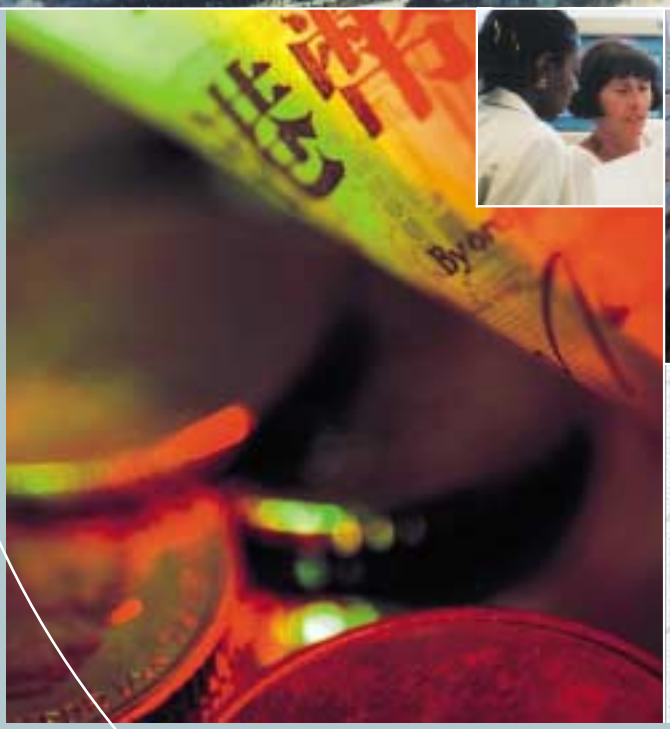
Export Credits Guarantee Department



THE ECONOMIC RATIONALE FOR THE PUBLIC PROVISION OF EXPORT CREDIT INSURANCE BY ECGD

Cm 4791

NERA – National Economic Research Associates

The Economic Rationale for the Public Provision of Export Credit Insurance by ECGD

A Report for the Export Credits Guarantee Department

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Project Team:

Professor Saul Estrin, London Business School

Stephen Powell, NERA

Dr Pinar Bagci, NERA

Simeon Thornton, NERA

Peter Goate, NERA

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Executive summary

1. Introduction

NERA has been commissioned by the Export Credits Guarantee Department (ECGD) to assess the economic rationale for its provision of export insurance and export credit guarantees (EXIG). The Terms of Reference are attached as Annex A.

Our research has consisted of an analysis of the theoretical arguments for public intervention in the market for export credits and a series of interviews with government officials, bankers, insurance and reinsurance brokers and underwriters and capital goods exporters.

2. Overview of the market place

EXIG is used to provide insurance cover of medium- to long-term capital goods exports to developing countries. Typically, cover for cash contracts will be from three to eight years' duration. For export credit guarantees, the total risk horizon can be as long as 16 years. The value of individual covers typically ranges from about £100,000 to about £500 million total exposure.

In 1997/98, ECGD underwrote £3.2 billion of cover for exports. Total premium income on all business during the 1997/98 financial year was £126.5 million, and total exposure on all business was £23.1 billion as of 31 March 1998. The business covered is lumpy – the total cover of £3.2 billion was accounted for by 199 guarantees, five of which were over £100 million in size. These five projects had a combined value of £1.1 billion.

EXIG supports exporting firms in three industrial sectors: civil projects, military and civil aerospace. The majority of countries receiving exports backed by EXIG are developing countries.

ECGD faces both public and private sector competitors. Its public sector competitors are other export credit agencies (ECAs), backed by foreign governments, that underwrite medium- and long-term risks with the guarantee of the State. Private sector competitors include the capital markets, exporters or banks that would be prepared to bear the risks without cover, or private sector insurers, with backing from reinsurers. In our interviews, however, we found that there were no reliable private sector substitutes for the country of destination, or the tenor and size of risk that is currently covered by ECGD.

Most ECAs, including ECGD, have incurred heavy losses in the past 20 years. In ECGD's case, however, there is a picture of positive financial returns since a more rigorous financial objective was introduced in 1991. In addition, in April 1999 the Organization for Economic Co-operation and Development (OECD) introduced a harmonised country risk premium system designed to ensure that in aggregate, all OECD ECAs meet the World Trade Organization (WTO) objective of breaking even in the long run. It could be argued, however, that this breakeven objective in itself involves an implicit subsidy element, as we discuss below.

3. Framework of the analysis

Government intervention is typically justified by economists by the need to offset some form of market failure, or the desire to redistribute income. Intervention can take various forms ranging from financial transfers to the direct provision of a good or service. In all cases, intervention is only justified if the benefits of intervention outweigh the costs. To maximise efficiency, the intervention should be targeted as closely as possible on the source of inefficiency or inequity.

In this paper we assess whether there is a market failure justifying government intervention, whether public sector provision is the most efficient solution to that failure and whether there is a rationale for subsidising that provision. In reviewing the economic rationale for the public provision of EXIG, we therefore assess two separate arguments:

- that it is more efficient to provide EXIG through ECGD than an alternative private sector operator; and
- that EXIG should be provided at subsidised rates.

4. Justifications for ECGD provision of EXIG

There are a number of arguments in support of the claim that it is more efficient for ECGD to provide EXIG.

First, as a public sector body underwritten by the Exchequer, it has greater risk bearing ability than private sector operators. In particular, it is able to spread its exposure to risk over the entire population of taxpayers and, owing to its tax-raising powers, it is subject to no threat of bankruptcy. Generally, higher administrative costs and moral hazard problems would argue against the public provision of insurance for risks borne by the private sector. The specific nature of the risks covered under EXIG (lumpy, low frequency, largely exogenous to the insured party) would tend to offset these problems, however.

Second, ECGD has access to classified information which may help it better to quantify the risks for which cover is provided. A decision to provide cover may then act as a signal to private sector operators to provide finance for a project. The Government also has a unique range of instruments with which to lessen the risk of loss, and to pursue claims in the event of a loss. We would consider this ability to reduce risks to carry more weight than the Government's informational advantages.

Third, ECGD enjoys 'first mover advantages' relative to new entrants to the export credit insurance business. The most important of these advantages is that it has been able to build up a reputation with customers, which takes a long time to develop, and is particularly important in this form of insurance.

There is some merit in the argument that ECGD is currently a more efficient provider of EXIG than alternative operators (although ECGD may be currently constrained in its ability to make full use of its advantages because it is required to meet conflicting policy objectives). The implication of such an argument is that it would not be desirable to cease provision of EXIG or to privatise the current portfolio of risks, since doing so would entail a loss of efficiency. Moreover, we could not find evidence of sufficient appetite within the private sector for taking on ECGD's book.

However, it is not possible to conclude definitively from the current lack of appetite and shortfall in private sector provision that the public sector is more efficient, since there is a possibility that ECGD's premium rates are subsidised. If this is the case, then public and private sector operators are not competing on equal terms with each other.

5. Identification and quantification of subsidies

We consider a variety of approaches to identifying and quantifying any subsidy element in current premium rates.

It is impracticable to seek to identify a subsidy element in ECGD premium rates by comparing current rates with those in the private sector. This is because private sector operators do not currently offer the type of cover (in terms of risk horizon, risk exposure, quality and country of destination) available through the ECAs, and premiums are often calculated and quoted on a different basis. Moreover, a differential between prices charged by the public and private sectors does not constitute evidence of subsidy if a public provider enjoys advantages in this sector that would allow it to price below a private provider without a subsidy element.

An alternative approach consists in analysing the financial returns of ECAs, on the basis that sustained losses over a sufficiently long period of time could not be explained by expectational errors but must be the result of an explicit policy of underpricing. An analysis of the financial returns of ECAs, including ECGD, reveals that heavy losses were incurred in the 1980s, although ECGD's returns show a surplus since the introduction of a more rigorous financial breakeven objective in 1991. Given the size and lumpiness of EXIG risks and the length of risk exposure, there is insufficient data on which to make well-founded inferences. But the initial indication from results to date suggests that ECGD is meeting its breakeven financial target under the new regime.

There is no provision, however, for making a rate of return on the notional capital required to meet claims. We believe that a true breakeven target that imposed no cost on taxpayers would include such provision, and that the appropriate benchmark against which to measure the level of subsidy is the premium income that would be required to earn an appropriate rate of return on this notional capital. To calculate implicit subsidies against the benchmark of earning an appropriate rate of return, two pieces of information are required in addition to data on premium income, claims, administrative costs and recoveries:

- the value of capital that would be needed to support the contingent liabilities in the portfolio;
- the appropriate rate of return on that capital.

The process of determining both these elements is likely to be complex and contentious, involving value judgements that must ultimately be made within Government. Indeed, adopting a policy of seeking remuneration for taking on contingent liabilities would have important implications across Government, and we would recommend that HM Treasury commission a study to investigate these issues as a first step towards generating a consensus. This process would allow for quantification of the subsidy element in current premium rates.

6. Justifications for provision of subsidies through EXIG

There is a wide range of arguments for providing EXIG to capital goods exporters at subsidised rates, including:

- the possibility of meeting aid objectives through subsidised cover;
- the notion that there exist positive externalities, such as technological spillovers in the capital goods export market; and
- the argument that it helps to reduce unemployment.

We consider that none of these arguments provides an adequate justification for providing EXIG at subsidised rates.

First, the countries and sectors benefiting from EXIG-backed exports do not correspond closely to the countries that are priority recipients of aid or to the industrial sectors in which aid resources are invested. Second, there is little evidence for the existence of externalities in the capital goods export market, and EXIG would in any case be an indirect method of correcting for such externalities. Lastly, unemployment is widely believed to be a structural phenomenon. It is hard to see how the public provision of export credit insurance would be an appropriate instrument to address structural causes of unemployment.

The analysis becomes more complex when we consider the interaction between UK policies and those of other countries. The argument that it is legitimate to support exporters, through the subsidised public provision of EXIG, when other countries are doing so, is invalid. However, in the case of those particular sectors supported by ECGD's EXIG business, which have significant sunk costs and barriers to entry, re-entry into a market may be difficult once it has been abandoned. A temporary disparity between countries in the provision of EXIG subsidies could therefore permanently change the nature of the long run equilibrium.

We conclude that multilateral negotiation should be attempted before rates are raised unilaterally to eliminate any subsidy. The length of time for which negotiations should be pursued before taking unilateral action should be determined through a quantification exercise.

7. Weighing up the costs and benefits of ECGD provision of EXIG

Whilst this report is not in itself a quantitative analysis, we set out a framework for a future quantitative exercise that will allow the costs and benefits of EXIG to be measured.

If EXIG were provided at unsubsidised rates, then premium income would cover all the costs incurred in providing the service. The benefits of EXIG could then simply be measured as the value added of the export credit insurance and guarantees business (i.e. claims, bought-in costs and wages and salaries plus a return on capital).

The costs to the Exchequer of the subsidy element in the premiums currently charged is calculated as the difference between current premium income and that which would be required to earn an appropriate rate of return on the 'notional capital' required to support current risk exposure. The benefits of providing a subsidy are equal to the adjustment costs that would be incurred through the unilateral raising of premium rates. Further quantitative analysis will be necessary to estimate these costs and benefits, which will be the key factor guiding policy towards multilateral negotiations over premium rates.

8. Conclusion

The objective of this study has been to review the economic rationale for the public provision of export credit insurance and guarantees. In carrying out this remit, we have analysed two separate hypotheses. The first is that it is efficient for ECGD to provide EXIG. The second is that it is efficient for EXIG to be provided to exporters at subsidised rates.

The arguments in favour of the first hypothesis are relatively strong. The advantages available to ECGD as a government institution and the reputation it has succeeded in establishing both lend support to this argument. However, we cannot definitively determine whether ECGD is indeed the most efficient provider of EXIG until it competes on equal terms with the private sector. This will only occur when subsidies currently contained in its premium rates are eliminated. The various justifications for providing any subsidies through EXIG (that they meet aid-related, industrial policy and employment objectives) are weak.

Once an approach to remunerating notional capital has been agreed, the size of the subsidy in current premium rates can be determined. We would then recommend trying to secure support for a multilateral increase in premium rates to eliminate these subsidies. Further quantitative analysis would be required to establish how long such negotiations should be continued before raising rates unilaterally.

If all subsidies are eliminated, one of three scenarios is possible. Customers may still wish to use ECGD's services and private sector entry may be minimal. This would imply that ECGD is able to provide cover at lower cost than alternative private sector operators, and that the efficiency arguments are vindicated. Alternatively, private sector operators may begin to take over future business, which would imply that the only advantage ECGD currently enjoys is the subsidy included in premium rates. A final possibility is that the current level of business might not be sustainable without subsidisation, and resources will be diverted elsewhere.

In all of these cases, efficiency will have been improved relative to the status quo.

9. Policy implications

1. We consider that ECGD should continue to provide cover for medium- to long-term capital goods exports. We do not consider there to be a strong case for privatising ECGD's current portfolio of medium- to long-term export credit guarantees, or for ceasing to underwrite new business.

2. However, we do not consider that the provision of any subsidies in ECGD's premium rates is justifiable in the long run. We would recommend that ECGD work towards identifying, measuring and eliminating any subsidy element in its premium rates, to allow for an adequate rate of return on notional capital.

3. We would recommend that, if the presence of a subsidy is confirmed, ECGD should seek to secure support for multilateral increases in premium rates, phased over an agreed period. The length of time for which negotiations should be pursued should be determined by the above quantification exercise.

4. We do not consider it desirable to broaden ECGD's remit to include aid-related, environmental or other objectives not strictly related to its core functions as an insurer of medium- to long-term exports. Indeed, we would recommend that consideration be given to means of underpinning this exclusive focus through increased institutional autonomy and clearer indicators by which to evaluate performance.

1. Introduction

NERA has been commissioned by the Export Credits Guarantee Department (ECGD) to assess the economic rationale for its provision of export credit guarantees and various export-related insurance products. Our research consisted of an analysis of the theoretical arguments for public intervention in the market for export credits and a series of structured interviews with market participants. Interviews were conducted with government officials, bankers, insurance and reinsurance brokers and underwriters and capital goods exporters.[1] This report presents the results of our research.

The rest of this report is structured as follows:

1. In **Chapter 2**, we give an overview of the guarantee and insurance products under review. We describe the nature of risks they are used to cover, the types of exporting firm and importing country that benefit from the cover and ECGD's public and private sector competitors.

2. In **Chapter 3** we provide the theoretical framework for the analysis of following chapters. We give a brief review of the range of arguments for government intervention in markets, distinguishing between those that are predicated on the existence of market failure, and those that are not. We also set out some principles for effective government intervention. Annex B presents a more detailed discussion of these arguments.

3. In **Chapter 4**, we assess the arguments in favour of the provision of cover for medium- to long-term export credits through ECGD rather than alternative private sector providers. Among the arguments we review, we consider whether certain characteristics of the Government may give it an advantage over the private sector in quantifying, bearing and controlling the risks for which export credit cover is provided.

4. In **Chapter 5**, we consider a variety of approaches to identifying and quantifying any subsidy element in current premium rates. We analyse financial returns both before and after the introduction of ECGD's more rigorous breakeven financial objective in 1991, and set out arguments that would suggest that this objective does not take account of all the costs incurred in providing EXIG, implying that the current rates contain a subsidy element.

5. In **Chapter 6**, we consider the strength of arguments for providing export insurance and guarantees to capital goods exporters at subsidised premium rates. A number of possibilities are considered: that subsidies are desirable because they help to meet aid-related objectives; that subsidies are necessary to support exporters; or that subsidies can be justified on account of the support that other governments provide to their own exporters.

6. In **Chapter 7**, we address the question of how the costs and benefits of ECGD provision of export credit guarantees and insurance might be calculated. We provide an overview of available data, and set out a framework for a quantification exercise that might follow on from the current study.

7. In **Chapter 8**, we draw together the conclusions of each of the previous chapters and identify the policy implications of our research.

8. In **Chapter 9**, we present our conclusions.

1 See Annex L for a full list of interviewees. In all, we interviewed 14 government officials, 8 bankers, 10 insurance and reinsurance brokers and underwriters and 8 capital goods exporters.

2. Overview of the market place

In this chapter we briefly describe the guarantee and insurance products under review. We present a breakdown of the cover provided by nature of risk, type of exporter and by importing country. We also provide an overview of the recent financial returns of ECGD and other ECAs.

2.1 The form of intervention

This report considers the rationale for two of the generic insurance and guarantee products that ECGD offers. These are:

- the cover it provides for exporters in respect of 'cash' or near-cash contracts for contract frustration risks or non-payment of amounts due for capital goods and services; and
- the cover provided for exporters or banks against non-payment of medium- to long-term credits or loans.

In respect of the first type of cover, ECGD offers to exporters an instrument called an Export Insurance Policy (EXIP). The risks covered include both commercial and political risks. Commercial risks include the possibility of insolvency of the purchaser and failure to meet contractual obligations. Political risks may include actions on the part of the government of the exporter's country (imposition of export licensing, trade embargoes) but normally relate to economic factors or actions of the government at the importing end of the transaction (restrictions on the transfer of money due under the contract, moratorium on external debt and other actions that affect contract performance). Insurance against political risks also covers wars, civil disturbances and natural disasters within the importing country that frustrate the contract or lead to non-payment.

Several separate ECGD instruments are used to provide cover for export credits (the second type of cover). Most transactions are financed through Buyer Credits or Supplier Credit Finance Facilities, where the exporter is paid by a bank in the UK and the UK bank offers credit to the overseas buyer. For these transactions ECGD offers an export credit guarantee which differs from an insurance policy in that it provides unconditional cover for non-payment, regardless of the cause.[2]

2.2 Nature of risks covered and size of intervention

Cover for cash contracts will typically be from three to eight years' duration. For export credit guarantees, a typical construction period will be of three years' duration, and subsequent repayment period of two to ten years' duration. In exceptional cases, the total risk horizon can be as long as 16 years. The value of individual covers typically ranges from about £100,000 to about £500 million total exposure. ECGD's short-term export credit insurance business (covering risks of no more than two years' duration) has been privatised.

2 Throughout the report, when we wish to refer both to the insurance and guarantee instruments, we will use the acronym EXIG ('export insurance/guarantees').

In 1997/98, ECGD underwrote £3.2 billion worth of cover for capital goods exports. The majority of the business covered (£2 billion) was supported through Buyer Credits. For comparative purposes, the total value of UK goods exports in 1997 was £171.8 billion. ECGD therefore covered just under 2 per cent of total UK goods exported over the period.

The business covered is lumpy – the total cover of £3.2 billion was accounted for by 199 guarantees, five of which were over £100 million in size. These five projects had a combined value of £1.1 billion.

Total premium income on all business during the 1997/98 financial year was £126.5 million, and total exposure on all business was £23.1 billion as of 31 March 1998.

2.3 Profile of industries supported by EXIG

In the capital goods and project business ECGD support is provided for three sectors: civil projects, civil aerospace and military exports, as shown in **Table 2.1** below.[3]

Table 2.1 Composition of ECGD cover by sector, 1996/97 and 1997/98

	Civil project sector		Civil aerospace sector		Defence sector	
	1996/97	1997/98	1996/97	1997/98	1996/97	1997/98
Value of business covered (£ million)	1,456	1,664	780	758	374	763
Percentage of total export cover	56%	52%	30%	24%	14%	24%

Source: ECGD Annual Report and Trading Accounts 1997/98

A relatively small number of firms are significant direct beneficiaries of ECGD support.[4] However, it should be noted that it is not simply the main contractor or principal manufacturer that benefits from the cover, but also the firms to which these lead players sub-contract.

2.4 Countries for which cover is provided

The majority of exports for which ECGD cover is provided is to emerging markets. ECGD periodically reviews whether to provide cover (to be 'on cover') for a particular country, according to substantive changes in the probability of that country defaulting on its debt. **Table 2.2** overleaf shows the 20 countries that received the highest value of EXIG-backed exports in 1997 and 1998.

3 The reason is that projects in these sectors tend to have long construction and repayment periods and tend to be of large value. Hence the risks associated with supplying these exports (or credits for these exports in the case of banks) are particularly great.

4 These firms include the firms we interviewed (see Annex L).

Table 2.2 Top 20 recipient countries of ECGD-backed exports, 1997/98

	Value of cover, £ millions		
	1997	1998	1997/98
China	383.8	449.5	833.4
Brunei Darussalam		580.3	580.3
Oman	402.7	22.1	424.8
Russian Federation	281.3	31.8	313.1
Indonesia	281.8	10.8	292.6
Philippines	179.2	70.2	249.4
Saudi Arabia	225.0		225.0
Brazil	68.3	140.1	208.4
Qatar	186.7		186.7
Sri Lanka		176.4	176.4
Egypt	27.3	142.6	169.9
Canada	145.0	17.8	162.8
Korea, Republic of	87.5	67.5	155.0
United Arab Emirates	93.1	45.6	138.7
Turkey	44.1	88.4	132.6
Thailand	33.8	80.8	114.5
South Africa	89.8		89.8
Hong Kong	36.8	47.6	84.4
Zimbabwe	56.2	27.6	83.8
India	63.2	18.9	82.2

Source: ECGD records[5]

2.5 Actual and potential competitors

ECGD faces competition for its insurance and guarantee products from both the public and private sectors.

2.5.1 Public sector competitors

Over 50 countries have ECAs that provide similar products to EXIG.[6] As is the case with ECGD, these ECAs stipulate that, to be eligible for cover, exports must contain no less than a given threshold of domestically-produced content. Thus, direct competition between ECAs (that is, for attracting business) only exists in respect of those exporters that enjoy a degree of flexibility in their sourcing decisions.[7] For exporters that have their own domestic manufacturing base (including most of the large UK military exporters), use of another ECA is less likely to occur.[8]

Other exporters (i.e. those that are primarily project managers and designers rather than manufacturers) could in principle exploit the competition between ECAs by putting pressure on them to reduce premium rates in return for agreeing to source within a particular country. The scope for doing so, however, has recently diminished with the establishment of a harmonised country risk assessment and pricing approach

5 ECGD records of new business, i.e. guarantees or insurance policies issued during these years which cover payment of principal and interest, which gives rise to the insurer's maximum liability – in other words, the value of cover.

6 Whilst in some cases the administration of these bodies has been transferred to the private sector, they are all public sector ECAs in the sense that the cover they provide for medium- to long-term exports is underwritten by their respective national governments.

7 Indirect competition exists between ECAs through their support for rival bidders for an export contract.

8 Several of these firms have entered into joint venture manufacturing agreements with foreign firms, however, which does afford them a degree of flexibility.

system at OECD level. This stipulates Minimum Premium Benchmarks (MPBRs) for seven country risk categories. No OECD ECA is permitted to set premiums below these benchmarks.[9]

2.5.2 Private sector competitors

An element of our research consisted of interviews with bankers, insurance underwriters and brokers and exporters, which were designed to help us gauge the current strength of private sector substitutes for EXIG. Private sector competition for ECGD cover could come from a variety of sources:

- exporters that would be prepared to bear the risks associated with these contracts on their own balance sheet;
- capital markets – including the bond and forfaiting markets;
- banks that would be prepared to bear the risks involved in providing credit without insurance or guarantees, acting either alone or in a syndicate; and
- private sector insurers, with backing from reinsurers.

On the basis of our interviews, we give an overview of the current capacity for risk bearing available through each of these routes. In practice, as we explain below, these options are not mutually exclusive. Indeed, they could also be used in conjunction with ECGD cover. For expositional purposes, however, we have reviewed each option separately.

2.5.2.1 'Self-insuring' exporters

In principle, the largest exporters may be prepared to bear the risks associated with long-term export transactions on their own balance sheet if they had sufficient capital and if their exposure to risks was sufficiently diversified.

In practice, we were unable to identify an exporter that did so regularly for the countries, the tenor and size of risks typically covered under EXIG.[10]

2.5.2.2 Bond and forfaiting markets

In principle, the bond markets can provide very long-term financing (in excess of 20 years). However, the appetite for developing country risk within bond markets varies considerably. Whilst from 1993 to 1997, the market was buoyant, there is currently little appetite for developing market risk.

Bond issues are not a suitable base financing option for the purposes of project finance. Since one can only gauge bond market appetite with any degree of certainty at the time of issuing a bond, in practice at the pre-selection stage bidders must make provision for a range of financing options. Indeed, an indication that ECA cover will be provided is sometimes used as a pre-selection criterion by project sponsors.

9 Exemptions exist for certain categories of business, such as military exports. Most ECAs do not charge higher than the benchmark rates. ECGD is an exception.

10 An exceptional case did occur in the cover provided for the export of an Airbus, for which the UK manufactures the wings. ECGD was 'off cover' for the country in question, whilst the French and German ECAs were on cover. The latter ECAs would not provide cover for the UK component of the plane, and the other partners would not permit Airbus to take on the risk, so the UK manufacturer was constrained to do so.

Forfaiting is an export finance mechanism involving the purchase (normally without recourse to the exporter in the event of payment default) of promissory notes or bills of exchange by a forfaiter. The payment instruments are normally guaranteed by a bank. The instrument is bought at a discount, reflecting financing costs until the due payment date, and the perceived risk of the guaranteeing bank and its home country.

The maximum tenor of risk for which forfaiting facilities are available was generally felt by market participants to be between three and five years. Comments from exporters suggested that for certain developing markets, maximum tenor was in practice two years. Further, they reported limited appetite for business in certain developing regions, such as Africa. The maximum value of risk that can be accommodated through forfaiting is limited, and it is generally felt not to be an appropriate instrument for the financing of large exports.

2.5.2.3 Banks

Without cover, bank provision of credit for these developing market exports would generally not exceed one year.[11] Their involvement in financing medium- to long-term exports is overwhelmingly as a customer of ECGD.

ECGD unconditional loan guarantees (for 85 per cent of the contract value) are often used to facilitate syndicated loan arrangements on the basis of what is known as a 'sweet and sour' deal. This term refers to the fact that banks are more likely to be prepared to lend at their own risk for the 15 per cent of the deal not covered by ECGD guarantee, if they stand to benefit from the guarantee in respect of 85 per cent of the contract value.

The ECGD guarantee is particularly advantageous to banks because they enjoy zero weighting on the 85 per cent covered by the guarantee for the purposes of calculating capital adequacy ratios.

2.5.2.4 Private sector credit insurance and political risk insurance

2.5.2.4.1 Current degree of competition through private sector insurers

There are certain advantages to using private sector insurance, including notably the fact that it entails no restrictions on the sourcing of export components, unlike ECA cover. Furthermore, private sector operators are likely to be more effective at bearing down on administrative costs than public sector operators. ECGD's short-term credit insurance business was privatised in 1991 and sold to NCM. However, a major disadvantage is that insurance cover provided by a private sector insurer, even one with a AAA rating, attracts 100 per cent weighting for capital adequacy purposes.

In respect of the medium- and long-term business, cover for trade risks at one of the major private sector political risk underwriters, AIG, is currently available for a duration of up to five years and for an exposure of up to $30 million for any one risk.[12] In comparison, in the 1997/98 financial year, ECGD provided cover for five projects of greater than £100 million. For investment insurance, cover for greater exposure and for longer risk horizons is available.

Private sector insurers sometimes become involved in this market through providing cover for the 15 per cent of contract value that is not covered by ECA guarantees. In this respect, their involvement, like that of the banks, often complements, rather than substitutes for, ECA cover.

11 Tenor depends on the specific country, but for most non-OECD countries bank tenor does not exceed one year. Tenor is limited even for some OECD countries (e.g. maximum tenor for uncovered lending for exports to Turkey is in the three to five year range).

12 High value cover on the cash and credit side can sometimes be found on a one-off basis within the Lloyds markets. However, this would tend to be reserved for the largest exporters exporting to less risky markets. Exporters Insurance Company provides long-term cover (in excess of ten years in some cases), but the maximum per risk limit is $50,000.

Insurers have been able to reinsure political risks with the largest reinsurer, Munich Re, since 1 January 1998. The risk horizon accommodated stretches to no more than two years. Reinsurance has been available for a longer time period through the smaller, specialised reinsurers such as Hanover Re, Employers Re and Gen Re.

There is a widespread view in the market that reinsurance capacity is cyclical, with appetite for 'peripheral business' such as credit risks being higher when the market is soft (that is, when there is an excess of capacity and premiums on core business are low) leading to a concern that provision will dry up when the market becomes hard, and reinsurers focus again on the core business.

Given the long lead-in times for most project business (and the significant level of resources that have to be dedicated to submitting a bid), the degree of assurance of cover that can be given by an insurer prior to contract signing was considered to be an important factor by most interviewees. In this respect, an indication from ECGD that cover would be provided were the bid to be successful was considered much more reliable than an indication from a private sector insurer.[13]

2.5.2.4.2 Private sector appetite for ECGD's book

With respect to the possibility of privatisation, we found no current appetite in the private sector for underwriting ECGD's current book of risks. One large insurer suggested they would possibly be interested in taking on the administration of ECGD's portfolio, with the risks still underwritten by the Government.[14] A broker suggested that there might be some appetite for reinsuring limited elements of ECGD's book.

It is reasonable to ask, in view of the successful privatisation of the short-term business, why there should be a lack of appetite for the long-term business. Part of the explanation for the appetite for the short-term business was a secular change in the years prior to privatisation in the destination of short-term exports – away from developing economies towards OECD markets, where the political risks were considerably lower.

Short-term exports also involve a smaller exposure to risk. This partly reflects the fact that they are less lumpy than long-term exports. In addition, a reinsurer expressed the view that there was less risk of non-payment for short-term exports, since importing countries would be less willing to see short-term exports dry up rapidly than to harm the prospects for medium- and longer-term project work. Perhaps most importantly, insurers and reinsurers all considered that political risks were possible to quantify over the short term, but difficult to quantify over the medium to long term.

For all these reasons given by interviewees, it would not be valid to infer from the successful privatisation of the short-term business that the long-term business could also be successfully privatised in the near future.

2.5.2.5 Conclusion on competition from the private sector

In conclusion, there was a common view from the market participants we spoke to that there were currently limited private sector substitutes (in terms of risk horizon, risk exposure and stability of provision) for ECGD credit guarantees. The possible substitutes we have considered are often used in conjunction with ECGD guarantees, which facilitate their involvement.

13 It should be noted that in neither case does an indication constitute a firm undertaking. Neither private sector insurers nor ECGD are bound to provide cover following an indication.

14 The objective of the current report is to consider whether there is an economic rationale for the public provision of EXIG (i.e. for government underwriting of risks). More detailed operational questions, such as whether to contract out administration, do not fall within the remit of our review.

We note, however, that in the case of cash contracts, although project size may be considerable, and overall tenor relatively lengthy, risk exposure is small relative to project size, because cash is being paid on a regular basis. It was generally felt amongst brokers that there were effective private sector substitutes for ECGD's cash cover products. This was echoed by one of the exporters interviewed, which used them in preference to EXIP, having previously used ECGD Specific Guarantees on a regular basis.

2.6 Financial returns of ECGD and other ECAs

All ECAs are required to meet the WTO objective of "breaking even in the long term".[15] This will be monitored on a global basis under the OECD harmonised country risk assessment system.[16] Historically, however, ECAs including ECGD have made significant losses. Annex D presents the annual cash flows of export credit business of Berne Union ECAs since 1982.[17] Cumulative cash flows from 1982 to 1997 amounted to a deficit of $47 billion.[18]

The financial performance of ECGD, shown in Annex J also reveals significant losses in the long term: from 1980/81 until 1998/99, the cumulative cash flow deficit amounted to £4.7 billion in 1998 pounds. However, Account 2 business, underwritten according to stricter financial criteria introduced in 1991, showed an overall surplus of £753.5 million on business from 1991/92 until 1998/99.

Care should be taken in interpreting all these results for reasons we discuss in Chapter 5. In that chapter we enter into a more detailed analysis of the financial performance of ECGD and the other ECAs, and in particular the extent to which they are providing subsidies in their premium rates.

15 This objective is not defined in any detail, however. It could be interpreted as requiring 50 per cent confidence of break-even over whatever timescale is considered to represent the long term.

16 The adequacy of existing MPBRs to cover expected losses and include an element for administrative costs will be examined, but the performance of individual ECAs will be lost in this aggregation.

17 The Berne Union is otherwise known as the International Union of Credit and Investment Insurers. It was established in 1934, and now comprises roughly 50 of the largest ECAs and investment insurers from both OECD and non-OECD countries.

18 The data, from Stephens (1999), are presented in the form of nominal yearly returns. Expressed in 1997 dollars, cumulative cash flow losses incurred by the ECAs over the period amounted to $64.57 billion.

3. The framework of the analysis

In this chapter we explain the conceptual framework of our analysis. We first give a brief review of the standard economic justifications for government intervention in the economy. These include interventions to offset market failures, to redistribute income on the basis of equity considerations or to influence the policy decisions of foreign governments.

We then consider principles concerning the optimal form of intervention, including the level of intervention, the need for appropriate targeting and those cases in which the Government might be better placed to intervene as an agent rather than through redistributing resources through private sector operators.

Finally, in the light of these principles, we present an outline of the analysis of the following chapters.

3.1 Market failure

There is a range of possible market failure arguments for government intervention. These are predicated on the assumption that the market has moved away from the competitive market benchmark of efficiency, as defined within the discipline of welfare economics. This competitive market outcome is said to be efficient in two senses. First, it achieves allocative efficiency in the sense that there is no alternative allocation of resources that would make at least one individual better off without making anyone worse off. Second, it achieves productive efficiency by ensuring that firms will produce at minimum cost. Prices in competitive markets ensure that production of a good will proceed up to (and no further than) the point at which its marginal cost to firms equals its marginal benefit to consumers.

To be considered perfectly competitive in the sense used by economists, a market must meet fairly exacting criteria.[19] In practice, it is unlikely that many markets fully meet these criteria. Nevertheless, in most cases, the competitive market model is considered to be a tolerably good approximation of reality, and competitive markets are assumed to achieve the best possible outcome without significant government intervention.[20] Only where there is a serious breakdown in the assumptions of the benchmark model is there considered to be a genuine market failure. Market failure may justify government intervention, but only if the benefits of that intervention outweigh the costs.

3.1.1 Sources of market failure

Several distinct forms of market failure can be identified. We list them here, giving a brief explanation. A fuller discussion is provided in Annex B. A market is normally considered to have moved away from the competitive benchmark if there is evidence of:

- exercise of **market power**, resulting in monopoly rents accruing to the dominant firm and production below the social optimum;

19 The standard criteria are that markets are complete, competitive and in equilibrium.

20 Some minimal form of government regulation – e.g. to ensure the existence of enforceable contracts – is almost always required.

- **negative or positive externalities**, in the form of costs or benefits to others created in the production or consumption of a good or service but which are not captured in the price of that good, resulting in inefficient levels of consumption or production;

- **public goods**, the consumption of which does not reduce the amount available for others to consume, such that the marginal social benefit of production exceeds the marginal private benefit, resulting in under-provision of a good or service;

- **imperfect information**, resulting in consumers and producers using inaccurate or incomplete information to assess the costs and benefits of choices concerning production and consumption; and

- **asymmetric information**, when relevant information concerning the expected profitability of a contract is unequally distributed between the two contractual parties ('adverse selection'). Information asymmetry may also lead to difficulties of monitoring the post-contract behaviour of an agent, which may directly affect the profitability of the contract ('moral hazard').

3.1.2 Missing markets

The last three cases of market failure (public goods and extreme cases of asymmetric and imperfect information) can lead not only to an inefficient allocation of resources, but to an absence of trades altogether, that is, to the problem of missing markets. There is no price at which trades will take place.

For example, the essence of the externality problem is that there is no market for the externality, and it is therefore not captured in the price of the good. Forms of government intervention to counteract externalities include the assignment of property rights to establish a market for the externality. Similarly, the fact that there is no feasible means of excluding others from consumption of a public good means that there will be no market for that good. Governments can tackle the problem of public goods through ensuring the production of the good or service that cannot be provided through the private sector. Extreme cases of imperfect and asymmetric information may also lead to a breakdown of markets. Such problems are often illustrated with reference to missing markets for future goods and for risk (e.g. missing insurance markets).

3.2 Redistribution

Competitive markets will ensure efficient outcomes, but not necessarily equitable outcomes. The desire to produce a more equitable allocation of resources provides a further justification for government intervention. In this sense, it could be considered to be maximising a social welfare function that gives added weight to the wealth of those at the lower end of the income distribution. The goal of redistribution can explain important features of government tax and welfare systems, and – of particular importance in the context of the present study – lies at the root of aid transfers to developing countries.

It is important to note that equity considerations can never be entirely divorced from efficiency considerations. First, inasmuch as the aims of redistribution are met through monetary transfers, the resources required must be generated by taxation or government borrowing, which introduces a distortion into the economy. Second, a direct allocative distortion is introduced if redistribution aims are pursued through administrative controls on prices (e.g. rent controls, minimum wage legislation).

3.3 Offsetting inefficiencies created by government intervention

A further justification for government intervention is based not on the existence of market failures or equity considerations, but on the existence of inefficiencies created by the actions of foreign governments. In such circumstances a government may wish to use domestic policy in a strategic sense, to influence the policies adopted by foreign governments. The ultimate goal of these strategic policies would not be to offset the distortions imposed by other governments to reach a 'second best' outcome, but to eliminate distortions in the long run and return to a 'first best' world.

3.4 Principles for effective government intervention

We have so far considered three distinct rationales, or motivations, for government intervention in market allocation of resources. An equally important consideration relates to the appropriate form, extent and focus of government intervention, once the rationale for that intervention has been established.

3.4.1 The form of intervention

The Government's ability to intervene in a market arises from the peculiar characteristics it enjoys as an economic agent:

- it has powers of compulsion, including powers of proscription; and
- it has the property of universal, obligatory membership.[21]

These powers give governments the ability to intervene in markets in a variety of ways:

- through financial transfers (the use of taxes and subsidies);
- through imposing regulations (including regulations to enforce property rights and contractual obligations, professional and consumer standards regulations, and the economic regulation of utilities); and
- through directly providing a good or service.

The form of intervention adopted will depend on the production characteristics of the market in which the intervention takes place. For example, although a public good is defined according to its consumption characteristics, whether the Government intervenes simply by providing funding for private sector delivery of the good (e.g. street cleaning) or by direct provision of that good itself (e.g. the Army) depends on the good's production characteristics.

There are many other cases in which the Government is better placed to intervene than the private sector. To take an obvious example, its property of universal membership means that it is uniquely placed to represent the country in diplomatic relations with other governments.

21 These powers also place important constraints on the freedom with which the State can act in a democratic society – there is a general requirement to use funds coercively raised in a fair and equitable manner. This is an issue that we discuss in Section 4.5.4.

3.4.2 The extent and focus of intervention

Two principles should guide the use of any policy instrument: that the benefits of intervention should outweigh the costs, and that the instrument chosen should represent the most effective means of achieving the stated policy objectives.

In practice, the difficulties of quantifying the costs and benefits of a particular intervention may be severe. These difficulties arise, for example, in the case where many of the benefits accruing from the intervention are not traded, and hence are not assigned a monetary value in a market.[22]

The second principle – that the instrument should be the most effective means of meeting given policy objectives – is most likely to be satisfied by appropriately focusing the intervention. That is, intervention by the Government to offset a market imperfection or redistribute income should be as closely targeted as possible on the source of inefficiency or inequity.[23] Specific, targeted interventions are preferable to broad programmes that may have some impact on a range of government policy areas.

Adhering to this principle has the key advantage that it makes the rationale for the intervention, and its costs and benefits, more transparent. This in turn:

- improves focus and avoids the possibility of conflicting objectives, hence facilitating implementation of the policy;
- allows for more effective evaluation and scrutiny of the intervention, and hence for more informed policy debate;
- enables comparison with the policies adopted by other governments, facilitating co-ordinated multilateral reform; and
- hence ensures that resources can be used as efficiently as possible, and in accordance with changing policy objectives.[24]

These principles for government intervention are widely accepted. We recall them at this stage simply because it will help to focus the discussion in the following chapters.

3.5 Overview of arguments in following chapters

In the light of the above discussion, we consider in the following chapters the arguments that could be made in support of ECGD's provision of EXIG. The public provision of export credit insurance and guarantees potentially corresponds to two separate forms of government intervention: intervention through direct provision of service, and intervention through financial transfers (if that service is provided at subsidised rates). Accordingly, the arguments we analyse correspond to two separate questions:

- is there a case for providing EXIG within the public sector?; and
- is there a case for providing EXIG at subsidised rates?

22 In such cases, a possible solution would involve the use of contingent valuation techniques (e.g. surveying samples of the population to estimate 'willingness to pay' for certain non-traded goods). Such an approach would be resource-intensive, however.

23 Similarly, if the aim of a policy is to influence the policies of another government, there should be a clear channel through which this influence can be exerted.

24 We should also note that policy reform, particularly reform involving the elimination of a subsidy, is likely to meet with the opposition of the interest groups that benefit from the subsidy. The broader the policy instrument in scope, the greater the number of interest groups with an interest in preserving the status quo and hence the greater the political costs of reform.

In Chapter 4, we address the first question. That is, we consider the strength of the argument that ECGD is a more efficient provider of EXIG than alternative private sector providers. This involves an analysis of the specific characteristics of the market for medium- to long-term export credit insurance (the supply side of the EXIG market).

In Chapter 5 we discuss how to identify and calculate subsidies in current premium rates, before considering the justification for providing subsidies through EXIG in Chapter 6. We discuss a range of possibilities, which include the objective of meeting aid-related objectives, of supporting UK exporters, or offsetting the distortions imposed by other governments. This involves an analysis of the market for large capital goods exports to emerging economies (the demand side of the EXIG market).

It is important to note that the arguments in Chapters 4 and 6 are independent of one another. It would be possible to conclude that there is no case for public provision of EXIG, yet that there is a case for providing a subsidy to exporters, in which case the policy implication might be that subsidies should be channelled through private sector insurance providers. Similarly, it would be possible to conclude that ECGD is a better provider of EXIG than alternative providers, but that there is no case for providing cover at subsidised rates, and hence that ECGD should provide EXIG at non-subsidised rates.

In Chapter 7, we establish a framework within which to quantify the analysis of the previous two chapters. First, following the analysis of Chapter 4, we explain how to quantify the costs and benefits of ECGD provision of EXIG, in the absence of any financial subsidy. Second, in light of the analysis of Chapters 5 and 6, we set out a framework for quantifying the costs and benefits of providing a subsidy.

In Chapter 8, we draw some policy conclusions from this analysis.

This chapter has explained the intellectual framework for the analysis of the arguments that follows. In this analysis, we attempt to address explicitly the range of arguments we have encountered, including those that were expressed to us in interviews, those that have been made in academic papers and those that have previously been articulated in previous government reviews of ECGD's products.[25]

In certain cases, these arguments do not fit neatly into the categories of this chapter. In some cases they are based on more than one type of market failure, in other cases on a mix of efficiency and equity considerations. However, in each case we have tried to articulate the most coherent plausible argument, which we then judge according to the criteria set out above.

25 The Rationale for the Overseas Investment Insurance (OII) Scheme (Risk Management Division, November 1997), Economic Rationale for Fixed Rate Export Finance (FREF) (Risk Management Division, April 1999) and the Byatt Report on the Costs and Risks of Support for Capital Goods Exports (December 1982). We acknowledge that OII and FREF are not the subject of the current analysis. However, there are strong similarities between the economic arguments that one could use in support of OII and those that could be used to support the Export Insurance Policies we are reviewing. There is also a substantial degree of commonality with FREF, to the extent to which both products involve the provision of subsidies to exporters to developing economies.

4. Justifications for ECGD provision of EXIG

In this chapter, we consider whether there is a valid justification for providing EXIG through ECGD. This involves an assessment of the extent to which ECGD can be considered a more efficient provider of cover for medium- to long-term export credits than potential private sector substitutes.

We examine the specific nature of the risks associated with medium- to long-term capital goods exports to developing countries and consider whether ECGD, as an established public sector organisation, might be better placed to provide cover for these risks than alternative private sector agents. We consider a broad range of arguments, including:

- the standard argument for the failure of insurance markets, namely the existence of asymmetric information;
- the notion that the private sector is too risk averse and short-termist, and that the international financial system is subject to a systemic weakness;
- the greater ability of the public sector to bear, quantify and control the risks associated with large, medium- to long-term capital goods exports; and
- the argument that new entrant private sector operators would be constrained in their ability to enter the market by the first mover advantages enjoyed by incumbent operators.

4.1 Adverse selection and moral hazard in insurance markets

According to this set of arguments, asymmetric information in the financial markets may result in a failure to provide financing for certain types of export, or insurance for certain types of export-related risk. Asymmetric information-related failures could occur at a variety of levels in financial markets.

We have already considered the ways in which adverse selection and moral hazard may lead to a failure of the insurance market.[26] In the first case, the problem is caused by the fact that the insured party has information about the risks involved to which the insurer does not have access. In the second case, the insured party is able to engage in certain (costly) activities to diminish the risks insured against, but these activities cannot be directly monitored by the insurer, and hence cannot form part of an ex ante contract.

In the case of export insurance, however, it is doubtful that either of these conditions holds. This can best be explained by investigating further the exact nature of the insurance contracts which ECGD signs with banks and exporters. We show three typical contractual relationships in Figures 2 to 4 in Annex C.

26 See Annex A.

The insurance contract is written between the provider of cover (ECGD) and the exporter or the bank providing the export credit. The principal risk against which the insurance is being bought is that the importer will renege on the contract in some way, the government will take actions that preclude fulfilment of the contract terms, or that there will be a sovereign default. To argue successfully that adverse selection or moral hazard causes market failure in respect of such transactions, it would need to be demonstrated that the exporter or bank has:

- an information advantage over the insurance company in respect of the commercial and political risks in the importing country; and/or
- the ability to influence the risks in the importing country, and hence the probability of a loss being incurred.

The first case refers to the risk of adverse selection. It is likely to be weaker in the export credit insurance business than in other types of insurance, primarily because the insured party has no obvious information advantage over the insurance provider with respect to political risks in the importing country. On the contrary, in Section 4.6 we review some arguments that would suggest that the insurer might have the information advantage.

The danger of adverse selection in relation to commercial risks is perhaps slightly stronger, and the insurance contracts are designed to reduce these effects. For example, the cover that ECAs provide cannot exceed 85 per cent of the contract value. This reflects the fact that, if 100 per cent cover were offered, there would be little incentive for banks or exporters properly to investigate the risks associated with a particular project, and the entire burden of doing so would fall to the ECAs. However, we did find occasional examples of 100 per cent cover offered by private sector credit insurers.[27]

Moral hazard is also unlikely to be a significant feature of the export credit insurance market. The risks for which cover is provided derive primarily from the actions of the importing company/government, and are therefore largely exogenous to the insured party. The exporting company can take actions that would result in non-payment (e.g. failure to deliver the product), but such activities are directly observable by the insurance company.[28] There is no asymmetry of information, and any omissions or commissions by the exporting company can be directly accommodated within the insurance contract. If the company fails to abide by the terms of the contract, the claim will not be paid. Therefore the exporter has little effect on the probability of a claim being paid by the insurer, and the problem of moral hazard is unlikely to arise.

For these reasons, it seems unlikely that asymmetric information is a significant cause of failure in the market for export insurance. We therefore agree with the view expressed in the 'OII' paper (see note 25):

> *"The companies seeking insurance have no better information on political risks in a market than the insurance company, in fact the reverse is likely to be true […] (so adverse selection is unlikely) it is also very difficult for them to take action which will benefit them and be detrimental to the insurance company (moral hazard) since they are unlikely to be able to influence the likelihood of political default."* [29]

The fact that asymmetric information is less important in the export credit insurance market than in other forms of insurance has important implications for the desirability of government intervention, as we discuss in Section 4.5.1.1.

27 AIG provides 100 per cent export credit insurance in respect of short-term commercial risks.

28 This is the essential difference between export credit insurance and standard forms of insurance such as cover against fire and theft. In the latter cases, the insured party can engage in activities that affect the probability of a loss, but these activities are not directly observable by the insurance company. In the case of export credit insurance, the risks relate specifically to failure to abide by the terms of a contract, which sets out the obligations of both parties.

29 Paragraph 31.

4.2 Risk aversion

A relatively common view of failure in financial markets is that it is caused by excessive risk aversion on the part of banks and other financial institutions. A typical example of this view is given in a paper written by the US Treasury on the economic rationale for Ex-Im Bank's activities:

> *"Market failure arises in private sector export financing because capital markets have traditionally demonstrated significant risk aversion toward providing adequate levels of and terms for financing U.S. exports in many developing countries. This risk aversion increased sharply as a result of the debt crisis of the early 1980s and has not been reversed."* [30]

We do not consider risk aversion to be a market failure. It is a means of describing the preferences of an individual or an institution between certain and risky outcomes. It is not clear what is meant, therefore, when it is claimed that the private sector is too risk averse.[31]

It may be that operators make an inaccurate calculation of risk. Here the market failure is not risk aversion, but imperfect information. It may also be that principal agent problems within the firm lead to sub-optimal risk transfer. We consider these possibilities in the following sections.

4.3 Short-termism in the private sector

Another common claim – and one that received substantial support amongst many of the financial market participants that we interviewed – is that the financial markets are too 'short-termist', that private sector appetites for developing market risk are volatile, and that they fluctuate for reasons unrelated to the risks themselves. In contrast, the public sector is seen to have a long-term view, and to be less bullish and bearish than the private sector.

It is difficult to argue that the private sector is short-termist in the sense of not valuing returns in the future. The existence of the bond market, valued on the basis of bullet payments of up to 30 years in the future, contradicts this claim.

In respect of volatility, this itself is not inefficient unless decisions to enter and leave markets are made on the basis of imperfect information, or some other form of market failure (e.g. asymmetric information causing an inefficient transfer of risk within financial institutions).

Claims that capacity to accommodate certain risks follows a secular cycle, unrelated to the risks themselves, overlook the fact that appetite for risk is not solely a function of the risks themselves, but of the opportunity costs of investing. The supply of capital will fluctuate in tandem with interest rates, and other factors that affect the cost of capital.

30 From the Executive Summary of an undated US Treasury paper, a copy of which was provided to NERA by ECGD.

31 A further reason to be sceptical of this claim is that an even more common view (invariably expressed after a financial market crisis) is that operators within financial markets are too risk loving, and thus contribute towards financial market instability.

4.4 Systemic weakness of the international financial system

Many practitioners cite as the main rationale for the existence of ECAs the fact that they are insurers of last resort. This is taken to mean 'insurers that provide insurance to cover projects that no other insurer would cover'. This role in itself does not provide a rationale for the existence of ECAs in general or EXIG in particular – there may be good reasons for private sector reluctance to provide cover for a given project.

Economists do recognise that the role of lender of last resort can provide a rationale for government intervention in financial markets. This role derives from the systemic weakness of the banking system, namely that banks issue highly liquid short-term liabilities (current accounts), whilst most of their assets are held in the form of illiquid long-term loans. They would therefore not have sufficient reserves to meet demand if all their customers wished to withdraw their deposits at the same time. Since customers are aware of this, then any suggestion that there will be a large scale withdrawal of deposits may become a self-fulfilling prophecy, as customers rush to take out their deposits whilst they still have the opportunity to do so. In withdrawing a deposit, each customer raises the possibility of a generalised run on the banks, such that each withdrawal imposes a negative externality.

By guaranteeing that all requests for withdrawal will be honoured, and implicitly underwriting the banks, the Bank of England can break the chain of reasoning that leads to a bank run. The justification for public intervention in this case is based on public confidence in the Government's ability to bear risk.

It has been suggested that there are strong parallels between bank runs and sudden massive withdrawals of capital from developing countries. Developing countries suffer from a similar systemic weakness to banks in that many high-yield projects in developing countries are illiquid and have only long-term payoff potential, whilst a considerable proportion of lending to developing countries is in the form of short-term debt.

However, it is difficult to use an analogous argument to justify government intervention in the export credit insurance market. In the insurance market the customer does not have any rights to the premiums it has paid unless the eventuality insured against takes place. That risk (in the medium- and long-term export market) is assumed to be exogenous to the customer. Therefore the expectation (e.g. in times of international financial instability) that many claims will have to be paid in the near future (which may call into question the solvency of the insurer) cannot provide an incentive to the insured company to 'call in' its claim.[32]

The arguments in Sections 4.2, 4.3 and 4.4 reflect the fact that the Government is prepared to take on risks in circumstances in which private sector operators do not have the capacity or appetite to do so. In themselves, they do not show that it is efficient for the Government to intervene.

4.5 Risk-bearing capacity

Insurers and other financial intermediaries bear risk on behalf of their clients. They are able to reduce the risks to which they are exposed through two distinct mechanisms: risk-spreading and risk-pooling.[33] Risk-spreading involves sharing the risks associated with a given asset across a sufficiently large number of individuals, and having sufficient capital and reserves to pay the claims that may be made from a given set of projects covered. Risk-pooling involves constructing a diversified portfolio of assets with risks that

32 One could argue, however, that, since ECGD cover facilitates the provision of long-term rather than short-term credit, it helps to offset the systemic weakness to which the developing countries are subject.

33 In this discussion, risk is to be understood as the variance of returns or losses. Risk-spreading and pooling do not affect the expected value of returns or losses.

are independent of each other. The aggregation of independent risks means that returns on the diversified portfolio are much less variable than the return on any one of the individual assets.

4.5.1 Risk-spreading

It has often been claimed that the Government is the entity best placed to bear risks, by dint of being able to spread them over the entire population of taxpayers. The argument was first made in Arrow and Lind (1970):

> *"When the risks associated with a public investment are publicly borne, the total cost of risk-bearing is insignificant and, therefore, the government should ignore uncertainty in evaluating public investments. Similarly, the choice of the rate of discount in this case should be independent of considerations of risk. This result is obtained not because the government is able to pool investments but because the government distributes the risk associated with any investment among a large number of people. It is the risk-spreading aspect of government investment that is essential to this result."*

The implication of this argument would appear to be that the public sector should provide insurance for all private sector investments, since it is best able to spread the risks associated with these investments. Three factors would militate against such a conclusion, however.

4.5.1.1 Administrative and transaction costs of providing insurance

First, insurance does not consist simply in bearing risk. It also involves:

- quantifying risks and designing policies to reduce the effects of adverse selection and moral hazard; and
- carrying out a range of administrative duties, such as processing claims and advertising.

All of these activities incur costs. In most cases, we may expect private sector insurers to be more efficient at bearing down on these administrative costs than the public sector. This appears to be the conclusion of a Treasury Working Paper from the 1980s, although, interestingly, it makes a specific exception of the insurance and guarantees provided by ECGD:

> *"The 'first best' results would be for the government to offer insurance to the private sector, thus using its ability to spread risk without distorting the choice between public and private sector investment decisions. In practice transaction costs and moral hazard problems usually rule out public insurance of private investments. Hence the second best solution, given the market imperfections, is for governments to ignore risk for public sector investments while exploring methods of providing insurance for the private sector where practical such as transferring some of the variability risk of exports to the public sector via the ECGD."* [34]

Why should a special case be made for ECGD cover? It may be that the two sources of private sector advantage mentioned above are less important in the case of export credit insurance. We have already argued that adverse selection and moral hazard do not appear to be significant features of the export insurance market. In addition, given the small range of direct clients, and the lumpy nature of the business, there would appear to be less scope for efficiency improvements in the long- and medium-term export credit insurance business compared with the insurance industry as a whole.

34 Treasury Working Paper No 63, September 1983.

4.5.1.2 Risk-spreading ability of private enterprises

There is a second argument against the claim that the public sector is a more effective insurer by dint of its risk-spreading ability. Most large corporations, including private insurers, are also able to spread their exposure of risks to a significant degree, by spreading them over all their shareholders (including, via pension funds, a large proportion of the population).

However, the assumption of (near) risk neutrality for the firm on account of its risk-spreading abilities may be questioned on two counts. First, the result does not apply if an individual shareholder holds a significant proportion of the shares in a company. Second, as explained in Annex B, information asymmetries between the owners and managers of a firm may result in a sub-optimal transfer of risk from the former to the latter. If managers are incentivised through their income or through share options, then they will take risk into account when making investment decisions.

An obvious question to ask is whether the same reasoning should not hold for the public sector. Are public sector managers not incentivised in analogous ways to ensure that they are acting in the best interests of taxpayers? If not, should they not be so incentivised? The answer is not clear cut. We discuss this issue further in Section 4.5.3.

4.5.1.3 Correlation between business cycles

A final qualification to the Arrow and Lind argument in respect of export credit insurance is that developing country sovereign defaults may be correlated with downturns in the UK economy. To the extent to which this may be the case, the benefits of risk-spreading over taxpayers are undermined. There is not currently a strong correlation, although one could argue, in view of the global nature of recent financial crises, that the relationship is getting stronger.[35]

4.5.2 Risk-pooling

It can also be argued that the Government is well placed to bear risk because it has a widely diversified portfolio of assets over which it can pool its risks. The claim is made in the Byatt report that:

> *"Through its greater ability to pool risks and the fact that it is ultimately underwritten by the Exchequer, an agency like ECGD may be able to insure risks (particularly in the case of medium and long term business) at lower net costs to the customers than a private enterprise. There are thus strong arguments for government intervention in the form of self-financing insurance facilities for exports and in this paper therefore we focus on the arguments for subsidies."* [36]

In most markets, insurance companies are able to pool their exposure to risks adequately. Several features of the market for medium- to long-term export insurance may undermine this ability, however. For example:

- the risks come in large lumps, in the form of high-value contracts, often with risk exposure of several hundred million pounds;
- cover is often required over many years, implying long-term exposure to risks; and

35 Even if the business cycle of the UK is uncorrelated with that of emerging markets, emerging market financial crises still have a negative effect on UK finances because they lead to greater demands on UK expenditure through the International Financial Institutions.

36 Paragraph 16. Note that the implication that ECGD export insurance does not comprise a subsidy element is questionable. On the contrary, the financial requirement that the insurance fund be required simply to break even in nominal terms may imply a considerable subsidy.

- the risks covered may not be independent (e.g. one would expect greater instances of sovereign default during international financial crises).

As Stephens (1999) concludes:

> *"Taken together, these factors could produce unbalanced portfolios and an inadequate spread [sic] of risk for the insurer."*

These features suggest that there may be significant economies of scale in the market for insuring (and reinsuring) medium- and long-term capital exports. That is, only an insurer with a broad portfolio over which to pool the risks and extensive risk-spreading facilities may be prepared to cover these risks. This provides a possible rationale for insurance provision through a large entity such as a government.

However, private sector firms are able to provide cover for very substantial risks, such as catastrophe risks, in which risk exposure is at least as large as that in the export credit insurance market. It might therefore be argued that, in the context of insurance companies' overall exposure to risk on all fronts (including life assurance, property insurance etc.) any exposure to export credit risks would be relatively small.

To illustrate this point, premiums received by all the Berne Union Members (i.e. most ECAs) in respect of all business in 1997 amounted to $3.7 billion. Total premium volume in the world insurance industry in 1997 was $2,129 billion.[37] To the extent to which most of these risks are unrelated to export-related risks, then one could argue that they provide a more than adequate hedge.

This ignores an important aspect of the insurance industry, however. Even the largest insurers require adequate diversification over distinct lines of insurance. In this sense, each line of insurance (e.g. political risk) is treated as a separate business unit. The reason is once again that the owners of the firm need to incentivise managers to perform. Managers are incentivised to diversify the firm's exposure to the risks that they have underwritten. Political risk insurance is distinct from other types of insurance, requiring different skills, different databases and different client relations. It has therefore proven impractical to put together teams of insurers underwriting risks across different lines. Pricing risk across different lines also poses significant difficulties.

Such considerations explain why it is rational to create a specialised insurance company (such as a political risk insurance company). Purely from the point of view of diversifying exposure to risks, it would appear to be irrational. From a business point of view, it is a rational response to the need to incentivise managers and position oneself in the market.

When the political risk insurance business is considered as a discrete entity, the maximum single risk exposures underwritten by ECGD are large, long-term and lumpy. Moreover, there is a degree of interdependence between these risks. All of these features imply that, to operate effectively, a broad portfolio of these risks is required. ECGD and the other ECAs have a relatively broad portfolio of these risks, since they have been conducting this business for many years. Any new entrant to the political risk business would not.

This would suggest both that there are significant economies of scale in insuring these risks, and significant first mover advantages. The economies of scale relate not so much to the entire business as to individual lines of insurance.[38] The first mover advantages reflect the fact that an operator that has already built up a broad portfolio of risks will be able to operate more efficiently than a new entrant.

37 Stephens (1999) and Helfenstein (1999).

38 We are not suggesting that there are *no* economies of scale across lines of insurance. The role of senior managers in an insurance company will be to consider the overall exposure of the firm.

4.5.3 Limited threat of bankruptcy

A final advantage that the Government may have in bearing the risks associated with export credit insurance is the fact that, on account of its tax raising powers, it is not under the threat of bankruptcy. Taking on additional exposure to relatively large risks does not have a substantial effect on its creditworthiness, which differentiates it from a private sector insurance company. This does not imply that the Government's ability to take on exposure to risks is limitless – and hence without cost – but simply that it can assume a greater exposure than any private sector entity without this affecting its credit rating. The cost of taking on contingent liabilities is lower for the Government than for private sector entities.

The most direct way in which this helps it in its insurance functions is through the quality of cover it is able to provide, as perceived both by the banks themselves as users of the guarantees, and by the institutions charged with regulating banks. As we noted above, banks benefit considerably from the zero weighting attached to ECGD guarantees, which always makes them an attractive option compared with private sector insurance policies.[39]

4.5.4 Conclusion on risk-bearing arguments

Considered as a single entity, the Government does indeed have considerable risk-bearing advantages, through its ability to spread and pool risks, and the fact that it is not under the threat of bankruptcy. Yet we have argued that firms cannot be treated as single entities from the point of view of risk-bearing, because decisions are taken by managers, who are incentivised to diversify risk over the aspects of the business for which they personally are responsible.

The question we raised was whether the same argument should apply to the public sector. It could be argued that, to the extent to which public servants are subject to less explicit incentive mechanisms than private sector managers, then it does not. This is not simply a historical accident. The lack of incentive-based management may be a natural response to the Government's soft budget constraint, itself a result of the lack of threat of bankruptcy. This argument is supported by Stiglitz (1991), who points to:

> *"the innate differences between the private and public sector: the power to tax almost necessarily implies a weak budget constraint; the fact that in the private sector, all transactions must be voluntary necessarily implies a hard budget constraint. In a sense, then, the greater power of government necessarily weakens the effectiveness of incentives."* (page 47)

However, whilst such reasoning explains an important feature of the budgetary policies of certain governments, we would not wish to subscribe to it as a principle of policy making. Besides, a democratic government cannot tax without limit, since it would lose elections by doing so.

39 We address the issue of whether it is efficient for the Government to lend its balance sheet in this way in Section 8.2.3.2 below.

A more convincing argument is that the Government has coercive powers in the raising of tax revenues and that this leads to the imposition of constraints on the use to which public resources can be put. This leads in particular to the principle that resources should be fairly allocated, which itself dulls incentives or, as Stiglitz (1991) argues:

> *"Everyone must have a fair chance, and, more importantly for our purposes, individuals cannot be dismissed without good cause. The restriction on dismissals is important, because it limits the extent to which the patronage system can work, that is, public officials cannot redistribute whatever rents are available from the followers of the previous administration to their followers. But at the same time, the restriction on firing means that incentives within the public sector are attenuated. The government, in effect, is not allowed to make use of efficiency wages, with the threat of dismissal for inadequate performance."* (page 42)

On the other hand, incentive mechanisms are increasingly being introduced in the public sector (e.g. through the creation of Executive Agencies), which would tend to undermine such arguments. Ultimately, a decision has to be taken as to where the trade-off lies between the benefits of improving managerial incentives and the economies of scale in spreading and diversifying risks.

Government policy has not been entirely consistent in this respect. For example, on the one hand ECGD is required to meet given levels of confidence of breakeven over its portfolio, implying that the variability of returns over that portfolio (rather than over the Government's entire portfolio) is treated as a cost. Yet on the other hand, Government does not generally require remuneration for bearing the risks associated with the contingent liabilities to which individual departments are exposed. This would imply that variability of individual departmental expenditure is irrelevant, presumably on the basis that the Government as a whole is well placed to bear all risks, because it has a diversified portfolio of assets and cannot go bankrupt.

HM Treasury's general guidance on public investment, contained in the Green Book, supports the view that variability of returns, so long as these are not correlated with GDP, should not be given great weight:

> *"Variability which is spread very widely, for example by small adjustments up or down in public taxation or borrowing, has no effect except to the extent that costs or benefits are correlated with income. For most public projects this effect is generally small."* [40]

The implication is that the Government here is being treated as a single entity, able to spread and pool risk widely. Such guidance lends support to the argument that the Government is well placed to bear the risks associated with export credits, assuming that they are not closely correlated with GDP.

The decision as to where the trade-off lies between managerial incentives and the economies of scale in risk-bearing is one that should be made in a consistent fashion across all Government departments and policy areas. In the case of ECGD, even if greater weight is placed on the importance of incentives than on the economies of scale arguments, ECGD guarantees would still benefit from the Government's favourable credit rating as long as it remains underwritten by the Exchequer. We would suggest that it is not inefficient for the Government to lend its balance sheet in this way, as long as it earns an appropriate rate of return for doing so. We discuss this issue in greater detail in Chapter 7.

40 *Appraisal and Evaluation in Central Government: Treasury Guidance*, 1997.

4.6 Quantification of risks

Our interviews with underwriters and brokers suggest that the single greatest impediment to providing insurance for medium- and long-term export credits is the difficulty in quantifying the probability of loss more than a year or two into the future. One possible argument in favour of the public provision of export credit insurance is therefore that the Government has better information on the basis of which to calculate the probability of loss.

This was the case in the past, where private sector information-gathering mechanisms in developing countries were undeveloped compared with those of the Government. It is still the case that ECGD dedicates significant resources to gathering and analysing information to help calculate the probability and magnitude of loss.

Opinion amongst interviewees differed, however, over the extent to which ECGD still has a genuine informational advantage. On the one hand, most macroeconomic forecasts and commercial information on developing countries are widely available, whether produced by the private sector (e.g. Economist Intelligence Unit reports) or the public sector (e.g. commercial reports produced by Embassies). International Monetary Fund (IMF) country reports are also increasingly being published.

On the other hand, ECGD does still have access to certain classified information on foreign governments that is not publicly disseminated (through UK Government participation in bilateral meetings, its diplomatic network etc.). This information will help it to gauge certain political risks, which in turn will have an impact on its medium- to long-term forecasts of default. However, the time period over which the information will remain classified may be relatively short. In the context of large export contracts, where negotiation and lead-in times are protracted, the advantage that can be drawn from such information will tend to be lessened.

Our conclusion – and that of most of the financial market participants that we spoke to – is that the Government may still have some information advantages over the private sector, particularly the smaller operators that do not enjoy extensive information-gathering services. However, it is unlikely that these advantages significantly lessen the problems of quantification of probabilities of loss over very long time horizons, which remain considerable for both public and private sector operators.

4.7 Control over risks

In the absence of good information about the long-term probability of loss at the time of issuing cover, the ability of the insurer to ward off losses when they seem likely to occur (and to recover claims once they have occurred) takes on a particular importance. All the interviewees agreed that the Government had unique options open to it in this respect.

Through diplomatic channels, it can attempt to ward off the threat of political interference in the terms of the contract to prevent a claim being made. Anecdotal evidence would suggest that this route has been effective in the past. Its provision of aid to certain developing countries, and the possibility of taking retaliatory action, may also help the Government put pressure on a foreign government in the event of expropriation.

The argument was also made in interviews that, in the event of non-convertibility of foreign currency, the UK Government is better placed to use the domestic currency than a private sector insurer (to meet the running costs of its diplomatic mission and certain costs associated with aid programmes, for example).

But this is unlikely to be a significant mitigating factor if, as is the case with most risks covered by ECGD, the potential losses are high.

Claims paid by the Government can also be pursued through various multinational organisations (e.g. the Paris Club). Whilst ECGD debt gains no formal preferential treatment, there was a perception amongst bankers that it was better placed to reclaim the debt owed to it than banks acting through the London Club.

The only private sector insurer that seems to have leverage nearing that of the Government is AIG, which has proved very successful in securing claims repayments.

Although the Government can employ potential sources of leverage to which the private sector does not have access, it is less clear that ECGD is able systematically to exploit these advantages to control risks more effectively than the private sector.

It seems likely that one reason for this is that it has been required to meet a range of conflicting policy objectives, and therefore does not always have an unambiguous remit to pursue claims as vigorously as it might otherwise do. We suggest in Section 8.2.4 that ECGD's operational effectiveness might be improved if it was given a clearer remit and degree of operational independence from the rest of government.

4.8 Signalling

Signalling can help to overcome the problems created by asymmetric information by allowing private information about a characteristic to be conveyed to another party. This is explained in Annex B. The essence of all signalling arguments is that the signal is costly, and that the costs vary according to the characteristic about which information is to be conveyed. With appropriate weighting of costs and benefits, it becomes irrational to lie about the characteristic in question, and the signal becomes a 'truth-telling device'.

Signalling arguments provide a possible rationale for the public provision of EXIG. We have identified two broad arguments, one in which the Government wished to disseminate information to the private sector about the creditworthiness of the importing country, and one in which the Government wishes to provide information about the exporter to the importing country. In each case, the provision of EXIG exposes the Government to a cost that varies according to whether the Government is telling the truth or not, and thus constitutes the signalling device.

4.8.1 Signalling information on country creditworthiness to the private sector

There are two variants of this argument, both of which rely on the notion that the UK Government knows more about the creditworthiness of the importing country than the private sector. In the first case, the information itself is classified and cannot be disseminated other than through the signal of export credit cover. In the second case, the Government is able to provide the information publicly, but EXIG is used as a 'truth-telling device'.

4.8.1.1 Classified information

It may be argued that, to the extent to which the Government does have an information advantage over the private sector, it should intervene simply by disseminating this information. It is likely, however, that certain politically sensitive information is provided by governments on the strict understanding that it will not be widely disseminated. Doing so would therefore risk eliminating this source of information in the future.

If this is the case, then a justification for the public provision of EXIG could be that it provides a signal (in lieu of explicit provision of information) to the private sector about the creditworthiness of a country.

According to this argument, the fact that ECGD is providing insurance cover for a given project may provide a signal to other financiers to provide backing. Therefore, to the extent to which the Government does have an information advantage, signalling will have positive multiplier effects.

4.8.1.2 Publicly-disseminated information

In other cases, the Government may be willing and able to disseminate information about the importing country. For example, the Government will periodically promote exports to a particular country through various means, such as trade promotion missions, which consist in attempting to convince UK exporters of the advantages of exporting to a given country.[41] In these circumstances, whilst EXIG is not necessary to convey the relevant information, it may be necessary as a signal to convince UK exporters that the Government is telling the truth.

An analogous argument is made by Rodrik (1995), with respect to the rationale for multilateral agency lending. He argues that multilateral agency lending should be understood primarily as an incentive mechanism for truthful and objective reporting about the investment environment in a country:

> *"In the absence of direct lending by multilateral agencies, there is very little to ensure that these agencies will exercise their informational function as competently as possible. For example, if their own money is not at stake, they may be more easily swayed by political demands – from either their major shareholders or developing countries – in their certification of creditworthiness (or lack thereof). The fact that, in colloquial terms, they put their money where their mouth is acts as an incentive mechanism for 'truthful reporting'."* (page 10)

Under this argument, potential investors and financiers will only believe government claims about the creditworthiness of a country if the Government backs its claims with financial resources.

4.8.2 Signalling confidence in the exporter to the importing Government

An argument that was put to us by various interviewees was that, in respect of many of the exports that EXIG supports, particularly those in the military sector where the buyer is a foreign government, the involvement of the UK Government as a broker for the deal is important, and in some cases felt to be a prerequisite.

We examined the rationale for government involvement in interactions with other governments in Section 3.4.1. The brokerage role of the UK Government in respect of deals concluded with foreign governments is likely to be important. This does not in itself, however, provide a rationale for EXIG. The UK Government could act as a broker for deals concluded with foreign governments regardless of the source of financing and cover for the deal.

Interviewees felt, however, that the involvement of the UK Government only had real weight if it backed up its verbal recommendations with its own resources. This can be understood in terms of the present argument as the use of EXIG as a signal to foreign governments concerning the quality of the ECGD-backed bid.

41 The other objective, which we touch on in the next section, is to convince the importing country of the quality of UK exports.

4.8.3 Conclusion on signalling arguments

In the case of signals to private sector exporters and financiers, the signal provided by EXIG only has a positive value if:

- the Government does have a genuine informational advantage over the private sector concerning the probability of loss (e.g. by sovereign default); and
- the Government's objectives in providing cover relate solely to 'the bottom line' (i.e. to meet a given financial target with a given level of confidence).

As we discussed above, we found only partial support for the view that ECGD has informational advantages over the private sector concerning the probability of loss. If the Government is worse informed than the private sector, then following ECGD's signal will have a negative effect. Furthermore, to the extent to which ECGD does have an informational advantage, the signal it provides has a value only if it does not pursue conflicting objectives such as aid/redistribution and other political objectives. It is equally important that this be clearly understood by all market participants.

In respect of the signal provided to foreign governments, we argued above that the exporters are likely to have little impact on the probability that a claim will be made, and therefore that the provider of cover will incur a loss. If this is the case, then it is difficult to see how the provision of export credit cover by the UK Government provides a signal concerning the viability or quality of the exporter's bid. Two factors undermine such a conclusion, however.

First, even if the exporter has little influence on the probability of a claim being paid, if it is unable to deliver the goods to the required specification and by the required deadline, or fails to comply with the terms of a contract in some other way, then the contract may be declared null and void. This is not costless for the Government as a provider of cover, even if it does not involve the payment of a claim, since it will have expended staff time and other resources on arranging the deal, and used up country cover headroom which could have been used to support other projects. Providing cover does, then, signal confidence that the exporter will comply with the terms of the contract.

Second, however, in the case of signals to the private sector, we concluded that the signal only has a value if it is based on better information. In the case of UK Government endorsement of UK exports, the only relevant consideration is whether the foreign government believes that the provision of EXIG is a signal of the bid's quality. The counter-argument that we articulated above involves a relatively sophisticated chain of reasoning and the assumption, for example, of common knowledge of rationality. Such an assumption may not obtain in practice in inter-government relations. Indeed, anecdotal evidence would support the view that importing governments do require some form of involvement on the part of the government of the exporting country, and that particular strength is given to financial support as a means of backing verbal recommendations.

4.9 Difficulty of writing contracts

Another factor that may inhibit private sector entry participation in these markets is the difficulty associated with writing contracts for future goods and for risk.

We have already suggested one example of this. We noted above that bond issues are not a suitable base financing option for the purposes of project finance, since project sponsors will require information about the proposed financing package well in advance of final bidder selection. A proposal that consisted of going to the capital markets in, say, two years' time would fail to provide adequate assurance to the project

sponsor. In theory, such assurance could be provided through a futures contract, but such a contract cannot be written because of the considerable uncertainty surrounding the details of the project to be supported in the future.

Similar difficulties may inhibit the use of private sector insurance in export credit markets. Several bankers expressed their mistrust of using private sector insurance. In particular, they suspected that if a loss was incurred, the claim would not be paid by the insurer. Why might this mistrust be well grounded in these particular markets, as opposed to the insurance industry as a whole? The reasons relate to the specific nature of the risks borne in providing export credit insurance.

It is difficult to write a watertight insurance contract for these sorts of risks. Because the risks covered tend to be systemic in nature, with financial difficulties in one country having a contagion effect on another country, and commercial risks running into political risks, there is always room for debate *ex post* about the specific cause of the loss. Hence there is always scope for non-payment of the claim. This explains firms' reluctance to take out insurance.

This does not explain, however, why the public sector might be better placed to provide such insurance. One answer might be that, at least in the case of ECGD, the relevant instrument is not an insurance contract but a guarantee. The crucial difference between an insurance contract and a guarantee is that with the latter there is no onus on the insured to prove the cause of loss. This gives the insured the confidence to accept the guarantee.

This is unlikely to be the crucial factor, however. The same banks that were reluctant to take out an insurance policy with a private sector insurer were willing to take out an insurance policy with an established ECA.[42] The key point to note is that they were willing to do so only with established ECAs, with whom they had had a long-standing relationship. Whilst anonymous markets suffice in the presence of binding contracts, in situations in which contracts are not easily enforceable, reputation plays a key role.

There are particular reasons to believe that reputation plays a central role in the export credit insurance industry. These reasons again relate to the nature of the risks covered. Losses tend to be large but infrequent. Because the losses are large, insurers have a strong incentive to renege on the contract. Because the losses are infrequent, it will take a considerable amount of time before the reputation of a new entrant insurer can be adequately tested.

These arguments imply that there are significant first mover advantages in the medium- to long-term export insurance industry. It takes a long time to develop a reputation, but once established, it is a valuable asset.[43]

The importance of ECGD's reputation, and the confidence it engendered, was a key point made in several interviews. It was considered important not just because it gave the insured companies confidence that a claim would be paid, but also because it gave them confidence that cover would ultimately be made available if an ECGD indication (again, not a binding commitment) had been provided. Given the long lead-in times for the project business, during which considerable costs can be incurred, great value is attached to this reliability.

Reputation effects also extended to project sponsors, who often used an indication of cover (from certain established ECAs) as a pre-selection criterion, since it provides a good indication that cover will be provided in the event that the bidder is successful, even though the indication is not a binding commitment.[44]

42 Moreover, products are increasingly being offered in the private sector that are relatively close to guarantees.

43 In many industries, a company's reputation can successfully be transferred across different activities through effective branding. The highly specific nature of risks and rewards in the long-term export credit business was generally felt to militate against such transfer of reputation, however.

44 It should be noted, however, that an additional reason for this requirement is that any ECA-backed financing package will only have a limited impact on the market for the sovereign's debt.

Although first mover advantages are the result of historical contingencies (i.e. are not related to any inherent characteristics of the public sector, they provide reasons for believing that ECGD and other ECAs with an established reputation may have genuine advantages over new entrants in the private sector in providing medium- and long-term export credit insurance.

One might legitimately ask whether such first mover advantages could be preserved if ECGD were to be privatised. We would not claim that ECGD has established its reputation because it is a public sector body (certain other ECAs do not enjoy such high regard), but there is some doubt as to whether its reputation would be preserved were it to be privatised. In the eyes of its customers, if it is privatised, then the regime under which it operates will have changed radically, and it will not have been 'tested' under the new regime. The reputation of ECGD also inheres to a large extent in its employees, such that, if there were large staff turnovers following privatisation, one would also expect the reputation of the institution to suffer. Changes in reputation occur along a continuum rather than in discrete jumps, but it is possible that a radical change in status such as privatisation may entail significant costs in terms of lost reputation.[45]

4.10 Conclusion: Is ECGD a more efficient provider of EXIG than the private sector?

4.10.1 Theoretical arguments

We have reviewed a range of arguments that would suggest that ECGD has advantages in the provision of export credit insurance and guarantees for medium- to long-term capital goods exports to developing countries over alternative private sector operators.

Several of these arguments relate to the fact that ECGD is a government body underwritten by the Exchequer, and that therefore:

- ECGD has an advantage in terms of its ability to bear EXIG-related risks;
- through its access to classified information and a range of government policy levers, ECGD is better able to quantify these risks and mitigate losses; and
- EXIG is a useful instrument by which the Government can disseminate information to exporters, and signal its good faith in Government-brokered deals.

Another argument we considered does not relate specifically to the public sector status of ECGD, but rather to its 'first mover advantages' relative to new entrants to the export credit insurance business. In particular, it has been able to build up a reputation with customers, which is particularly important in this form of insurance.

We do not place equal weight on all of these arguments. Due to its size and tax-raising powers, the Government has significant risk-bearing advantages over the private sector. This is recognised in academic literature and has been acknowledged in previous HM Treasury policy papers. However, higher public sector administrative costs may erode these efficiency advantages in the provision of insurance by ECGD, though the specific nature of the risks covered under EXIG (lumpy, low frequency, largely exogenous to the insured party) suggests that these efficiency advantages may be significant.

45 We must stress that the current argument is not that exporters and banks feel comfortable with ECGD because, as a public sector body, it has a soft budget constraint. Rather, it is that customers have a significant body of historical information on which to draw inferences about ECGD's behaviour and institutional priorities. The situation can be conceptualised as a dynamic game in which, through many iterations, inferences can be drawn about objectives, functions and rates of time preference.

We are less convinced, however, of the advantages ECGD has in respect of risk quantification.

We also consider that ECGD is currently constrained in its ability to make full use of its advantages (e.g. in respect of reducing risk) because it is required to meet conflicting policy objectives (e.g. political or aid-related objectives). We suggest some means by which these advantages might be fully exploited in our discussion of policy implications in Chapter 8.

4.10.2 Evidence from interviews

Available data and evidence from interviews support the view that private sector operators are generally unable to compete effectively with ECGD in the medium- to long-term business. In Section 2.5.2, we noted that the private sector does not currently provide close substitutes (in terms of risk horizon, risk exposure and stability of provision) for ECGD credit guarantees.[46] Moreover, with respect to the possibility of privatisation, we found no current appetite in the private sector for underwriting ECGD's current book of risks.

The arguments we have analysed and the evidence we gathered from interviews would suggest that it would not be appropriate to seek privatisation of ECGD's activities in the short term. If ECGD is currently a better provider of EXIG than the private sector, then transferring its activities to a private sector operator would entail a loss of efficiency.

However, the current absence of private sector substitutes does not provide definitive proof that ECGD is currently a better provider of EXIG than private sector operators. This conclusion could only be reached if it could be shown that ECGD is not underpricing EXIG. If current premium rates contained a subsidy, then this might be the decisive factor behind the current shortfall in private sector provision, rather than the efficiency arguments we have discussed in this chapter.

In the next chapter, we describe an approach that could be used to establish whether premium rates contain a subsidy element and, if so, to quantify that subsidy. Then, in Chapter 6, we consider whether there are any valid reasons for wishing to provide subsidies through EXIG.

46 It was, however, generally felt amongst brokers and exporters that there were effective private sector substitutes for ECGD's cash cover products.

5. Identification and quantification of subsidies

In this chapter, we consider a variety of approaches to identifying and quantifying any subsidy element contained in current premium rates. We discuss the practical problems of comparing rates with those offered in the private sector, and consider academic work that has been conducted in this area in the past (which has tended to equate subsidies with financial losses in the long term). Finally, we suggest that even premium rates that ensured breakeven in the long term might not contain provision for all the costs incurred in providing EXIG (notably the costs of notional capital), and hence might contain subsidies. We end with a discussion of the factors that would have to be taken into account in quantifying a subsidy under this last definition.

5.1 Calculation of subsidies relative to premiums offered by the private sector

It is not possible to compare the premiums charged by the private sector insurers with those charged by the ECAs since:

- private sector insurers do not tend to offer the type of cover (in terms of risk horizon, risk exposure, quality and country of destination) available through the ECAs; and
- premiums are often calculated and quoted on a different basis (for example, private sector insurers often price on the basis of maximum risk exposure rather than total project size, and may quote a per annum figure, as opposed to the one-off fee charged by ECGD).

In any case, a differential between prices charged by the public and private sectors does not necessarily constitute evidence of subsidy since, as we have argued, the public sector may enjoy advantages in this sector that would allow it to price below the private sector without a subsidy element.

5.2 Calculation of subsidies relative to a breakeven target

An alternative method of calculating the subsidies in current premium rates is to analyse the financial returns of ECGD. A sustained loss over a long period of time would indicate the presence of a subsidy. The approach in this section is to assume that if ECGD were to break even in the long run, as required under current WTO rules, then there would be no provision of subsidy.

In Annex E we give an overview of work carried out by Camino and Cardone (1995), who propose two methods of estimating subsidies in export credit insurance premium rates: an *ex post* and an *ex ante* approach.[47] They apply these methods using data from 20 ECAs over the period 1980 to 1991.

47 The *ex post* approach simply assumes rational expectations about future losses in the long term. The assumption is that sustained heavy losses cannot be explained by expectational errors and hence must be explained by a deliberate policy of subsidisation. The *ex ante* approach explicitly models expectation formation by calculating an expected premium which the insurance agency must charge to maintain equality between premia and claims, on the basis of the previous three years' results. As explained in Annex E, for medium- to long-term export credit insurance, we feel the *ex post* approach is more appropriate, providing that a large enough, consistent sample is available.

Camino and Cardone's results are useful for comparative purposes but, to facilitate comparison, several simplifying assumptions have been made. For example, the administrative costs of the agencies have not been taken into account in calculating the pure premium, since the data were not available for all ECAs. Furthermore, the data are somewhat out of date, and cover a relatively short period, during which all ECAs sustained high losses.

Annex E presents more comprehensive cashflow data for ECGD over the period 1980/81 until 1998/99. The results, expressed in 1998 pounds, take into account recoveries and trading administrative costs. The cumulative cashflow deficit over the 19-year period totals £4.652 billion.[48] Drawing a clear inference from this figure is difficult, however.

First, the data combine results from all of ECGD's trading activities. Whilst EXIG currently constitutes the majority of ECGD's business, the data from the last 20 years include the results of a range of policy instruments, including the short-term business, which has now been privatised.

Second, it is only since 1991 that ECGD has operated according to a defined financial objective (i.e. to provide a given level of assurance of breakeven). Since 1991, ECGD results have been presented in the form of three accounts:

- Account 1, which relates to business underwritten prior to April 1991;
- Account 2, which relates to cover provided under the new financial criteria; and
- Account 3, which relates to business failing to meet the appropriate underwriting criteria, but underwritten since 1991 on the specific instruction of Ministers.

Account 2 business underwritten from 1991/92 until 1998/99 shows a closing consolidated fund deposit of £753.5 million (£617.6 million if accrued notional interest is excluded) at the end of the 1998/99 financial year.[49] This takes into account all premium income, claims, recoveries, administration and trading expenses and interest on business underwritten according to Account 2 criteria.

These results present a positive picture of ECGD's financial returns since the introduction of the breakeven financial target in 1991. It should be noted that, given the size and lumpiness of the risks and the length of risk exposure (total risk horizon can stretch to 15 years, with the possibility of recovering claims after this period), eight years is a short period over which to assess performance. A larger sample would be required to make well-founded inferences. But the initial indication from results to date suggests that ECGD is successful in meeting its more rigorous breakeven target under the new regime.

5.3 Calculation of subsidies relative to normal rate of return

The estimates of subsidy we have considered so far have been calculated relative to ECGD's breakeven benchmark, on the assumption that this implies no subsidy. However, we believe that this assumption should be called into question and that the breakeven target, as currently defined, does not take account of all the costs incurred in providing EXIG and hence involves a subsidy element.

48 We explain in Annex E why we believe long-term *ex post* results are more reliable than yearly *ex ante* results, and accordingly do not calculate the *ex ante* results here.

49 Considering mainstream project business alone (i.e. excluding reinsurance or overseas investment insurance business), the consolidated fund closing balance surplus was just over £770 million.

Within ECGD's current system of pricing risk, the premium rate charged has a number of components:

- the expected value of loss on a particular policy;
- an administrative charge; and
- a reserve margin to improve the chances of breaking even.

There is no provision, however, for making a rate of return on the notional capital required to meet claims. We believe that a true breakeven target that imposed no cost on taxpayers would include such provision, and that therefore the appropriate benchmark against which to measure the level of subsidy is the premium income that would be required to earn an appropriate rate of return on this notional capital.

5.3.1 Justification for requiring a rate of return on notional capital

Before we discuss how the size of this subsidy might be calculated, we need to give further consideration to the concept of notional capital and the costs associated with it that warrant earning a rate of return.

The first point to clarify is that the costs we are referring to are not those of paying actual liabilities, but of bearing contingent liabilities. We would expect the payment of claims and the receipt of premium income to be evenly distributed over time, such that in the long term, under a breakeven financial regime, these activities would not involve net borrowing from the Exchequer.

What are the costs to the Exchequer of bearing contingent liabilities? We acknowledge, as we discussed in Section 4.5.3, that the Government has inherent *advantages* in bearing contingent liabilities, since through its tax-raising powers it is not subject to the liquidity constraints that a private sector operator would be in taking on these risks. But we do not believe it is *costless* for the Government to take on contingent liabilities. For example, severe budgetary difficulties would arise for the UK Government if in any given year there were a financial crisis in China (in which ECGD has a total exposure of several billion pounds). We would suggest that pricing arrangements should reflect these costs.

The constraints that a private sector operator faces in bearing such risks are reflected in regulatory arrangements, which require it to set aside capital to support a given exposure to risk. We recognise that, for the Government, these regulatory requirements do not exist and that any capital nominally used to support exposure is notional in the sense that, if the capital limit were exceeded, ECGD would not default on its obligations. But for the purposes of appropriately managing its exposure to risks, we believe that the Government should charge for lending its balance sheet to banks and exporters. We consider how to calculate such a charge in the following section.

5.3.2 Calculation of subsidies relative to normal rate of return

To calculate implicit subsidies against the benchmark of earning a normal rate of return, two pieces of information are required in addition to data on premium income, claims, administrative costs and recoveries:

- the value of capital that would be needed to support the contingent liabilities in the portfolio; and
- the appropriate rate of return on that capital.

It can be argued that the appropriate benchmark against which to measure the subsidy is the rate of return that would be required in the private sector. However, this would ignore the advantages that the Government has in borrowing and taking on risk, as discussed in Section 4.5. It would imply, for example,

that the Government should, as a matter of policy, refuse to borrow at a lower rate of return than the private sector.

There is a large body of literature that would suggest that that the appropriate return required on capital in the public sector is not necessarily the return that a private sector operator would require. Feldstein (1964) argues that the social rate of time preference is distinct from the social opportunity cost of capital, and cannot be derived on the basis of existing market rates, but must be administratively determined as a matter of public policy.[50]

The process of agreeing appropriate rates of return within the public sector is a complex one, based on factors such as the pure rate of time preference that can be inferred from the price of a range of financial assets, the opportunity cost of public expenditure and the distortionary effects of marginal taxation.[51] The process is also a contentious one, involving value judgements that must ultimately be made within government. Under current Government policy, the real rate of return required of government commercial ventures in competitive markets is 8 per cent.

We would suggest that a similar debate should be engaged concerning the value of notional capital required to support a given exposure to risk. Seeking remuneration for taking on contingent liabilities would have important implications across government, and we would recommend that the HM Treasury commission a study to investigate these issues as a first step towards generating a consensus.[52]

It is outside of the scope of the current paper to carry out such an exercise.

5.4 Conclusion

The principles of the discussion in this section are important and have far-reaching implications across government. Although the costs to the Government of taking on contingent liabilities are not equal to those that would be incurred by a private sector operator, taking on exposure to risk is not *costless* for the Government, and it should therefore be remunerated for doing so.

We have not quantified the implicit subsidy in current premium rates arising out of the failure to take account of this cost, and have suggested that a first step in doing so would be for the HM Treasury to agree general principles for charging for contingent liabilities. Only once these principles have been agreed, can the subsidy element in current premium rates be quantified.

In the next chapter we analyse the strength of arguments in favour of providing subsidies through EXIG.

50 *"The presence of corporation and personal income taxes implies that society's marginal rate of transformation between present and future consumption exceeds the corresponding marginal rate of substitution of individual savers. In this 'second-best' situation, there is no single interest rate that can represent both time preference and opportunity cost."* See Feldstein (1964).

51 See, for example, Spackman (1991).

52 In most areas of government, no charge is levied for taking on contingent liabilities. This is the case with the policy of requiring departments not to take out insurance, on the understanding that losses can be met by the Exchequer. Departments are not charged for this facility (even to meet expected losses). Moreover, contingent liabilities are not currently identified in the National Accounts. Such a practice might be introduced with the introduction of Resource Accounting.

6. Arguments for the provision of subsidies through EXIG

Whereas the analysis in Chapter 4 focused on the market for bearing risks, the analysis in this chapter focuses on the capital goods export market. We therefore shift from an analysis of the supply side of the EXIG market to an analysis of the demand side.

In the supply-side analysis of Chapter 4 we considered a range of arguments that would suggest that ECGD may be a more efficient provider of export credit insurance and guarantees than alternative private sector providers. None of these arguments provide a justification for the subsidised provision of EXIG, however. This is the focus of the demand-side analysis of the current chapter.

The question of whether current premium rates do contain subsidies – and, if so, how they might be calculated – was considered in Chapter 5. In the current chapter, we simply consider the question of whether they should contain subsidies, on the grounds of efficiency or equity considerations. We consider a number of possibilities:

- that subsidies are desirable because they help meet aid-related objectives;
- that subsidies are necessary to support exporters (on account of the existence of positive externalities in the export of capital goods, to exploit economies of scale in the capital goods export sectors, or to reduce unemployment); and
- that subsidies can be justified on account of the support that other governments provide to their own exporters.

In each case, attention is focused on whether EXIG constitutes the most effective means of delivering the desired policy objective.

6.1 Provision of aid

A possible justification for ECGD's provision of EXIG is that the cover provided helps to meet the UK's aid objectives. In terms of the discussion of Section 3.2, it might then be justified on equity/redistributive grounds.

6.1.1 Rationale

If we assume that ECGD's export credit guarantees and export insurance policies involve a subsidy element, and that there is competitive bidding for the export contract, then EXIG does constitute a redistribution of resources from the UK to the importing countries. This is because EXIG gives exporters access to cheaper financing than would otherwise be possible, such that in the presence of competitive bidding procedures they will reduce their bid accordingly. The importing country gains from receiving cheaper imports than would be possible in the absence of EXIG.

The current review of ECGD's status will explicitly consider the extent to which aid-related objectives should form a more significant part of ECGD's mission. The 1 August 1999 Press Notice announcing the Mission and Status Review stated:

> *"The Review will also consider how ECGD can help the Government continue to play a leading role in helping countries emerge from debt burden."*

The focus in the Notice was not so much on providing cheap exports to the poorest countries, however, as on the possibility of writing off claims paid by ECGD. The Secretary of State for Trade and Industry stated in that Press Notice:

> *"Clearly the business ECGD is in is not without risk and countries which might have been creditworthy when projects were underwritten may later find it difficult to repay debt. ECGD has already forgiven US$500m of debt owed by the poorest. I want this Review to look at how it can now help the Government achieve its wider sustainable development objectives as the UK continues to play a leading role in helping these countries emerge from debt and poverty burdens and return to the international trading community."*

6.1.2 Assessment

It should be noted that it is not the purpose of the current report to question whether the provision of aid is a desirable policy goal. Our aim is to consider whether it is possible to justify the provision of EXIG at subsidised rates on the basis that they help meet the Government's aid objectives. We first assess whether these aid objectives are currently met in an efficient manner through EXIG, and second consider whether it would be feasible and desirable to alter ECGD's remit to enable it better to meet such objectives in the future.

There are three reasons to believe that, judged as an instrument by which to meet aid-related objectives, the resources provided through EXIG are not currently used to good effect.

First, we should note the importance of the assumption of competitive bidding for projects in the argument that subsidised cover provides cheap exports to developing countries. As we discuss in Section 6.4 below, this assumption may not be justified in the case of capital goods exporters, which are probably best described as operating in imperfectly competitive markets. In the case of limited competition between exporters for a particular contract, the subsidy is likely to be shared between the exporters and the importing countries.

Second, although the importing countries are mainly non-OECD countries, they do not correspond closely to the UK's priority aid recipients. The top 20 countries receiving ECGD-backed exports in 1997 and 1998, as compared in Table 6.1, with the top 20 recipients of Department for International Development (DFID) programme resources in the 1997/98 financial year.

Table 6.1 Comparison of aid recipients with recipients of ECGD-backed exports

	ECGD cover in 1997 and 1998		DFID programme expenditure in 1997/98	
Rank	Country	Value (£ millions)	Country	Value (£ millions)
1	China	833.4	India	81
2	Brunei Darussalam	580.3	Uganda	48
3	Oman	424.8	Tanzania	42
4	Russian Federation	313.1	China	40
5	Indonesia	292.6	Bangladesh	39
6	Philippines	249.4	Montserrat	38
7	Saudi Arabia	225.0	Russia	34
8	Brazil	208.4	Kenya	29
9	Qatar	186.7	Pakistan	28
10	Sri Lanka	176.4	Indonesia	27
11	Egypt	169.9	Malawi	26
12	Canada	162.8	Ghana	25
13	Republic of Korea	155.0	South Africa	25
14	United Arab Emirates	138.7	States of ex-Yugoslavia	24
15	Turkey	132.6	Mozambique	22
16	Thailand	114.5	Nepal	17
17	South Africa	89.8	Zambia	16
18	Hong Kong	84.4	Poland	13
19	Zimbabwe	83.8	Zimbabwe	12
20	India	82.2	Ukraine	9

Source: ECGD and DFID records

Only six countries are common to both lists. Whilst India is by far the largest recipient of aid, it is at the bottom of the list in terms of ECGD-backed exports. The list of countries receiving high levels of ECGD-backed exports includes two (Hong Kong and Canada) with GDP per capita higher than the UK. Over the past two years EXIG has been poorly targeted in geographical terms when judged as an instrument of meeting aid objectives.[53]

Third, resources channelled through EXIG are poorly targeted in sectoral terms. Aid resources are generally channelled into priority sectors that, in the opinion of the donor, have good prospects of delivering future growth (e.g. education), or that help alleviate poverty. Whilst some projects receiving ECGD backing may coincide with these priority sectors, a significant proportion of EXIG-backed projects (e.g. military exports and civil aircraft) do not.

We would conclude that it would be difficult to justify any current subsidy element in premium rates on aid-related grounds. The conclusion that EXIG is not an effective instrument of aid policy is perhaps not surprising, since it does not currently have an explicit aid objective.[54]

53 We should note, however, that, given the lumpy nature of the business, data over a much longer time period would be necessary to give a representative indication of countries receiving EXIG-backed exports.

54 ECGD does have 'economic assistance powers' within its statute, although these are not currently used.

6.2 Externalities in the market for capital goods exports

In this section we consider whether externalities in the market for capital goods exports may be considered to provide a rationale for the subsidised provision of export insurance and guarantees. An assessment is given of the strength of the externalities and the extent to which they provide a justification for government intervention.

6.2.1 Rationale

Externality-related arguments for the public provision of EXIG are based on the notion that the exports that are supported generate benefits to the UK economy that are additional to those that are taken into account by the exporting firm. Hence, according to this line of reasoning, in the absence of a public subsidy the exporting firm would under-produce relative to the social optimum.

6.2.1.1 Externalities in bidding for overseas capital projects

The Economic Rationale for FREF paper (see note 25) states:

> *"It is often argued, and anecdotal evidence from exporters supports the fact, that companies are more likely to win follow-on orders and repeat business if they won the contract for the original order. […] When follow-on orders are associated with the original contract […] components, parts and back-up services can be equal to 100 per cent, or more, of the original contract value. […] Repeat business can follow from the goodwill generated by the successful conclusion of major contracts. Customers may tend to prefer placing new business with existing suppliers […]. Standardisation may be an important consideration and can lower costs of maintenance, spares holdings and staff training."* [55]

However, all the benefits identified here will be internalised by the company bidding for the contract. In terms of the framework of Chapter 2, the marginal private benefit of the activity is equal to the marginal social benefit. There is, therefore, no externality justifying government intervention. There is no basis for assuming that firms will be naive in making their initial bid (i.e. fail to take into account future benefits accruing from winning the initial contract), or to assume that the Government is more aware than the private sector of the potential of follow-on business.

For these arguments to have force, it would need to be shown that there are benefits accruing to the wider UK economy from the success one firm has in winning a contract. Possible externalities might include: the benefits of an improved reputation for UK firms in general; and the existence of technical standards common to the UK but that differ from those of other countries.

A further argument relates to benefits that may accrue to sub-contractors as a result of a firm's successful bid for an overseas project, but that are not fully taken into account in the bidding process. A genuine externality may arise only in cases where sub-contractors in a bid are unable to influence the price of the bid submitted by the lead contractor, or the decision to bid, or are simply unaware of the destination of the exports and hence of the follow-on benefits.[56] The bid does not therefore internalise all the benefits accruing to sub-contractors. These benefits might include easier subsequent access to markets and follow-on orders.

55 Paragraphs 24–26.

56 Note that the externality does not arise in cases where sub-contractors are contracted following a successful bid. In this case, sub-contractors' bids to the lead contractor will reflect the expected benefits accruing to them.

Some of these potential benefits are mentioned in the box below which summarises the views of exporters, as expressed during interviews.

Views of the exporters (all prime contractors)

- Lead contractors thought there were likely to be follow-on benefits for their equipment suppliers, especially with a large successful project acting as a showcase. This is borne out by views expressed in surveys conducted in connection with an evaluation of the Overseas Project Fund (OPF).[57] Access to new markets was also thought in these surveys of OPF users to be a likely benefit to suppliers.
- One firm noted that some small- and medium-sized enterprises (SMEs) can only get into more difficult markets through initial participation in project business. Having got known, they can appoint distributors. Another mentioned that association with a prestigious project should be helpful in marketing.
- Major construction work may go to UK firms in association with a successful major defence project. One firm is assisting UK firms to form joint ventures in a particular market as a result of its successful project bid.
- First installations of major systems can become standard in a country.
- Partners are likely to have a say in the bidding terms but suppliers do not. Apart from sole suppliers, these have to compete for work.
- While suppliers of discrete pieces of important equipment will be aware of follow-on opportunities including profitable spares (especially if nominated by the client), lower tier suppliers are unlikely to know the final destination of the goods they supply.
- In general, the price of single-sourced items would be settled early. For competitively-sourced items, the supplier is often chosen late in the process. After supplier choices are made, however, all prices may have to be lowered in negotiations if client demands are to be met.

6.2.1.2 Technological spillovers

The FREF paper also states:

> *"Many of the industries supported by ECGD are involved in innovative, high technology activities to a greater extent than the economy average. Such activities yield benefits to other firms through technological spillover effects."* [58]

The existence of such spillover effects (where firms in an industry produce knowledge that other firms can use without paying for it) does point to a genuine externality, and hence constitutes a possible justification for government intervention.

6.2.1.3 Seed capital arguments

A final externality-based argument is that by trading with and investing in a developing market now, even if the returns are low or negative, the UK will facilitate the development of a major trading partner in the future. Since all firms will potentially be able to benefit from this in the future, there is a positive externality associated with trade today, and individually, firms will engage in sub-optimal levels of trade.

57 *Evaluation of the Overseas Projects Fund*, NERA 1995.

58 Paragraph 21.

According to this argument, the Government is better placed to internalise these benefits than the private sector.

6.2.2 Assessment of externality arguments

Setting aside the difficulty of identifying and quantifying externalities, we have two major reservations concerning the validity of externality-based justifications for EXIG. First, we found limited evidence for the existence of these externalities. Second, even if they were significant factors, the use of EXIG to counteract these externalities does not correspond to the principle of efficient intervention set out in Section 3.4 (namely, that government intervention in the market should be targeted specifically on the activity in which the market failure occurs).

6.2.2.1 Externalities in bidding for overseas capital projects

Similar arguments apply to the putative externalities in the relationship between contractors and sub-contractors in submitting bids. The evidence for the existence of follow-on orders is weak.[59] Even if the relationship between contractors and sub-contractors did exhibit externalities or another type of market failure, EXIG is insufficiently focused on the source of these failures.

There is no dispute that the number of sub-contractors and other suppliers in a project is frequently large. Figures of 30 and 60 direct suppliers alone were quoted for two particular projects. The proportion of a contract not supplied by the prime contractor may be as high as 80 per cent (though some of this may originate outside the UK). The OPF survey of contractors in civil infrastructure business reported an average of just over half of the contract not going to the prime contractor.

Given that our exporters were all in the lead on projects, they could provide little more than impressions about follow-on orders and technological gains made by those firms not involved in the bidding decision. A survey of suppliers was not feasible in the context of this study. We have drawn on impressions of a larger number of prime contractors from the Overseas Project Fund (OPF) study and also questions put to lead and sub-contractors in an Overseas Development Administration (ODA) evaluation of projects supported by mixed credits.

All of the firms we interviewed on the matter believed it was likely or logical that suppliers gained follow-on orders independently as a result of participation in a project, quite apart from provision of highly profitable spares. Successful projects acted as a showcase for suppliers of complete pieces of equipment and these were the firms most likely to benefit rather than, for example, suppliers of steel. Examples included aircraft and marine engines, cranes and trucks, for which further orders might be received in the country of the project or elsewhere. However, engine suppliers are likely to be involved in the bidding process. It was added that smaller companies would not have the resources to open up more difficult markets unless it was on the back of projects. Mention was also made of there having been a good deal of construction business for UK firms in Saudi Arabia resulting from the Al Yamamah project and assistance by BAe for firms wishing to enter that market through joint ventures.

The OPF study (civil infrastructure projects) presents the results of a postal questionnaire of 16 firms (prime contractors) that were asked to comment on the likelihood of follow-on orders (excluding spares) for suppliers not involved in the bidding consortium in OPF-supported and unsupported bids. On a scale of 1 (not very likely) to 6 (very likely), firms rated the likelihood of follow-on orders at 4.1/4.0 and access to new markets as 4.8/3.6. This means that the probability of obtaining follow-on orders and access to new markets was well above 50 per cent and, in some cases, thought to be as high as around 80 per cent for access to new markets. Broadly similar results were generated in face-to-face interviews.

59 We do not consider spares to be follow-on orders, as these are taken into account when bidding.

In the context of the present study, it was not possible to investigate in detail individual projects that received ECGD backing, to ascertain how many follow-on orders were generated. We draw instead on a review of the Aid and Trade Provision (ATP) conducted in 1991 by the ODA.[60] The review analysed in some detail eight ATP projects (in the civil sector) that had been funded in the 1980s with a view to considering the impact on the developing country and the impact on UK commercial and industrial interests. The review found that:

> *"There have been, at least so far, hardly any commercial follow-on orders unsupported by additional aid, or orders financed by multilateral aid. Follow-on business has been almost entirely restricted to spare parts, averaging around 15–20 per cent of the UK content of the initial order, or 5–10 per cent if the present value of follow-on orders is compared to the initial order […]."* (page 9)

If this evidence casts some doubt on the notion that capital goods exports generate substantial follow-on orders for lead and sub-contractors, then the claim that *all* UK exporters can potentially benefit from a UK firm successfully winning a project (and thus raising the stock of 'UK PLC') is even more contentious. Indeed, we found no evidence to support this claim in our own interviews.

Even if it is accepted that some follow-on orders are generated, however, this does not in itself point to a market failure (causing under-provision of exports). To the extent to which lead contractors do not take into account the benefits accruing to sub-contractors in deciding whether to submit a bid or not, the Department of Trade and Industry's (DTI's) existing OPF scheme provides a more direct policy response by providing financial assistance for the pre-contract costs of major projects, to encourage a higher level or quality of bidding activity. If the major problem is one of lack of information on the part of sub-contractors (particularly SMEs), then again this problem is better addressed by other DTI schemes that aim to provide information to exporters (e.g. support for attendance at trade fairs, outward missions, export market research schemes).

EXIG is an indirect way of pursuing either of the policy goals discussed above, and we therefore take the view that externality-based arguments for the subsidised provision of EXIG are not strong.

6.2.2.2 Technological spillovers

Surveys of prime contractors (for civil infrastructure projects) in NERA's evaluation of the OPF suggested that major product innovation and access to new technology were not very likely to be among the benefits to suppliers who won significant orders through project business. The OPF evaluation asked about the likelihood of technical gains for suppliers using the 1–6 rating described above. These covered major product innovation, major improvement on production processes and access to new technology. In each case the ratio was around 2 indicating that such gains were fairly unlikely.

For the current study, our survey covered a higher proportion of firms selling high-tech products/systems than the survey conducted for the OPF study.[61] The firms that were operating in these sectors pointed to the demands they put on sub-contractors and suppliers to meet specifications that called for an improvement in technology. Examples cited included the development of smaller components for radar systems and new or significantly modified products for air traffic control systems.

However, there was no indication of technology being transferred below cost to these suppliers, which are responsible for their own development expenditure, and will factor that into the price they offer. We could

60 Donaldson and Currie (1991).

61 Several of the exporters we interviewed, however, freely conceded that their own industries could not be described as involving high technology.

find no evidence of a genuine technological externality, i.e. a benefit that is not captured in a contractual relationship between two parties.

The technological externalities that tend to be cited in the literature include the possibility of 'poaching' employees from other firms that have invested considerable time and resources in them, and appropriating elements of technology for which patent laws are insufficiently developed. In both cases, there are more direct and appropriate ways of responding to these technological spillover effects than EXIG (e.g. subsidising training in the first case, and publicly-funded research, subsidies or tax breaks for research and development (R and D) activity and the reinforcement of patent laws in the second case).

6.2.2.3 Seed capital arguments

Our principal objection to seed capital arguments is that, even presuming the desired outcome (the development of export markets) can be achieved with any degree of certainty, it is by no means clear that a domestic government is best placed to internalise the external benefits generated from initial trading activity. In principle, all firms, regardless of nationality, will be able to benefit. Arguably, therefore, an internal organisation such as the World Bank is better placed to intervene than any individual government.

6.3 Employment arguments

A commonly used argument in favour of support for exporters is that abandoning such support would increase unemployment. For example, Ex-Im Bank's general fact sheet states: "Ex-Im Bank's mission is to create jobs through exports." According to this argument, in the absence of public sector support, the exporting firms currently enjoying support would lay off workers, increasing unemployment.[62]

The exporters we interviewed generally supported this view, as the box below shows.

Views of exporters

- In the absence of the export credit guarantees and insurance provided by ECGD, exporters indicated that they would source outside the UK in respect of medium- to long-term exports to developing markets, and use other ECAs. There would be a serious problem for continued UK participation in Airbus Industries.
- One firm, a manufacturer as well as prime contractor and heavily dependent on exports, stated that ECGD is fundamental to its global competitiveness (i.e. a precondition for many bids). Others echoed this, seeing support from ECAs as a necessary condition for bidding.
- Adverse effects would cascade down to a large number of suppliers including many SMEs. Many smaller suppliers would struggle to find export business independently.

62 Employment effects constituted a principal focus of the Byatt Report on Support for Capital Goods Exports. Its conclusion was that the scheme represented poor value for money on this criterion.

6.3.1 Rationale

Proponents of employment-based arguments often appear to treat the desirability of public support for employment as self-evident, and requiring no theoretical justification. Attention focuses instead on calculating the cost to the Exchequer per job supported, without clearly articulating a counter-factual hypothesis. We have therefore had to construct a possible employment-based rationale for public support of EXIG.

Unemployment is caused by the existence of wage and price rigidities, which prevent the labour market from clearing to equilibrium levels of employment.[63] In principle, a government may intervene to reduce unemployment. It can attempt to increase the equilibrium level of employment through supply-side interventions. This consists in directly addressing the market imperfection causing the wage/price rigidity.

Those who argue for the public provision of EXIG on employment grounds must therefore appeal to the use of EXIG as a method of removing supply-side rigidities. It seems clear that ECGD's provision of EXIG does not constitute an attempt to redress labour market imperfections.

6.3.2 Assessment of employment arguments

This is not the forum for entering into a debate on macroeconomic policy. However, there is a consensus amongst macroeconomists that whilst wage-price rigidities exist in the short run, in the long run the aggregate supply curve is vertical. Thus, whilst in the short run, shifts in the aggregate demand curve will affect output and employment, in the long run, they will affect only the price level, with output and employment remaining at their equilibrium levels (as determined by supply-side factors).[64]

We should also note that employment effects have not (at least since 1991) been used as a criterion in the decision of whether to support a project through EXIG. Therefore the argument that EXIG should be supported on employment grounds appears to enjoy little support either on theoretical or practical grounds.

We are not, however, denying that there would be short-term adjustment costs from withdrawing ECGD support. Factor markets are not perfectly mobile, particularly in industries characterised by large sunk costs and significant economies of scale. Indeed the size of these adjustment costs will play an important part in the calculation of the costs and benefits of subsidised support, as discussed in Chapter 7.

We believe that it is difficult to use these adjustment costs in themselves as an argument for continuing to provide support. To do so would imply that, since public sector support has been provided in the past, this is a valid reason for continuing that support indefinitely into the future.

It is possible that the adjustment costs incurred as a result of restructuring are so high that they are larger than the present value of annual subsidies continuing indefinitely into the future at given interest rates.[65] However, a cost that is not accounted for in this calculation is the possible efficiency cost of the distortion to the allocation of resources created by the subsidy. The fact that subsidies introduce distortions in the allocation of resources, and therefore entail an efficiency loss, has meant in the past that the Government has been prepared to abandon subsidies even when there are considerable restructuring costs.

63 Recent developments in macroeconomic theory have attempted to root the existence of these rigidities in specific market failures. 'Nominal rigidities' models, which rely on the existence of menu costs (costs incurred when prices are changed) in explaining price rigidities, are based on the assumption that firms are price setters (i.e. imperfectly competitive). 'Real rigidities' models, which seek to explain wage rigidities, are also based on the assumption of price setting firms. They also focus on a range of other market imperfections, such as information asymmetries (efficiency wage theories) and excessive employee wage bargaining power (insider-outside theories).

64 An important exception to this 'semi-consensus' is provided by those who place particular importance on the possibility of hysteresis, that is, the permanent effects of temporary shocks on long run equilibria.

65 That is, if the present value of adjustment costs is C, the annual subsidy is s, and interest rates are r, that $C > s/r$.

6.4 Market power and economies of scale arguments

The data suggest that the firms that are supported by EXIG tend to be those which operate in industries characterised by significant sunk costs and in markets that are imperfectly competitive (e.g. the aerospace and other defence industries). This characteristic gives two possible rationales for subsidised intervention, which we consider below, and also forms an important part of the argument in Section 6.5 concerning the merits of multilateral as opposed to unilateral reform of the system.

6.4.1 Rationale

Firms operating in imperfectly competitive industries have a degree of market power, as described in Annex B. This gives rise to two possible arguments for supporting exporters.

First, in the specific context of the defence sector, where large sunk costs (e.g. R and D expenditures) and economies of scale create significant barriers to entry, the Government may wish to maintain an indigenous production capacity by spreading costs over a larger turnover (through export support) for reasons of national security. Second, a relatively small subsidy may allow the domestic economy to appropriate the rents generated by the monopolistic firm.

6.4.1.1 Maintenance of indigenous defence capability

An argument for intervention in the defence sector is that national security interests dictate that there be 'surge capability', that is, the ability to mount a military response through indigenous capacity, rather than relying on trading partners.

In an Answer to a Parliamentary Question in July 1997, the Secretary of State for Foreign and Commonwealth Affairs announced:

> *"The Government is committed to the maintenance of a strong defence industry which is a strategic part of our industrial base, as well as of our defence effort."* [66]

According to this argument, it is unacceptable for reasons of national security to depend significantly on trading partners for defence capability. Moreover, since the defence sector is characterised by significant economies of scale and long lead-in times, it is not considered feasible to develop that indigenous capability in the short term. If the need to support the defence sector is accepted, then export support programmes, it is argued, are an efficient means of doing so, because unit costs are reduced the larger the defence firm's market, reducing the costs of government purchases of defence goods.

6.4.1.2 Appropriation of rents

To the extent that the markets in which these firms operate are imperfectly competitive, they will typically earn excess returns ('rents'). Whilst market power normally provides a justification for public intervention to eliminate these rents, the incentives of national governments may be different in the context of international trade. According to strategic trade arguments, there is international competition over who appropriates these rents, and governments may intervene to support their own 'national champion'.[67]

66 *Criteria to be Used in Considering Licence Applications for the Export of Conventional Arms*, Statement by the Secretary of State for Foreign and Commonwealth Affairs, 28 July 1997.

67 The difference in policy is due to the fact that the negative effects of market power are borne by both foreign and domestic consumers, whilst the rents are appropriated exclusively by the domestic economy. Through institutional shareholdings and taxation, we may normally expect these rents to be relatively widely distributed over the domestic economy.

In such markets the gains to government intervention may be magnified. A simple numerical example will illustrate the point. We assume that there are only two firms competing in a world market, each from a different country. Either firm operating alone could earn 100 in profits, but if both firms try to produce, they will make 5 in losses. There is room for only one firm in the market. If the foreign firm enters the market first, the domestic firm will have no incentive to enter the market. The outcome will be in the top right hand corner of the diagram below, with the foreign firm taking all the rents.

Two-firm competition

Foreign firm \ Home firm	***Produce***	***Don't produce***
Produce	-5 -5	0 100
Don't produce	100 0	0 0

If, however, the domestic government commits itself to providing a subsidy of 25 to the home firm if it enters, then it will be profitable for the home firm to enter whatever the foreign firm does. The foreign firm will be aware that it will make losses in all states of the world in which it decides to produce, and will leave the market. The new set of outcomes is shown in the diagram below. The new equilibrium outcome is in the bottom left hand corner unless the foreign government retaliates.

Effects of a subsidy to the domestic firm

Foreign firm \ Home firm	***Produce***	***Don't produce***
Produce	20 -5	0 100
Don't produce	125 0	0 0

In this example, the subsidy provided by the government radically alters the payoffs to both firms.

6.4.2 Assessment of market power arguments

6.4.2.1 Maintenance of indigenous defence capability

We will not question for the purposes of the present argument the view that it is unacceptable to rely largely on trading partners for maintaining a defence capability. We accept this as a constraint in government policy making and that 'defence is different'.[68]

68 Arguably, however, the best way to minimise defence costs would be through multilateral production of military goods. Indeed, this approach has been adopted in several cases (e.g. Eurofighter) which would tend to undermine the argument that entirely indigenous products are essential.

However, if defence is to be considered special in some sense, one could argue that policy interventions should be targeted specifically on the defence sector. Arguably the correct policy response to the need to maintain the domestic arms industry would be to increase the support channelled through defence-specific policy instruments, such as those employed by the Defence Export Services Organisation. In certain countries, such as the United States, there is a specific credit guarantees instrument for the defence sector.[69]

We do not propose to engage any further with specifically defence-related arguments, since they are predicated on assumptions (e.g. gains to trade are outweighed by national security interests) that are not readily amenable to economic analysis.

6.4.2.2 Appropriation of rents

The possibility of appropriating rents in imperfectly competitive industries gives a possible rationale for the provision of a subsidy to a domestic firm operating in one of these industries. However, there are reasons to believe both that this might not constitute an effective use of public subsidies in practice, and that EXIG might not be the best channel for such subsidies.

First, it is doubtful that governments are successful in identifying in advance 'future winners' in imperfectly competitive markets. In respect of the numerical example provided above, for example, it is unlikely that governments will know these payoffs in advance. The problem is exacerbated by the fact that the government is likely to be dependent on information from the domestic firm that stands to gain from any government support.

The desirability of strategic intervention on the part of the government is dependent upon accurate knowledge of this information. The potential costs of providing subsidies to a company that will still not be successful, or of providing excessive subsidies to a company that would have been successful anyway, cannot be ignored.

Second, we should note that for the purposes of our example, we assumed that the policies of the domestic government have no influence on the policies of foreign governments. In reality, activist government support for exporters might encourage other governments to intervene to support their own national champions. Adopting 'beggar thy neighbour' policies of the sort outlined above may lead to a trade war.[70]

We do not wish to dismiss out of hand the notion of strategic trade policy, but the two issues we have raised here – the difficulty of estimating the payoffs to support in advance, and the importance of policy interactions between governments – cannot be ignored. They form an important part of the discussion in the following section.

6.5 Government interactions

Thus far, UK policy options have been analysed in isolation, that is, without taking account of the ways in which the policies of foreign governments may affect the policies of the UK, and vice versa. We now focus explicitly on the interaction between government policies, and explore the implications for policy towards ECGD cover.

69 The US programme is known as the Defence Export Loan Guarantee Program (DELG).

70 In terms of the game we set out in Section 6.4.2.2, a response from the foreign government would imply that the game is not static (i.e. one-off) but dynamic. In theory, the equilibrium of such games can be found through backwards induction, but finding a solution requires exact knowledge of the information sets and payoffs available to each player at each 'decision node' (i.e. each point at which they are called upon to make a move). In practice the outcomes of such a dynamic game will not be known in advance with any certainty.

A common argument in favour of ECGD providing subsidies for exporters is that, if other ECAs are offering subsidised premium rates, they are necessary to create a level playing field for UK exporters.

This argument receives widespread support in other countries. It is, for example, one of the principal arguments used to justify the existence of the US Ex-Im Bank:

> *"It is critically important that Ex-Im Bank financing programs are available to level the playing field for U.S. exporters to permit export competition based on price, quality and service – not financing – to permit export contract awards. In this role, Ex-Im Bank programs also promote international economic efficiency by helping allocate resources to the most efficient producers and providing developing countries with the best value for their scarce foreign exchange resources."* [71]

Note that one of the explicit justifications for the need to offset the interventions of other governments is the desirability of international economic efficiency. If the goal of UK policy is to foster international economic efficiency, then it is clear that the optimal policy of the UK Government should be to pursue through multilateral channels any changes that it thinks appropriate on efficiency grounds. We will assume for the purposes of the present argument that the objectives of UK policy – aid to one side – are to maximise UK welfare.

6.5.1 The standard approach

In the context of maximising national welfare, economic trade theory gives some clear prescriptions about the effectiveness of export subsidies. If two countries are trading with each other in competitive markets, and one decides to subsidise its exports, this reduces welfare in the subsidising country and increases welfare in the other country. The reasoning is simple: through using tax revenues to provide the importing country with subsidised imports, the export subsidiser is simply transferring resources to the other country. The appropriate response from the other country is not to retaliate, but simply to enjoy the welfare gains provided by the export subsidies. Should export subsidies be abandoned in the future, then resources can be re-allocated in the importing country to reflect new trading opportunities.

In a situation in which export subsidies are already being provided by both countries, then unilaterally abandoning subsidies will entail restructuring costs, due to the delay in allocating resources to alternative uses. However, as we discussed above, it is difficult to use these costs as a basis for maintaining subsidies, since in the long run such a policy will entail significant efficiency losses incurred as a result of diverting resources from higher productivity uses. Indeed, in this trade example there would also be a welfare loss from the loss of subsidised imports.

In this standard case, the argument that subsidies should be provided in the interests of fairness, because other countries are subsidising their exports, is groundless. The implication for policy towards ECGD would appear to be that, if a view is taken that subsidies should be eliminated, this change should be effected unilaterally. However, there are reasons to believe that the above argument may not hold in the case of ECGD support through EXIG.

6.5.2 Specific features of ECGD support

6.5.2.1 UK does not benefit from subsidised imports

First, ECA-covered trade does not typically take place between OECD countries. The recipients of subsidised exports are developing economies. Therefore the UK does not stand to gain from subsidised imports. The provision of export subsidies by other ECAs (in a situation in which ECGD is not providing

71 US Treasury, *op. cit.*

a subsidy) has a net negative effect on UK welfare through eliminating the gains to trade in certain sectors in which it may have had a comparative advantage in the absence of any export subsidies.

6.5.2.2 Barriers to entry

Second, the above argument relies on the assumption that factors of production are mobile and that there are no significant barriers to entry in industries receiving support. In fact, the opposite may be the case. This suggests that re-entry into a market may be difficult once it has been abandoned, such that a disparity in the provision of export subsidies may affect the long-run equilibrium of the market. The implication of this is that the overall efficiency effects of unilaterally abandoning a subsidy are not positive, as in the standard case, but indeterminate.

In the absence of any export subsidies, UK firms would produce a given level (UK*) of goods in these markets. This is the most efficient level of production inasmuch as it ensures that factors of production are employed in their most efficient use. The same level of production will take place in a regime of uniform subsidies applied by all exporting countries. If ECGD abandons subsidies, and other ECAs do not, some of the UK's productive resources will be allocated elsewhere. The UK will produce less than UK*. If at some point in the future all ECAs abandon subsidies, the UK would be unable to reach the efficient level of production because of the existence of barriers to re-entry in these markets. In this way, a short-term intervention can permanently affect the long-run equilibrium. This is the hysteresis effect referred to in Section 6.3.2.

Two issues need to be highlighted in connection with this analysis. First, there is no justification for ECGD providing greater subsidies than the other ECAs. Under the current regime, this looks likely to be respected. The aim of the OECD harmonisation exercise has been to eliminate the distortive effects of export subsidies, through requiring ECAs to offer premiums that are at least as high as certain agreed floors. Only ECGD currently charges above those rates if its own risk management system suggests that it should do so.

Second, we have assumed that exporting firms do not appropriate any of the subsidy themselves (i.e. all of the subsidy goes to the importing country). If the exporters are appropriating any of the subsidy element – and we suggested in Section 6.1 that they may indeed be doing so – then they will possibly be using capital and labour at a lower marginal productivity than alternative uses, and there may be an efficiency distortion. There is also an efficiency distortion created by the use of taxation to finance subsidies.

In view of this second point, our conclusion is not that there will definitely be an efficiency loss from eliminating subsidies, but that there should be no presumption in favour of abandoning subsidies on the basis that this will generate an efficiency gain.

6.5.2.3 EXIG is part of an established, multilateral consensus

In Section 6.4 we raised two concerns about strategic trade arguments. These were that it is difficult to estimate the payoffs to support in advance, and that public subsidisation of export industries may lead to a trade war. An important feature of support through EXIG alleviates these dangers: it is part of a multilateral consensus established at an OECD level around setting premium rates.

By creating a set of binding rules, and providing a forum for negotiation, the OECD consensus reduces the scope and incentive for retaliatory action by individual governments.[72] Furthermore, since there has been a history of providing subsidised premiums, and under the current regime subsidies are equal for a large proportion of the business, this provides some information to governments as to the payoffs from intervention, and the likely payoffs in the absence of intervention.

72 In Section 8.2.3.3 we consider the extent to which this existing system provides scope for multilateral reform.

6.5.3 Conclusion on arguments for providing subsidies based on government interactions

In Section 6.5.1 we argued that it is not valid to argue for export subsidies simply because a foreign government is subsidising its own exporters, if the markets concerned are relatively competitive, with no significant barriers to entry. Earlier in this chapter, in Section 6.3.2, we argued that it is difficult to argue for the provision of subsidies to exporters solely on the basis that they help to avoid restructuring costs, since subsidies impose significant efficiency costs on the economy in the long run. In Section 6.4.2.2 we argued that it is difficult to justify subsidies on the basis that the beneficiary firm is operating in an imperfectly competitive market, since the payoffs to such support are uncertain *ex ante*, and such support may lead to a policy response from foreign governments.

The argument for providing EXIG at subsidised rates addresses all three of these concerns. The presence of barriers to entry in the industries supported by EXIG implies that the net efficiency effects of providing subsidies to match those provided by other countries is indeterminate. Furthermore, the existence of a multilateral framework within which subsidies are controlled mitigates the possibility of subsidy inflation and provides some information on likely areas of comparative efficiency in the absence of subsidies.

Within such a framework, the only benefit of providing a subsidy is the avoidance of the restructuring costs that would be incurred were subsidies to be abandoned. If the multilateral framework is considered to be fixed, then the costs of the intervention are simply the annual costs of the subsidy extending indefinitely into the future. However, if the multilateral framework is amenable to reform, then this cost can be greatly reduced. Indeed, as we argue in Chapter 8, one of the main benefits of providing subsidies within a multilateral framework is the opportunity it provides of securing multilateral reform, and returning to a first best world, in which no country provides subsidies to its exporters.

6.6 Conclusion on rationale for subsidised provision of EXIG

In this chapter, we have assessed whether there are any valid justifications for the provision of subsidies through EXIG (if current premium rates are subsidised) or indeed whether there are any arguments for lowering premium rates to include a subsidy element (if current premium rates are not subsidised).

We have considered a range of arguments, including the possibility of meeting aid objectives through subsidised cover, the notion that there exist externalities in the capital goods export market, and the argument that it helps to reduce unemployment. Having reviewed these arguments, we conclude that none provides an adequate argument for providing EXIG at subsidised rates.

These arguments treat UK policy making in isolation. The analysis becomes more complex when we consider the interaction between UK policies and those of other countries. We noted that the argument that it is always legitimate to provide subsidised support to exporters when other countries are doing so is invalid. However, we also demonstrated that the current system of ECA support to capital goods exporters is different from the standard case in that there would be a welfare gain to the UK if export subsidies were abandoned multilaterally as opposed to unilaterally. Furthermore, we acknowledged that the particular characteristics of the sectors supported by EXIG mean that a short-term disparity between the provision of subsidies could permanently change the long-term equilibrium.

We concluded that the costs of any subsidies in current premium rates can legitimately be offset against the benefits these subsidies provide in terms of avoided restructuring costs. Section 7 sets out how this cost-benefit analysis should be conducted, whilst in Section 8 we expand on the implication of this analysis that the UK should seek to secure multilateral reductions in subsidies.

7. Weighing up the costs and benefits of ECGD provision of EXIG

In this chapter we address the question of how the costs and benefits of ECGD provision of EXIG might be calculated. We have not had the resources in the context of the current study to provide estimates of these costs and benefits, but rather provide an overview of available data, and a framework for a quantification exercise that should follow on from the current study.

The analysis of the last two chapters has considered two separate questions:

- is there an economic rationale for providing EXIG through ECGD?; and
- is there an economic rationale for providing EXIG at subsidised rates?

Since these are discrete questions, a separate cost-benefit analysis is required for each. Accordingly, we set out two quantitative frameworks below, which deal separately with the value of EXIG as a service, and the value of subsidies provided through EXIG. The first seeks to identify the costs and benefits of providing EXIG, on the assumption that premium rates are not subsidised. The second seeks to quantify the costs and benefits of any subsidy provided in EXIG premium rates.

7.1 The costs and benefits of the public provision of EXIG

If EXIG were provided at unsubsidised rates, then premium income would cover all the costs incurred in providing the service (claims, bought-in costs, and wages and salaries) plus a return on capital. The benefits of EXIG could then simply be measured as the value added of the export credit insurance and guarantees business, i.e. wages and salaries plus a return on capital.

In this case, the justification of EXIG would be straightforward. It would be worth supporting because it would represent an efficient use of resources, as demonstrated by the fact that consumers are willing to pay for it in a competitive market and that it generates a positive added value. Providing EXIG through ECGD would represent an efficiency gain relative to the alternative policy of abandoning the business.

It is important to note that there is no need to appeal to those outputs, such as jobs created, or economic additionality, that are normally identified as the benefits of public sector intervention in traditional cost-benefit analyses. Provided EXIG meets all its costs and provides an adequate return on capital, then all the benefits of providing it are captured in the National Accounts value-added measure of the activity.[73]

73 This measure would only understate the value of EXIG in the presence of external benefits not captured in prices, or non-traded benefits. We could find evidence of neither, however.

7.2 The costs and benefits of subsidy elements in EXIG

The analysis of costs and benefits becomes much more complex when the analysis is extended to include possible subsidy elements in premium rates. First, estimating the value of the subsidy (the cost) is a non-trivial task, and one that, as we have discussed, has far-reaching implications for government finance. Second, one cannot measure the value of the business (the benefit) in the manner suggested above, because subsidised premium income does not capture all the benefit to customers.

7.2.1 The costs of subsidised provision of EXIG

The net costs to the Exchequer of providing EXIG are equal simply to the value of those subsidies. We discussed in Chapter 5 how such subsidies might be calculated.

7.2.2 Benefits of subsidy provided through EXIG

As we stated above, with subsidised premium rates, the value of the EXIG business cannot be calculated as suggested in Section 7.1. It might be thought that one could simply estimate the subsidy element in premiums and then adjust the value-added calculation upwards by the appropriate amount. This would not be legitimate, however, since with higher premium rates we would expect the volume of business to fall. The value of the business can only be calculated when premiums are set without subsidy.

Another method must therefore be employed. In our discussion in Chapter 6, we concluded that the only tangible benefit of a subsidy was the avoidance of the restructuring costs that would have to be incurred were premium rates to be raised unilaterally.[74]

In calculating restructuring costs, the following factors would have to be taken into account:

- the estimated price elasticity of demand for EXIG;
- competitive conditions in the capital goods export market, e.g.:
  - the estimated price elasticity of demand for the exports supported by EXIG;[75]
  - the proportion of projects for which ECA cover is a prerequisite for acceptance at the pre-qualification stage; and
  - the extent to which some of the subsidy element of current premium rates is appropriated by the exporter;
- the period over which capital and labour will remain unutilised before they are put to an alternative use;
- in the case of the military sector, the increased costs to the Government of maintaining the required indigenous defence capability; and
- the likelihood of securing reform multilaterally, and the likely response of other ECAs from unilateral abandonment and expected duration of this process.

74 We should recall that efficiency considerations are set to one side for the purposes of calculating costs and benefits, since the overall efficiency effect is indeterminate (see Section 6.5.2.2). This approach is only valid if there is considered to be some possibility that the multilateral environment is amenable to reform.

75 From our interviews, it would appear that under the current regime premium rates are not considered of primary importance, compared with quality of cover and being on cover. However, this reflects the fact that currently premium rate floors are agreed multilaterally and hence there is little scope for competition between ECAs on the basis of premiums.

These restructuring costs would lead to a reduction in output for a given length of time.[76] The benefits of subsidy are therefore best viewed as an avoidance in this reduction in output, or, equivalently, in terms of additional output for a given length of time. In this case, we consider economic output to be the best available means of measuring the benefits of intervention. Other possible indicators, such as jobs created, are not objectives in themselves, but rather proxies for the ultimate goal of increasing output.[77]

7.3 Using the results of cost-benefit analysis

The costs and benefits of the provision of subsidy calculated according to the proposed methodology should be discounted at the appropriate rate. The final result of this exercise would be a ratio of the form:

present value of additional output/present value of net public subsidy.

The costs of intervention can be eliminated without incurring any loss of output if subsidies can be eliminated multilaterally. We suggest that the above ratio would be the key factor in determining to what extent and for how long the option of maintaining subsidies and negotiating multilaterally should be pursued before eliminating any subsidies. The more resistant to change the multilateral system, the less likely EXIG subsidies are to satisfy current criteria for intervention.

At this stage, without quantifying these effects, it is possible only to conclude that multilateral increases in rates, if they could be secured rapidly, would be preferable to unilateral increases, since such an approach would not incur any restructuring costs. In the following chapter, we give some suggestions as to how the process of multilateral negotiation might be structured.

76 There would also be an increase in benefit payments (and loss of tax receipts) whilst alternative jobs are found. The avoidance of this increase should be taken into account by subtracting expected increases in welfare payments from the cost of subsidy to derive a net cost of subsidy.

77 An increase in output is itself a proxy for the true goal of increasing welfare, but is generally considered to be the best available means of measuring this.

8. Policy implications

In this chapter, we draw together the conclusions of each of the previous chapters, and make some recommendations for policy reform.

8.1 Review of arguments

In the course of this report, we have reviewed two distinct sets of arguments concerning ECGD's provision of export credit insurance and guarantees. First we considered arguments in support of the view that ECGD should provide EXIG because it is a more efficient provider of medium- to long-term export credit insurance and guarantees than the private sector. Second, we assessed the strength of arguments for providing EXIG at subsidised rates.

8.1.1 ECGD is an efficient provider of EXIG

In the first case, we reviewed arguments that relate to the difficulty that private sector operators may have in bearing the risks associated with medium- to long-term exports. Currently there are no reliable private sector substitutes (in terms of the tenor and size of risk exposure, country coverage and quality of cover) for ECGD export credit guarantees.

The explanation we explored was that ECGD is a more efficient provider of insurance for medium- to long-term exports (which are of high value, are lumpy, of long duration, and tend to be interdependent) than the private sector. This is likely to be on account of the Government's risk-bearing capacity, and its ability to quantify and offset these particular risks. It may also be due to the first mover advantages ECGD enjoys as a provider of export credit insurance, including an established reputation and a broad portfolio of risks over which to diversify exposure. We found relatively strong support for most of these arguments amongst interviewees.[78]

We concluded that there are valid reasons to believe that the Government might be a better provider of medium- to long-term export insurance than the private sector, but that it was difficult to draw a definitive conclusion from the current shortfall of private sector provision because of the possibility that current premium rates are subsidised. Furthermore, although ECGD may have information and leverage-based advantages in principle, it may be constrained in its ability to make efficient use of them in pricing its policies, because of the other policy burdens that are placed upon it.

8.1.2 Arguments for providing EXIG at subsidised rates

We also considered several arguments for the provision of EXIG at subsidised rates, which tend to be based on the notion that it provides support for industrial, employment and aid-related objectives. Specifically these arguments are that EXIG:

- helps to meet aid-related objectives;

78 The exception was the argument that the Government was significantly better placed *ex ante* to quantify the risks associated with long-term exports.

- helps to correct for positive externalities in the capital goods export market (including technological spillovers and benefits to sub-contractors that are not internalised when the bid price is determined); and

- helps to reduce unemployment.

We concluded that EXIG does not effectively meet the UK's aid objectives, primarily because the exports it supports go to many countries that are not priority recipients of aid. We did not find strong evidence of positive externalities in the export market justifying public subsidy. Neither did we consider that an expansionary fiscal policy to stimulate employment was appropriate at this point in the business cycle.

Our general conclusion was that we do not consider EXIG to be an effective instrument with which to meet industrial policy, employment policy or aid objectives. This is because it is not targeted specifically on the possible sources of market failure or on the objective of redistribution. The Government already employs other policy instruments that are specifically targeted in this way.

We concluded that the only valid justification for the provision of subsidies through EXIG was as an interim measure to manage the transition process whilst negotiations were pursued multilaterally to raise premium rates and eliminate subsidies. We explain this proposal in greater detail in the following section.

8.2 Policy implications

In this section, we set out four broad policy recommendations. It should be stressed that these recommendations are not fully detailed plans for reform, but attempt simply to draw out the implications of the preceding analysis.

We first list our policy recommendations, before explaining each recommendation as necessary.

1. We consider that ECGD should continue to provide cover for medium- to long-term capital goods exports. We do not consider there to be a strong case for privatising ECGD's current portfolio of medium- to long-term export credit guarantees, or for ceasing to underwrite new business.

2. We do not consider that the provision of subsidies in ECGD's premium rates is justifiable in the long run. We would recommend that ECGD work towards eliminating the subsidy element in their premium rates, raising them to make an adequate rate of return on notional capital.

3. We would recommend that ECGD should seek to secure support for multilateral increases in premium rates, phased over an agreed period, depending on the size of the adjustment costs and the likely length of negotiations.

4. We do not consider it desirable to broaden ECGD's remit to include aid-related, environmental or other objectives not strictly related to its core functions as an insurer of medium- to long-term exports. Indeed, we would recommend that consideration be given to means of underpinning this exclusive focus through increased institutional autonomy and clearer indicators by which to evaluate performance.

We explain each of these in turn.

8.2.1 ECGD should continue to provide EXIG

We have set out a range of arguments that would suggest that ECGD has inherent advantages in providing EXIG over potential private sector operators. The implication of these arguments is that ECGD is an efficient operator. If this is the case, then ceasing to provide EXIG through ECGD would entail a loss of efficiency.

We should reiterate that such a conclusion does not imply that the Government should look to underwrite all private sector investments. The provision of cover is justified in this case on account of the particular characteristics of both:

- the insurance contract (lack of asymmetric information and hence minimal danger of moral hazard, low volume business and hence limited scope for private sector efficiency gains in administrative costs); and
- the risks covered (large, long risk horizon, lumpy, interdependent and political in nature).[79]

These conditions are unlikely to be replicated in other cases.

We should note also that privatisation does not appear to be a feasible option in the short term, since we could not find evidence of a current appetite within the private sector for taking on ECGD's current portfolio.

8.2.2 ECGD should provide EXIG at non-subsidised rates

We do not feel that the arguments in support of providing EXIG at subsidised rates (whether to meet aid, industrial policy or employment-related objectives) are strong. We therefore conclude that ECGD should provide EXIG at non-subsidised rates. In Chapter 5 we considered how the level of subsidy implicit in current premium rates could be calculated, and briefly review the arguments here.

Within ECGD's current system of pricing risk, the premium rate charged has a number of components:

- the expected value of loss on a particular policy;
- an administrative charge; and
- a reserve margin.

The last item constitutes an extra amount of premium charged to improve ECGD's chances of breaking even. Currently, in respect of Account 2 business, ECGD has the financial objective of delivering a confidence of breakeven of 65 per cent to 70 per cent.[80] Where the calculated premium is lower than the OECD Minimum Premium Benchmark Rates, the Benchmark is used. Where the calculated premium is higher, it is used instead.[81]

79 We noted above that this argument has less weight in respect of cover for the cash business through EXIP, since, although overall contract duration can be relatively long, the effective risk horizon is often relatively short, due to the regular receipt of payments.

80 The actual target set by Ministers is the reserve coverage ratio, i.e. the ratio of its reserves to the expected value of loss on its guarantees. The ratio is currently set at 1.5, which equates roughly to 65 per cent to 70 per cent confidence of breakeven.

81 This would have the effect of delivering a higher confidence of breakeven than required by Ministers.

We would suggest that provision should also be made for making a rate of return on notional capital available to support ECGD's risk exposure.[82] We would suggest that the first step to be taken would be for HM Treasury to commission a study investigating the rationale for, and practicability of, seeking remuneration for bearing contingent liabilities. Once a position has been agreed across Whitehall, the level of subsidy in current premium rates can be determined. It is likely that Ministers will want to take the final decision as to whether, as a matter of policy, the Government should charge for use of its balance sheet, and to agree the approach to be adopted in calculating the charge.

The position, once agreed, could then form the basis of UK negotiations in the OECD Premium Experts Group.

8.2.3 Securing multilateral increases in premium rates

The presence of subsidies in premium rates would provide ECGD with a degree of insulation from private sector competition. The only way to test the hypothesis of Chapter 4 that ECGD is a more efficient provider of EXIG than private sector operators would be to ensure that private sector operators are not precluded from competing with ECGD and other ECAs through the presence of such subsidies.

We have already discussed how ECGD premium rates might be re-calculated to eliminate the implicit subsidy contained in them. To the extent to which ECGD is a more efficient operator due to the advantages discussed in Chapter 4, customers will still wish to use its services. Otherwise private sector operators will begin to take over future business. Alternatively, the current level of business might not be sustainable without subsidisation, and resources will be diverted elsewhere. In all of these cases, efficiency will have been improved. We therefore call this process one of facilitating efficient competition between public sector ECAs and private sector operators.

Facilitating efficient competition in the long-term export credit insurance market through increasing premium rates is likely to be a gradual process. If the private sector does eventually establish a strong position in the market, the process is likely to be one of gradual transition.

There are three possible constraints on implementing this policy of facilitating efficient competition, however. First, the first mover advantages that ECGD enjoys may present significant barriers to entry for any new entrants. Second, the capital adequacy weighting advantages that banks enjoy as a result of ECGD guarantees (and indeed other ECA insurance policies) may be such that they represent a severe constraint on any transition towards private sector provision. Third, the existence of other ECAs, offering subsidised premiums, would place a significant constraint on the ability of private sector operators to enter the market.

8.2.3.1 First mover advantages

It might be argued that the advantages that ECGD have as first movers in the export credit insurance market present a constraint on the efficient introduction of the private sector to the market. We do not agree with this view. First mover advantages, such as reputation, do indeed present barriers to entry. But we have argued that reputation is vitally important for consumers in this market (exporters and banks), and indeed, helps to ensure that it can exist at all.

First mover advantages would only constitute an inefficient barrier to entry if they were so strong that they would effectively preclude any competition, putting the incumbent provider in the position of a monopolist. This is unlikely to be the case with ECGD's provision of EXIG. Even if it were, the standard policy response is to regulate the prices offered by the monopolist. This is achieved in the current proposals.

82 If one were to subscribe to the view that the Government should not take into account variability of returns – either because of its risk-spreading or risk-pooling abilities – then it would follow that this provision for a positive return on capital should substitute for, rather than be in addition to, the reserve margin. However, as discussed in Section 4.5.4, there may be incentive-based reasons for requiring ECGD to deliver a given degree of confidence of breakeven over its own portfolio (considered in isolation from the Exchequer's exposure to risks on other fronts).

8.2.3.2 Risk weighting

The fact that the Government can lend its balance sheet to a bank is not in itself a source of inefficiency, provided that:

- it earns an appropriate rate of return for doing so; and
- the favourable weighting relative to private sector operators accurately reflects risk differentials.

The first condition would be satisfied under the proposed new regime. The second condition is more problematic. Under current bank regulations, there is little graduation of risk weighting. OECD sovereign credits receive zero weighting and corporate credits receive 100 per cent weighting. Thus, there is no distinction between cover provided by a AAA rated underwriter such as AIG, and that provided by a much less secure source.

This is a clear source of inefficiency, but it is currently being addressed through the Basel Committee on Banking Supervision, which is drawing up a new Capital Adequacy Framework to replace the 1988 Accord. Under the new proposals:

> *"With regard to risk weights to be applied to exposures to sovereigns, the Committee proposes replacing the existing approach by a system that would use external credit assessment for determining risk weights. It is intended that such an approach will also apply, either directly or indirectly and to varying degrees, to the risk weighting of exposures to banks, securities firms and corporates. The results will be to reduce the risk weights for high quality corporate credits, and to introduce a higher-than-100 per cent risk weight for certain low quality exposures."* [83]

It therefore seems likely that in the future risk weighting will not represent an inefficient constraint on private sector entry into the market.

8.2.3.3 Presence of other ECAs

A more significant constraint on private sector entry is imposed by the actions of the ECAs outside the UK offering subsidised premium rates. Were ECGD to raise premium rates to a significant degree and on a unilateral basis, a substantial proportion of exports currently covered by ECGD might well be sourced in countries where ECA cover at subsidised premium rates was available.

Raising rates unilaterally is unlikely to create a sufficient window for private sector participation, since an important element of the environment inhibiting such participation will not have changed: exporters would still have the option of securing cover on a subsidised basis. For this reason, as explained in the previous section, we consider that the more appropriate policy would be to pursue a multilateral increase in premium rates through the OECD.

The length of time for which the current system for calculating premium rates should remain whilst negotiations continue will depend on the factors that we set out in the previous chapter, including, notably, the adjustment costs incurred as a result of raising premium rates unilaterally.

In terms of a strategy for approaching multilateral negotiations, an incremental approach is likely to be most fruitful. This would involve phased increases in premium rates until the efficient level is reached. Such a strategy is only worth pursuing, however, if there are reasonable chances of securing multilateral reform.

83 Basel Committee on Banking Supervision, *A New Capital Adequacy Framework*, available from http://www.bis.org

In this respect, we consider that there are reasons to feel relatively positive about the prospects for reform. Much has already been achieved multilaterally, culminating in the introduction in April 1999 of the OECD Harmonised Country Risk Assessment and Premium System, which sets premium floors for cover for medium- and long-term exports to non-OECD countries. Each country is placed in a risk category from 1 to 7 (1 being the least risky, and 7 the most risky), with different minimum premium rates being applied to each category. The countries are moved from one category to another as perceptions of the risk associated with exports to those countries change.

There is some reason to believe that the current system is amenable to reform. Explicit provision is made for a range of Premium Feedback Tools, through which the benchmarks in place for each category of country can be modulated. These Feedback Tools, which include Cash Flow and Accruals-based accounting returns for each ECA, and comparison with available private market indicators, are currently used to ensure that the premium rates are adequate to ensure ECAs can attain the current WTO objective of "breaking even in the long term". An OECD operational paper on the Premium Feedback Tools of April 1999 states:

> *"The basic requirement is to ensure on an aggregated basis that the MPBs are not inadequate to cover long term operating costs and losses (in accordance with paragraph 22 a) of the Arrangement on Guidelines for Officially Supported Export Credits."*

As we suggested at the beginning of this section, we consider that a genuine breakeven target should make provision not only for operating costs, but also the cost of capital (i.e. the notional capital set aside to meet claims payments). That is, ECAs should be required to make a rate of return on that capital.

With respect to the use of private sector comparators as a feedback tool, two points should be made. First, as stated above, the attempt to make this comparison is problematic, since:

- analogous products (in terms of quality of cover, length, exposure and country of destination) are not currently provided by the private sector;[84] and
- if our hypothesis concerning the efficiency of the public sector in providing this cover is correct, then we would not expect private sector operators to be able to match the premiums they can offer.

Second, the fact that private sector comparators are thought to be appropriate would appear to suggest that the argument that ECAs should be acting on a commercial basis (and therefore earning a rate of return on capital) has already been accepted in principle, even though it has not yet been formalised in the first two Feedback Tools. We acknowledge, however, that the way in which private sector comparators will feed into the Minimum Premium Benchmark Rates (MPBRs) has yet to be agreed, and there may still be resistance in other OECD countries to the idea of earning a rate of return on notional capital.

The OECD Premium Rate Experts forum presents a good opportunity for pursuing multilateral increases in premiums. Since countries are represented by their ECAs, in the absence of ECGD, the UK would not be able to engage in the debate.

8.2.4 Maintain a focused remit for ECGD

A central theme of our discussion has been the principle that intervention should be closely targeted. We believe that ECGD will be best placed to exploit the advantages it has as a government-backed institution if it is given a clear, financially-based remit. That is, we would argue that it should not be required to meet the wide range of political, environmental, aid and human rights-related objectives that some parties have suggested it should adopt following the Mission and Status Review. Attempting to meet a broad range of objectives is likely severely to undermine ECGD's operational effectiveness.

84 Attempts have been made to use proxies, however, such as sovereign bonds.

We first discuss two specific suggestions that have been made in connection with the current review of ECGD's mission – that ECGD should be given an explicit aid-related objective, and that it should be required to do more to help SMEs. We end with a brief discussion of possible institutional changes that might be considered to reinforce ECGD's independence and focused remit.

8.2.4.1 Aid-related objectives

In Section 6.1 we reviewed the current use to which EXIG was put, and concluded that it did not constitute a well-focused intervention in support of aid-related objectives. We also noted, however, that the current review of ECGD's status is to consider the extent to which aid-related objectives should form a more significant part of ECGD's mission.

We would suggest that adding an aid-related objective to the standard objectives of an insurer (quantifying, pricing and where possible controlling risks to achieve a given rate of return) is likely to prove problematic on a number of levels.[85]

First, it would undermine ECGD's operational efficiency. For example, it is likely to exacerbate the difficulties involved in setting appropriate premium rates. It would also blur the objectives and incentives guiding ECGD's day-to-day operations. For example, as an insurer, ECGD has an incentive to seek recovery of any claims paid. As a provider of aid, however, it may have an incentive to write off such debts. It is not clear how these conflicting objectives could be reconciled.[86] Any attempt to do so is likely to reduce the efficiency with which ECGD can carry out its remit. It would also result in there being no clear criteria by which to judge ECGD's performance.

Second, introducing an aid-related objective would make the subsidy provided to exporters less transparent. This would lead to all the disadvantages of non-transparent policies alluded to in Section 3.4. In particular, it would undermine co-ordinated attempts to reduce subsidies through international agreements. For example, the use of mixed credit facilities (in which ECA-supported financing is blended with bilateral aid) is widely seen as having led to a degree of subsidy inflation.

Third, combining insurance and aid functions is likely to blur the possible positive signalling effects of ECGD backing which we discussed in Section 4.8. ECGD support would cease to be a signal solely of creditworthiness, and would instead provide mixed signals (e.g. that a particular country is considered worthy of aid support) that are of little use to other potential financiers or exporters.

8.2.4.2 Support for SMEs

It has also been suggested as part of the ongoing Review that ECGD should do more to help SMEs. We have already noted that SMEs do benefit from EXIG, even though they do not tend to be the direct beneficiaries of support. There is a good reason for this, however. EXIG is an instrument for providing cover for large, medium- to long-term capital goods exports. SMEs do not tend to be the prime contractors for such exports. SMEs tend to be lead contractors for short-term, relatively low value exports. The provision of cover for this business was privatised in 1991.[87]

85 The arguments below would not apply to an aid instrument entrusted to ECGD, but administered, evaluated and accounted for entirely separately from the rest of the business. But consideration of an entirely novel aid instrument lies outside the remit of the current review.

86 It may be in ECGD's interests as an insurer to write off a certain amount of debt, if this increases the expected value of claims recovery. Alternatively, Ministers may decide to instruct ECGD to write off certain debts. But in neither case is it necessary to include aid-related objectives within ECGD's remit. The essential difference is between writing off debt *ex post*, which can be justified in some cases, where it does not create the expectation of future write-offs and hence a moral hazard problem, and an *ex ante* policy of writing off debt, which clearly would create moral hazard problems.

87 As suggested above, part of the reason is that providing cover for short-term exports is a high volume business, with administrative costs constituting a relatively high proportion of total costs, and hence is an activity in which private sector efficiency gains might be expected to be significant.

Public support for SMEs should follow the principles for intervention we set out in Section 3.4 – i.e. it should be focused on the source of market failure or on the redistributive goal justifying the intervention. SMEs do suffer from specific problems in connection with exports – e.g. high transaction costs of gathering information about export markets – and there are specific instruments in place to address these problems. EXIG is not one of those instruments.

8.2.4.3 Conclusion

We consider that it is unwise to require one policy instrument (ECGD cover) to meet several government objectives. This would not result, as might be suggested, in an inconsistency of approach across government. If the Government has, for example, a human rights or political concern about the use to which an export may be put, the appropriate instrument to adopt is to withhold the export licence.[88] In this case:

- it would not be inconsistent for ECGD to be on cover, since this would solely reflect the risk of loss on an individual transaction; nor
- would it be necessary to inscribe human rights or other political objectives into ECGD's remit.

In our view 'joined-up government' is, or should be, concerned with ensuring consistency across policy instruments and across policy objectives. That is, interventions should not counteract each other. The principle of joined-up government should not, however, involve requiring a single policy instrument to meet several discrete government objectives, since such an approach would run the risk of undermining the efficiency with which any of the objectives can be met.

8.2.4.4 Institutional implications

It is not within the remit of the current review to consider in any detail ECGD's institutional structure. We simply note that one way of enshrining a clear, exclusive focus on insurance-related activities would be to change existing governance arrangements to give ECGD greater operational independence.

Within a revised structure, it would be desirable to distinguish clearly between the role of Ministers (setting broad objectives and the overall financial control framework) and the role of ECGD in implementing the policies. Decision-making processes and criteria should be transparent, and the results evaluated according to a clear set of performance indicators. This should limit the scope for day-to-day political intervention and ensure ECGD decisions gave market participants clear signals as to the probability of country default.

Consideration might be given to the possibility of giving ECGD the status of an Executive Agency. This option would clearly be a major change, meriting more thorough analysis than can be provided in the context of the present study.[89]

88 Similarly, if the Government wishes to write off debt against ECGD advice, it will instruct it to do so.

89 A principal question to address, however, would be the choice of quantifiable target to be used in assessing performance. Given the long-term, lumpy nature of ECGD's risk exposure, yearly cash flow results would be an inappropriate basis on which to assess performance.

9. Conclusion

The objective of this study has been to review the economic rationale for the public provision of export credit insurance and guarantees. In carrying out this remit, we have in effect analysed two separate hypotheses. The first hypothesis is that it is efficient for ECGD to provide EXIG. The second hypothesis is that it is efficient for EXIG to be provided to exporters at subsidised rates.

The arguments in favour of the first hypothesis are relatively strong. The advantages available to ECGD as a government institution, and the reputation it has succeeded in establishing, suggest that it is currently likely to be a more efficient provider of EXIG than an alternative private sector operator. However, we cannot definitively determine whether ECGD is indeed the most efficient provider of EXIG until it competes on equal terms with the private sector. This will only occur when subsidies contained in its premium rates are eliminated.

The various justifications for these subsidies (that they meet aid-related, industrial policy and employment objectives) are weak. The only constraint on raising ECGD's premium rates is the fact that adjustment costs will be incurred if ECGD does so and other ECAs do not follow suit. For this reason, we would recommend attempting to secure support for a multilateral increase in premium rates. Further quantitative analysis may be useful in establishing how long such negotiations should be continued before raising rates unilaterally.

If all subsidies are eliminated, one of three scenarios is possible. Customers may still wish to use ECGD's services and private sector entry may be minimal. This would imply that ECGD is able to provide cover at lower cost than alternative private sector operators, and that the efficiency arguments of Chapter 4 are vindicated. Alternatively, private sector operators may begin to take over future business, which would imply that the only advantage ECGD currently has is the subsidy included in premium rates. A final possibility is that the current level of business might not be sustainable without subsidisation, and resources will be diverted elsewhere.

In all of these cases, efficiency will have been improved relative to the status quo.

Annex A:
Terms of reference

Terms of reference for a report on the economic rationale for the public provision of export credit insurance by ECGD

1 The main focus of the Report is to look at the economic rationale for ECGD's principal export credit insurance products and services.

2 The Report will review ECGD's role as a provider of insurance and guarantees (specifically its cover to exporters for 'cash' contracts and cover for exporters and banks against non-payment of medium- or long-term credits as described in paragraphs 1a, b, 3 and 4 in ECGD Briefing Document 6, dated 7 July 1999).

3 The Report should not re-examine the rationale for the provision of Fixed Rate Export Finance, but ECGD would be interested in any views or data that emerge from research in and interviews about ECGD's role in fixing interest rates.

4 ECGD's Reinsurance and Overseas Investment Insurance Schemes are excluded from the scope of the Report.

5 The Report should:

5.1 establish whether there is a market failure justification for the continued public provision of export credit insurance to determine the economic rationale for government intervention. The analysis should set out the market failure associated with the sectors of the economy in which ECGD operates in relation to insurance and guarantees. It should attempt to identify whether there could be a market failure that could justify government intervention and whether or not ECGD currently provides that intervention;

5.2 determine the type of government intervention that best corrects for the market failure identified in paragraph 5.1 above. The recommended forms of intervention should be consistent with minimising costs and maximising benefits to the wider UK economy and be assessed without regard to ECGD's existing services/products (except where transition costs to a new form of intervention need to be taken into account). However, any difference between ECGD's current products and any suggested government intervention should be highlighted;

5.3 determine whether or not the estimated welfare gains from the public provision of cash, medium- and long-term export credit insurance, or other forms of intervention, outweigh the costs. In other words, determine the net benefit to the UK of any government intervention proposed under paragraph 5.2 above. Assuming that government is capable of correcting any market failure(s) identified in paragraph 5.1 above, it is important that market failure is not replaced by government failure (i.e. there should be a net increase in UK welfare from moving to a situation where there is no government intervention, to a situation where there is).

6 ECGD recognises that the analysis of the issues set out in paragraph 5 above will be mediated by the judgement of the individual researchers, and that any quantitative estimates that are produced will be subject to a considerable margin of error. Nevertheless, some quantification of export insurance additionality and employment/output (if any is found to exist) should emerge from the Report.

Annex B:
Market failure and missing markets

B.1 Market failure

In this section, we discuss the range of possible market failure arguments for government intervention. We first explain the conditions under which competitive markets result in an efficient allocation of resources, and then examine the consequences of a relaxation of these assumptions. The appropriate policy response to each type of failure is discussed.

This material will be familiar to readers with an economics background. Nevertheless, we consider that it is a useful exercise to review the various justifications for government intervention in general, before considering their applicability to ECGD's export insurance and guarantee products. This will help ensure common ground for the later discussion.

B.1.1 The competitive market benchmark

The First Theorem of Welfare Economics states that, if markets are complete, competitive and in equilibrium, then the allocation of resources is Pareto-efficient. That is, it is impossible to find an alternative feasible production plan and allocation of goods among consumers that makes at least one consumer better off and none worse off. This competitive equilibrium outcome is the benchmark against which the efficiency of actual market outcomes can be assessed.

This result can best be understood by considering separately the objectives of firms and consumers within a market. Profit-maximising competitive firms will produce up to the point at which the price of the product is equal to the marginal cost of production (P = MC). We can interpret the consumer's demand curve as a marginal benefit schedule. The consumer will consume up to the point at which price equals the marginal benefit of consumption (P = MB). Hence, in competitive markets, prices ensure that marginal cost to the firm equals the marginal benefit to the consumer (P = MC = MB).

Aggregating over all the individuals in the economy, competitive prices therefore ensure that the marginal social benefit of a good or activity equals its marginal social cost (MSB = MSC). This equilibrium condition is another way of expressing the Pareto-efficient allocation against which other outcomes must be assessed.[90]

B.1.2 Sources of market failure and policy responses

In the event of market failure, this equilibrium relationship will not hold. That is, a disparity will arise between the marginal social benefit and the marginal social cost of a given activity. In this section, we discuss some of the possible sources of market failure, and consider possible policy responses on the part of the Government in each case. Market failure may justify government intervention, but only if the benefits of that intervention outweigh the costs.

90 If marginal social benefit were above marginal social cost, then an increase in production would be Pareto-improving. If marginal social benefit were below marginal social cost, then a decrease in production would be Pareto-improving.

B.1.2.1 Market power

In a perfectly competitive market, producers take the market price as given and adjust their output accordingly. In a monopoly, however, the sole producer can choose any combination of output and price that lies on the consumer demand curve; he will choose the point that maximises his profits. This point will be where marginal cost equals marginal revenue, which is below price. In other words, the monopolist finds it optimal to restrict output to raise price to a mark-up over marginal cost. Since price reflects marginal social benefit, MSB exceeds MSC and intervention to increase output should be considered.

A regulator may impose marginal cost pricing on a monopolist to ensure a competitive outcome. However, if the monopolist faces increasing returns to scale (for example due to high fixed costs), marginal cost lies below average cost. In such cases, where marginal cost pricing would not enable the firm to cover its costs, the regulator must either provide a subsidy or allow the firm some mark-up. Ramsey pricing delivers the mark-up that minimises the welfare loss associated with distortion of consumption choice. The Ramsey rule is that the optimal mark-up is inversely proportional to the elasticity of demand for the product. Intuitively speaking, the less price-sensitive is demand for a good, the smaller will be the distortionary effect of the mark-up on consumption choices.

A further problem in regulating natural monopolies is the need to encourage productive efficiency (i.e. to encourage the regulated firm to minimise costs). The longer the control period (the period between tariff reviews) the greater the incentives for productive efficiency.

B.1.2.2 Externalities

An externality is a difference between the private and social cost and benefit of an economic good. For example, a car driver is not directly affected by the pollution he creates and does not take it into account when comparing the marginal private cost and benefit of making a particular journey. The pollution has a marginal social cost in excess of the private cost and is therefore called a negative externality.

An externality is negative if MSB < MSC and positive if MSB > MSC. In the above example, the externality is negative, since the pollution causes MSC > MPC, and the car driver consumes up to the point at which MPB = MPC, such that MSC > MSB. Externalities may be associated with both consumption and production of economic goods.

An economically efficient outcome can be achieved by aligning private and social costs and benefits, using taxes and subsidies. For example, a tax on car exhaust would raise the private cost of driving and could, in theory, align it perfectly with the social cost. However, as we noted above, the processes of taxation and spending introduce their own distortions, depending on the methods used.

An alternative solution would be to assign property rights to establish a market for the externality. In the example above, the Government might decide to issue permits to produce a certain level of exhaust emissions. If the Government allows drivers to trade amongst themselves for ownership of these permits, then non-permit holders will be willing to pay permit holders for use of some of their permits, an amount such that the MPC of driving rises up to the MSC.

The Coase theorem states that, provided property rights are complete (i.e. it is clear who has what rights and in particular who has any residual rights), then the outcome of trading will be the same no matter how the rights are allocated at the outset.[91] The above example, however, highlights one of the difficulties with assigning and trading in property rights: if the people affected by the externality are too widely dispersed, trading becomes difficult, and transaction costs may be excessive.

91 The outcome will be the same in efficiency terms (i.e. there will be a Pareto-efficient allocation), but the initial allocation of rights does have distributional consequences.

B.1.2.3 Public goods

Public goods are, strictly speaking, non-rivalrous and non-excludable. That is to say, one person's consumption of a public good does not reduce the amount available for another person and, once the good has been provided, anyone can benefit from it. An example of a public good is national defence. In practice, many other goods share important characteristics of pure public goods and the present analysis may be applicable to goods that are to some extent rivalrous or excludable.

The problem is that there is an externality in the provision of public goods. Because of its special characteristics, the benefit of providing a public good is often widely dispersed. Since the person meeting the cost will not capture all the benefit, under-provision will result. For example, while national security is of great value to many people, groups of private individuals are unlikely to associate in building a nuclear warhead due to the free rider problem (the knowledge that if others agree to produce the public good, its benefits can be enjoyed at no cost).

Governments can tackle the problem of public goods through ensuring the production of the good or service that cannot be provided through the private sector. Whether the government simply provides funding for private sector delivery of the public good (e.g. street cleaning) or directly provides that good itself (e.g. the Army) depends on the good's production characteristics.

The problem for the Government is to decide how much of the good to provide, since the market provides no signal as to how valuable the good is to people. The median voter theorem suggests that the Government will act according to the preferences of the median voter; this is not necessarily economically efficient. There exist theoretical economic mechanisms for valuing public goods but they tend to be complex and are not widely used in practice.

B.1.2.4 Asymmetric information

Because of its relevance to insurance markets in general and hence to EXIG in particular, we explore the problem of asymmetric information in somewhat greater detail than we have the other market failures described in this section.

Problems of asymmetric information occur when relevant information is unequally distributed between the two parties to a contract. Two forms of asymmetric information are analysed in the literature: adverse selection and moral hazard.

B.1.2.4.1 Adverse selection

In the case of adverse selection, the information asymmetry exists before the parties enter into the contract. That is, one of the parties has (and is aware of) certain characteristics that would materially affect the profitability of the contract for both parties, but that are not perfectly detectable by the other party.[92]

The problems of adverse selection are often illustrated with reference to the market for insurance. Using a simple model, we assume that there are two states of the world – one in which a loss occurs of value L and one in which there is no loss. Firms that wish to take out insurance are divided into two types, according to the *ex ante* probability that they will incur a loss. Good (G) firms have a low probability of incurring a loss, whilst Bad (B) firms have a high probability of incurring a loss. Firms are assumed to be risk averse (hence the demand for insurance), and the insurer is assumed to be risk neutral.

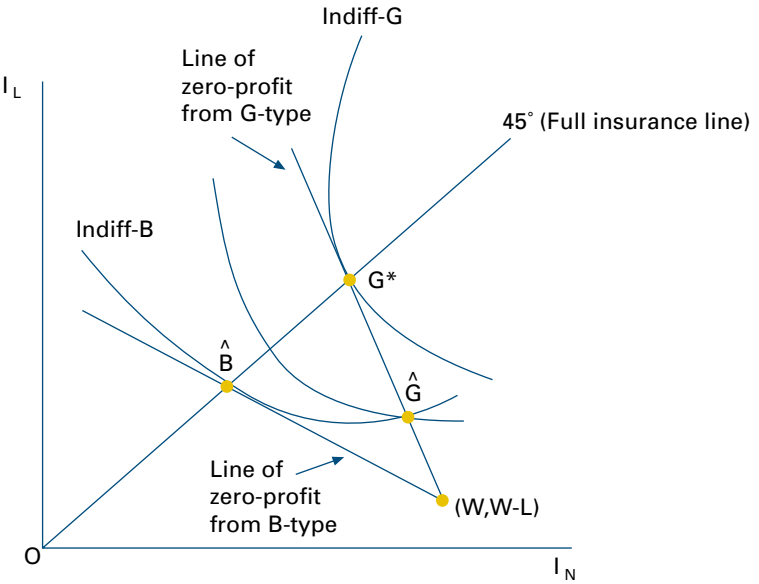
92 For this reason, the problem of adverse selection is often referred to as 'hidden information' or 'hidden characteristics'.

The first best outcome (in the absence of asymmetric information) is that both G and B type firms will be offered full insurance, at prices that reflect the differential probabilities each has of incurring a loss.[93]

The root of the asymmetric information problem in this model is that, whilst the firms are aware of their risk type, the insurance company is not. This causes a problem for the insurer in pricing its policies. If it prices at the average risk of the market, low risk companies will not take out insurance and there is a higher than average probability that the insurance company will have to pay out on individual claims. The insurance company will therefore expect to make a loss and will withdraw from the market.

Figure 1 shows a possible outcome of this information asymmetry.[94] In the first best outcome, both firm types are given full insurance (the first best contracts, G* and $\hat{B}$, both lie on the full insurance line, and both ensure expected premium income equals expected losses). In the presence of adverse selection, insurance firms cannot offer two distinct types of contract, since they cannot differentiate between G and B type firms. If they were to offer G* they would expect to make a loss on B type firms. The solution in this case is to offer $\hat{B}$ (the first best contract for B types) and $\hat{G}$ (a contract that will attract G types, but in which the level of cover is sufficiently low that B types will still prefer B*). The result is that the low risk firms are given sub-optimal levels of insurance. In extreme cases, there may be no policy that all firms would be willing to accept and that does not result in the insurance company making losses. Thus the insurance market itself may break down.

Figure 1: Adverse selection in insurance markets



* = first best solution
^ = second best solution

Under adverse selection, the good types cannot be offered G* any more, as the bad types would also ask for G*

B.1.2.4.2 Moral hazard

Moral hazard problems involve an asymmetry of information after the contract is signed. Insurance markets again provide a good example of the problems that moral hazard can cause. Insured companies can take steps to reduce the risk of loss, but their efforts are not perfectly verifiable by the insurance company, and therefore cannot form part of a contract between the two.[95] If avoiding risk is costly to the insured firm, it will have incentives to engage in sub-optimal levels of risk-reducing activity. To reduce the effects of moral hazard, insurance companies may design contracts that result in a sub-optimal transfer of risks to the insured (e.g. deductibles, no claims bonuses).

93 For the purposes of the current discussion, we set to one side the moral hazard problems created by the provision of 100 per cent insurance. We also assume in this model that insurance firms offer 'actuarially fair' prices, in which premium income equals expected losses.

94 In Figure 1, I_N is wealth in the event of no loss, I_L is wealth in the event of a loss, Indiff-G (Indiff-B) is the locus of outcomes over which good types (bad types) are indifferent.

95 For this reason, the problem of moral hazard is often referred to as one of 'hidden action' or 'hidden behaviour'.

In extreme cases of adverse selection and moral hazard, certain insurance markets may fail to appear at all.

Another common example of moral hazard is provided in the relationship between the owners (the principal) and managers (the agent) of a firm. Managers can take steps to improve the chances of a profitable outcome for the owners of the firm. But their efforts are not perfectly verifiable by the owners of the firm, and therefore cannot form part of a contract between the two. To align the interests of owners and managers, owners may design contracts that result in an inefficient transfer of risks from owners to managers.

The Government intervenes in some markets to alleviate the harmful effects of asymmetric information (e.g. the regulation of conduct of professional advisers – financial advisers, doctors, creation of professional bodies).

In the insurance industry, solutions are provided within the private sector (e.g. classing customers according to demographic and socio-economic characteristics to lessen adverse selection effects, providing for no claims bonuses and share options to reduce moral hazard). In certain cases of insurance, however, such as National Insurance Contributions, the Government may intervene through imposing universal purchase of a uniform policy that is actuarially fair in the aggregate. As Stiglitz (1989) says:

> *"The government is the only institution which is capable, however, of enforcing this equilibrium with universal membership."* (page 44)

B.1.2.4.3 Signalling

A further method of overcoming problems caused by asymmetric information merits explicit consideration. In situations in which one party to a contract has a characteristic that is not directly observable, but that would improve the terms of the contract for that party if it were observable, he or she may attempt to convey information about that characteristic to the other party by 'signalling'.

A common example of signalling is to be found in the education sector. If we assume that worker productivity is not directly observable *ex ante*, but that individuals are aware of their own productivity, then education can be seen as a method of signalling that productivity to future employees. The theory is based on the assumption that getting into university, for example, and passing final exams is more costly, in terms of time and effort expended, to those with lower productivity than those with higher productivity. If wage differentials between high productivity and low productivity workers are set correctly, then only the higher productivity workers will find it worthwhile to attend higher education. Educational achievement thus provides potential employees with a means of signalling their productivity, and employers with a means of screening applicants.[96]

B.1.2.5 Imperfect information

Individuals faced with imperfect information are normally thought to act on the basis of probabilistic judgements about outcomes. Two forms of imperfect information are problematic, however. First, consumers may make judgements on the basis of faulty information, e.g. use the 'wrong' marginal benefit valuation in making choices (resulting in an inability to equate private marginal cost and private marginal benefit). Second, individuals may simply have insufficient information on which to make a calculation of expected costs and benefits. In such cases, the result may be that certain markets will fail to appear at all. For example, only a limited range of goods is traded in futures markets, because of uncertainty concerning the characteristics of next year's goods. Futures markets require precisely defined, homogeneous and liquid goods that can be traded sight unseen.

96 Note that the theory of signalling suggests that it is rational to invest in costly education even if education adds nothing directly to a worker's marginal productivity. This perhaps helps to explain why arts graduates can go on to find high paying jobs in the City after graduation.

Governments may regulate either to encourage the provision of information or set and enforce standards to reduce harmful effects of imperfect information (e.g. consumer protection, health and quality standards). Alternatively, if the Government considers that consumers are likely to miscalculate the marginal benefit of a particular good, it may impose an obligation to consume that good. Such 'merit goods' include education between the ages of 5 and 16.[97]

B.2 Missing markets

The last three cases of market failure that we identified (public goods and extreme cases of asymmetric and imperfect information) can lead not only to an inefficient allocation of resources, but to an absence of trades altogether, that is, to the problem of missing markets. There is no price at which trades will take place. Hence there is no MSB or MSC.

Such cases present particular problems of quantification. The analysis of this section has been articulated within a comparative static framework. There are reasons to believe that this approach may be misleading in the case of missing markets, which present the possibility of multiple equilibria, as Newbery (1990) explains:

> *"Markets not only provide the opportunity for agents to trade, they also provide information about the terms on which trades may be made. If the market is missing, then agents will have to conjecture the terms on which trade might have taken place. Different conjectures will lead agents to take different actions, and will result in different equilibria (if, indeed, equilibrium is the appropriate description of this process of learning, revising conjectures, and adjusting actions)."* [98]

97 Note that the implication of the existence of merit goods (and demerit goods in the case of, for example, certain types of drug use) is that in some cases consumers are thought to behave irrationally – i.e. cannot be trusted to make an appropriate estimation of the costs and benefits of consuming a particular good. There may also be externality justifications for wishing to prescribe and proscribe certain types of consumption, however.

98 Newbery (1990) pp 218–219.

Annex C:

Contractual relations in the export insurance market

Figure 2: Supplier credit insurance

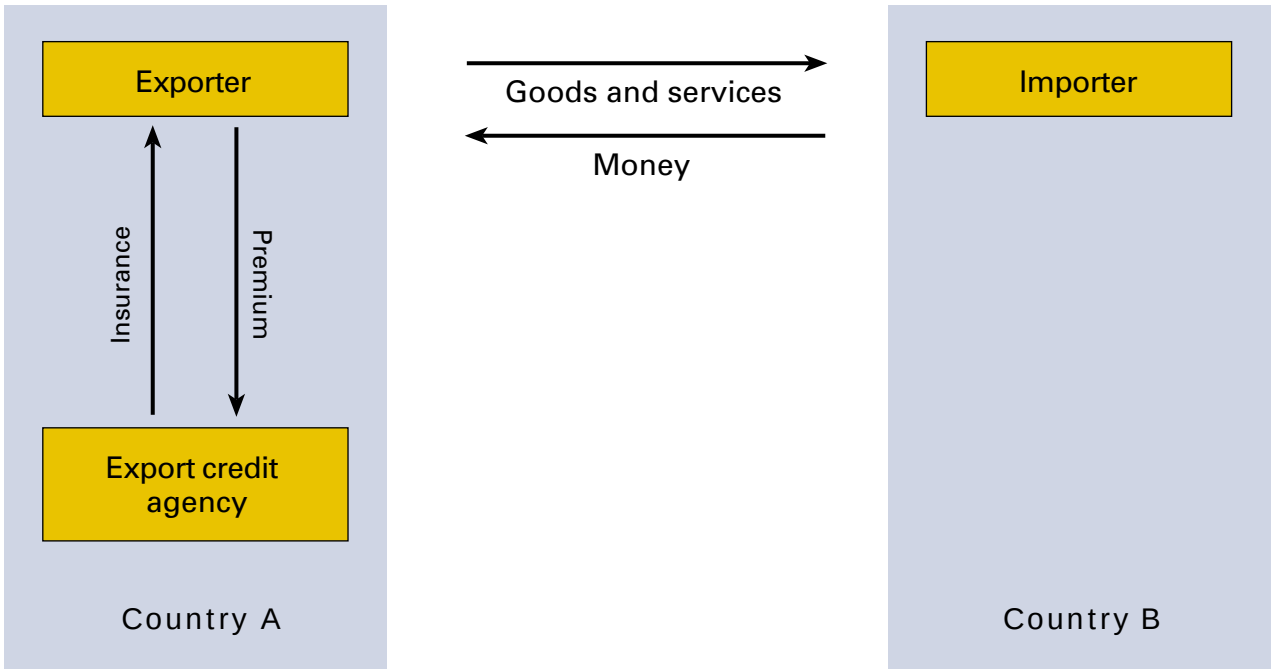


Figure 3: Direct bank purchase of supplier credit insurance

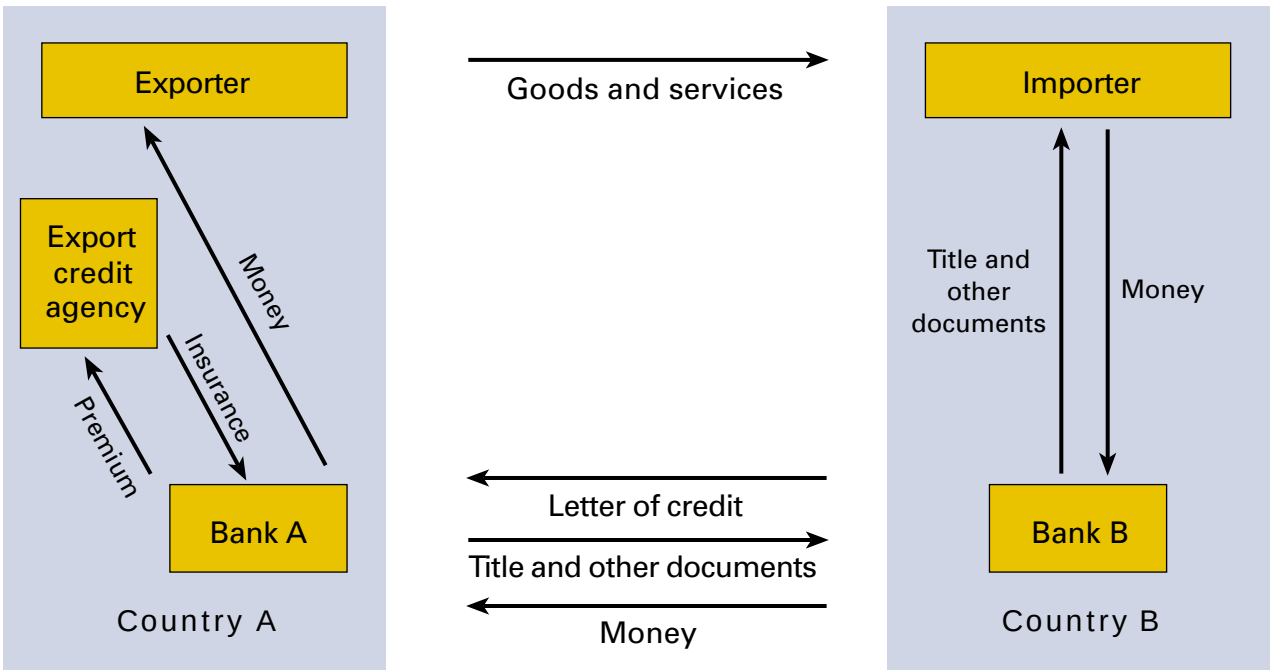
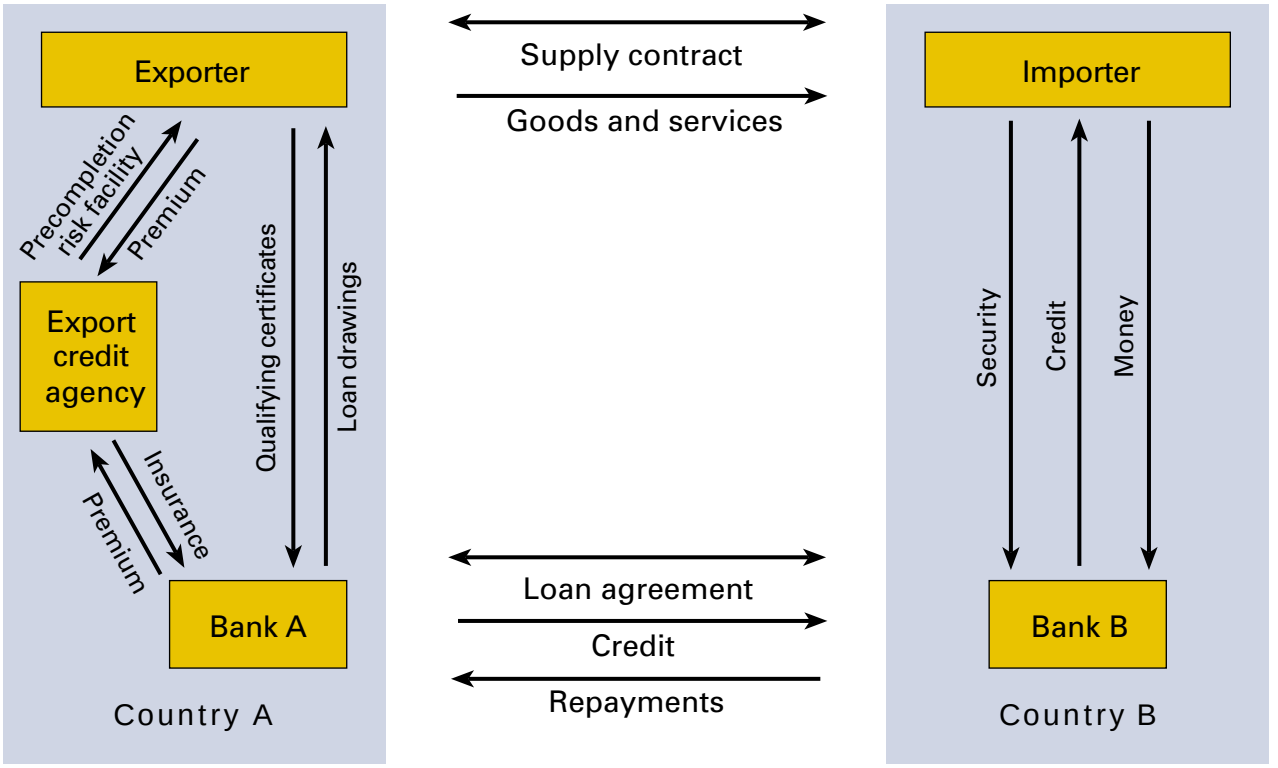


Figure 4: Buyer credit



Source: Stephens (1999)

Annex D:

Annual cash flows of the export credit business of Berne Union members

(In billions of U.S. dollars)

Year	Premiums received	Recoveries	Claims paid	Administrative costs	Annual cash flow
1982	1.6	0.7	2.9	0.2	-0.9
1983	1.5	1.1	4.8	0.2	-2.4
1984	1.4	1.6	5.4	0.2	-2.6
1985	1.7	2.5	6.2	0.3	-2.3
1986	1.8	2.9	8.5	0.3	-4.2
1987	2.0	5.4	11.3	0.4	-4.2
1988	1.8	3.1	10.7	0.4	-6.3
1989	2.0	4.0	10.4	0.4	-4.7
1990	2.4	4.4	13.5	0.6	-7.1
1991	2.9	4.0	13.1	0.6	-6.9
1992	2.8	4.5	12.2	0.5	-5.4
1993	3.7	4.6	12.6	0.5	-4.8
1994	3.6	6.1	14.3	0.6	-5.3
1995	3.7	8.3	11.8	0.7	-0.4
1996	3.7	9.1	10.6	0.7	1.5
1997	3.7	8.5	5.3	0.6	6.3
Total	**40.2**	**70.9**	**153.6**	**7.3**	**-49.8**

Source: Stephens (1999)

Annex E:
Calculating *ex post* and *ex ante* subsidies

Camino and Cardone (1995) propose two methods of estimating subsidies in export credit insurance premium rates. They define a subsidy in year t as:

$$S_t = I_t (k_t - k_{st})$$

where:

I_t = value of insured contracts in year t

k_t = pure insurance premium in year t (in percentage terms)

k_{st} = subsidised insurance premium in year t (in percentage terms).

The pure premium is defined as the ratio of total expected claims to the value of insured contracts. It thus ensures that premium income exactly offsets the expected losses from the insurance contract. We should note that the pure premium is less than a premium that would allow for a return on the insurer's capital, and hence calculating the subsidy in this way will involve an underestimation.[99] Another way of viewing this calculation is the estimation of subsidies relative to the simple WTO breakeven target for ECAs.

This approach to measuring subsidy requires an explicit method of modelling the expectations of the insurance companies when premiums are offered. Camino and Cardone propose two methods: an *ex post* and an *ex ante* approach.

The *ex post* approach simply assumes rational expectations about future losses in the long term. The assumption is that sustained heavy losses cannot be explained by expectational errors and hence must be explained by a deliberate policy of subsidisation.

The *ex ante* approach explicitly models expectation formation by calculating an expected premium which the insurance agency must charge to maintain equality between premia and claims, on the basis of the previous three years' results. The expected pure premium is defined as:

$$k_t = [(C_{i-1}/V_{i-1}) + (C_{i-2}/V_{i-2}) + (C_{i-3}/V_{i-3})] / 3$$

The expected pure premium is then multiplied by the value of the newly insured contracts of a particular year to obtain expected future claims.

Annexes F, G, H and I present the results generated by Camino and Cardone for *ex post* and *ex ante* subsidies expressed in dollar terms and as a percentage of insured exports for 19 ECAs over the period 1981 to 1991.

99 We discuss elsewhere issues involved in the estimation of subsidies relative to the benchmark of earning a true rate of return.

Annex F presents the *ex post* results over the 11 year period. It shows that the total value of subsidy provided over the period by ECGD was $US 5.0325 billion.[100] However, each yearly out-turn is presented in nominal terms. To generate a meaningful result over the period, we need to express this in real dollars. In 1990 dollars, the total value of loss over the ten-year period was $US 5.7909 billion, the fourth highest loss behind COFACE (France), Hermes (Germany) and SACE (Italy).

These figures do not, however, take into account the value of claims recoveries. This is because reported recoveries often consist of reimbursement by the national Treasury irrespective of whether the amounts were recovered or not, and should therefore be treated with caution. Annex G presents the *ex post* results taking into account recoveries, and expressing them as a percentage of insured exports. Over the 1981 to 1990 period, the subsidy element in ECGD's premiums amounted to 1.87 per cent of the value of exports.

Annexes H and I present the results of the *ex ante* exercise, expressing subsidies in value terms and as a percentage of insured exports, both with recoveries included. The average annual ECGD subsidy is reported as $US 540.06 million. Again, we need to express this in real terms: in 1990 dollars, the average annual subsidy was $US 596.45 million, the fourth highest *ex ante* subsidy behind COFACE, Hermes and SACE. Expressed as a proportion of insured exports, the subsidy element in ECGD's premiums amounted to 2.14 per cent of the value of exports.

In the context of ECA credit insurance, however, we have some reservations about the *ex ante* approach, which provides a yearly measure of subsidy. The time horizons for which cover is provided are so long, and the losses, when they occur, so large (because of the lumpiness and interdependence of risks) that assuming expectations are formed on the basis of the previous three years' results is unrealistic.[101] Moreover, the data do not compare the premiums and claims of contracts of a particular year, rather they consider claims paid and premiums and recoveries received in any one year. Therefore, if a large enough, consistent sample is available, the long-term *ex post* result is more appropriate.

100 Data were available for ECGD for only the ten year period up to 1990.

101 Time horizons are extended by the fact that recoveries can take place even beyond the possible 15-year risk horizon.

Annex F:

ECA annual losses 1981–1991

Net losses ($US millions)

Country	Agency	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	TOTAL
Australia	EFIC	-7.9	-11.3	-4.3	-8.6	-15.0	-6.1	22.0	269.5	-21.4	-21.3	271.9	467.5
Austria	OKB	-63.5	43.8	26.5	22.3	-133.6	189.3	-242.4	12.1	-144.0	153.9	40.0	-94.8
Belgium	OND	2.6	35.0	70.5	75.2	77.6	68.6	142.6	148.9	108.5	110.9	38.9	87.3
Canada	EDC	-6.5	-7.0	3.9	-11.0	-12.4	-12.0	-11.9	-23.7	-19.0	-2.9	-25.8	-121.3
Denmark	EKR	9.3	18.7	34.5	22.1	-1.1	82.8	122.8	88.6	24.8	NA	NA	402.5
Finland	VTL	6.3	10.5	18.1	16.5	15.1	44.0	30.3	-22.5	78.9	-27.5	NA	169.7
France	COFACE	4.2	369.2	532.0	8.0	-249.9	679.3	1,122.1	1,859.2	1,345.6	1,822.1	1,439.2	8,931.0
Germany	HERMES	67.8	-74.0	347.4	412.4	310.2	466.7	913.2	720.2	1,157.7	2,492.7	1,826.1	6,640.4
Italy	SACE	19.0	91.6	340.3	282.3	611.2	425.1	625.7	938.7	1,618.3	307.4	993.6	6,253.2
Japan	EID	-2.9	52.4	131.5	299.1	387.0	635.4	NA	NA	275.8	751.2	1,992.0	4,521.5
Netherlands	NCM	-45.8	-8.8	140.8	206.8	143.7	145.8	153.6	135.9	179.5	196.8	NA	1,248.3
N. Zealand	EXGO	-1.0	-0.7	-0.6	-0.39	-1.2	-1.1	-0.2	-2.1	-0.9	3.6	1.0	-3.6
Norway	GIEK	14.5	63.6	97.9	36.4	18.2	57.8	53.7	55.0	29.3	51.4	NA	477.8
Portugal	COSEC	NA	-3.5	-2.0	-3.0	-5.1	-4.8	NA	NA	NA	NA	NA	-18.4
Spain	CESCE	-36.5	-42.7	43.2	136.9	119.6	318.1	716.0	427.6	481.5	443.9	366.5	2,974.1
Sweden	EKN	61.3	60.7	35.6	18.1	18.6	23.5	56.5	27.0	46.2	74.7	60.3	482.5
Switzerland	ERG	62.6	103.5	123.7	99.1	98.5	96.0	193.6	72.9	94.7	83.3	NA	1,027.9
U. Kingdom	ECGD	-25.9	231.4	550.4	495.3	459.4	356.6	828.1	928.1	579.7	629.4	NA	5,032.5
U.S.A.	FCIA	-10.1	1.0	102.8	266.6	67.4	-25.9	46.1	-30.4	22.8	-57.6	-19.6	363.1
Total		**47.5**	**933.4**	**2,592.2**	**2,374.1**	**1,908.2**	**3,539.0**	**4,771.8**	**5,605.0**	**5,858.0**	**7,011.9**	**6,954.9**	**41,626.0**
Average		**2.6**	**49.1**	**136.4**	**125.0**	**100.4**	**186.3**	**280.7**	**329.7**	**344.6**	**438.2**	**582.1**	**2,575.1**

Source: Camino and Cardone (1995)

Annex G:
Ex post insurance subsidies

With recoveries

(Values at % of insured exports)

Country	Agency	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	% Average
Australia	EFIC	-0.3	0.5	-0.2	-0.4	-0.6	-0.2	0.7	5.8	-0.5	-0.6	8.4	1.4
Austria	OKB	-0.9	0.9	0.8	0.7	-3.4	6.2	-6.3	0.3	-1.6	1.7	0.5	-0.2
Belgium	OND	0.1	0.9	2.5	3.1	2.4	1.9	3.3	3.5	3.0	2.1	0.7	2.1
Canada	EDC	-0.2	-0.4	0.1	-0.5	-0.7	-0.6	-0.44	-0.7	-0.5	-0.1	-0.6	-0.4
Denmark	EKR	0.3	0.7	0.9	0.7	-0.0	1.5	1.9	NA	NA	NA	NA	1.4
Finland	VTL	0.6	0.9	2.1	2.1	2.6	6.8	2.8	-2.7	5.5	-1.8	NA	1.7
France	COFACE	0.0	1.1	1.5	0.0	-0.9	2.6	3.6	5.5	3.3	4.5	2.7	2.3
Germany	HERMES	0.4	-0.5	2.7	4.0	2.5	3.6	5.9	5.2	6.3	9.3	4.8	4.5
Italy	SACE	0.2	1.0	7.0	6.6	10.2	10.5	11.2	18.7	15.6	2.1	5.7	6.8
Japan	EID	0.0	0.1	0.3	0.7	0.8	1.3	NA	NA	0.2	0.5	1.2	0.6
Netherlands	NCM	-0.7	-0.1	1.8	2.9	2.2	1.6	1.2	1.1	1.1	0.9	NA	1.2
N. Zealand	EXGO	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	0.0	-0.4	-0.2	0.7	0.2	-0.1
Norway	GIEK	2.2	11.3	15.7	8.0	3.4	10.6	7.6	7.9	3.8	6.7	NA	7.5
Portugal	COSEC	NA	-0.7	0.3	-0.6	-0.9	-0.9	NA	NA	NA	NA	NA	-0.7
Spain	CESCE	-0.8	0.8	1.3	5.3	3.7	9.7	20.2	11.0	9.8	6.7	4.6	6.1
Sweden	EKN	2.9	3.7	2.9	2.0	1.6	1.5	3.3	1.4	2.9	5.9	4.0	2.9
Switzerland	ERG	2.0	6.4	4.6	6.2	7.6	6.6	16.6	6.4	5.7	4.7	NA	5.8
U. Kingdom	ECGD	-0.1	0.7	2.0	2.0	2.0	1.7	3.5	3.5	2.2	2.2	NA	1.9
U.S.A	FCIA	-0.1	0.0	1.4	3.9	0.7	-0.5	0.7	-0.6	0.5	-1.2	-0.4	0.5
Average		**0.0**	**0.5**	**1.6**	**1.7**	**1.2**	**2.3**	**3.0**	**4.5**	**2.1**	**2.1**	**2.3**	**1.9**

Source: Camino and Cardone (1995)

Annex H:

Ex ante insurance subsidies (values)

With recoveries

(Values in US$ millions)

Country	Agency	1984	1985	1986	1987	1988	1989	1990	1991	Average
Australia	EFIC	-7.9	-11.9	-11.6	-13.6	-8.4	97.9	77.6	54.9	22.1
Austria	OKB	-25.6	10.5	-65.7	-32.2	-53.5	160.5	-117.0	41.1	-10.2
Belgium	OND	30.5	74.9	102.0	103.4	107.1	80.9	183.3	149.7	104.0
Canada	EDC	-7.3	-4.4	-6.8	-13.4	-18.3	-21.5	-21.7	-19.5	-14.1
Denmark	EKR	21.4	25.6	22.8	40.0	NA	NA	NA	NA	22.0
Finland	VTL	12.7	10.8	16.0	31.9	26.3	28.7	17.5	NA	20.6
France	COFACE	2,578.0	143.1	-144.2	225.1	837.8	1,757.2	1,753.4	2,494.5	886.6
Germany	HERMES	89.9	224.4	372.2	505.2	571.6	932.3	1,560.8	2,493.3	843.7
Italy	SACE	76.7	315.3	293.6	504.1	545.5	1,515.1	2,287.7	2,229.8	971.0
Japan	EID	1.1	127.4	302.9	NA	NA	NA	NA	NA	143.8
Netherlands	NCM	29.5	90.3	218.4	314.9	269.5	127.9	180.0	NA	153.8
N. Zealand	EXGO	0.8	0.4	0.7	-1.3	-1.2	-1.1	-0.9	0.4	-0.7
Norway	GIEK	46.8	67.0	51.2	55.7	51.7	66.6	50.3	NA	55.6
Portugal	COSEC	NA	-3.2	-1.9	NA	NA	NA	NA	NA	-2.6
Spain	CESCE	5.8	59.4	119.4	252.0	444.9	692.0	895.3	672.0	392.6
Sweden	EKN	17.8	33.8	36.2	40.8	47.7	27.4	20.4	67.7	36.5
Switzerland	ERG	76.2	80.1	80.8	79.3	119.4	167.5	164.4	NA	109.7
U. Kingdom	ECGD	315.2	389.5	401.4	486.1	674.2	665.9	848.2	NA	540.1
U.S.A	FCIA	28.8	171.6	78.6	88.6	4.6	-13.1	11.8	-24.1	43.45
Average		**40.9**	**95.0**	**98.1**	**156.9**	**212.9**	**369.7**	**494.4**	**741.8**	**227.3**

Source: Camino and Cardone (1995)

Annex I:

Ex ante insurance subsidies (percentage of cover)

With recoveries

(Values as percentage of insured exports)

Country	Agency	1984	1985	1986	1987	1988	1989	1990	1991	Average
Australia	EFIC	-0.4	-0.5	-0.4	-0.4	-0.2	2.1	2.0	1.7	0.5
Austria	OKB	-0.8	0.3	-2.2	-0.8	-1.2	1.7	-1.3	0.5	-0.5
Belgium	OND	1.3	2.3	2.8	2.4	2.5	2.2	3.5	2.8	2.5
Canada	EDC	-0.4	-0.2	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.4
Denmark	EKR	0.6	0.7	0.5	0.6	NA	NA	NA	NA	0.4
Finland	VTL	1.6	1.8	2.5	2.9	3.1	2.0	1.1	NA	2.2
France	COFACE	0.1	0.5	-0.6	0.7	2.5	4.3	4.3	4.7	2.1
Germany	HERMES	0.9	1.8	2.6	3.3	4.1	5.1	5.8	6.6	3.8
Italy	SACE	1.8	5.3	7.2	9.0	10.9	14.6	16.0	12.8	9.7
Japan	EID	0.0	0.3	0.6	NA	NA	NA	NA	NA	0.3
Netherlands	NCM	0.4	1.4	2.4	2.5	2.1	0.8	0.9	NA	1.3
N. Zealand	EXGO	-0.2	0.1	-0.1	-0.2	-0.2	-0.22	-0.2	0.1	-0.1
Norway	GIEK	10.2	12.4	9.4	7.9	7.4	8.6	6.5	NA	8.9
Portugal	COSEC	NA	-0.6	-0.4	NA	NA	NA	NA	NA	-0.5
Spain	CESCE	0.2	1.8	3.6	7.1	11.4	14.1	13.6	8.5	7.5
Sweden	EKN	1.9	2.9	2.4	2.4	2.4	1.7	1.6	4.5	2.5
Switzerland	ERG	4.8	6.2	5.5	6.8	10.5	10.0	9.3	NA	7.6
U. Kingdom	ECGD	1.3	1.7	1.9	2.1	2.5	2.5	3.0	NA	2.1
U.S.A	FCIA	0.4	1.8	1.8	1.4	0.1	-0.3	0.2	-0.5	0.6
Average		**1.3**	**2.1**	**2.1**	**2.8**	**3.4**	**4.0**	**4.1**	**3.8**	**2.7**

Source: Camino and Cardone (1995)

Annex J:
Annual cash flows of ECGD

Table J.1: Annual cash flows of ECGD – business underwritten before 1991[102]

(£ million)

Year	Premium income	Recoveries and interest	Claims paid	Administrative costs	Annual cash flow	Cumulative cash flow
1980/81	152.0	80.6	290.5	28.6	-86.5	-86.5
1981/82	236.3	79.7	303.5	28.5	-16.0	-102.5
1982/83	344.2	103.6	584.1	30.4	-166.7	-269.2
1983/84	162.8	132.7	674.3	32.1	-410.9	-680.1
1984/85	158.8	327.3	848.9	33.5	-396.3	-1,076.4
1985/86	170.7	270.9	777.1	36.7	-372.2	-1,448.6
1986/87	159.8	394.7	780.3	45.0	-270.8	-1,719.4
1987/88	140.6	322.3	987.3	46.5	-570.9	-2,290.3
1988/89	191.1	325.7	810.4	49.2	-342.8	-2,633.1
1989/90	187.7	379.0	912.9	56.2	-402.4	-3,035.5
1990/91	172.1	477.6	967.5	53.1	-370.9	-3,406.4
1991/92	123.2	472.8	954.1	37.8	-395.9	-3,802.3
1992/93	22.5	483.8	734.1	32.5	-260.3	-4,062.6
1993/94	6.6	398.2	508.6	17.5	-121.3	-4,183.9
1994/95	1.3	340.9	392.7	12.5	-63.0	-4,246.9
1995/96	0.2	454.2	269.9	9.1	175.4	-4,071.5
1996/97	2.0	548.3	198.6	6.6	345.1	-3,726.4
1997/98	3.3	496.5	148.4	7.4	344.0	-3,382.4
1998/99	0.0	410.2	97.8	6.6	305.8	-3,076.6
Total	**2,235.2**	**6,499.0**	**11,241.0**	**569.8**	**-3,076.6**	

Source: ECGD records

Table J.2: Annual cash flows of ECGD – business underwritten since 1991

(£ million)

Year	Premium income	Recoveries and interest	Claims paid	Administrative costs	Annual cash flow	Cumulative cash flow
1991/92	51.5	0.1	0.0	12.4	39.2	40.6
1992/93	75.7	0.0	0.2	10.2	65.3	105.9
1993/94	163.6	17.6	3.3	16.8	161.1	267.0
1994/95	84.1	0.2	28.6	18.2	37.5	304.5
1995/96	94.8	19.0	24.8	17.4	71.6	376.1
1996/97	135.2	9.7	32.0	15.6	97.3	473.4
1997/98	107.1	20.5	17.3	14.5	95.8	569.2
1998/99	97.5	14.4	47.0	16.5	48.4	617.6
Total	**811.0**	**81.6**	**153.2**	**121.8**	**617.6**	

Source: ECGD records

102 This table reports the cumulative cash flow which reflects the impact of debt forgiveness.

Annex K:
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Annex L:
List of interviewees

L.1 UK Government

Export Credits Guarantee Department
Foreign and Commonwealth Office
Ministry of Defence
Department of Trade and Industry
British Trade International

L.2 Banks

Barclays Capital
Chase Manhattan
Credit Suisse First Boston
Deutsche Bank
HSBC

L.3 Insurance and reinsurance underwriters and brokers

Adjusting Services
AIG
Aon Trade Finance
COFACE LBF
Euler Trade Indemnity
Marsh McLennan
Munich Re

L.4 Exporters[103]

Balfour Beatty
British Aerospace
Kvaerner
Marconi Electronic Systems
Rover
Siemens Finance

103 Amongst exporters, we interviewed prime contractors rather than sub-contractors, who are indirect beneficiaries of ECGD cover.

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