBM) and capital costs. All costs were deflated to 2002 price levels. Finally, for the labour productivity analysis we obtained data on DVLA's staffing levels in terms of FTEs over our study period. Overall, we believe that these input data are of good quality.

Figure 6.6 shows our estimate of total factor productivity in DVLA over the recent decade. Despite the long-term growth of vehicle numbers (shown in Figure 6.4), from 2002 onwards our measure of total outputs in fact rose by slightly less than a tenth in the early years. It then bobbed

Figure 6.7 Staff productivity in DVLA



along at this level, eventually settling back at the original starting point in 2009–10 as the economic recession bit. Meanwhile total factor inputs rose much more strongly, by 60 per cent from 1999 to 2007. They ceased to grow as the Gershon Review savings on back-office costs began to have an effect (see also Chapter 4) in DVLA in 2008. Across the period, the combined effects of these two trends, however, was that total factor productivity in fact declined by nearly a fifth between 2002 and 2005, and then by a further tenth in 2007. Thus in 2009 productivity stood at less than two-thirds of DVLA's initial level eight years earlier.

Turning to staff productivity the total outputs curve is the same as before (although rescaled here). Figure 6.7 shows that in-house labour inputs climbed by 15 per cent in 2003, a steep increase. They then declined thereafter, and most steeply in the 2005–08 period. This also coincided with a crackdown on staff absences triggered by the critical NAO (2007b) report, perhaps suggesting that a general tightening up of internal agency management occurred here. As a result, staff productivity reached its lowest point in 2004 and then rebounded strongly to 2008, levelling off with the fall in outputs then. So there is a clear divergence in the evolution of the total costs of the agency and the number of FTE staff in DVLA. The stagnation in Figure 6.6 above apparently reflects the increasing costs of the agency's ICT function (run by IBM), plus other non-staff cost increases in the later part of the noughties.

Conclusions on Driver and Vehicle Licensing

Perhaps one of the key lessons of the DVLA case is that achieving productivity gains over time is not as straightforward as it may look. The Baumol effect for relative prices in public services to rise over time is not easy to counter or avoid. In our study period the agency was concerned to make step changes in the inclusiveness and accuracy of its databases for both drivers and vehicles – to enhance their usefulness for wider governmental purposes, including policing and anti-terrorism or homeland security. In this last respect, completeness and accuracy are especially important, since the intelligence task is appropriately thought of as searching for a needle in a haystack. Some changes were introduced in both areas, including the transition to a partly photocard licence for drivers and the radical tightening up of the laws on continuously registering vehicles, transferring ownership and so on. Unfortunately, we do not have information available on database quality that would allow us to make appropriate quality adjustments over time, even assuming there was a case for doing so.

In addition, the agency's lack of unit costs data means that we have had to rely on weighting outputs only by the time taken to complete them, which subdivides activities into only three time segments (less than a minute, one to three minutes and over three minutes). So we probably have less refined cost-weighting information here than in our other cases examined so far. All of these costs- and quality-weighting issues mean that we need to treat the current evidence of DVLA's falling productivity with some caution.

However, there also seem to be some important substantive reasons why the DVLA's productivity record shows a decline. Although the organization has been an executive agency for a long time, there are indications that it was not very tightly managed at periods. Its remote location in Swansea restricts its labour pool, and the 2007 scandal over sickness absence rates amongst staff (subsequently completely cured) suggests that internal management was poor up to then. It was only in the Gershon period that staff numbers fell. These gains were more than offset by cost increases in total factor inputs elsewhere. The organization also has had high IT costs due to a very long-standing and apparently 'cosy' relationship with one very large IT company. ICT costs rose very appreciably, and doubled in a new deal with IBM announced in 2009 (*Guardian Professional*, 2009).

Finally, the agency has achieved an impressive transition to online transactions for vehicle registration, but in a complex area where the share of customers moving to electronic processes got stuck more or less in the

middle. While DVLA has shut down almost all of its original 81 local offices doing face-to-face transactions, the paper application and Post Office routes continue to predominate in how customers interact with the agency. This may be because of the poor Government Gateway interface, or because of customers' conservatism over the documentation requirements for vehicle registration, or because customers often still need to interact with a person in order to understand the agency's complex forms and requirements. A 2011 Cabinet Office resolve to promote 'digital by default' services may enable DVLA to restart the stalled progress towards electronic contacts becoming the norm (around 80 per cent of the total), and thus allow it to cut its cost base elsewhere. But in the past the agency has shown an inability to develop apparently straightforward innovations. For instance, it has no integrated household account to pool together its dealings with citizens at one address. It has not implemented direct debit forms of payment for vehicle excise duty especially. And more recently it has yet to develop apps to make licensing and re-licensing much simpler. These all suggest that at present (2011) DVLA still has a long way to go in its ICT and transactions modernization efforts.

Conclusions

Government regulatory agencies create their own demand, and coerce consumers into purchasing their products, putting them in an unusual position compared with firms. Yet they also mostly cover their administrative expenses through fees, putting them in a different position from tax-funded government departments and agencies. The different stories set out here reflect how regulatory agencies can resolve the tensions of their roles. In passports a signal disaster in core administration triggered a costly but successful effort to prevent recurrences, with administrative costs and (episodic) fees rising sharply. The agency additionally had to adapt to changing external demands for more 'homeland security' from politicians and external countries. In transport licensing the agency upgraded both its key licence 'product' and the quality of its databases, but was much more politically constrained in its ability to increase its revenue-raising and highly visible annual fees. Neither agency succeeded in increasing productivity, partly because the outsourcing of IT operations proved expensive, and partly because the inherent complexity of their forms and incomplete movement online kept internal costs high, as baffled customers rang up in huge numbers (and millions also paid Post Office staff for extra advice and checks).

NOTE

1. Throughout the early and mid-twentieth century it was called the Ministry of Transport, hence the famous 'MoT test' of the roadworthiness of Britain's older cars – a label that endures to this day. In 1970 Transport was absorbed into a merged 'super-ministry', the Department of the Environment, which lasted until 1976, before a Department of Transport split off again for a few years. In 1997 Prime Minister Tony Blair rolled up the transport function again into a wider ministry, called the Department of the Environment, Transport and Regions (DETR). His chief purpose was to provide a larger ministerial powerbase for John Prescott, the PM's key Labour Party ally against Gordon Brown. Yet DETR was as always too big and unwieldy to be successful, and Prescott proved ham-fisted as a minister. In 2001 Transport again once again became a cabinet department on its own.