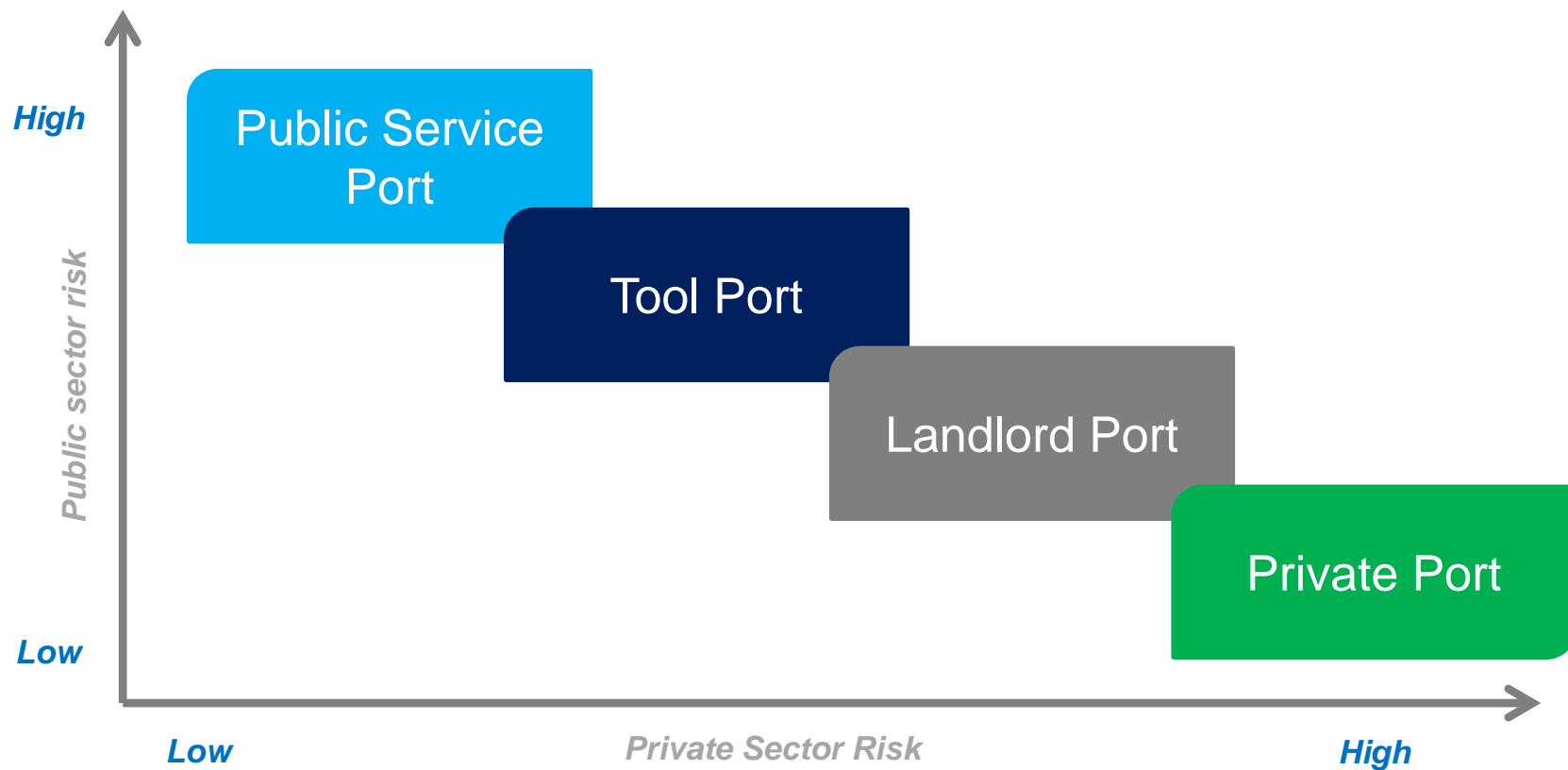




# Various PPP port models

*Affects risk and reward*



# Evaluating Port PPPs

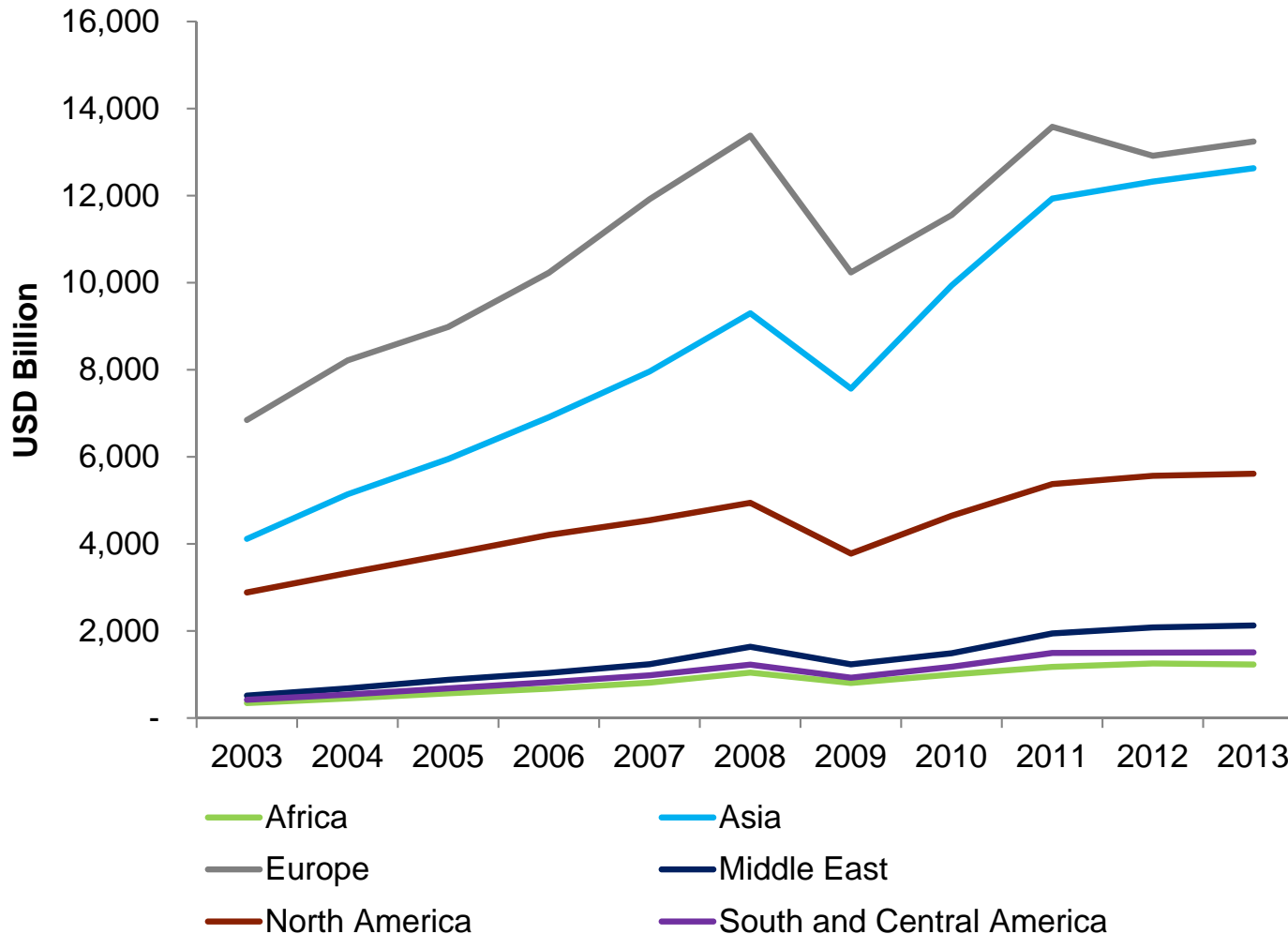
## *Lessons Learned - Some Key Issues and Challenges*

- Demand – healthy demand growth is beneficial, but does not guarantee success
- Key issues to bear in mind for public and private sectors:
  - Cargo mix and revenue type
  - ‘Freedom to price’ and revenue risk
  - Greenfield vs brownfield: supply side challenges and the resilience of older, inner city terminals
  - Ensuring competition without fragmentation
  - Government ability to deliver supporting infrastructure
  - Bidding re-runs / programme delay
  - Environmental risks, including climate change
- Annex: Philippine PPP environment

# Demand Side Conditions

## Asia Largely Buoyant – Large and Growing

Region-wise Merchandise Trade with World

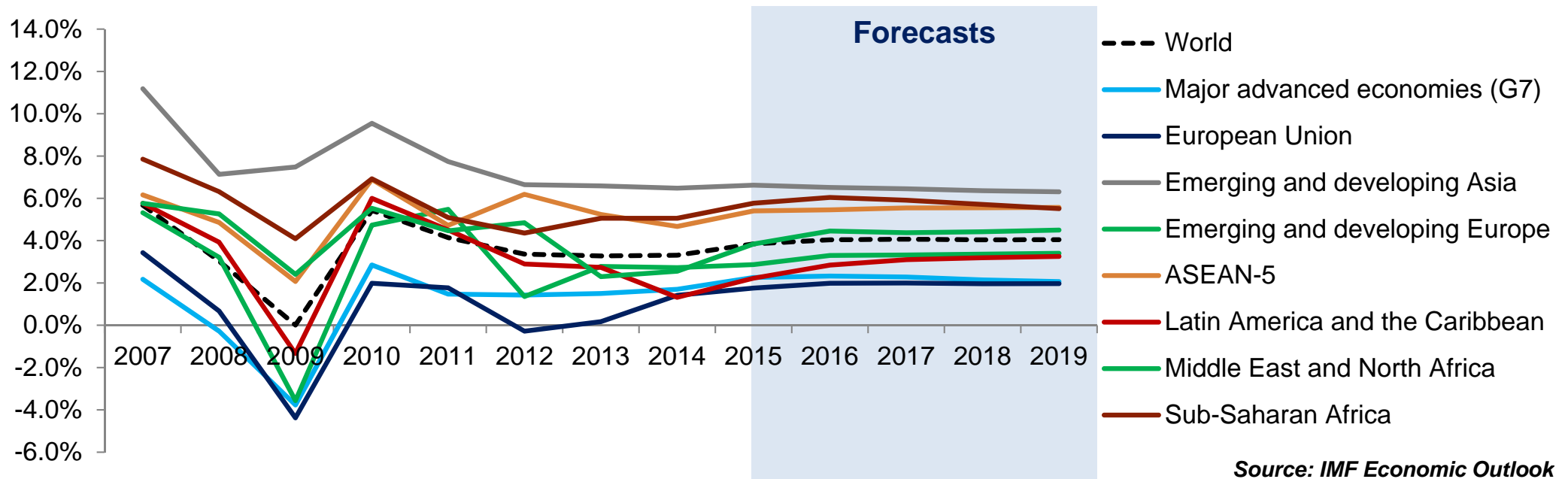


- European Trade still dominates; however, due to larger macroeconomic challenges in the recent times, the trade has been stagnating
- **Asia** emerging as the key region and with a 10 year growth **CAGR of ~14%** is likely to overtake Europe in the near future
- Latin America, Africa and Middle East trades have been growing at a CAGR of ~15%, ~16% and ~17% respectively (2002-12). However, their combined share was only 16% in the overall 2012 world merchandise trade

Source: WTO Statistics

# Which are the future growth engines?

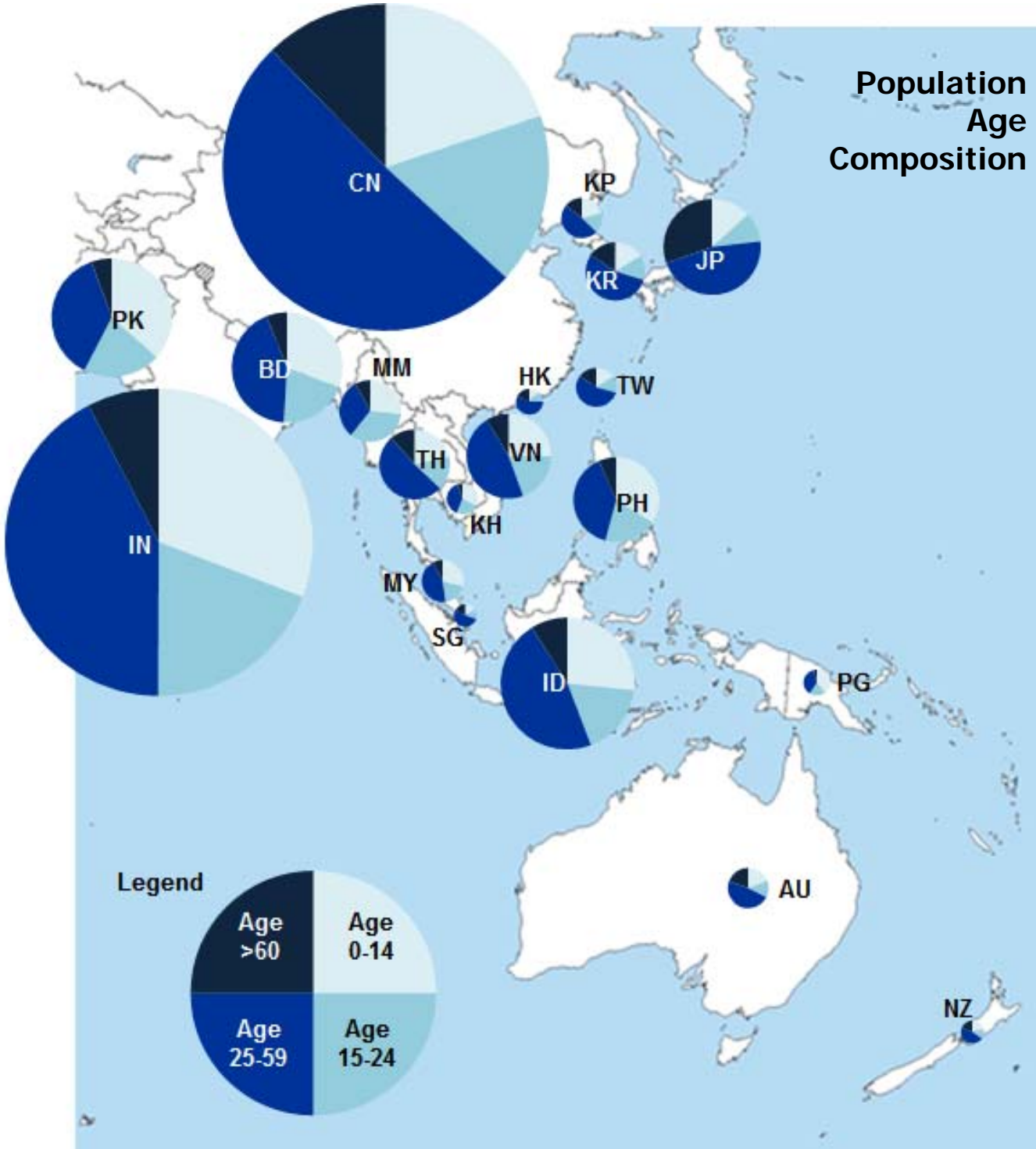
*World Economy to marginally improve, Asia outlook Remains Positive*



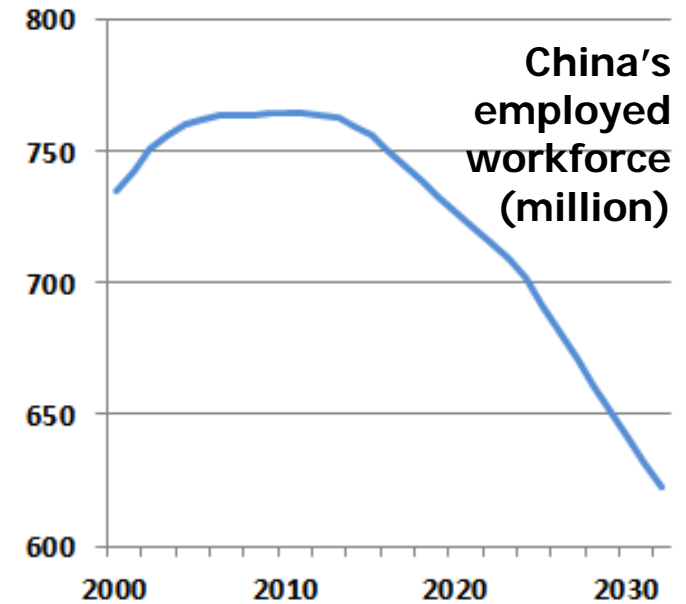
- Asia and Sub-Saharan Africa are expected to continue growing at a rate higher than the average World GDP growth rate
- Developed economies including North America and Europe are expected to see marginal recovery with GDP growth stabilizing at pre-2007 levels
- European region is seen to continue struggling with recovery envisaged in 2015-18 period – Central and Eastern Europe to perform better
- Latin America and MENA regions are expected to grow inline with the overall World growth

# Drivers of Growth - Population

Population Age Composition



- **Aging of China will slow growth unless productivity picks up**



- **SE Asia – generally skewed towards younger population**

Source: Global Demographics; ICF GHK based on Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects* (2008 Edition) and the Department of Statistics, Ministry of Interior, Republic of China.



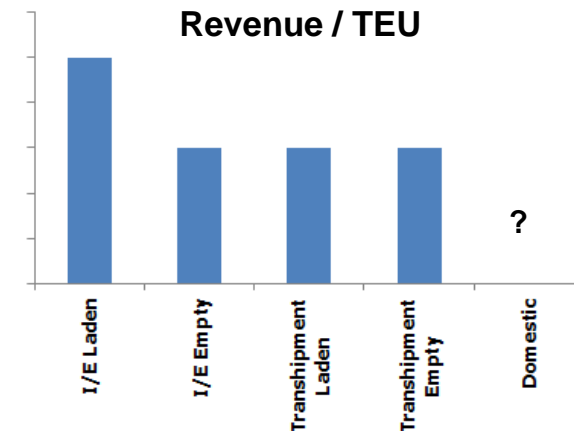
# Remember - healthy demand growth is beneficial, but does not guarantee success



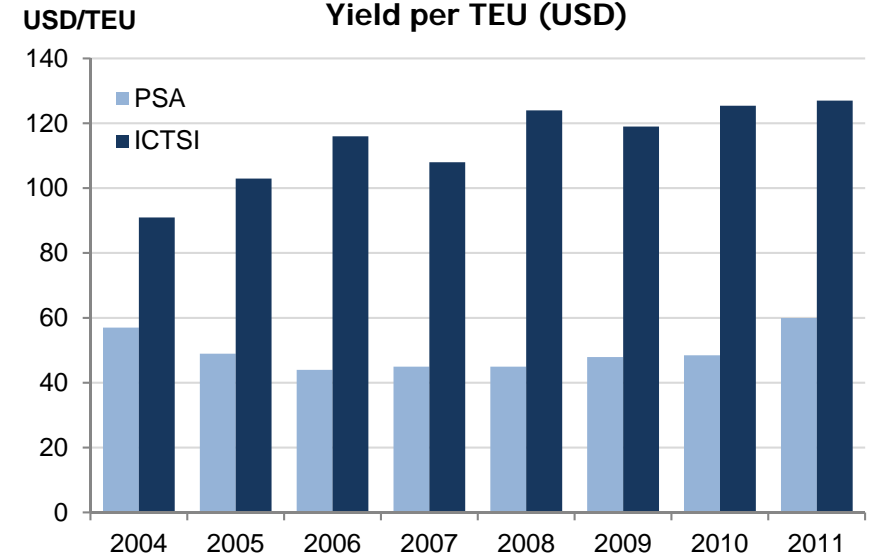
# Cargo Segment Affects Nature of Competition and Revenue per Lift

*Absence / presence of tariff control a further consideration*

- Overlapping but different drivers affect competition for Import/Export (I/E) and *International* Transshipment
- I/E is the prime market: **highest revenue per lift** and provides a “fixed” incentive for carriers to call – Indonesia, Vietnam, Thailand, Philippines are well positioned
- *International* transshipment provides a useful top-up - competition takes place over greater distance, but potential for Thailand & Indonesia (Java, but not Batam) is limited due to diversion
- Domestic & feeders may be other segments – typically lower revenue per lift, but still impact terminal capacity
- Buoyant I/E demand and limited supply of capacity (i.e. limited competition) is a sweet spot for investors
- **Freedom to price** is preferred, but surplus capacity will put downward pressure on tariffs
- **Tariff control** poses additional regulatory risk, but transparent system with clear scope for adjustment mitigates some of the risk



TS – Double the Volume but not Double the Revenue  
ICTSI versus PSA as a Proxy for “OD Versus Transshipment”  
Yield per TEU (USD)

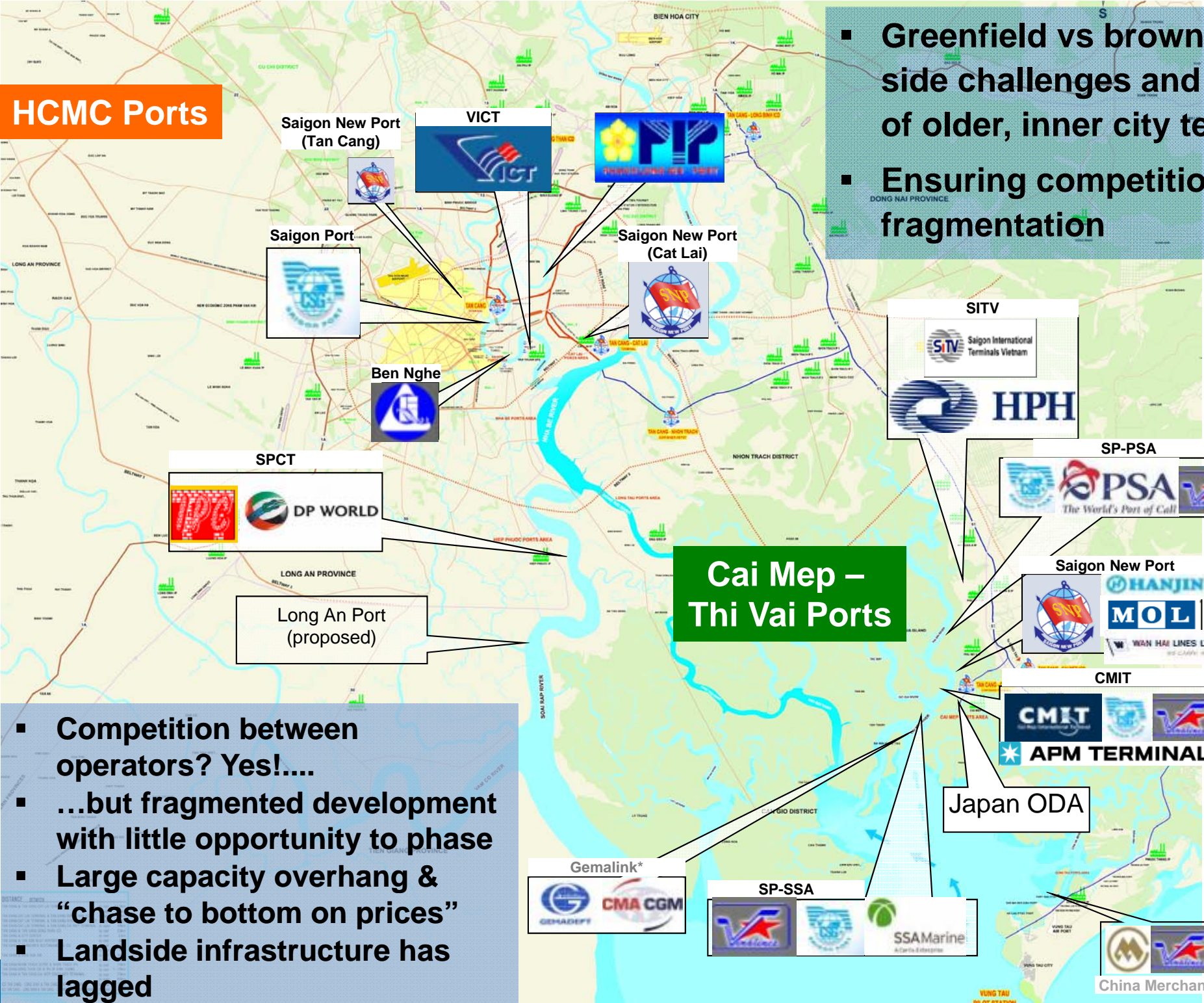


Source: ICF; ICTSI; UBS



# HCMC Ports

- Greenfield vs brownfield: supply side challenges and the resilience of older, inner city terminals
- Ensuring competition without fragmentation



- Competition between operators? Yes!....
- ...but fragmented development with little opportunity to phase
- Large capacity overhang & “chase to bottom on prices”
- Landside infrastructure has lagged

# Vung Tau Ports

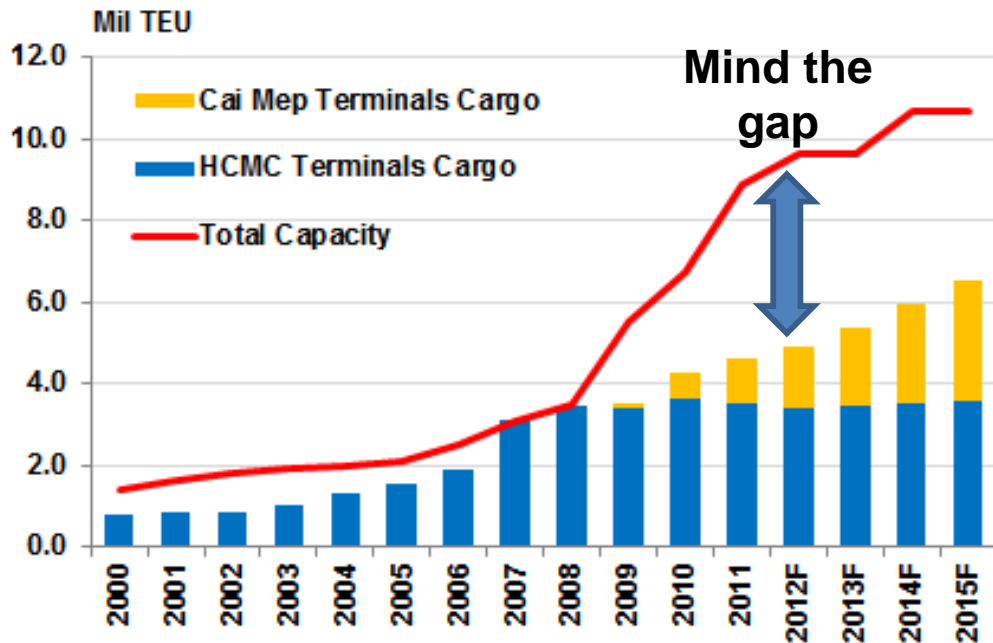
Notes: \* not proceeding / on hold  
Source: ICF



# South Vietnam – Oversupplied Cai Mep

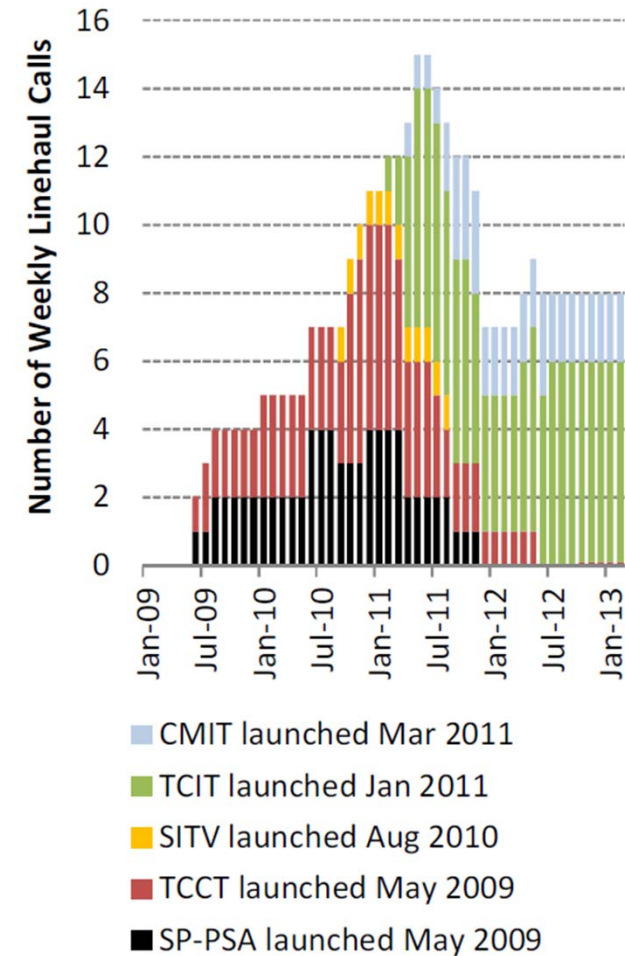
*Capacity overhang likely to persist until ~2020*

- Many terminals, but few operating at adequate utilisation
- Phasing out of city centre terminals would help re-balance
  - HPH & PSA no container services
  - TICT & APMT only terminals with regular services but operating with very low handling rates
  - TCCT & TCIT actually two phases of same terminal, but after opening of TICT (terminal of several liners), services previously calling TCCT all shifted to TCIT



- 7<sup>th</sup> terminal, ODA completed 2013 but unable to secure any lines for now
- Vinalines + NYK initially chosen to operate the terminal but declined to participate due to severe over supply....ended up with state backed SNP

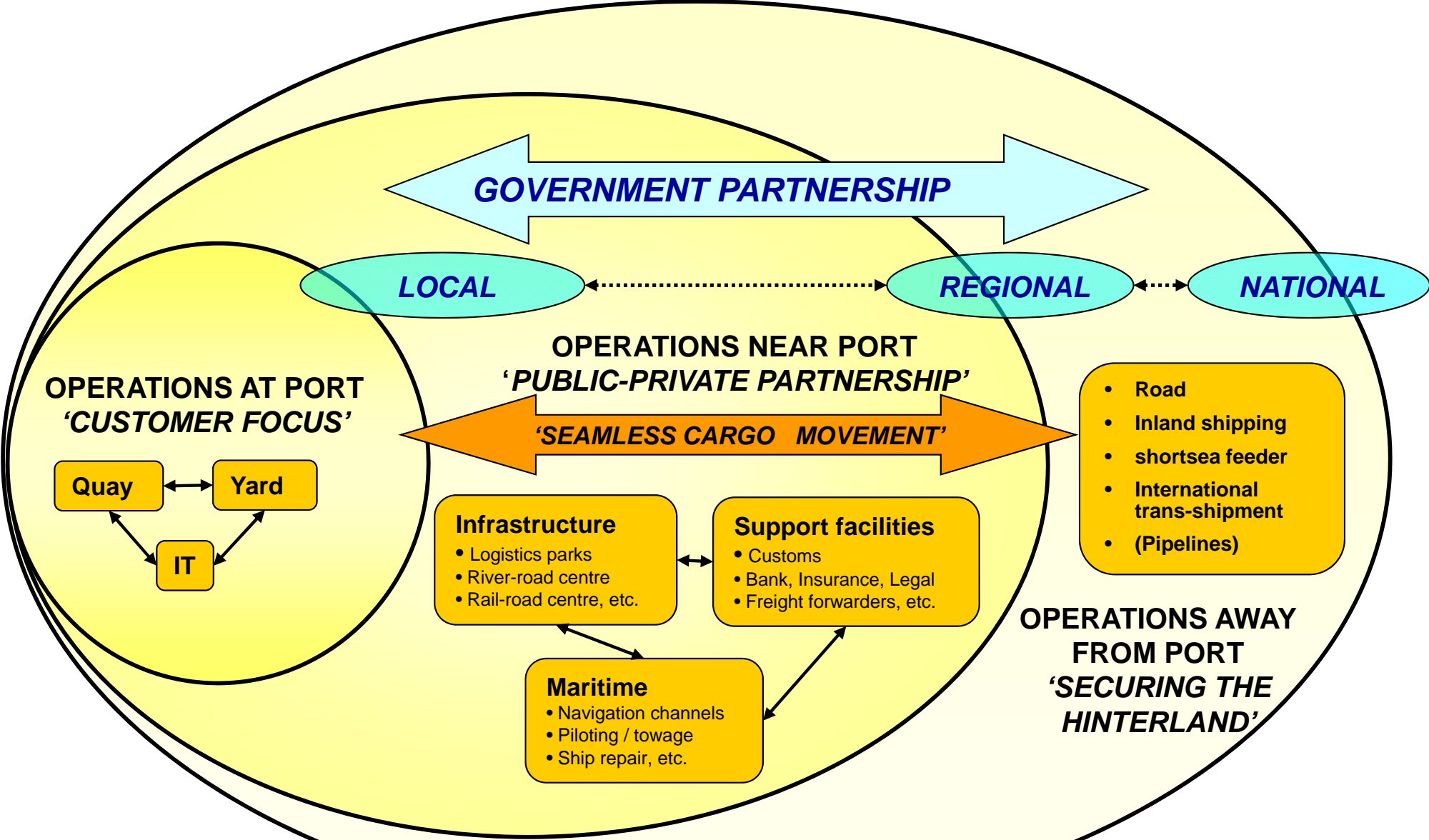
**Cai Mep—Thi Vai Ports**  
Weekly vessel calls by terminal  
2009-2013



Source: ICF, Alphaliner

# Competitiveness: you're only as good as the weakest link

...and terminal operators do not control all the supply chain links



Source: ICF

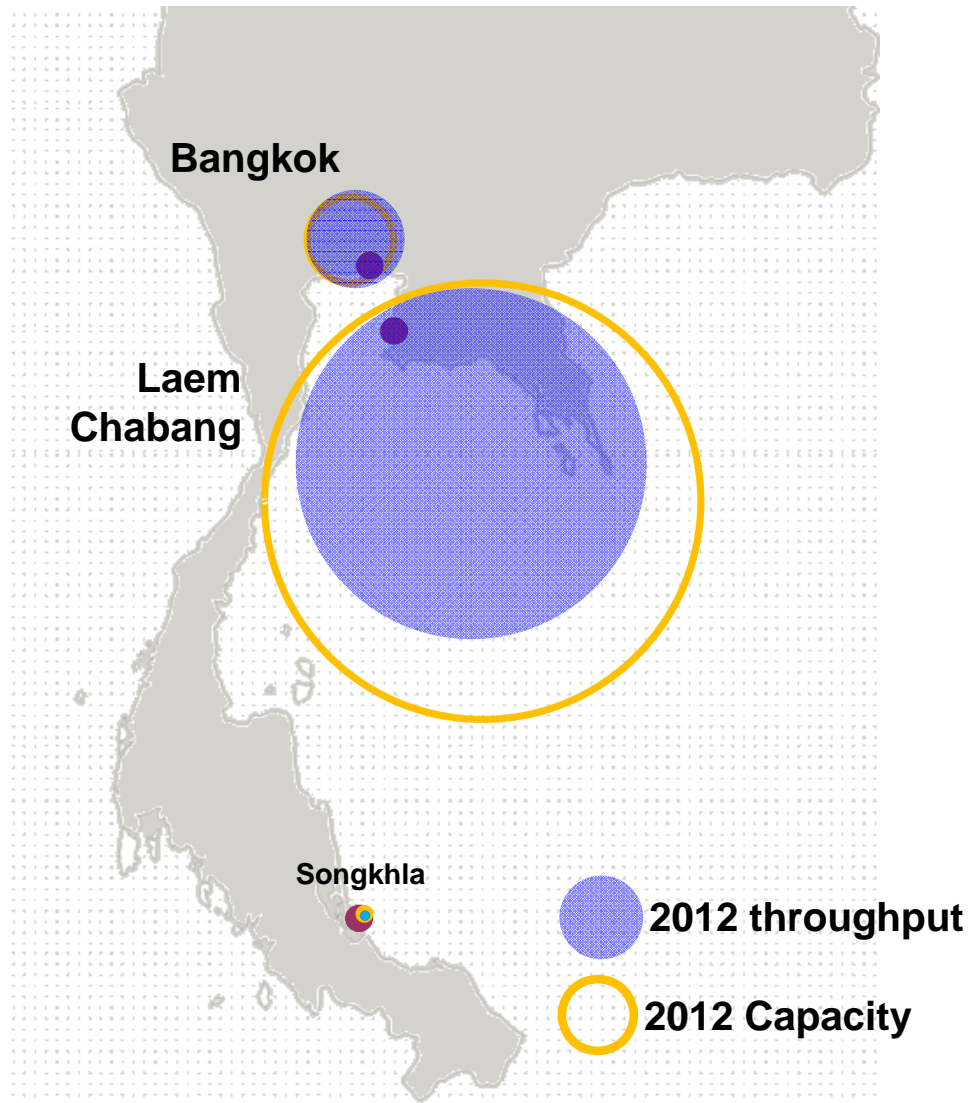
# Ability of Government to deliver supporting infrastructure



Source: ICF

# Thailand Container Ports

*Superior offering at the newer Laem Chabang, but Bangkok terminals resilient to competition*



## Bangkok:

- 4 operational terminals;
- 2012 total capacity ~1.4 Mn TEU
- 2012 throughput 1.4 Mn TEU

## Laem Chabang:

- 7 operational terminals (through 8 concessions);
- 2012 total capacity ~7.4 Mn TEUs,
- 2012 throughput 5.9 Mn TEU

Source: ICF



# Laem Chabang Container Terminals

*Concessions at Basin I and II – plenty of competition*

Terminals	Operator	Start Year + Concession	Berth in Basin	Berth Length (m)	Draft (m)	Capacity (Mn TEUs)
Thai Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings (HPH)	1996 (+30)	A2	400	14	0.4
Hutchison Laem Chabang Terminal Co., Ltd.	Hutchison Port Holdings (HPH)	2004 (+30)	A3, C1, C2,	1,950	14-16	2.8
LCB Container Terminal 1 Co., Ltd.	LCB1 Group	1991 (+27)	B1	300	14	0.6
Evergreen Container Terminal (Thailand) Co., Ltd.	Evergreen Group	1993 (+27)	B2	300	14	0.6
Eastern Sea Laem Chabang Terminal Co., Ltd.	PSA + Marubeni + Kamigumi	1996 (+27)	B3	300	14	0.6
TIPS Co., Ltd.	MOL + NYK Line + Ngow Hock Group	1994 (+27)	B4	300	14	0.6
Laem Chabang. International Terminal Co., Ltd.	DP World + STC Logistics + P. Thailand Machinery + NOL	1996 (+30) 2004 (+30)	B5 & C3	900	14-16	1.8
						<b>7.4</b>
<i>Hutchison Laem Chabang Terminal Co., Ltd.*</i>	<i>Hutchison Port Holdings (HPH)</i>	<i>(2004, +30)</i>	<i>D1, D2 &amp; D3</i>	<i>1,700</i>	<i>16</i>	<i>3.4</i>

**Source:** Laem Chabang Port; HPH; ICF

**Notes:** \*yet to be developed



# Thailand Two Port Strategy

*Expansion delayed, but tariffs flat and old Bangkok terminals remain*

## ■ Bangkok

- River Port in the heart of Bangkok city managed by Port Authority of Thailand (PAT)
- Draft Restriction
- Feeder Ship destination
- Capacity was capped at 1.6 million TEU
- [From 2007 presentation] “Limited room to grow, **reduction is imminent**”....reduced but only to 1.4 million TEU and cargo remains “sticky” – reality has not matched the 2007 future assumption

## ■ Laem Chabang

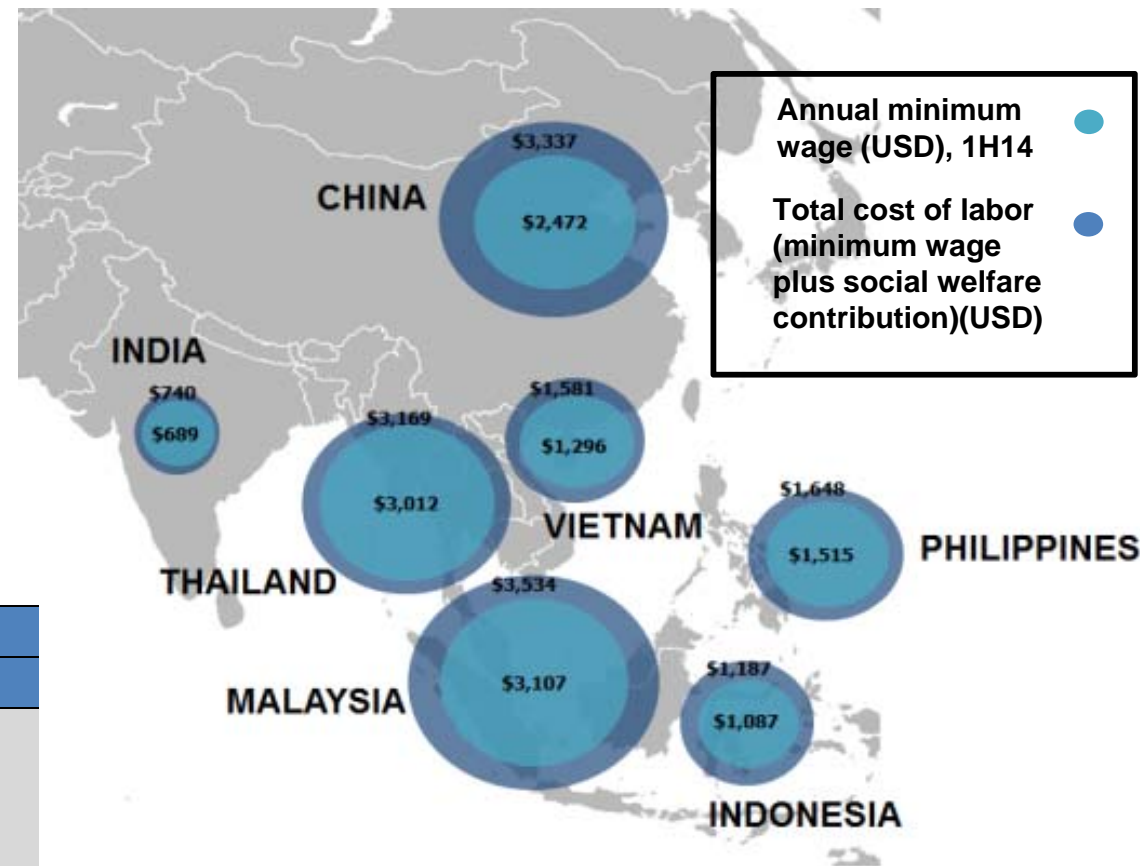
- Green field development in 1990
- Privatized and managed by independent operators
- Deep draft
- Main line destination, but diversion from main tradelanes
- PAT sets tariff ceilings which have to be followed by all terminals. Last tariff revision undertaken by PAT in 2004 (and no change in last 22 years )
- 16.6 Mn TEU originally scheduled for 2011. Has been delayed, but some stakeholders keen to push forward.....where will the demand come from?

# Indonesia Port Market – Demand Outlook

*Continued mid-range economic growth, middle class consumption increasingly important*

- Archipelago of >17,500 islands – maritime sector is key
- Export demand from resource sector – closely linked to emerging economies
- Middle class consumption – increasingly significant
- Cost competitive for manufacturing versus China and less risky than cheapest locations (e.g. Bangladesh)
- Downside risks and challenges:
  - China slowdown and depressed demand for commodities
  - Removal of subsidies whilst controlling inflation: falling oil prices a major assistance
  - How broad based is economic growth? Overly dependent on China resource play?

**Annual Minimum Wage and Total Labor Cost (USD) of Selected Asian countries in 1H14\***



\*Social welfare contribution comprises pensions, housing fund contributions, as well as medical, injury, maternity, and unemployment insurance.  
Data source: China Briefing

Real GDP Growth	ASEAN			INDONESIA		
	ADB	OECD	IMF	ADB	OECD	IMF
2013	5.7	5.6	6.2	6.6	5.9	6.3
2014		5.6			5.9	6.5
2015		5.6			5.9	6.6
2016		5.9			5.9	6.7
2017					5.9	6.9

Source: ADB, OECD, WB documents

# Regulatory constraints & opportunities

## *Key Issues for Priok, Indonesia*

- Restrictions on international & / or domestic handling by different ports / terminals – may significantly affect volume and revenue in *critical early years of new concessions*
- Concession terms for New Priok, especially committed & up-front payments to IPC from concessionaires to help fund the extensive capex programme: operational costs + quarterly lease costs could total US\$55-65/TEU....plus additional “concession” costs for upfront payment and gross revenue share.
- Tariff adjustment mechanism in Priok generally transparent and has delivered upward (and downward) adjustments (unlike Laem Chabang). New Priok ‘freedom to price’ ?
- Shipping Law of 2008
  - Role of IPCs versus the New Port Authorities: theory vs practice
  - Only Indonesian flag vessels with Indonesian crews can carry domestic trade. Impact on competition and domestic freight rates?
- **Control of supply**
  - Java: Speed at which new capacity is developed (e.g. additional phases at New Priok, Cilamaya, Tanjung Perak, etc.)
  - Control of existing capacity
  - **Is W Java another South Vietnam?....or Bangkok / Laem Chabang? i.e. over-build, over-hang from older, established terminals and depressed rates...probably not**

# Summary - A Tale of Three PPP Markets

*Java looks promising, provided supply binge is avoided... & concession terms are viable*

	Java	S. Vietnam	Thailand
<b>I/E Demand</b>	✓ Large & buoyant	✓ Large & buoyant	✓ Large & buoyant
<b>Supply-demand</b>	✓ Likely constrained over short / medium term	X Substantial Over-supply	X Over-supply
<b>Old, city centre terminals that remain competitive</b>	(✓) Yes, but “co-located” with New Priok – less of a “jump” for shippers, agents, carriers, etc.	X Yet to be closed & remains competitive. New terminals a “jump” for shippers, agents, etc.	X Yet to be closed & remains competitive.
<b>Supporting infrastructure</b>	(✓) Being upgraded, but challenging for both AND new terminals	X Delays on landside and dredging	(✓) Generally good
<b>Options for operators to phase expansion</b>	X Limited	X Limited	(✓) Some
<b>Tariffs</b>	(✓) Priok - regulated, but transparent New Priok – freedom?	(✓) Freedom to price (but over-supply has depressed rates )	(✓) Regulated, but limited transparency & no increase +20yrs
<b>International Transshipment</b>	(X) Limited short-term potential - diversion from trade lanes, but regional possibilities	✓ Close to trade lanes	X Limited potential - diversion from trade lanes

# Bidding re-runs / programme delay

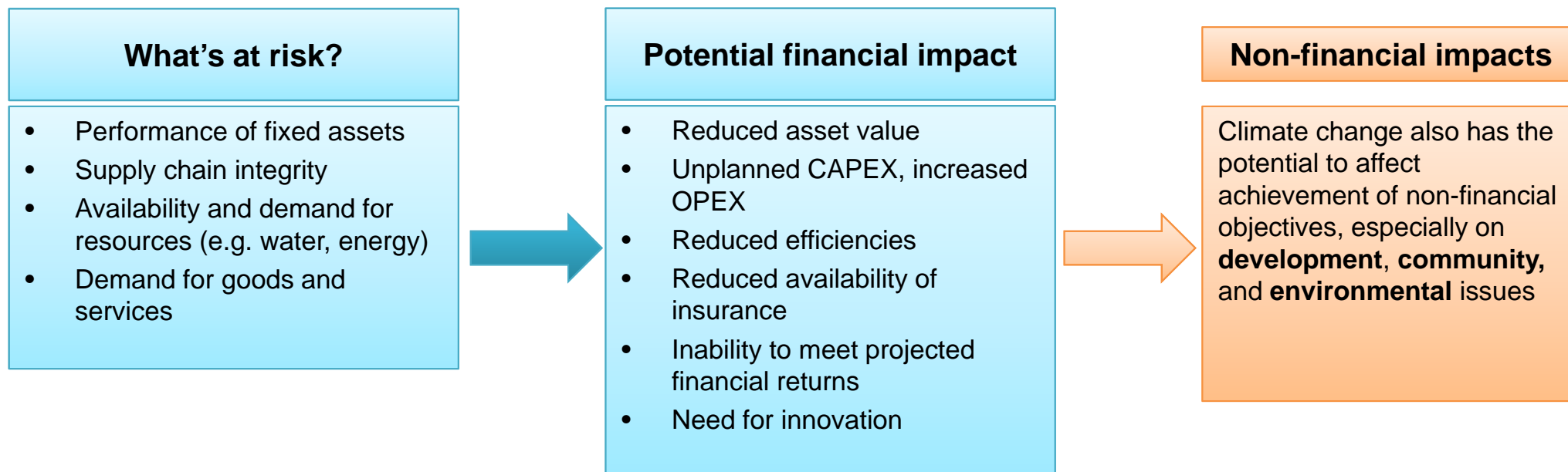
*Pushes up project risk and damaging to economic development*

- India, Mumbai – JNPT 4<sup>th</sup> container terminal (4.8 Mn TEUs).
  - First bidding cancelled due to lack of participation
  - 2<sup>nd</sup> round (began in 2009), winning PSA-ABG consortium backed out in 2012, after offering 50% revenue share
  - 2<sup>nd</sup> round mired in legal controversies. APMT excluded - won earlier GTI bid hence not permitted to bid. Successfully challenged in court, but then backtracked & decided not to bid.
  - 3<sup>rd</sup> round: Neither PSA nor APMT excluded from the bidding process, to the chagrin of some industry stakeholders.
  - Feb 2014, awarded to PSA...again...at 35.79% revenue share
- Philippines, Subic Bay: 1996 offered 25 yr lease, bid evaluation on two main criteria: investment plan and royalty payments.
  - 3 bids, offering royalty payments of US\$20.50/TEU (HPH), 15.08/TEU (Royal Port Services), and 57.80/TEU (ICTSI, but with a smaller development plan) - a defensive bid intended to keep HPH out of the Philippines and protect tariffs at Manila? (see also HPH defensive bids in Hong Kong)
  - Awarded to HPH, challenged and then re-bid in 1997
  - Further delays and challenges not resolved until 2001, new plan and bids, concession finally awarded to ICTSI 2007.
  - Despite 10% utilisation (32,000 TEU at 1<sup>st</sup> berth) 2<sup>nd</sup> berth also awarded to ICTSI 2011 (no other bidders). Meanwhile traffic at congested Manila rose sharply to 3.7m TEU in 2012

# Environmental Concerns

## *Increasing project risks related to environmental impacts & climate change*

- Overlapping areas of concern:
  - “**Green port**” / “**Green supply chains**”: broaden focus from biodiversity / ecological, etc. from impact of new developments to additional concerns around air pollutants and Greenhouse Gas Emissions (GHG)....will become an issue in emerging markets
  - **Climate change**: impacts over life cycle of port assets? **Long time horizons**. Planning, implementation, concessions run 20-30 years+ (e.g. New Priok IPC II 70-yr concession, London Gateway even longer). Direct impacts for project finance





# Wrap - Port PPPs

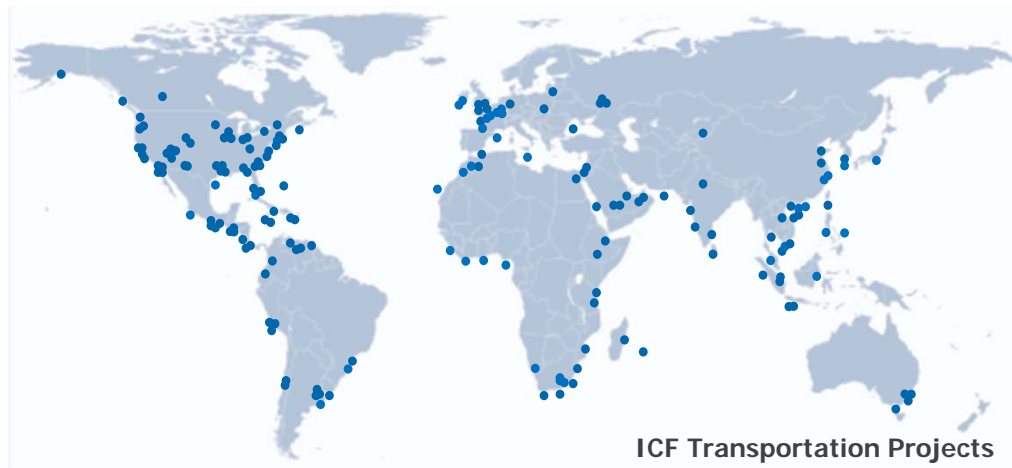
*Considerable potential but public sector has to play its part*

- Transparent (and simple) selection procedure
- Clear and committed timelines for phase in (and phase out) of new capacity...including option to develop adequate economies of scale (note impact of mega vessels / alliances at major ports)
- Regulation via competition is preferred, but may not be possible in early stages
- Be wary of defensive plays by incumbents
- Deliver supporting infrastructure
- Fair and clear allocation of risk and reward between both 'Ps' ...and be clear on policy objectives
- Establish a track record

# Thank You – Any Questions?



## Ports, Logistics & Transport Services



### *Regional Contacts*

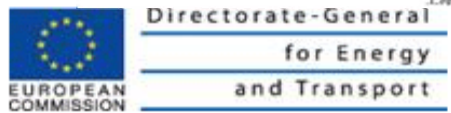
**Jonathan Beard, Hong Kong**  
+852.2868.6980  
jonathan.beard@icfi.com

**David Hathaway, Beijing**  
+86.10.6562.8300  
david.hathaway@icfi.com

**Anil Gubrele, Mumbai**  
+91.98.19918055  
anil.gubrele@icfi.com

**Jolke Helbing, Amsterdam**  
+31.35.8872.181  
jolke.helbing@icfi.com

**Augusto Mello, Rio de Janeiro**  
+55.2121.172550  
augusto.mello@icfi.com



Tiger Global Management, LLC



# Philippines PPP Institutional Environment

## *History and Development*

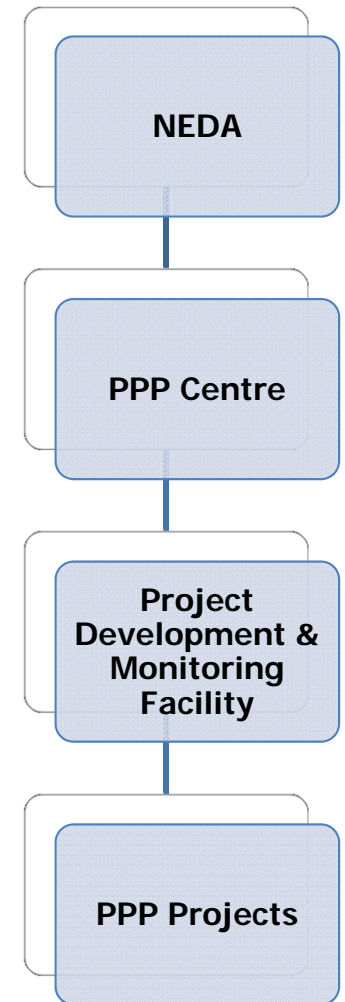
- Historically, spending on infrastructure in the Philippines has been low; circa 3% versus 5% for other SE Asian nations.
- The Aquino administration has identified PPP as a key mechanism for increasing investment in infrastructure and achieving inclusive growth
- The legal framework for PPP is based on the Build-Operate Transfer Law (1990). This was the first law in Asia that institutionalised private sector participation in infrastructure and development projects.
- BOT Law subsequently amended (1994), and later laws and regulations have been further refined and the legal and regulatory framework developed.
- 2011, an ADB Study found the Philippines to have strongest enabling environment for PPPs out of the ASEAN countries due to a strong legal and institutional framework and well structured bidding process. Weaknesses observed within the PPP system included the investment climate, and financial facilities.



# Philippines PPP Institutional Environment

## Current Structure

- National Economic and Development Authority (NEDA) is an independent cabinet level agency responsible for economic development and planning. NEDA is responsible for overseeing the implementation of PPP in Philippines.
- The PPP Centre is a Government agency established to coordinate and monitor the PPP Program. It is attached to NEDA, and was created from the previous BOT Center in 2010.
- The PPP Centre manages the Project Development and Monitoring Facility (PDMF) – a revolving fund established to provide advisory and technical services for project preparation, development and capacity building so as to enable the creation and management of a robust PPP pipeline. The PDMF has been financed by the Philippine and Australian Governments.
  - ICF is one of 22 international and local firms prequalified to provide assistance under the PDMF
- Government contributions (such as funds for resettlement, Government-apportioned construction costs etc) are funded from a Strategic Support Fund which is allocated to implementing agencies involved in PPP as part of their annual budgets.



# Philippines PPP Programme

## Current Status

- PPP Centre has established a pipeline of PPPs through the PDMF
- Projects in the pipeline must be:
  - At a defined stage of project readiness/preparation. They must have:
    - Completed their initial business case,
    - Be included in a list of priority projects by the implementing agencies, and
    - Have Feasibility Studies or other initial preparation ongoing.
  - Responsiveness to sector needs
  - Highly implementable (bankable with no major issues)
- There are 59 projects currently within the pipeline:

Stage	Number	Value (PHP Bn)
Contract Awarded	9	130
Bidding Stage	13	353
NEDA Approval	6	639
Project Preparation	13	TBD
Transaction Adviser Procurement	6	TBD
Under Conceptualisation	12	TBD



# Philippines PPP Programme

## *Port Opportunities*

- Of the 59 projects in the PPP Centre's pipeline, 4 are related to ports or terminal infrastructure:
  - Davao Sasa Port Modernization Project – Currently at issuance of ITPB stage
  - Manila Bay-Pasig River – Laguna Lake Ferry System Project – Business Case Preparation currently underway
  - Central Spine RORO Project – Procurement of Transaction Advisor imminent
  - Ferry Passenger Terminal Buildings Development – Under conceptualization
  - Freeport Area of Bataan (FAB) Barging Facility/Port Project – Under conceptualization
- The **Davao Sasa Port Modernization Project** will be implemented jointly by the Department of Transport and Communications (DOTC) and the Philippines Ports Authority (PPA) in conjunction with the PPP Centre.
  - It aims to develop the existing port into a modern, international container terminal, with new apron, linear quay, expanded back-up area, container yards, warehouses, ship-to-shore cranes and rubber-tyred gantry.
  - Expected project cost is PHP19bn (USD422m)
  - Concession to be structured under a Build-Transfer-Operate (BTO) model with a 35-40 year concession period.
  - Invitation to Bid to be issued.