

Sector Note



OIL & GAS

Vibrant domestic E&P activities in sight

- PetroVietnam is boosting investment, signaling that domestic E&P activities should be increasingly vibrant in the next couple years.
- Block B O Mon gas-to-power chain project is still the main driver for Vietnam's O&G industry.
- We believe upstream service providers such as PVS and PVD will be the key beneficiaries.

Tight global supply will keep oil prices high

Global oil demand is continuing to rise as significant economies such as the US and China show indications of recovery. In contrast, the extension of OPEC+ voluntary production cuts through 2Q24 and escalating geopolitical tensions are likely to cause supply tightness in the near term. A supportive balance in global oil markets will likely keep Brent oil prices high, averaging US\$85/bbl in 2024. The high oil price environment will create favorable conditions for E&P activities worldwide.

PetroVietnam's investment is on the rise

Global O&G upstream investment has increased since a trough in 2020, triggered by global oil undersupply after the pandemic and a high oil price environment. PetroVietnam (PVN) has not missed this trend. For 2024, PVN has a capex plan of roughly VND50tn (US\$2bn), an increase of 54% compared to the actual investment number of 2023, in which upstream investments will make up 52% of total PVN capex. As O&G projects always span over many years, we expect PVN to continue boosting capital expenditure in coming years, signaling that domestic E&P activities will be increasingly vibrant from 2024 onwards.

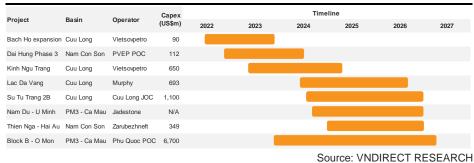
Block B - O Mon is still the main driver for the industry

The multibillion-dollar Block B – O Mon project has seen significant movement over the past few months. After awarding some key EPCI packages to contractors in late-2023, related parties have just signed key commercial agreements (GPSA, GTA and GSA) on March 28, 2024. We expect PVN to soon solve the remaining bottlenecks to get the FID award in 2Q24. The official FID award will be the premise for Block B chain's entire implementation. With estimated capex of over US\$3.5bn for the first phase (until the first gas as at late-2026), Block B – O Mon will provide huge workload for upstream service providers.

Upstream service providers should be the key beneficiaries

Generally, increasingly robust E&P activities in Vietnam first strengthen the growth prospects of upstream service companies. And the leading companies in the industry who have the best opportunity to take advantage of this investment are PVS and PVD, in our view.

Figure 1: Domestic O&G projects



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Tight global supply will keep oil prices high

We expect that the OPEC+ voluntary production cuts extension through 2Q24, which was announced on March 3, 2024, with a total of 2.2 million barrels, should cause global oil supplies to tighten in the near term. Furthermore, the ongoing conflict between Russia and Ukraine and escalating geopolitical tensions in the Middle East continue to add uncertainty to the global oil market and raise concerns of possible supply shortages. In this context, the EIA projects that worldwide production will rise by just 400,000 barrel per day in 2024 compared to 1.8 million barrel per day (mbd) in 2023.

Meanwhile, global oil demand is continuing to rise as significant economies such as the US and China show indications of recovery. The US Energy Information Administration (EIA) projects that worldwide oil consumption will increase by 1.4 mbd in 2024, surpassing growth in production.

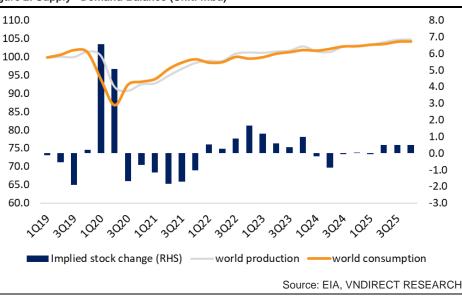
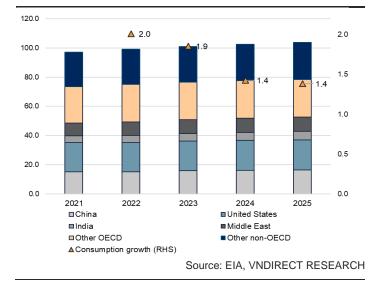
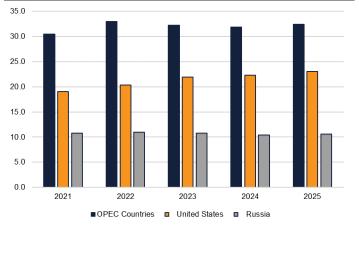


Figure 2: Supply - Demand Balance (Unit: mbd)

Figure 4: Annual change in world liquid fuels consumption (unit: mbd)







Source: EIA, VNDIRECT RESEARCH

Consequently, we expect that the supportive balance of the oil market in 2024 will keep the Brent price high, averaging at US\$85/bbl. We also expect that in



2025, when the production cut imposed by OPEC+ is scheduled to expire, there will be a slight downward pressure on prices, leading the price of oil to drop to US\$80/bbl. The high oil price environment will create favorable conditions to spur E&P activities worldwide.

PVN accelerates capital expenditure, signaling that domestic E&P activities should be increasingly vibrant in the next couple years

Global O&G upstream investment has increased since a trough in 2020, triggered by global oil undersupply after the pandemic and a high oil price environment. According to the International Energy Agency (IEA), global upstream investment rose by 11% in 2022 and is estimated to have risen by 7% in 2023, mainly due to increasing capital expenditure in the Middle East (+33% yoy in 2023). With crude oil prices projected to remain above \$80/bbl in 2024, we believe that O&G capital expenditures will remain elevated and even grow marginally.

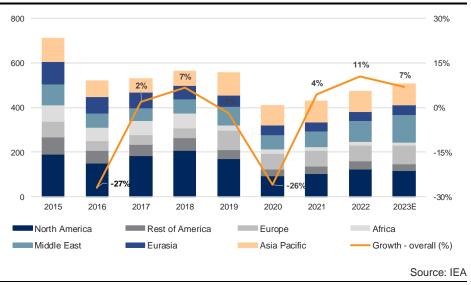


Figure 5: Global upstream oil and gas investment (Unit: US\$bn)

Vietnam has not missed this trend. PetroVietnam – an National Oil Company (NOC) – has accelerated capital disbursement since the pandemic. We repeat that Vietnam's oil & gas production has continuously fallen since 2015 mainly due to lack of major O&G projects over the past years as oil prices crashed in 2014 and maintained its low base for many years, making major new development projects unprofitable. Thus, the expected high oil price environment combined with an improved regulatory environment (for Vietnam's oil & gas industry) should be the ideal condition to prompt upstream investment in Vietnam in coming years.



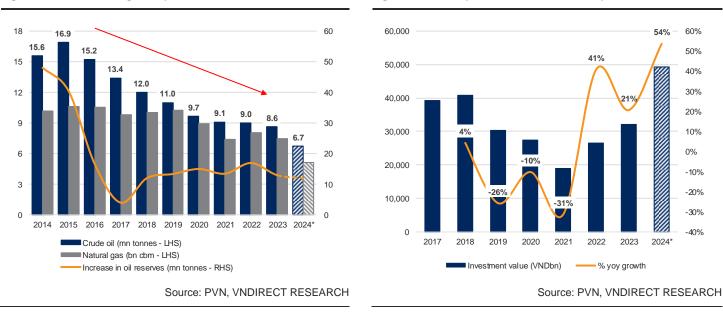


Figure 6: Domestic oil & gas output

For 2024, PVN has a capex plan of roughly VND50tn (US\$2bn), an increase of 54% compared to actual investment of 2023, of which upstream investments will make up 52% of total PVN capex. As O&G projects always span many years, we expect PVN to continue boosting capital expenditure in coming years, signaling that domestic E&P activities will be increasingly vibrant from 2024 onwards. This will benefit upstream service providers, first EPCI contractors and then drilling and other service providers.

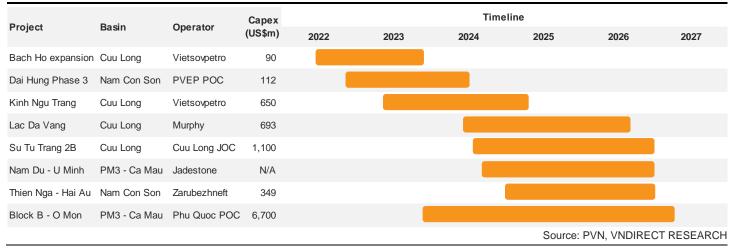
Figure 7: PVN's capex is on the rise after the pandemic

Over the past few months, many domestic O&G projects have seen significant movement, as detailed below:

- Lac Da Vang project: US independent Murphy Oil made a final investment decision (FID) for this project in November 2023.
- Nam Du U Minh project: Jadestone Energy has signed a head of agreement (HOA) with PetroVietnam Gas (PVGas) concerning the development of the Nam Du and U Minh gas fields in offshore Vietnam in January 2024.
- Su Tu Trang phase 2B: A group of field owners is working with the authority to negotiate and extend the Product Sharing Contract (PSC), which is the premise for implementing further steps.
- Thien Nga Hai Au: Zarubezhneft EP Vietnam B.V. aims to harvest an offshore Vietnamese gas field from 2025. The company plans to install equipment for the first phase from 3Q25 with expected first gas from 4Q26.



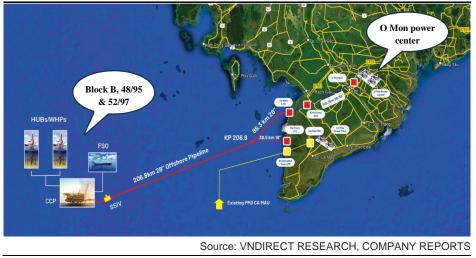
Figure 8: Some domestic O&G projects in sight



FID award for Block B gas field development project is imminent, becoming a key driver for the industry

Block B – O Mon is the largest gas field development project in Vietnam to date, with total investment of over US\$10bn for many sub-projects from upstream to downstream. According to PVN, an estimated US\$19.23bn will be added to the state budget during the project's 20-year lifetime for gas field development and pipeline projects. Furthermore, four gas-fired power plants in O Mon would bring the total capacity of 3,810MW, supplementing electricity supply for the South in the future.





After delays for many years, the multibillion-dollar Block B – O Mon project has seen significant movement over the past few months:

 On October 30, 2023, PVN and its partner held a signing ceremony for a Block B – O Mon gas-to-power value chain project. After this event, the gas field operator (Phu Quoc POC) and gas pipeline operator (SWPOC) awarded LLOAs (Limited Letter of Award) for some key packages of the Block B – O Mon chain to contractors, including the upstream EPCI#1 and EPCI#2 packages, and EPC



onshore pipeline package. Under LLOA, contractors implement engineering as well as prepare facilities while awaiting the FID award.

	Package	Scope of work	Est. capex (US\$m)	
Upstream	EPCI#1	EPCI and HUC services for a central production platform (CPP), living quarters platform, flare tower, and bridges for the Block B gas development project	1,086	A consortium of McDermott and PTSC
Upstream	EPCI#2	4 hub platforms/Wellhead platforms with total volume of roughly 15,000 tonnes; three 20-inch infill pipelines and a 8-inch pipeline with total length of roughly 50km	300	PTSC M&C
Upstream	FSO	a floating storage and offloading vessel for holding the produced associated liquids from the fields	N/A	TBA
Midstream	EPC onshore pipeline	a 100-kilometre onshore pipeline to O Mon, where the gas-fired electricity complex will be built	314	A consortium of PTSC and Lilama 18
Midstream	PC offshore pipeline	a 300-kilometre 26-inch offshore pipeline to landfall	750	TBA
		Source: VNDIRECT RES		BA: To Be Announced COMPANY REPORTS

Figure 10: Block B - O Mon project's key packages

- On March 28, 2024, PVN and its partners signed some key commercial agreements for the Block B O Mon project. The signed agreements include: 1) Gas Sales and Purchase Agreement (GSPA) between the gas field owner of PVN, PVEP, MOECO, and PTTEP and the buying party of PVN; 2) Gas Transportation Agreement (GTA), in which PVN leases services from the transporter of PV GAS, PVN, MOECO and PTTEP, 3) Tie-in, Operation, and Service Agreement (TOSA) between the gas field owner and the transporter, and 4) Gas Sales Agreement (GSA) between the seller (PVN) and the buyer (EVNGENCO2).
- On March 29 2024, MOECO, one of field's owners, made a FID for the Block B project.

Fundamentally, to ensure synchronized implementation, this project needs FIDs from the two remaining owners, particularly PetroVietnam, who is a major investor in both upstream, midstream, and downstream segments. Currently, there are some bottlenecks regarding the ODA capital allocation for the O Mon III Power Plant project, the approval procedures for the O Mon IV Power Plant project, and the Power Purchases Agreement (PPA) finalization for Block B gasconsuming power plants in O Mon.

Block B is one of the key national energy projects, as not only does it play a vital role in ensuring gas supply for power generation as cited in Power Development Plan 8 but it also contributes significantly to the state budget through the project's lifecycle. Gas from Block B will help Vietnam to ensure gas supply autonomy for power generation compared to other imported sources such as LNG or coal. Thus, along with the significant movement mentioned above, we expect PVN to soon solve bottlenecks to get the FID in 2Q24, which will be the premise for Block B chain's entire implementation.



Figure 11: Vietnam's natural gas supply by basin. Block B will play a vital role in gas supply in Vietnam from 2027 onwards (million cbm)

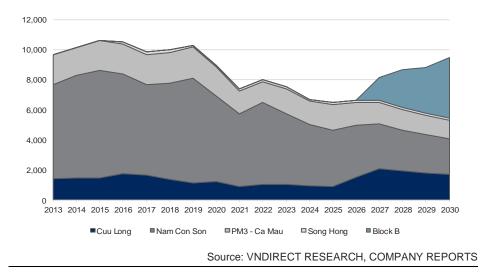
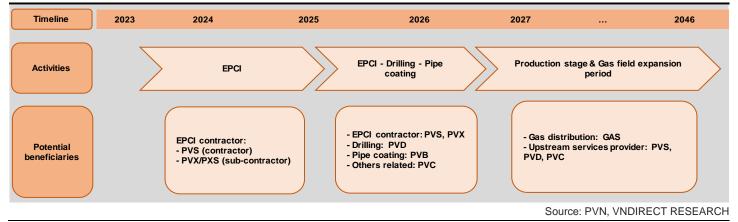


Figure 12: The key beneficiaries during Block B – O Mon chain project timeline



Est. Capex Investors Workload scope Activities Major Potential (US\$m) beneficiaries impact EPCI contract PVS Upstream: • IPVN (42.9%) FSO PVS This project will include one central processing platform, 46 Block B field • PVEP (26.8%) 6,700 • MOECO (22.6%) wellhead platforms, one housing platform, one condensate development vessel and drilling of 750 production wells Drilling / Well project • **PTTEP** (7.7%) PVD services Drilling fluids PVC The pipelines have total length of 431km with design capacity of Gas distribution GAS 20.3m cbm per day, including: • PVGAS (51%) • The offshore pipeline has the length of approximately 295km, Midstream: • IPVN (28.7%) diameter of 28 inches. Block B - O 1,300 PVB Pipe coating • MOECO & • The onshore pipeline has the length of 102km, supplying gas Mon pipeline PTTEP (20.3%) to power plants at O Mon Power Center in Can Tho. • There will be landfall station and gas distribution centers **EPCI** contract PVS (GDC) along the pipelines. Downstream: EPC contract Marubeni Three new thermal power plants in O Mon power center (O Mon NA •₽VN Gas-fired II, III and IV) Power generation power plants Source: VNDIRECT RESEARCH, COMPANY REPORTS

Figure 13: Block B - O Mon project overview



We believe upstream service providers will be key beneficiaries. Our stock picks are PVD and PVS.

We believe that increasingly vibrant E&P activities in Vietnam will first strengthen the growth prospects of upstream service companies in the next couple years, with PVS and PVD the leading companies in the industry in position to take advantage of this opportunity.

Figure 14: Stock picks

Ticker		Investment thesis	Stock information		
		ur top pick as we believe in the company's solid prospects for the next couple the back of:			
	(1) A	firm global JU market will lift up JU day rates, benefiting PVD's JU fleet. We	Target price	VND36,800	
		ticipate PVD's average JU day rate to increase by 24.4%/7% yoy in FY24-	Upside	11.9%	
	25).	Dividend Yield	0.0%	
	(2) Th	ne company's busy drilling schedule as all PVD rigs have been awarded	TSR	11.9%	
		ontracts until end-2025 with one JU rig (PVD III) awarded a long-term contract	Market Cap	US\$738.0n	
PVD	to	2028.	3M ADTV	US\$7.4n	
	(3) Vil	brant domestic E&P activities will provide huge potential job opportunities for	Foreign Room	US\$211.0n	
	P١	/D's JU fleet from 2026 onwards.	P/E TTM	31.3	
	(4) Th	ne contribution of an expected new JU rig from 2025 onwards, contributing	P/B Current	1.3	
	16	3%/13% of PVD's drilling revenue and drilling gross profit in 2025, spectively.	ROE	4.0%	
	Overall, v	we expect PVD's net profit to surge 86.3%/53.5% yoy in FY24-25.			
	Downside	e risks: Lower-than-expected JU day rate and a significant drop in oil price.			
	We prefe	er PVS in both short-term and long-term horizon thanks to:			
	(1) Th	ne company's leading position in O&G offshore facility construction will			
	. ,	enefit from vibrant domestic E&P activities, particularly the multibillion-dollar	Target price	VND46,50	
	Bl	ock B – O Mon project. Currently, PVS is a key beneficiary from the Block B	Upside	10.7%	
	pro	oject with an estimated EPC contract value of US\$1.4bn (including both	Dividend Yield	2.4%	
	aw	varded and potential contracts).	TSR	13.19	
PVS (2	(2) In	creasing exposure to the promising offshore wind-to-power field (with a total	Market Cap	US\$809.8r	
		stimated contract value of US\$800m) which open a long-term business path.	3M ADTV	US\$9.8r	
		urrently, PVS is also participating in other projects bidding for the 2026-27	Foreign Room	US\$241.0r	
		eriod onwards.	P/E TTM	19.5	
			P/B Current	1.6	
	(3) Ex	pected high oil price (above US\$80/bbl) to support PVS's outlook.	ROE	7.7%	
	Therefore	e, we forecast PVS to attain FY24-25 net profit CAGR of 28.7%.			
		e risks: A drop in oil price and further delays in major O&G projects, rly FID award for Block B project due to problems in commercial negotiation on.			
			Source: VNI	DIRECT RE	



Figure 15: Oil & Gas services sector comparison

Company	Ticker	Mkt Cap (US\$m)	Upside to TP (%)	Net D/E	EPS growth (%)	Div. yield (%)	P/E (x)	P/B (x)	ROE (%)	ROA (%)
Offshore drilling companie	e	/	. ,		FY24F	FY24F	TTM	Current	TTM	TTM
	SAPE MK	193	N/A	N/A	12.0%	N/A	N/A	N/A	N/A	N/A
Sapura Energy Bhd Velesto Energy Bhd	VEB MK	466	N/A	9.4%	54.8%	1.1%	22.5	0.9	4.2%	3.2%
	BORR NO		N/A	162.5%	588.0%		69.4		2.3%	0.7%
Borr Drilling Ltd Valaris Ltd	VAL US	1,519 5,337	N/A	26.8%	-61.9%	4.8% 0.0%	6.0	1.5 2.7	52.8%	24.1%
Transocean										-4.7%
	RIG US	5,352	N/A	68.1%	98.3%	0.0%	N/A	0.5	-9.0%	
Average		744	11 00/	4 30/	138.2%	1.5%	32.6	1.4	12.6%	5.8%
PVDrilling	PVD VN	741	11.9%	-1.3%	86.3%	0.0%	38.0	1.2	4.1%	2.8%
O&G technical services cor	mpanies									
Malaysia Marine Eng	MMHE MK	163	N/A	-14.4%	106.7%	2.1%	N/A	0.6	-31.9%	-13.8%
Yinson Holdings	YNS MK	1,521	N/A	166.8%	-10.6%	1.5%	8.4	1.0	13.6%	4.0%
Seatrium Ltd	STM SP	4,248	N/A	19.7%	106.6%	0.0%	N/A	0.9	-37.9%	-15.3%
Hyundai Engineering	000720 KS	2,690	N/A	-20.9%	-16.4%	1.9%	6.9	0.4	6.7%	2.4%
Keppel Corp	KEP SP	9,591	N/A	87.3%	-75.3%	4.6%	14.7	1.2	37.9%	14.1%
Average	REF OF	0,001	14/7	01.070	22.2%	2.0%	10.0	0.8	-2.3%	-1.7%
PTSC	PVS VN	818	10.7%	-61.6%	30.4%	2.4%	19.9	1.6	8.2%	3.9%
1100	1 10 11	010	10.7 /0	-01.070	50.470	2.470	13.5	1.0	0.270	3.370
Gas distribution companies	S									
China Gas Holdings	384 HK	5,137	N/A	78.5%	7.1%	6.4%	13.9	0.7	5.1%	1.9%
Petronas Gas Bhd	PTG MK	7,495	N/A	-2.7%	5.8%	4.3%	19.6	2.6	13.6%	9.3%
Gail India	GAIL IN	15,564	N/A	25.7%	73.6%	3.0%	23.1	2.0	8.7%	5.5%
Toho Gas Ltd	9533 JP	2,368	N/A	29.0%	-33.6%	1.8%	8.6	0.8	10.1%	5.9%
Perusahaan Gas Negara	PGAS IJ	2,097	N/A	7.8%	7.5%	8.1%	7.3	0.8	10.4%	4.0%
Average		_,			12.1%	4.7%	14.5	1.4	9.6%	5.3%
PV GAS	GAS VN	7,415	4.6%	-53.4%	-4.5%	3.8%	15.5	2.9	18.7%	13.6%
		,								
Oil refining companies										
Thai Oil	TOP TB	3,562	N/A	89.0%	-20.8%	4.8%	6.7	0.8	12.1%	4.5%
IRPC	IRPC TB	1,075	N/A	85.5%	159.8%	2.1%	N/A	0.5	-3.8%	-1.5%
Star Petroleum Refining	SPRC TB	1,022	N/A	34.4%	503.2%	6.1%	N/A	1.0	-3.3%	-1.9%
PTT Global Chemical	PTTGC TB	4,885	N/A	82.3%	674.3%	2.5%	175.1	0.6	0.3%	0.1%
GS Holdings Corp	078930 KS	3,487	N/A	50.2%	18.1%	5.1%	3.6	0.4	9.9%	3.8%
Average					266.9%	4.1%	61.8	0.7	3.1%	1.0%
Binh Son Refinery	BSR VN	2,459	24.2%	-47.4%	-23.2%	3.5%	7.1	1.1	15.9%	10.5%
Petroleum distribution com	npanies									
PVOil	OIL VN	410	N/A	-72.1%	59.0%	4.0%	23.6	1.0	4.2%	1.7%
Pilipinas Shell Petroleum	SHLPH PM	313	N/A	173.1%	N/A	N/A	14.7	0.6	5.7%	1.4%
PTT Oil & Retail	OR TB	6,018	N/A	-14.7%	11.8%	2.6%	19.9	2.0	10.4%	5.0%
Petronas Dagangan Bhd	PETD MK	4,548	N/A	-23.2%	8.7%	4.3%	22.9	3.8	16.4%	8.3%
Average					26.5%	3.7%	20.3	1.8	9.2%	4.1%
Petrolimex	PLX VN	1,898	19.6%	-36.9%	20.0%	3.2%	16.9	1.8	11.2%	3.7%
O&G transportation compa										
Vietnam Tanker JSC	VTO VN	35	N/A	-39.0%	N/A	N/A	11.5	0.8	6.6%	4.5%
MISC Bhd	MISC MK	7,309	N/A	24.6%	10.6%	4.4%	16.4	0.9	5.5%	3.3%
Thoresen Thai Agencies	TTA TB	323	N/A	9.7%	63.5%	3.0%	9.6	0.5	4.9%	2.9%
Great Eastern Shipping	GESCO IN	1,712	N/A	-15.4%	-12.6%	3.2%	5.5	1.4	28.1%	17.7%
Average					15.4%	2.6%	10.8	0.9	11.3%	7.1%
PVTrans	PVT VN	367	18.2%	16.2%	17.9%	0.0%	9.8	1.3	15.2%	6.1%
					Source: B	LOOMBERG	, VNDIRECT	RESEARCH	(DATA AS A	AT 08 APR)



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Stock Ratings	Definition:				
Add	The stock's total return is expected to reach 15% or higher over the next 12 months.				
Hold	The stock's total return is expected to be between negative 10% and positive 15% over the next 12 months.				
Reduce	The stock's total return is expected to fall below negative 10% over the next 12 months.				
	l return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current prward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.				
Growth Ratings	Definition:				
Positive	We forecast the company to have stronger earnings growth that than peers over the investment horizon.				
Neutral	We forecast the company's earnings growth to be in line with peers over the investment horizon.				
Negative	We forecast the company to have weaker earnings growth that than peers over the investment horizon.				
Value Ratings	Definition:				
Positive	The current share price is lower than peers on the basis of historical P/E, P/B or another ratio specified.				
Neutral	The current share price is in-line with peers on the basis of historical P/E, P/B or another ratio specified.				
Negative	The current share price is higher than peers on the basis of historical P/E, P/B or another ratio specified.				
Sector Ratings	Definition:				
Overweight	Stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.				
Neutral	Stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.				
Underweight	Stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.				

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