Profit Distribution, Compensation Structures and Trade-offs in Publicly and Privately Funded Hybrid Venture Capital Funds

3rd ESRC AND SBS SEMINAR: "ENTREPRENEURIAL FINANCE

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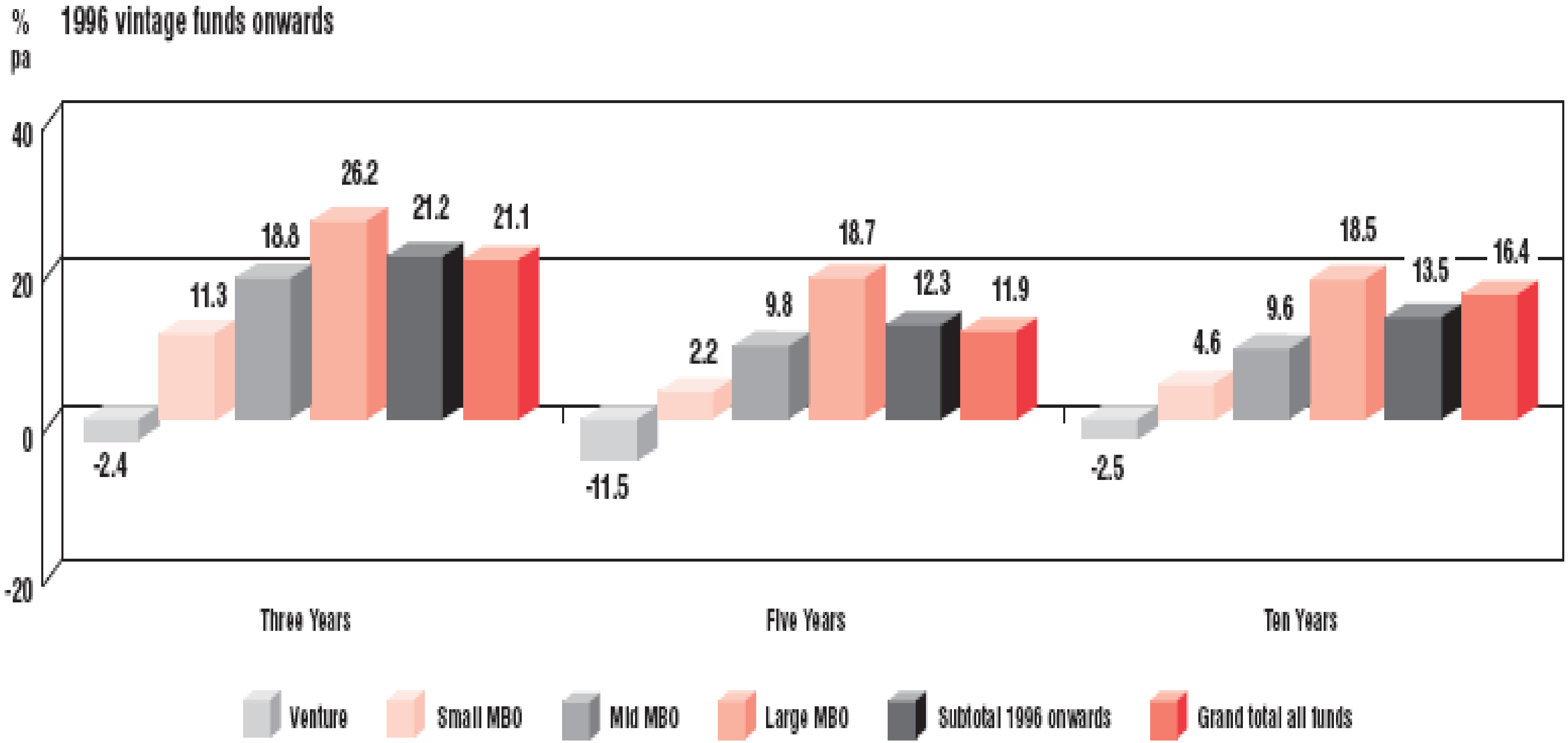
Increasing role for government as "investor of last resort"

- Huge increase of funds into PE as an asset class
- Focus increasingly later stage, esp. large MBOs
- VC early stage funds unacceptable performance record leading to dearth of new funds
- Serious potential capital rationing implications for early 'knowledge-based' young firms (in the absence of business angel substitutes)
- Governments obligated to address 'structural problem' of small, early-stage funds
  - Pursuing US model
  - Addressing scale and scope issues
  - Strategic innovation issues moderate economic judgment

Present and Past Government VC support and co-investment programmes

- European Commission/ EIF and European Seed Capital Scheme
- Finland / FII
- Israel / Yozma
- Australia / IIF and Pre-seed Fund
- USA/SBIC and SSBIC
- UK/Regional venture capital funds
- Chile / CORFU
- New Zealand / Venture Investment Fund
- Germany / WFG, tbg & KfW, Grundenfonden
- France / SOFARIS
- Denmark / Vaekstfonden

Difficult to blame institutional investors’ (LPs) decisions (BVCA 2006)



Investors' meeting in early-stage fund *circa* 2001-5

High-Tech Entrepreneur in Finance Raising Mode …

UK government has evolved from "spotting winners" policy
(unlike much of Europe!!!)

Considerable evidence that governments should ***not invest directly***

Issues of :

☹ Crowding out

☹ Insufficient industry competence

☹ Conflicting goals

- OECD 1997 and 2004
- Gilson 2003
- Maula and Murray 2003
- Leleux and Surlemont
- Armour and Cummings 2004
- Cumming and MacIntosh 2006

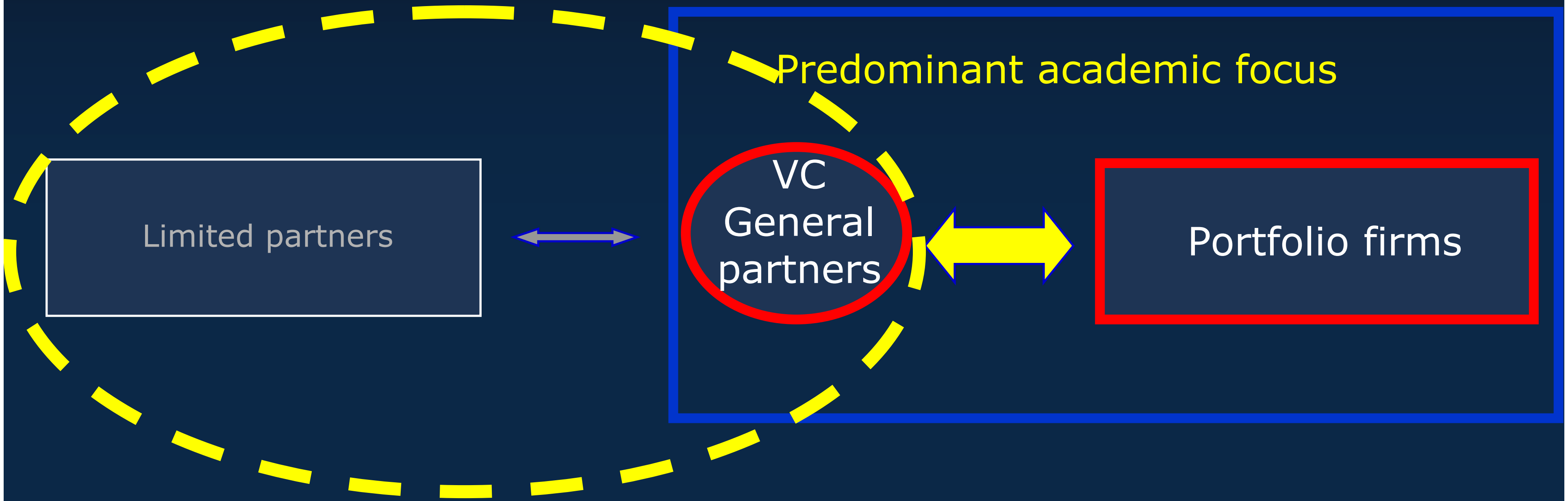
UK Government Policy (entrepreneurship finance) increasingly market focused post 1997

- ✓ Policy seeks to improve the economic environment in which young firms operate
- ✓ Companies are assumed profit seekers
- ✓ Investors should remain rational
- ✓ Government addresses areas only where observable supply/demand weaknesses
- ✓ Government utilises professional managerial labour to meet government goals in challenging areas
  - In order to meet this goal, governments need to create incentives for private investors and managers
  - (Gilson, 2003; Hirsch, 2005; Maula and Murray 2003 & 2007)
- ✓ Advent of the ***HYBRID FUND***

The legacy of present research

- 1958 SBA sets up the SBIC programme
- 1996 grant by Australian R&D Board
  - An early-stage archetype VC fund is modelled by Murray & Marriott
- 1997 *Industry Investment Fund* set up in Australia with an equity enhancement/ government leverage (2:1) component
- 1999 DTI/Treasury focus on the ‘equity gap’
- 2001 UK government looks at IIF and SBIC experience to create a public/private VC instrument
- 2001 First UK public hybrid VC programme set up with *Regional VC Funds* in England
- 2002 UK government involves UK VC industry to create its second VC instrument – the *Enterprise Capital Funds*

Research Theoretical Focus



- ✓ Addresses issues of contracting and agency
  - Focuses on *up-stream* relationships
  - Addresses *hybrid* funding situation
  - Recognises the agency roles of *both* LPs and GPs

Contemporary VC Research

- ☹ Few quantitative studies of (entrepreneurial finance) policy actions and consequences
- ☹ Policy outcomes more frequently case-study based
- ☹ Few studies constructed outside an *idiosyncratic* national economic and policy context.
- ☹ Little focus on *upstream* institutional LP decisions
- ☹ Greater analytical understanding with growing interest of economists in addressing VC/PE issues

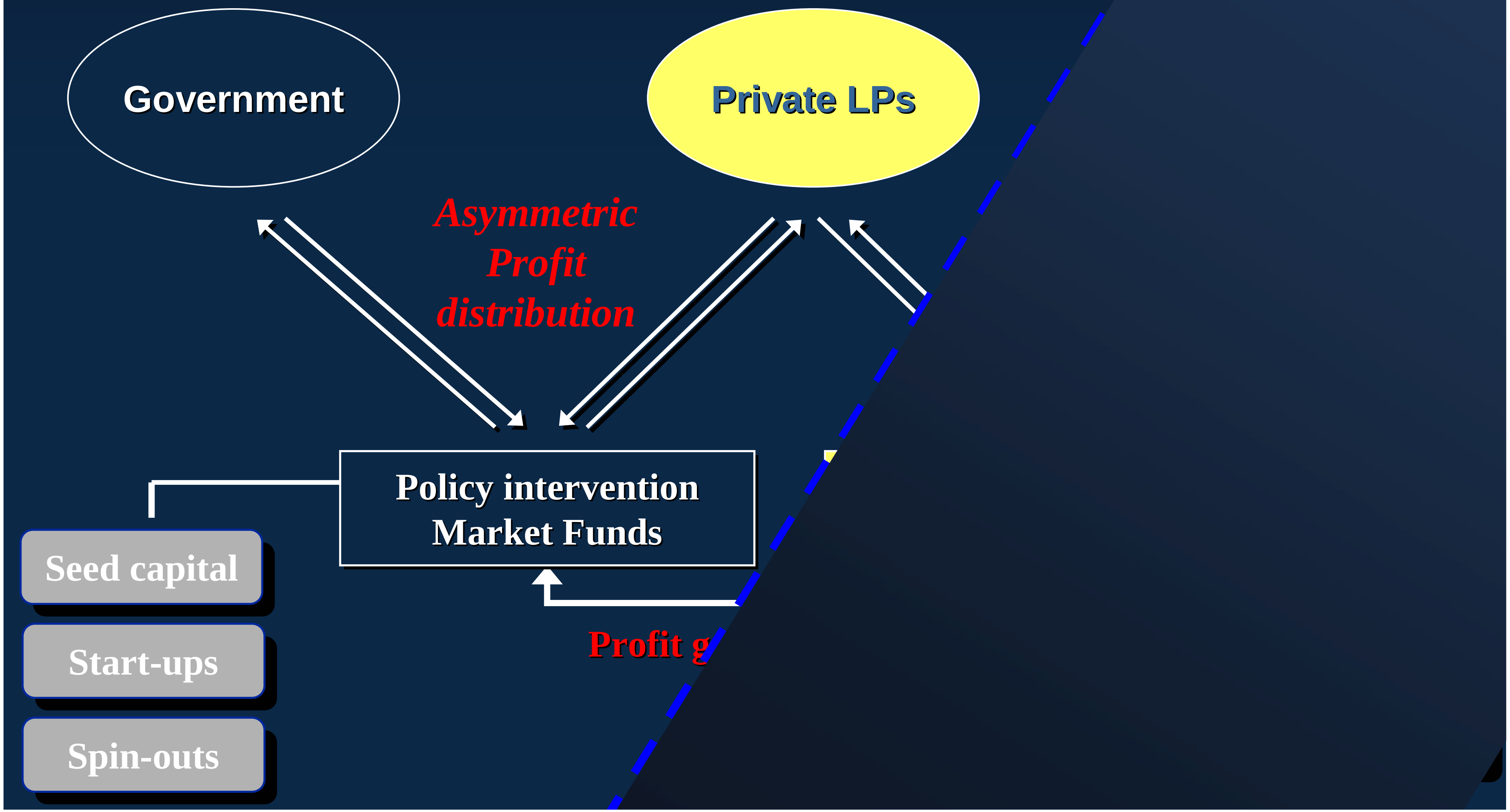
Research question

What is the potential impact of government leverage on 'hybrid' VC fund performance?

Specifically:

- How do different profit distribution structures alter the allocation of returns to private and public LPs
- How robust are incentives in markets with high probability of low fund returns (IRR)
- How do the incentives of Limited Partners and the General Partner interact

Focus of Hybrid Scheme



Method: simulation of a VC fund cash flow model

- *generic* early-stage VC fund*
  - 10 year closed end structure
  - 3 level decision tree modelling A, B & C rounds of finance
  - 4 outcomes per investment round
  - Probabilities referenced empirically against UK & US VC experience
  - Investment window = years 1-4
  - Total portfolio size of 15 investments
  - Range of outcomes measures by ‘expected value (i.e. capital gain x probability)
  - Standard industry conditions of carry (20%) and annual fee (2.5%)

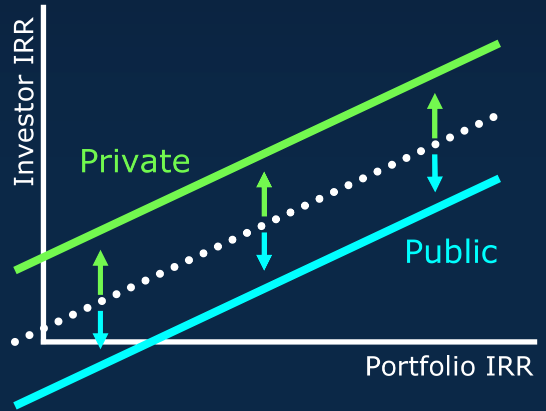
***VC fund modelled in collaboration with Richard Marriott in Sydney 1996**

4 generic Government Interventions

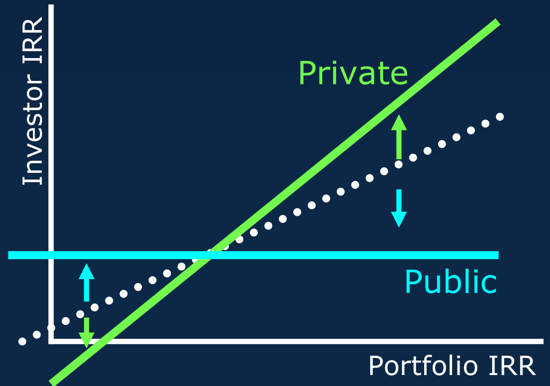
- Base Case - *pari passu* distribution between LPs including the state
  - No preference or subordination of Government interests
- Intervention 1 – staged investments
  - Government is first in and last out as LP
- Intervention 2 –public loan (senior debt)
  - Government has fixed and preferred return on its investment
- Intervention 3 – capped returns to government equity
  - Government returns are limited to its cost of capital. All remaining surplus goes to private LPs
- Intervention 4 – Guarantee
  - Government agrees to fund a proportion of losses incurred by private LPs in the fund

Basic LP Distribution Structures

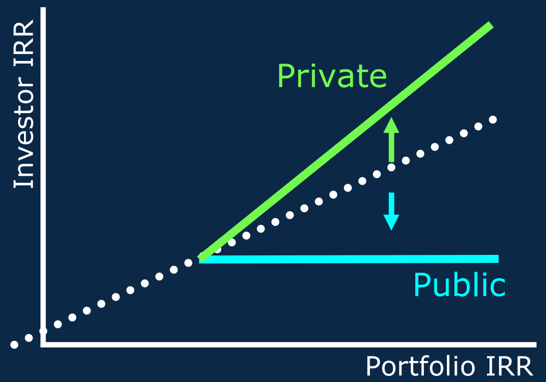
1. Staged investments
→Vertical increase



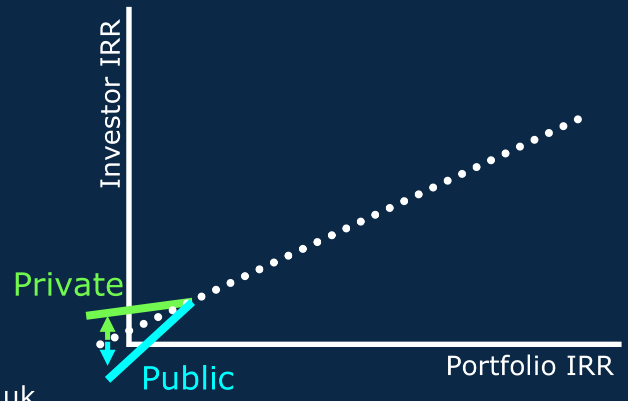
2. Government loan
→Changing angle



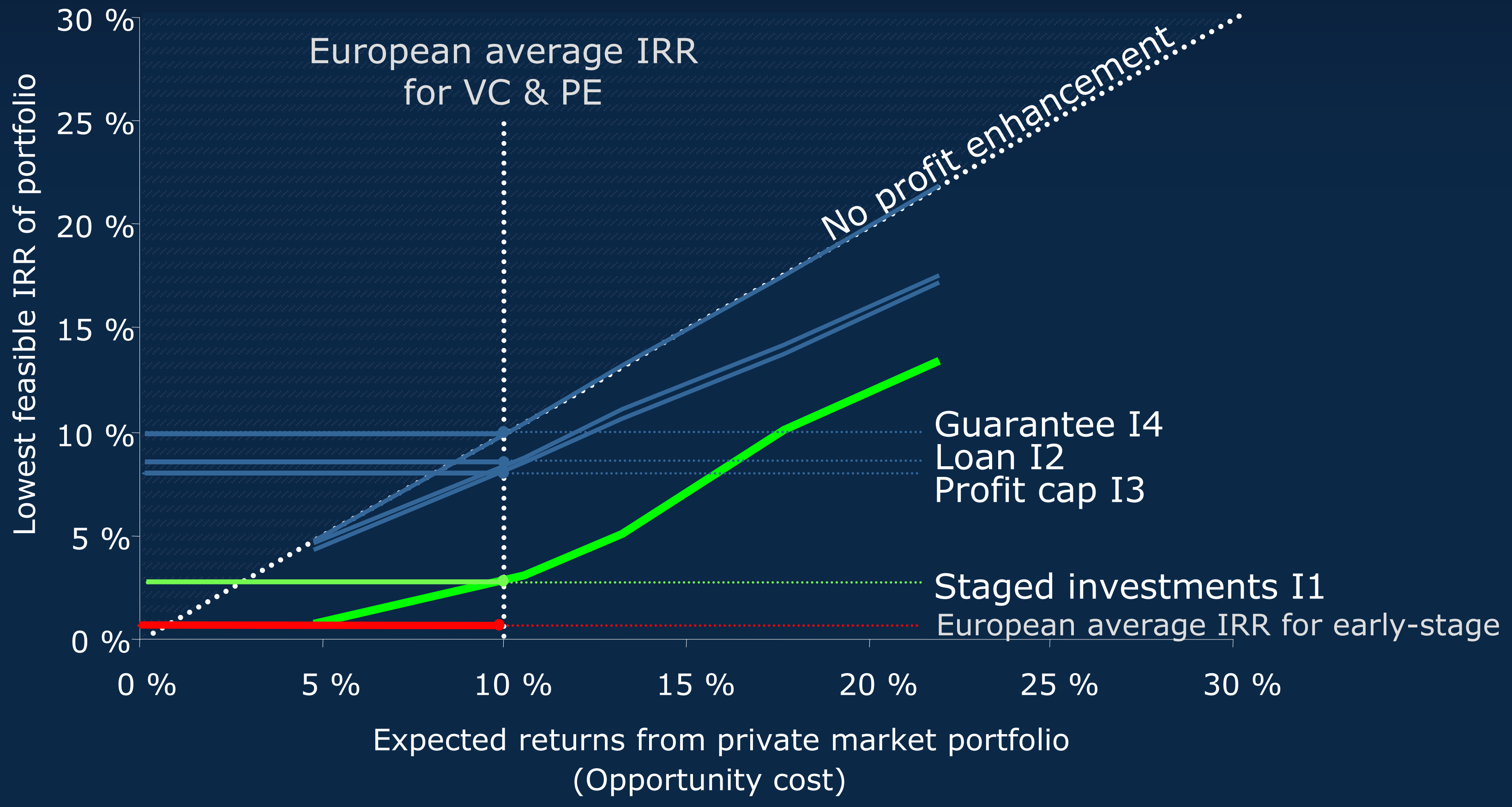
3. Profit Cap
→Increasing upside



4. Guarantee
→Enhancing downside



Limits of the Incentive Structures



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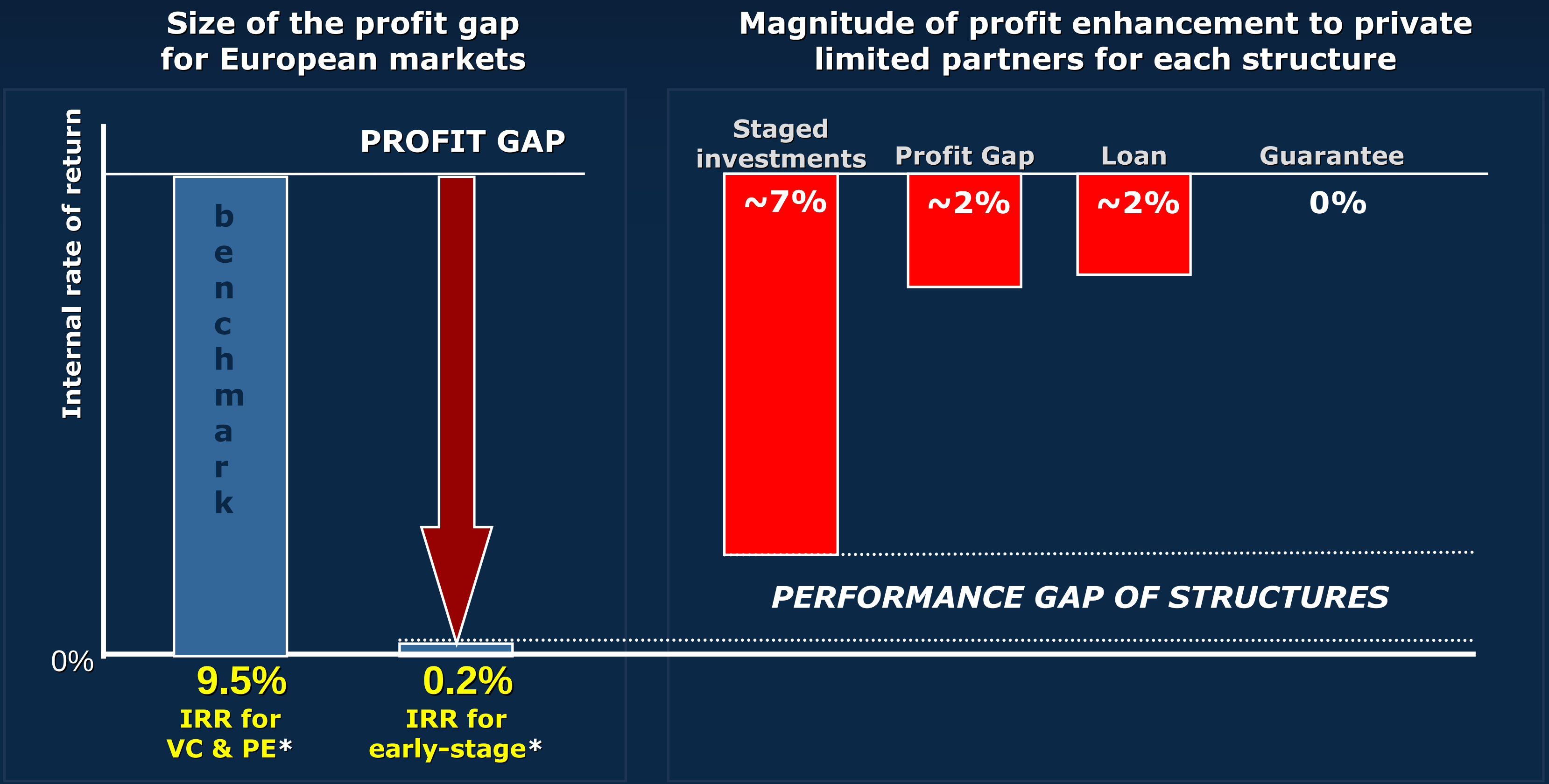

None of the examined structures produces high enough profit enhancement to bridge the gap

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*EVCA 2004 average returns

also need to consider the GP

- GPs separated from inactive LPs in the LLP structure
- Investors not involved to protect tax advantages
- GPs have full autonomy over investment but put in circa 1% of funds.
- GPs have to be incentivised to be interested in small VC funds
- GPs returns from:
  - Annual fee income circa 2-2.5% of committed fund
  - 20% carry after cost of capital 'hurdle'
- Issues of 'adverse selection' of poorer quality VC general partners with lower opportunity costs unless incentives addressed

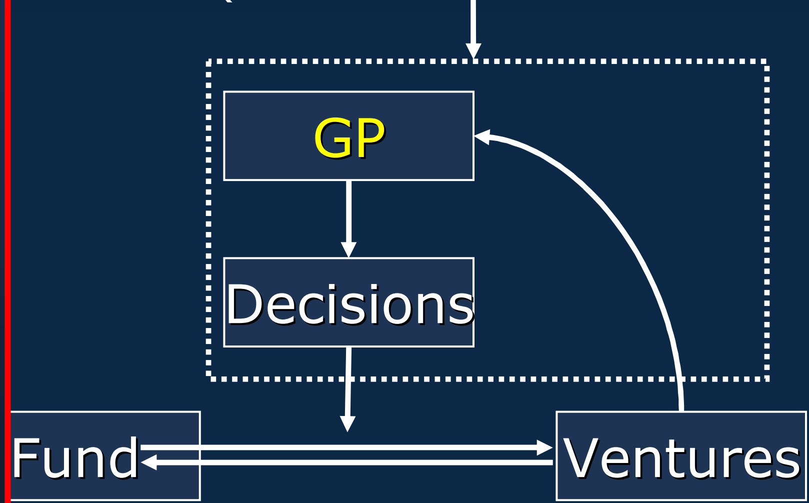
Incentive structures

Incentives for managers:

Carried interest of 20%→ after hurdle

1% of the fund profits

(fee of 2.5% of the fund size)



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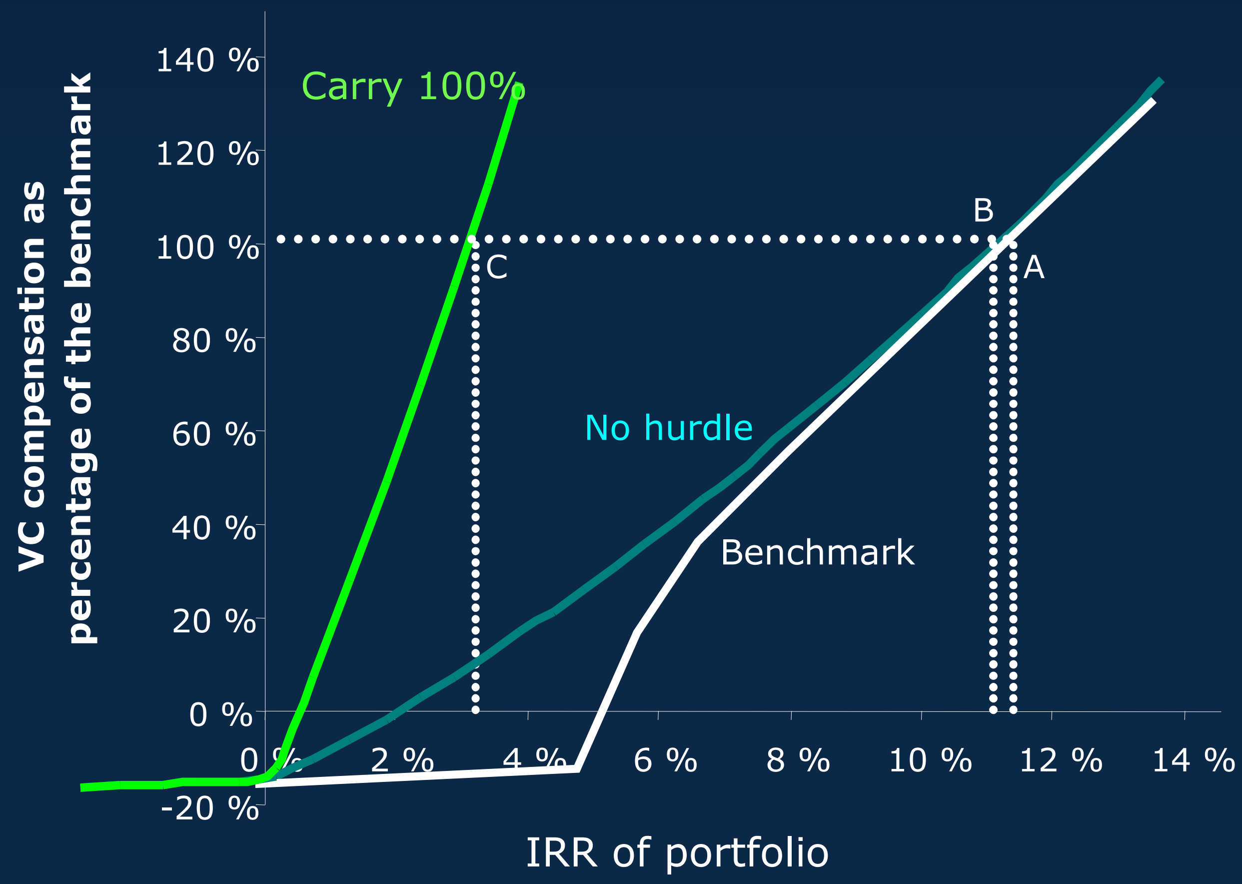
Compensation of GP



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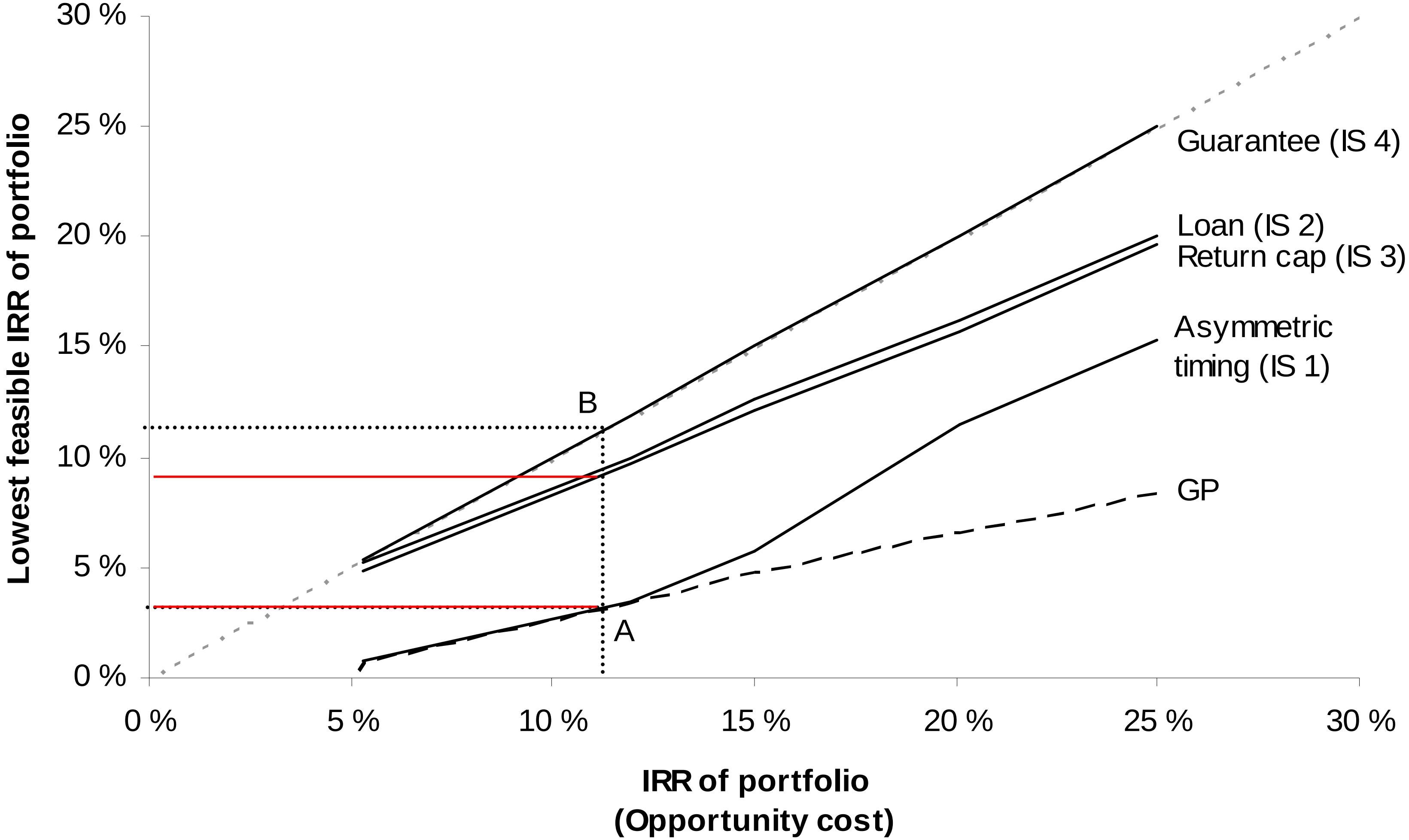
Lowest Feasible Portfolio Returns



CONCLUSIONS

"You can't always get what you want…" **Rolling Stones lyric**

- Public leverage may have a role incentivising both LPs and GPs
- It is not a *deus ex machina* resolving all problems
- Public leverage can only enhance returns relatively modestly, .ie. + 5-9% IRR
- GPs as well as LPs have to be incentivised in what is a zero-added game
- Different interventions have markedly different effectiveness
- Guarantees in danger of producing perverse incentives
- Few governments (or funds) model *ex ante* outcomes of policy actions

Figure 4 The carried interest levels that hold the general partner's compensation constant under different levels of portfolio performance.

The curves mark the indifference lines, where the compensation of the GP is constant. Lowering expected portfolio return requires higher carry to hold the compensation level constant. White circles mark the benchmark opportunity cost, when the GP receives a carry of 20% with catch-up, after meeting a hurdle of 5%. The numbers next to circles mark the opportunity cost of each curve.