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Aid as a catalyst for pioneer investment

Paul Collier*

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Abstract

I discuss how aid can support growth in small, isolated economies. Small markets frustrate scale economies and competition. Combined with high transport costs, essential inputs become prohibitively expensive. Breaking the coordination problem requires pioneering investment. Since this generates externalities it will be undersupplied.

Donors have both the finance and the long-term relationships that could offset the externalities and political risks that impede pioneers. However, there are practical difficulties of how such support is best organized. In order of ambition these run from finance of infrastructure, through subsidized capital and political risk insurance, to long-term partnerships with private firms.

Keywords: aid, growth, investment

JEL classification: E2, F35, O11

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Acronyms

IDA	international development assistance
IFC	International Finance Corporation
MIGA	Multilateral Investment Guarantee Agency
OECD	Organization for Economic Cooperation and Development
OPIC	Overseas Private Investment Corporation
SIE	small, isolated economy

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1 Introduction

Two major changes in the global economy have important implications for aid policy that have yet to be digested. One is that most developing countries now have credible prospects of rapid convergence on developed countries. This has been driven by the spread and shift of economic activities from the developed world to those developing countries where costs are lower. Not all developing countries have participated in this spread, but where it has happened it is likely to be robust: I will refer to them as the converging economies. The other global change is that international investors are now thinking globally: the scale of private capital flows to developing countries eclipses aid. In large part, global capital flows to developing countries are going to the converging economies: this is the economic meaning behind investor designations such as the ‘BRICS’. However, recently investors have also begun to be interested in those developing countries that have not yet broken into OECD activities: for this group investors use terms such as ‘*frontier economies*’.

This paper is about the implications of these two developments for aid policy. I argue that the converging economies no longer need aid, which should be focused on the frontier economies. But even in the frontier economies aid should not continue with business as usual. Because the potential of private capital flows to these economies is now substantial, aid policy should be redesigned so as to accelerate them.

While the core of the paper is necessarily focused on frontier economies, as a preliminary I briefly explain why, despite having most of the world’s poor, the converging economies no longer need development assistance. The criterion of need for *development* assistance, as opposed to humanitarian aid, should not simply be current poverty. The purpose of development assistance is to accelerate long-term growth and so the pertinent timeframe is the likely poverty level in the next generation. Development assistance is so scarce that it should be confined to those countries which do not have solid prospects that within a generation their per capita income will be at a level at which, combined with appropriate policies of redistribution, mass poverty can be eliminated. Countries such as India are plausibly on track to this level of income and so not appropriate recipients of development assistance. Of course, even once they reach this level of per capita income, these societies may choose not to redistribute income, as a result of which poverty remains avoidably high. However, even this possibility does not justify development assistance. According to the international principle of ‘subsidiarity’ the responsibility for a decision should rest at the lowest political level at which the objective can be attained. Hence, only in countries where average incomes are likely to remain too low for mass poverty to be addressed by internal redistribution, should the international community bear the responsibility for it.

The paper is organized as follows. In Section 2 I discuss the frontier economies. By definition, these are the economies which have yet to diversify their economies. Their economies consist of pre-modern modes of the organization of production, typically smallholder and pastoral agriculture and informal services, plus a modern extractive sector which is an enclave, not significantly integrated into the rest of the economy. Necessarily, a discussion of such economies has to account for why they have not already diversified their economies when most other developing countries are already doing so. I suggest that there are two conceptually distinct explanations: weak governance and economic isolation. The problems of weak governance are familiar and I will not rehearse them here. In contrast, the problems of isolation have been neglected and so I go into them in detail. In Section 3 I turn

to the scope for aid to induce private capital inflows in these environments. Where the problem is weak, governance aid can provide insurance. Where the problem is isolation, it can provide coordination and pump-priming. Section 4 brings the arguments together and concludes.

2 Frontier economies

As defined in this paper, frontier economies have faced distinctive impediments to the normal process of economic modernization. By modernization I mean both the range of activities typical of a developed economy, and the mode by which production is organized. Weak governance is an obvious explanation of a binding impediment to such growth, and in a number of frontier economies it is sufficient: these are countries that with reasonable governance would grow. For example, this underlies the proposal by Paul Romer for Charter Cities: if the governance of even a small and empty piece of territory were irreversibly to be handed to an investor-friendly authority, economic activity on that territory would rapidly converge to the typical pattern of a developed economy. While I find this assumption plausible, the locations imagined for Charter Cities are always coastal. The Romer hypothesis is not that any territory anywhere can be developed by a credible commitment to investor-friendly governance, but rather that any territory that is sufficiently accessible to be readily integrated into the global economy can be developed. Many frontier economies are not readily integrated. Some are landlocked and dependent for access to global markets on neighbours that have not provided adequate transport infrastructure. Others are coastal and potentially integrated into the global economy, but the mis-governance of transport logistics (or trade policy) has left the economy isolated. While this second category is in a sense a variant of weak governance, the consequences of this mis-governance are the same as if the country had been isolated because of its location, and distinct from other forms of weak governance. Further, as with other aspects of weak governance, donors have only limited scope to change it. Inducing development given initial isolation may be the best that a donor can do.

In this section I focus exclusively upon isolation as an explanation for the inability of a frontier economy to diversify into modern activities, abstracting from general weak governance. But I include both those countries whose location condemns them to isolation, and the more numerous group who suffer isolation because of the mis-governance of transport.

2.1 Foundations of diversification in small isolated economies: scale and interdependence

The archetypal economy I consider is not only isolated but small. As will become apparent, size matters. An isolated economy with sufficient population and resource extraction to constitute a large market can develop a modern economy despite its isolation. In effect, the USSR was such an economy, but they are rare.

All economies were once small and isolated. They were all poor. South Sudan is an extreme current example of a small, isolated economy (SIE). The entire economy is traditional, dominated by pastoralists generating a low level of income. The economy is extremely isolated: the route north through Sudan is currently cut off due to political tensions, and the

route south depends upon unpaved roads to reach the neighbouring countries of Uganda and Ethiopia, which are themselves small economies that are landlocked with very high transport costs to global markets. Because of these extraordinary circumstances South Sudan is a useful paradigm for what follows, but other countries such as Sierra Leone, Liberia, Afghanistan, and the Sahel have these fundamental features of being small, pre-modern and isolated. I will argue that the growth process in such economies is fundamentally different from that in integrated economies, and so calls for distinctive donor policies.

The economy with which Adam Smith was familiar, eighteenth century Britain, remained predominantly small and isolated, but he witnessed the emergence of the modern economy alongside it. What struck him most powerfully were the scale economies that came with specialization as the artisanal mode of production was superseded by factories. This is one key aspect of the contrast between the pre-modern economy and the modern economy. The early stages of reaping scale economies permit staggering increases in productivity. Soderbom (2012) studied productivity in Ethiopian manufacturing, and found the same pattern that had impressed Smith. The productivity of workers in firms that had 50 employees was *ten times* that of workers with four employees. Of course, a firm with 50 employees remains very small in comparison with how most workers are organized in a modern economy, but in small, isolated economies most of the labour force is not even in firms of this size: it is self-employed in one-person enterprises.

Market size matters not just in respect of ability to reap scale economies in production, but in respect of the intensity of competition. Competition forces both static and dynamic gains in efficiency through discipline and selection effects. Where the market is too small the economy faces an unsatisfactory trade-off between having insufficient firms to support a competitive market, and having a larger number of firms that are each too small to reap scale efficiencies.

A second feature of the modern economy is a consequence of advanced specialization and so was only in its infancy at the time of Adam Smith, namely the interdependence of activities. In the pre-modern economy each enterprise, though tiny, is virtually self-sufficient. It produces a product with no inputs other than capital and labour. This characterization of production—an output produced under constant returns to scale by capital and labour—remains the workhorse model of elementary economics textbooks and it is for some purposes a reasonable description of the pre-modern economy. But as a characterization of the modern economy it is misleading. For example, modern manufacturing is increasingly characterized by intense specialization ‘trade in tasks’. The typical firm buys in a wide range of material inputs, undertakes one stage of transformation, and sells its output to another firm which, in turn, uses it as an input into its own process of transformation. Indeed, in the modern economy much of the capital that a firm uses in the production process is hired in rather than owned; buildings are rented and equipment is leased. Hence, the flow of services from capital is conceptually simply another material input. Further, the share of labour in the cost of the firm’s output is often small. While production in such an economy is not well-characterized as being dependent upon capital and labour, it is highly interdependent—in the limit every activity depends upon every other activity.

My concern is with the growth process in a SIE that is initially pre-modern. The economy has neither scale nor interdependence: typically it will consist of smallholder agriculture or pastoralists, plus an extractive sector which operates as an enclave. In the limiting case, transport costs for all the products of the modern economy are initially prohibitive. This was,

in effect, the Britain of Adam Smith: the modern economy existed only in the future and its products could not be transported from that future to Smith's era. Smith's economy could only grow by the process of building, activity-by-activity, components of the modern economy. The growth process in Smith's time is conventionally portrayed as being one of a sequence of innovations. But this sequence was arguably less the result of random inventiveness than that sequence of new activities which was pre-determined by what the market could utilize. There was simply no point in inventing the internet in the late eighteenth century, because none of the activities that such an invention needs in order to be useful were then available. This, rather than the slow pace of invention, may have been the real constraint upon the growth process. Indeed, not only the internet, but none of the activities that constitute a modern economy was initially feasible. The sequence of ascent to the modern economy was by way of a host of activities that were essential as stepping stones but which then became redundant: the sinews of the nineteenth century industrial economy were such things as candles, ropes, wooden ships, coal and iron.

2.2 Implications for growth in SIEs

Now consider how a SIE that is initially pre-modern develops into a modern economy. Consider two extremes. In one extreme the economy develops by ceasing to be isolated. Transport costs are radically reduced through investment in transport logistics as a result of which it becomes a normal part of the global modern economy. Firms and households simply import all those goods and services that cannot be produced at world standards of efficiency. Such a globally-integrated small economy will be highly specialized in a few activities, importing most of its needs. These economies exist, Dubai being an example.

However, investment in transport logistics may not be privately profitable. This may be because many of the returns to the investment cannot be captured by the investor. Or the impediment to private investment in transport may be a lack of coordination between transport investment and other investments. The return on investment in transport may be endogenous to the development of the economy. Like other modern activities, the productivity of transport depends upon its scale of operation and the availability of the many inputs on which it depends. Only if many other investments occur will investment in transport become profitable.

It is also entirely possible that even if all returns could be captured by the investor, they may not be high enough to yield a competitive return on the investment. For example, nothing guarantees that the huge investment required to integrate South Sudan into the global economy would ever have a high return. The market-driven growth process of the nineteenth century achieved integration of the population into the modern economy predominantly by migration: people moved from the pre-modern rural economy to the modern urban economy, often located in a different country.

Hence, while sufficient investment in transport may overcome isolation, there is no guarantee that this investment will occur through the market. Further, the logistical problems are in large part a result of mis-governance, they may not be possible to overcome by private investment in transport.

Consider, therefore, the other extreme in which the economy remains isolated. Its only route to development is by the gradual addition of modern activities that expand the range of goods

available, and increase the size of the national market, enabling scale economies to be reaped. However, although a SIE initially has little private capital, the return on private investment need not be high. Returns are dragged down by the inability to reap scale economies and the inability to access inputs that are critical for many activities. It is the combination of scale and interdependence that is the problem. Interdependence alone could be resolved by investing in a miniature version of the global economy. But the economics of Lilliput does not work because of the minimum threshold size required in many activities for reasonable productivity. A corollary is that however abundant and cheap labour might be, capital may be less productive than in the modern global economy.

Consider activities ranked on two criteria: ascending logistical costs of purchasing on the international market, and ascending foregone scale efficiencies if demand is met by local production. Conceptually, we can then distinguish activities according to five categories: those with low transport costs that can therefore be purchased on international markets; those with few scale economies that can therefore be purchased from local producers; those with high transport costs but prohibitive scale economies that must therefore be purchased internationally at high cost; those with scale economies but prohibitive transport costs that must therefore be produced locally at high cost; and those for which both transport costs and scale economies are prohibitive so that they cannot be supplied.

In SIEs many goods and services will be in this fifth category and hence unavailable. Non-availability has knock-on effects for domestic production. Virtually all activities have some inputs that are critical to their production. If any of these inputs are unavailable then the activity is domestically unviable even if scale economies are unimportant. In turn, if the logistical costs of importing this good or service are prohibitive then it joins the category of goods that cannot be supplied.

The component of growth in a SIE that is common also to the converging economies is growth within the second category: activities that are reasonably competitive. In SIEs relatively few activities are in this category and so this base for growth is small. The other established part of the SIE economy is the fourth category: those activities that exist because they benefit from natural or policy-induced protection. Successful growth in a SIE has ambiguous implications for these activities. They may expand in response to growth in the overall economy, thereby reaping more scale economies and so becoming more efficient; or they may contract as the burden of high costs they impose on the efficient part of the economy is relieved by improving logistics. Since protection is prevalent in most developing countries this aspect of the growth process is not distinctive to SIEs: the analytics are essentially those of infant industries versus trade liberalization.

The distinctive features of growth in SIEs are the entry into activities that are initially in the third category (imported but at high cost); and the entry into activities that are initially in the fifth category (goods and services that are initially unavailable). Of course, these components of growth are present in all economies, but normally they are peripheral: growth is driven predominantly by the expansion of existing activities that are already reasonably efficient. By contrast, in SIEs they are central to successful development. Vast tracts of economic activities that are normal in larger economies are missing. The growth process is mainly driven by the addition of new activities. By definition, the addition of new activities requires a pioneer investor. If successful, the pioneer both widens the range of goods that are available, and increases market size, enabling other firms to reap scale economies. These favourable externalities make further pioneering feasible. If continued growth to the stage of

becoming a modern economy is feasible through such a process, and it may not be, it is by means of a sequence of additions to the range of activities achieved by successive pioneers. The growth rate of a SIE is therefore, to a considerable extent, dependent upon pioneer investors.

The sequence in which activities were accumulated was a concern of an early literature in development economics which analysed import substitution through 'backward and forward linkages'. A market-driven selection of investments will start with the production of final consumer goods and progress to their inputs: the process of 'backward linkages'. For example, in South Sudan one of the very few modern economic activities is a brewery. In the context of small markets, development through backward linkages typically rapidly runs out of steam: there may be no viable backward sequence in which each new investment is privately profitable that develops a modern economy of sufficient size productively to absorb the labour force. However, from the perspective of the social planner (who internalizes the externalities of interdependence), sequences involving some 'forward linkages' may be more efficient: initial losses suffered by one activity may be more than offset by subsequent gains in other activities. While market-based sequences necessarily ignore externalities, the record of development planning is also discouraging: the enhanced scope to internalize externalities is offset by the scope for political abuse of investment decisions. If public intervention in the investment sequence is envisaged, then some principle must be adopted that bounds the errors.

Since the sequence of private investment is from final consumer goods backwards, those investments that leapfrog to produce those inputs that anticipate demand will depend upon public finance. This has implications for the return on both private and public investment. Despite the small private capital stock, the return on private investment would not be high. Assuming that capital markets were sufficiently integrated internationally, the return might be equated with that elsewhere, but this would occur at a modest level of investment. Conversely, despite the lack of public capital, the return on public investment would initially be below that on private investment: public investment would be leapfrogging into activities that would only subsequently generate an adequate return. That is, the rate of return would be low but would rise with the level of development. A recent empirical study by the IMF, which attempts to estimate the rates of return on private and public capital country-by-country, finds just this pattern (Lowe and Papageorgiou 2012). The return on private capital appears to be fairly equal across different levels of development, but the return on public capital is very low in SIEs, but rises with development, becoming markedly higher than that on private capital. As a qualification, I note that while these results are consistent with the above theory of the impediments to growth in SIEs, they could also be explained by entirely different concerns about governance: poor governance could depress private returns and, since the government is the executing agency for public investment, reduce the returns on it even further.

A further early development economics literature, now being revived (Lin 2012), is about the 'structural transformation' from pre-modern to modern activity as factors shift between sectors. Yet the expanding sectors of industry and services cannot simply be analysed as aggregates: they are constituted by a myriad of differentiated activities. In particular, evidence of the viability of one activity within a sector cannot be taken as evidence for the viability of other activities in the same sector. With activities so defined in terms of their distinctive information requirements, the addition of each activity will require its pioneers.

A more recent literature, on 'self-discovery' (Rodrik and Hausmann 2003) recognizes the distinctiveness of activities within a sector, and hence the importance of generating information, but its focus is primarily upon the more advanced growth process of discovering foreign markets in which exporting would be viable. In contrast, my focus here is upon those missing activities which, once established, would serve the domestic market.

The distinctive prominence of the pioneer role in the growth process in SIEs only matters if the impediments to pioneering are significantly more severe than the entry of new firms into already-established activities. I now turn to what is involved in being a pioneer in these two categories of activity: pioneering missing markets, and pioneering domestic production of established markets.

2.3 Pioneer investors and information externalities

Pioneers face high costs of information. Firms that pioneer activities where the product or service is initially missing (the fourth category) face two gaps in information: the extent of the domestic market, and the costs of domestic production. Those that pioneer activities where the product is initially imported at high cost also face the second of these costs, but not the first.

Both types of pioneer lack the information which is normally inadvertently revealed by the presence of existing enterprise: the activity must be commercially viable. The unknown is normally whether the new entrant will be competitive with the existing entrants. Conversely, all pioneers have the information that the absence of any existing enterprises may indicate that the activity will prove to be unviable. In developed countries pioneer activities are defined in terms of the product or service produced: new products and services are difficult to assess and so costly information is generated through market research. Even so many new products and services fail. In contrast, in SIEs the frontier is not defined by the novelty of the product or service, since this is invariably standard in more developed economies. Rather, it is defined by the local context: an enterprise needs markets for its inputs and outputs. Its viability will also be affected by the costs of transactions, the extent of regulatory impediments, and distinctive aspects of local geography.

In a SIE there is no automatic supply of pioneer investors. Such investment faces impediments that are an order of magnitude more severe than investment in established activities. Pioneer investors are either local firms experimenting with a new product or service, or international firms experimenting with a new market. I consider them in turn.

By definition, local enterprises are not engaged in the activity and so do not know how to produce it. Nor do they know whether they can sell it. In the case of imported manufacturers knowledge of market is relatively straightforward: the importer is in a position to understand demand. By extension, products and services that are neither imported nor produced but are genuinely missing pose daunting information problems. In developed countries sophisticated market research can reduce the information gap, but in frontier markets such research is itself one of the missing services.

Even if a local firm overcomes the obstacles of a lack of information about both the market and production methods, it will need to raise the finance for a high-risk investment. Financial markets in frontier economies are among those activities that are highly truncated, so that the

supply of high-risk capital for pioneering enterprises is very limited. Essentially, firms will need to self-finance. Yet there are few large domestic firms and so few have the scale of internal risk finance needed for pioneering.

Now consider international enterprises that are already experienced in the activity. The obstacle facing these enterprises is a lack of knowledge of the local context of markets for inputs and outputs, infrastructure, transactions costs and regulation. Can workers of sufficient calibre be recruited at a viable wage rate? Will new suppliers enter the market to provide the firm with critical inputs? Will logistical choke-points such as ports be reliable, or will they attract rent-seeking hold-ups? Will buyers be willing to rely upon this new source of supply? Do employees face dangers for which the firm will be held responsible? By definition, the only reliable way to get all this information is to undertake the investment. If the enterprise fails, then the value of the investment will decline catastrophically. Not only will the enterprise itself have been demonstrated to be unviable, but the markets in second-hand equipment and buildings will be very thin. Further, the firm is unable to limit its losses to its investment. To establish the enterprise the firm will need to send its own staff to work in it, and the firm faces the potential liability of any harm that may befall it.

At the core of the problem of pioneering are the difficulties created by the interdependence of activities. If one activity is unviable then all the downstream activities that are dependent upon it are also unviable. This creates a chicken-and-egg problem: the lack of demand for an input makes its supply unviable, yet the lack of supply of the input makes demand for it unviable. Where this obstacle is simply a matter of a single bottleneck input needed by a single downstream firm, then the coordination problem is not particularly daunting. A new entrant can coordinate its decision with its supplier: for example, even in a thick-market developing economy such as China, Swedish firms that off-shore production to meet Chinese demand arrange for their Swedish suppliers to relocate with them. Alternatively, a firm may opt for vertical integration, doing in-house tasks that in conditions of thicker markets would be bought-in. For example, James Berger, a German company that is the largest construction firm in Nigeria, (also a thick market by the standards of most African economies), not only operates its own transport fleet, but retreads the tyres used by its lorries rather than buy-in retreading services from other firms.

A corollary of a lack of information and the inability to coordinate across multiple actors is an inability to estimate risk. Until there is a population of firms in the pertinent context (infrastructure, markets and policy), then risk cannot accurately be assessed. If risks cannot be known, then they are liable to be exaggerated. The primary purpose of information about risk is to place bounds upon it. In the absence of information risks cannot be bounded and so in standard commercial decision processes, such as the approvals committee of a bank, must be assumed to be very high. Unknown risk, which is by definition not in fact risk but uncertainty, is treated qualitatively differently from known risks. Without a procedural distinction between risk and uncertainty in decision processes that penalize uncertainty, approvals committees would not be able to provide an incentive for due diligence by those responsible for preparing a project. If the procedure for each project, the riskiness of which is unknown, applied *ex ante*, a rational expectation of the risk, the expected return on generating costly information about the true risks of the project would be zero. Hence, for the bureaucracy of commerce, unlike other areas of limited information, a lack of information about risk produces a systematic error rather than a rational expectation: faced with

uncertainty, decision rules are adopted which are equivalent to exaggerating the risks that are actually faced.¹

The key information needed to assess the risks of pioneering cannot be generated except by actually doing the project. This is because the key information is not technical but commercial and so can only be generated by actually trying to run an enterprise. If there is currently no such enterprise in the country (or locality), then pioneer enterprises will generate information externalities for subsequent entrants. Since subsequent entrants will face lower risks, they are also likely to have lower costs (since risks to equity owners will have to be compensated). Hence, the pioneer can anticipate that if the investment is successful, margins will be squeezed by competition that takes advantage of the information inadvertently generated by the pioneer. While the pioneer generates positive externalities for subsequent entrants, they generate negative externalities for the pioneer. In pioneering, any first-mover advantage may thus be more than outweighed by information externalities.

3 Implications for aid to SIEs

The process of economic growth is driven by entrepreneurs taking investment risks with other people's money. This is happening in most developing countries but not yet on a sufficient scale in SIEs. I have suggested above that this is inherent to small, isolated markets: despite the lack of capital, returns are depressed by the inability to reap scale economies and the absence of necessary inputs, and risks are elevated by the lack of information facing pioneers. The public sector cannot substitute for the role of entrepreneurs: it lacks the combination of information, incentives, and skills that makes entrepreneurs pivotal to the growth process. If public activity cannot substitute for entrepreneurship, should it actively induce it by subsidy, or should it simply provide an 'enabling policy environment'? More specifically, should development assistance be used to subsidize private investments in SIEs?

Recall that the core critique of such a policy is that if the project is commercially viable without aid, then the aid is wasted since it would happen anyway, whereas if it is not commercially viable without aid then it is distorting, luring private investment into activities where returns do not warrant it. The fundamental response to this critique is that private investors and donors legitimately have different objectives. The decision problem facing private investors is to allocate capital globally in such a way as to maximize risk-corrected returns. The objective of donors is to promote the convergence of poor countries to the living standards of the developed economies.

In the absence of aid to subsidize private investment SIEs may not be able to develop. It is entirely possible that the returns on private investment are never sufficiently high to offset the low returns on initial investment. The market solution to the low productivity of people living in SIEs is likely to be for SIE populations to emigrate, rather than for capital to flow in. Even in a common, integrated space such as the USA, economic activity is highly concentrated: many relatively remote areas that were never heavily populated have actually depopulated

¹ Project managers can avoid risk assessment committees by taking their project directly to equity investors: hence financial markets such as Toronto and AIMS. However, the resulting companies are by their nature small and lack reputation, and so are more likely to behave opportunistically, a characteristic that will be recognized by donors and governments.

over the past century. Yet the donor may entirely reasonably decide that the right social objective is not to maximize the returns on capital, but to develop the society *in situ*. The depopulation of South Sudan is not an acceptable solution to its problem of poverty. Hence, the same investment can potentially be bad from a private perspective but good from a public perspective. Since neither the donor nor the government can substitute for private entrepreneurship, if aid is to assist development in a SIE it must somehow induce private investment.

3.1 Option 1: aid to address isolation

If isolation is the problem, the most direct use of aid to address the problem would be for it to finance connectedness – most notably, transport infrastructure. As transport costs fall and the economy becomes integrated into the modern global economy it becomes able to follow the normal pattern of development. Where it is feasible, this is likely to be the best approach because it is the least complicated. However, there are three situations in which it may not provide a solution. First, the underlying cause of isolation may be mis-governance of transport by the government, or of a neighbouring government, rather than poor infrastructure. For example, typically more of the time costs of transporting goods to SIEs are accounted for by border delays than by the slow speed of travel. Addressing the mis-governance of transport may be beyond the power of donor influence. Second, many of the costs of transport are endogenous to the size of the market, rather than to the provision of infrastructure. For example, while airport infrastructure is necessary for air connectedness, the network of air routes depends upon what the market will bear. Hence, like other costs, the reduction in transport costs depends upon growth in the overall size of the market. Isolation is reduced consequent upon growth, but this does not prevent growth being stymied by isolation. Finally, a few countries are so remote that the costs of connectedness are prohibitive.

In this case the remaining option is for the donor to subsidize private investment in some way. The issue is how best to do it. Note that the governments of SIEs face the same challenges as donors. Historically they have most commonly used trade protection as their instrument for providing a subsidy. However, since the underlying problem is isolation, protection is an inept policy that deepens the problem. Whereas in the past protection was the only way that the governments of SIEs could afford to promote private investment, now many of them have credible prospects of significant revenues from resource extraction. Their decision problem will therefore be directly analogous to that of a benign donor: should public finance be used directly to subsidize private investment; and if so, how?

3.2 Option 2: aid to subsidize infrastructure

The least complicated way of subsidizing private investment may be indirect. By investing donor resources in some ‘backward linkages’ that, while potentially suited for private provision, are not initially privately viable, but which are complementary to much other private investment, indirectly donors raise the return on other types of private investment. The limited extent of private investment in infrastructure in SIEs is at least consistent with the hypothesis that private returns on it are too low to attract investors. For example, it is notable that to date, despite two decades in which the private provision of electricity has become common both in the OECD and in converging economies, there are no full instances of it in Africa (Eberhard et al. 2011).

While the above has been cast in terms of rates of return on investment, it could equally be presented in terms of risk. For a private investor with a portfolio of options, investment in a high-risk SIE can be overall risk-increasing and so unattractive. However, the objective of the donor is to develop the country, so the key risk is that it will not develop. An investment that makes development more likely, even if it is risk-increasing from the perspective of the investor, is risk-reducing from the perspective of the donor.

However, donor provision of infrastructure may not sufficiently raise the returns on private investment in SIEs to induce a substantial response. After all, many SIEs had better infrastructure at the time of independence than they do now, but that infrastructure did not induce private investment. As I have argued above, such a lack of private investment in a SIE may reflect a coordination problem. In SIEs the growth process depends disproportionately upon the diversification, or broadening, of economic activity and this is more impeded by market failures than the expansion of existing activities. Growth-promoting aid policies in SIEs may therefore need to pump-prime diversification, much as in OECD economies governments pump-prime technological innovation: in each case the economic fundamentals are the conjunction of the externality of pioneering and the severe information-based impediments to pioneering so that in the absence of pump-priming the deficiency will be material. Viewed from the perspective of a benign and omnipotent social planner, the return on capital may be maximized by accepting a sequence of investment into SIEs such that the pioneer investments make losses. These investments increase market size and widen the range of available goods, thereby opening up subsequent opportunities for high return investment. The rationale for donor subsidy of pioneering investment is to substitute for the coordination missing in the private allocation of capital.

The question remains whether it is practically feasible to subsidize pioneer investment, but in some SIEs it may in principle be desirable. Three potential donor instruments for subsidizing pioneering investment are by providing capital at below market rates, by providing insurance, and by actively partnering on the management boards of enterprises.

3.3 Option 3: subsidizing capital

The provision of capital at below market rates can be through equity or bonds. As between the two, the former has the advantage of being explicitly risk-bearing and so forces a management decision which evaluates the value of the underlying proposition; whereas the provision of bonds encourages a managerial approach focusing on collateral. The latter is akin to the approach that has been taken by commercial banks in making loans, but since pioneer investment unavoidably puts capital at risk, insistence upon collateral precludes the finance of such investments. However, for donors to be able to evaluate the underlying business case for pioneering ventures, they need a different skill set from that found in the conventional development agency. They need two distinct skills: those of a venture capitalist, able to assess the proposition and management capabilities of a venture—and sometimes strengthen them; and those of a development economist, able to assess the externalities from establishing a new activity for the rest of the economy. In principle, this combination already exists both in the private finance arms of the development agencies such as IFC, FMO and CDC, and in the rapidly growing social enterprise sector. In practice, neither has worked well for pioneer investment.

The public agencies have usually not succeeded in integrating commercial and economic criteria because their investment arms are not financially integrated into their aid budgets. In respect of pioneering investments there is a straightforward tension between commercial and economic criteria: pioneering investments generate externalities which benefit society but not the venture itself. The core role of public finance in promoting investment in SIEs is to absorb the cost of these externalities. Yet in the investment arms of the public agencies the commercial criteria inevitably take precedence prominent because the overall private return on the portfolio remains an important criterion of their success. In contrast, the economic criteria have not been integrated into in a broader country-specific development strategy; notably one that treats subsidies for pioneer investment as a component part of overall donor support for a SIE. For example, there is no mechanism whereby part of the IDA allocation for a SIE can be channelled through IFC to subsidize the externalities of pioneer investments. As a result, the economic criteria have not been sufficiently potent to override the commercial. An inevitable consequence is that SIE investment in general, and pioneer investments in particular, have been only a small proportion of the portfolios of the investment arms of the development agencies.

Social enterprise is in principle the equivalent for private charitable finance that the investment arms of the development agencies are for public development assistance. However, in practice social enterprise has been more interested in the potential of microfinance to alleviate poverty, than as a means to support larger-scale pioneer investors through skills and money. Paradoxically, the sector has also mirrored the concern of the public agencies with commercial criteria: an accepted mantra is that social enterprises must rapidly become financially self-sustaining. As with the public agencies, this precludes absorbing the cost of externalities.

Thus, at present neither the donor agencies nor social enterprise provides significant institutional mechanisms for financing the externalities that are likely to be important in the development of SIEs.

In principle, governments themselves can subsidize pioneering investment. Collier and Venables (2012) propose how this can be done in the special case of pioneering commercial agriculture, but since the approach relies upon the allocation of abundant land as an incentive it cannot be generalized beyond this particular sector.

3.4 Option 4: providing political risk insurance

Donors also provide insurance through agencies such as OPIC and MIGA. As with the capital-providing public agencies they face the challenge of integrating commercial and economic criteria, and are not themselves financed on a basis that they can make overall commercial losses offset by social gains. For example, MIGA has not been well-integrated into World Bank country strategies: there is no mechanism whereby an IDA allocation to a SIE can in part be used to subsidize the provision of insurance to private investors. As a result, insurance portfolios like capital portfolios are skewed away from the countries where they would be of most social value.

Where the public insurance agencies have had remarkable success is with political risk rather than commercial risk. Political risk is important in most SIEs, and may indeed be particularly important for pioneer investments since the extent of vulnerability to political predation in a

new activity cannot be well-assessed. However, it does not provide cover for the purely commercial risks of pioneering. Indeed, since many of the unknowns in pioneering are unquantifiable uncertainties rather than quantified risks, there is no basis for insurance: they are best borne by equity capital.

The reason why the donor agencies have been able to provide political risk insurance at below-market rates is that the donor relationship provides some leverage. While the extent of leverage has been grossly over-estimated, notably in the attempts at linking aid to the adoption of economic and social policies, a more modest link to the honouring of commercial contracts has proved to be feasible. Donors clearly have both more access to the higher levels of government than have individual investors, and also more scope for recourse. Thus, MIGA is able to offer five aspects of political risk insurance in Africa at a premium of only 1 per cent of the sum insured. The reason risk cover through MIGA is so cheap is that it has been able to recover all but one of the many claims on which it has paid out.

Again, the provision of political risk insurance is something that a SIE government with natural resource revenues might itself consider, regardless of whether donors are willing to support it. For example, the government of Iraq has accumulated some \$50 billion in foreign exchange reserves yet private investors lack access to any insurance, since it has been post-2003 a missing market. Evidently, private investors face a range of risks that neither they nor the government can control. Since private investment would have evident social benefits beyond the return to investors, subsidizing insurance against the risks of political violence would appear to be a reasonable use of public money.

3.5 Option 5: donor-business investment partnerships

By an investment partnership, I mean a long-term arrangement between a donor and a firm through which, subject to government agreement, a series of pioneering investments are undertaken in SIEs. The donor provides sufficient aid to make the venture commercially viable, and the firm commits to using its best endeavours to make the venture succeed.

In its origins, development assistance often took this form. Bilateral aid programmes competed with each other to provide subsidies for their national enterprises to win contracts. This was the case not just for European and American aid, but also for early Japanese aid to China. As the western donors withdrew from linking aid to commercial ventures in SIEs, so the Chinese have enormously expanded into this form of donor relationship. Indeed, Brautigam (2009) plausibly argues that Japanese aid to China was the model of aid which the Chinese have themselves subsequently adopted in their own aid programme to Africa. This model of aid is ethically unappealing and has largely been abandoned in Europe, most explicitly so by Britain which legally requires its aid programme to be uncontaminated by ties to commercial interests. This move towards a disinterested rationale for aid-as-charity also shifted the ostensible purpose of aid from an economic to a social agenda, and from bilateral to multilateral institutional vehicles which, by their design, could not give commercial preference.

Nevertheless, despite being ethically unappealing, such commercially linked aid has some striking advantages. The riskiness of an investment is endogenous to the context of the contract. If neither government nor the firm know each other prior to negotiation, nor have reasonable expectations of further deals, then each must presume that the other is liable to

behave opportunistically. Hence, the political risks to the firm are objectively high. A donor-as-partner can reduce these risks in several respects. From the perspective of the government, the donor can acquire information about its national firm much more readily than the government, and can more credibly set this particular contract in a context of an ongoing commercial partnership. The donor itself is a known quantity to the government, again with an ongoing relationship, and with some reasonable presumption that the donor is indeed looking for deals that are mutually beneficial rather than being advantageous to the national firm only because they are disadvantageous to the government. From the perspective of the firm, if despite these considerations the government does behave opportunistically at its expense, then the firm can reasonably look to the donor for recourse, and the donor can reasonably pressure the government for it, as demonstrated by the success of the public provision of political risk insurance.

The political risk insurance advantage of investment partnerships is particularly important in the case of infrastructure such as electricity, rail, and ports. In addition to the problem of low initial rates of return discussed above, an overarching obstacle to private investment in such infrastructure in SIEs is the hold-up problem. Once the investment has been made, the government has an incentive and the power to require under-pricing of the service. Governments need, but lack, credible commitment technologies to overcome this time-consistency problem. By being a partner to the contract, a donor with long-term relationships with both government and the firm may be able to make them viable. The donor enters into a tripartite partnership with a firm and a government, each of these other parties having some reason to avoid opportunistic behaviour towards the other, and consequently being able to place more trust in the deal.

Donor partnerships with firms for pioneering investments in SIEs thus package together the instrument of subsidy and the instrument of partnership. The instrument of subsidy is needed to compensate for the externalities generated by pioneering, the instrument of long-term partnership is needed to exploit the endogeneity of risk to the contractual context.

Such commercial aid also has political advantages. Because the underlying venture is designed to be mutually advantageous other than for the aid subsidy, 'win-win' in the phrase used by the Chinese, it is not structurally patronizing, nor is there an asymmetry of power to be exploited through conditions favoured and imposed by donors (whether economic, environmental, social or political). Viewed from a global perspective, because donor societies benefit to the extent that their aid gains them contracts, competition between bilateral donors would drive aid budgets up, in contrast to the global public good characteristic of multilateral charitable aid which induces free-riding.

4 Conclusion: the market moment

I have suggested that the future of aid should be more focused than its past. Aid is no longer appropriate as a general purpose instrument for reducing the current level of global poverty. Although many countries still have mass poverty, in most of them poverty is rapidly being reduced by means of the autonomous growth of the private economy. Aid is so peripheral to this process as to be irrelevant. However, the recognition of the widespread success of investor-driven growth does not warrant the belief that aid is now irrelevant everywhere. Manifestly, there are still many countries in which the modern global economy has not taken root other than as an enclave for resource extraction.

I have argued that such countries are characterized by economic isolation. Countries that are poor and isolated have markets that are too small to support rapid private sector development. Small market size does not enable firms to reap scale economies and it does not support competition. Combined with high transport costs it implies that many goods and services that are essential inputs for other activities will be prohibitively expensive. A consequence is that growth in such conditions requires a disproportionate amount of pioneering investment. When pioneering investment happens, it generates both information about the market for the product, and of demand for other goods and services. Since these are externalities that do not accrue to the pioneer firm itself, pioneering will be undersupplied relative to its social benefit.

Admittedly, isolation is usually not the only problem facing SIEs. In most, isolation is induced or compounded by weak governance, and weak governance has adverse economic consequences that are wider than isolation. However, whereas weak governance has received enormous donor attention, isolation has been neglected. This imbalance may not be playing to donor comparative advantage: despite the prominence of governance in donor concerns, it has become apparent that they have only limited scope for tackling it. In contrast, donors may have considerable unexploited scope for addressing the problems generated by isolation.

Donors have both the finance and the long-term relationships with the governments of SIEs that give them the potential to address both the externalities and the political risks that impede pioneering investment. However, quite aside from the ethical objections to using public money to subsidize private enterprise, there are practical difficulties of how such support is best organized. I have suggested five approaches. In ascending order of political ambition these start with uncontroversial uses of aid such as donor finance of transport infrastructure to reduce isolation, and donor finance of other infrastructure such as electricity that is complementary to much private enterprise and so indirectly raises its rate of return. The next two uses of aid would be more controversial but the institutions that could implement them are already in place, namely subsidized capital and subsidized political risk insurance. For example, the World Bank country strategies for SIEs could incorporate the stimulus of pioneering private investments into the budgets for spending IDA allocations. The practical channels for spending IDA in this way would be subsidies to the IFC and MIGA for support of pioneering investments country-by-country. The most controversial use of aid in SIEs is for the overt linking of aid and private enterprise in long-term partnerships that would undertake pioneer investments. In effect, some Western aid would adopt a model close to Chinese aid. While controversial, by packaging the ability to subsidize investment with the benefits of a long-term relationship, this approach has advantages.

Even if in principle there is a case for aid to SIEs to be used to subsidize private pioneering investment, whether it is in practice a good use of aid depends upon the elasticity of the response of private capital flows. Until recently, international investors were too wary of SIE markets for modest public subsidies to have significant effects. However, investors are in the process of fundamental reassessments of the relative risks and opportunities in different categories of the market. The OECD looks much less attractive and so investors are seeking to shift capital out of these core markets. The BRICs are desired investment locations, but since this is a universally shared perception, the price of assets in these markets has already risen substantially. Hence, there is an unprecedented opportunity to attract private capital beyond the BRICS, an example of the new appetite being the new book by the head of emerging markets for Morgan Stanley (Sharma 2012). The step to 'frontier' markets is no longer unthinkable.

However, while there is unprecedented interest, investors remain very wary of SIEs, seeing them as risky and complex, while lacking the information on which to make assured judgements. Since information is to a considerable extent a public good, this initial lack of exposure to SIE markets implies that international investors face at the level of SIEs-in-aggregate, problems akin to pioneering investors at the level of an individual SIE. Further, while the objective riskiness of SIEs has gone down, the global aversion to risk has increased, perhaps temporarily. The two changes work against each other. For example, during 2011 global capital markets experienced a ‘flight to safety’ as a result of which many African economies suffered capital outflows and depreciating currencies largely unrelated to domestic events. Analogous to the case for subsidizing pioneering investment at the level of an individual SIE, there is thus a case for a meta-strategy of pump-priming international investment into SIE markets as a category.

The scale of the opportunity can be gauged by the gap between required rates of return for SIE investment, and returns in other markets. Currently, the prevailing risk-free world real interest rate is effectively zero as demonstrated by the yield on AAA-rated government bonds. Yet in SIE markets international investors typically seek rates of return for pioneering investments of around 20 per cent. Thus, the high cost of private capital to SIEs is *entirely* due to the perceived commercial and political risks associated with pioneering investment. This wide gap suggests that there are unexploited opportunities for public subsidy of pioneering.

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