

# **UBS Investment Research Complete Genomics Inc**

# **GNOM To Collaborate with Scripps Health**

#### ■ Sequencing project aims to better understand healthy aging

This morning, GNOM announced a collaboration with not-for-profit Scripps Health system to study the genetics of aging and lifelong health. As a part of the Wellderly Study, the company will sequence the genomes of 1,000 healthy individuals with a median age of 87, in order to understand the genetics that allow populations to remain disease-free. GNOM will assume all project costs, and will use the outcomes to jointly create the Wellderly Genomic Reference Resource- a database containing sequencing data, variant lists, and clinical annotations.

#### ■ No revenue contribution from sequencing, but database can be monetized

The project appears strategically advantageous, as it positions the company well with researchers looking to effectively "subtract out" non-disease related genomic content. Within regards to financials, while no revenue will be recorded from the sequencing work, GNOM will retain exclusive rights to monetize the Reference Resource database, which should prove increasingly valuable as the field of translational medicine grows.

#### **■** Genome sequencing pricing unchanged

The company did not comment specifically on project cost, but we assume expenses of ~\$1 million, to be spread out over several quarters in 2012. Current sequencing pricing remains consistent with mgmt's comments on the 2Q call, which calls for \$5,000 per genome for small orders and \$4,000 for large orders.

#### ■ Valuation: Neutral rating; \$8.50 price target

Our price target is derived via DVF analysis using the UBS VCAM model.

623 (34,685)	9,388	23,918	54,150	130,950
(34,685)	(47.041)			130,730
	(47,841)	(56,284)	(43,299)	1,238
(37,049)	(58,306)	(58,776)	(44,499)	834
(6.59)	(3.93)	(2.11)	(1.39)	0.03
0.00	0.00	0.00	0.00	0.00
r hist av	12/10	12/11F	12/12F	12/13E
-	<-500	-235.3	-80.0	0.9
-	<-500	(289.4)	(135.7)	3.1
-	-4.6	-2.6	-5.0	5.1
-	NM	NM	NM	NM
-	0.0	0.0	0.0	0.0
	(6.59) 0.00 r hist av.	(6.59) (3.93) 0.00 0.00 17 hist av. 12/10 - <-500 - <-500 - 4.6 - NM - 0.0	(6.59) (3.93) (2.11) 0.00 0.00 0.00 rr hist av. 12/10 12/11E - <-500 -235.3 - <-500 (289.4) 4.6 -2.6 - NM NM - 0.0 0.0	(6.59) (3.93) (2.11) (1.39) 0.00 0.00 0.00 0.00 0.00 Thist av. 12/10 12/11E 12/12E - <-500 -235.3 -80.0 - <-500 (289.4) (135.7) - 4.6 -2.6 -5.0 - NM NM NM

Source: Company accounts, Thomson Reuters, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for

abnormal and economic items at the analysts' judgement.

Valuations: based on an average share price that year, (E): based on a share price of US\$5.30 on 03 Oct 2011 17:42 EDT

Daniel AriasUy EarAnalystAssociate Analystdaniel.arias@ubs.comuy.ear@ubs.com+1-212-713 2467+1-212-713 9312

# **Global Equity Research**

Americas

Biotechnology

12-month rating Neutral Unchanged

12m price target US\$8.50
Unchanged

RIC: GNOM.O BBG: GNOM US

#### 3 October 2011

US\$5.30

Γrad	lino	ı da	ata

**Price** 

52-wk range	US\$17.42-5.30
Market cap.	US\$0.14bn
Shares o/s	25.8m (COM)
Free float	3%
Avg. daily volume ('000)	319
Avg. daily value (m)	US\$3.0

#### Balance sheet data 12/11E

Shareholders' equity	US\$0.06bn
P/BV (UBS)	2.5x
Net Cash (debt)	US\$0.03bn

#### Forecast returns

Forecast price appreciation	+60.4%
Forecast dividend yield	0.0%
Forecast stock return	+60.4%
Market return assumption	5.2%
Forecast excess return	+55.2%

#### EPS (UBS, US\$)

	12/	11E	12/10
	UBS	Cons.	Actual
Q1E	(0.50)	(0.48)	(51.15)
Q2E	(0.58)	(0.56)	(45.83)
Q3E	(0.54)	(0.54)	(74.43)
Q4E	(0.46)	(0.49)	(0.69)
12/11E	(2.11)	(2.08)	
12/12E	(1.39)	(1.58)	

#### Performance (US\$)



Source: UBS

www.ubs.com/investmentresearch

# **Complete Genomics Inc**

Income statement (US\$k)		12/07	12/08	12/09	12/10	12/11E	% ch	12/12E	% ch	12/13E	% ch
Revenues	-	-	0	623	9,388	23,918	154.8	54,150	126.4	130,950	141.8
Operating expenses (ex depn)	-	-	(25,062)	(30,068)	(49,211)	(62,702)	27.4	(72,450)	15.5	(104,712)	44.5
EBITDA (UBS)	-	-	(25,062)	(29,445)	(39,823)	(38,784)	-2.6	(18,299)	-52.8	26,238	-
Depreciation	-	-	(2,795)	(5,240)	(8,018)	(17,500)	118.3	(25,000)	42.9	(25,000)	0.0
Operating income (EBIT, UBS)	-	-	(27,857)	(34,685)	(47,841)	(56,284)	17.6	(43,299)	-23.1	1,238	-
Other income & associates  Net interest	-	-	437 (974)	1,101 (3,465)	(9,232) (1,233)	0 (2,492)	- 102.1	0 (1,200)	-51.8	0 (150)	- <i>87.5</i>
Abnormal items (pre-tax)	-	-	0	(3,403)	(1,233)	(2,472)	102.1	(1,200)	-51.0	(150)	-07.5
Profit before tax			(28,394)	(37,049)	(58,306)	(58,776)	0.8	(44,499)	-24.3	1,088	
Tax	-	-	0	0	0	0	-	0	-	(254)	-
Profit after tax	-	-	(28,394)	(37,049)	(58,306)	(58,776)	0.8	(44,499)	-24.3	834	-
Abnormal items (post-tax)	-	-	0	0	0	0	-	0	-	0	-
Minorities / pref dividends	-	-	0	0	0	0	-	0	-	0	-
Net income (local GAAP)	-	-	(28,394)	(37,049)	(58,306)	(58,776)	0.8	(44,499)	-24.3	834	-
Net Income (UBS)	-	-	(28,394)	(37,049)	(58,306)	(58,776)	0.8	(44,499)	-24.3	834	-
Tax rate (%)	-	-	0	0	0	0	-	0	-	23	-
Pre-abnormal tax rate (%)	-	-	0	0	0	0	-	0	-	23	-
Per share (US\$)	_	12/07	12/08	12/09	12/10	12/11E	% ch	12/12E	% ch	12/13E	% ch
EPS (local GAAP)	-	12/07	(369.36)	(6.59)	(3.93)	(2.11)	-46.5	(1.39)	-33.8	0.03	/0 CII
EPS (UBS)	-	-	(369.36)	(6.59)	(3.73)	(2.11)	-40.5 -46.5	(1.39)	-33.8	0.03	-
Net DPS	-	-	0.00	0.00	0.00	0.00	-	0.00	-	0.00	-
Cash EPS	-	-	(333.01)	(5.66)	(3.39)	(1.48)	-56.4	(0.61)	-58.7	0.78	-
BVPS	-	-	0.02	0.32	2.85	2.13	-25.3	1.37	-35.8	1.94	42.0
Balance sheet (US\$k)		12/07	12/08	12/09	12/10	12/11E	% ch	12/12E	% ch	12/13E	% ch
Cash and equivalents	-	12/07	6,186	7,765	68,918	26,440	-61.6	365	-98.6	5,198	1325.0
Other current assets	-	-	1,034	7,254	10,102	8,176	-19.1	16,704	104.3	37,666	125.5
Total current assets	-	-	7,220	15,019	79,020	34,616	-56.2	17,068	-50.7	42,864	151.1
Net tangible fixed assets	-	-	8,023	14,864	23,843	40,000	67.8	42,000	5.0	50,000	19.0
Net intangible fixed assets	-	-	0	0	0	0	-	0	-	0	-
Investments / other assets	-	0	511	395	297	365	22.9	365	0.0	365	0.0
Total assets	-	-	15,754	30,278	103,160	74,981	-27.3	59,433	-20.7	93,229	56.9
Trade payables & other ST liabilities Short term debt	-	-	6,479	12,055	11,907	12,480	4.8	16,602	33.0	36,049	117.1
Total current liabilities	-	-	6,479	12,055	5,780 <b>17,687</b>	500 <b>12,980</b>	-91.3 -26.6	500 17,102	31.8	36,049	110.8
Long term debt	-	-	0,477	12,033	0	12,760	-20.0	17,102	31.0	30,047	110.0
Other long term liabilities	_	-	8,807	10,080	11,837	7,000	-40.9	7,000	0.0	7,000	0.0
Total liabilities	-		15,286	22,135	29,524	19,980	-32.3	24,102	20.6	43,049	78.6
Equity & minority interests	-	-	468	8,143	73,636	55,000	-25.3	35,331	-35.8	50,180	42.0
Total liabilities & equity	-	-	15,754	30,278	103,160	74,981	-27.3	59,433	-20.7	93,229	56.9
Cash flow (US\$k)		12/07	12/08	12/09	12/10	12/11E	% ch	12/12E	% ch	12/13E	% ch
Net income	-		(28,394)	(37,049)	(58,306)	(58,776)	0.8	(44,499)	-24.3	834	-
Depreciation	-	-	2,795	5,240	8,018	17,500	118.3	25,000	42.9	25,000	0.0
Net change in working capital	-	-	293	1,322	1,697	(6,000)	-	(4,500)	-25.0	(5,000)	11.1
Other (operating)	-	-	0	0	0	0		0	-	0	-
Net cash from operations	-	-	(25,306)	(30,487)	(48,591)	(47,276)	-2.7	(23,999)	-49.2	20,834	12.4
Capital expenditure Net (acquisitions) / disposals	-	-	(7,419) 0	(9,654) 0	(18,802) 0	(17,500) 0	-6.9	(22,000) 0	25.7	(25,000) 0	13.6
Other changes in investments	-	-	0	0	0	0	-	0	-	0	-
Cash from investing activities	<u> </u>		(7,419)	(9,654)	(18,802)	(17,500)	-6.9	(22,000)	25.7	(25,000)	13.6
Increase/(decrease) in debt	-	-	0	0	5,780	500	-	500	-	0	-
Share issues / (repurchases)	-	-	25	4	47,175	20,000	-	15,000	-	5,000	-
Dividends paid	-	-	0	0	0	0	-	0	-	0	-
Other cash from financing	-	-	33,623	37,891	796	0	-	0	-	0	-
Cash from financing activities	-	-	33,648	37,895	53,751	20,500	-61.9	15,500	-24.4	5,000	-67.7
Cash flow chge in cash & equivalents	-	-	923	(2,246)	(13,642)	(44,276)	-	(30,499)	-	834	-
FX / non cash items	-	-	-	3,825	74,795	1,798	-89.9	4,424	-35.0	4,000	-8.6
Bal sheet chge in cash & equivalents	-	-	•	1,579	61,153	(42,478)	-	(26,075)	-	4,834	-
Core EBITDA	_	_	(25,062)	(29,445)	(39,823)	(38,784)	-2.6	(18,299)	-52.8	26,238	
Maintenance capital expenditure	-	-	(7,419)	(9,654)	(18,802)	(17,500)	-2.0 -6.9	(22,000)	-52.0 25.7	(25,000)	13.6
Maintenance net working capital	-	-	293	1,322	1,697	(6,000)	-	(4,500)	-25.0	(5,000)	11.1
Operating free cash flow, pre-tax	-	-	(32,188)	(37,777)	(56,928)	(62,284)	9.4	(44,799)	-28.1	(3,762)	-91.6
Cource: Company accounts TIPS estimates (TIPS) valuati	ione are stated hat	ara gaaduill ralatae	labarasa and ather ad	!				. <i>F</i>	-1 4 1-4-	ronroconte an ovtra	-4 -641 6.11

Source: Company accounts, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement. Note: For some companies, the data represents an extract of the full company accounts.

# **Global Equity Research**

Americas

#### Biotechnology

12-month rating	Neutral
12m price target	US\$8.50

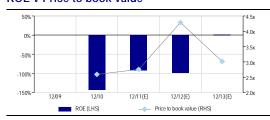
# Company profile

Established in 2006 and headquartered in Mountain View, CA, Complete Genomics is a next generation genetic analysis company that offers whole human genome DNA re-sequencing and data analysis services. Unlike other next generation DNA sequencing companies that sell instruments and consumables directly to customers, Complete Genomics has commercialized its proprietary DNA sequencing platform via an end-to-end genomic services model.

# **Profitability**



# ROE v Price to book value



# Growth (UBS EPS)



# **Complete Genomics Inc**

Valuation (x)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
P/E (local GAAP)	-	-	NM	NM	NM	NM
P/E (UBS)	-	-	NM	NM	NM	NM
P/CEPS	-	-	NM	NM	NM	6.8
Net dividend yield (%)	-	-	0.0	0.0	0.0	0.0
P/BV	-	-	2.6	2.5	3.9	2.7
EV/revenue (core)	-	-	NM	4.2	1.7	1.0
EV/EBITDA (core)	-	_	-4.6	-2.6	-5.0	5.1
EV/EBIT (core)	-	_	NM	NM	NM	NM
EV/OpFCF (core)	-	_	NM	NM	NM	NM
EV/op. invested capital	-	-	NM	5.2	2.9	3.4
		10/00	10/10	101115	40/405	10/105
Enterprise value (US\$k)		12/09	12/10	12/11E	12/12E	12/13E
Average market cap		-	191,082	136,793	136,793	136,793
+ minority interests		(, 07()	0	(25.452)	(44 520)	(2.532)
+ average net debt (cash)		(6,976)	(6,976)	(35,452)	(44,539)	(2,532)
+ pension obligations and other		0	0	0	0	0
- non-core asset value		(395)	(297)	(365)	(365)	(365)
Core enterprise value		-	183,810	100,976	91,889	133,896
Growth (%)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
Revenue	-	-	NM	154.8	126.4	141.8
EBITDA (UBS)	-	17.5	35.2	-2.6	-52.8	-
EBIT (UBS)	-	24.5	37.9	17.6	-23.1	-
EPS (UBS)	-	-98.2	-40.3	-46.5	-33.8	-
Cash EPS	-	-98.3	-40.1	-56.4	-58.7	-
Net DPS	-	-	-	-	-	-
BVPS	-	NM	NM	-25.3	-35.8	42.0
14 (0/)	F)/ A	40/00	40/40	40/445	40/405	40/405
Margins (%)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
EBITDA / revenue	-	NM	NM	NM	NM	20.0
EBIT / revenue	-	<-500	<-500	-235.3	-80.0	0.9
Net profit (UBS) / revenue	-	NM	NM	NM	NM	0.6
Return on capital (%)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
EBIT ROIC (UBS)	-	NM	NM	NM	NM	3.1
ROIC post tax	-	NM	NM	NM	NM	2.4
Net ROE	-	<-500	(142.6)	(91.4)	(98.5)	1.9
Coverage ratios (x)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
EBIT / net interest	- JII AVY	12/07	12/10	12/11L -	12/12L -	8.3
Dividend cover (UBS EPS)	-	_	_	_	_	-
Div. payout ratio (%, UBS EPS)	_	_	_	_	_	_
Net debt / EBITDA	-	0.3	1.6	0.7	NM	NM
Efficiency ratios (x)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
Revenue / op. invested capital Revenue / fixed assets	-	NM 0.1	1.8	1.2	1.7	3.3
	-	0.1	0.5	0.7	1.3	2.8
Revenue / net working capital	-	NM	NM	NM	NM	NM
Investment ratios (x)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
OpFCF / EBIT	-	1.1	1.2	1.1	1.0	NM
Capex / revenue (%)	-	NM	NM	NM	NM	19.1
Capex / depreciation	<u> </u>	1.8	2.3	1.0	0.9	1.0
Capital structure (%)	5Yr Avg	12/09	12/10	12/11E	12/12E	12/13E
Net debt / total equity	o ii Avg	(95.4)	(85.7)	(47.2)	0.4	(10.4)
. ,	-	. ,	(85.7) NM	1 1		1 1
Net debt / (net debt + equity)	-	NM	INIVI	(89.3)	0.4	(11.6)
Net debt (core) / EV			(3.8)	(35.1)	(48.5)	(1.9)

Source: Company accounts, UBS estimates. (UBS) valuations are stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement.

Valuations: based on an average share price that year, (E): based on a share price of US\$5.30 on 03 Oct 2011 17:42 EDT Market cap(E) may include forecast share issues/buybacks.

# **Daniel Arias**

Analyst daniel.arias@ubs.com +1-212-713 2467

# Uy Ear

Associate Analyst uy.ear@ubs.com +1-212-713 9312

#### **■** Complete Genomics Inc

Established in 2006 and headquartered in Mountain View, CA, Complete Genomics is a next generation genetic analysis company that offers whole human genome DNA re-sequencing and data analysis services. Unlike other next generation DNA sequencing companies that sell instruments and consumables directly to customers, Complete Genomics has commercialized its proprietary DNA sequencing platform via an end-to-end genomic services model.

#### Statement of Risk

As a service business, Complete Genomics future hinges on sample volumes accelerating at a pace fast enough to offset anticipated price erosion. As such, if the market for whole human genome sequencing does not develop as anticipated, then it could be difficult for Complete Genomics to grow its business. While Complete Genomics' technology is competitive today and has room for advancement, the pace of technology development in next generation DNA sequencing has so far exceeded most expectations, and so it is difficult to assess if the company's platform can remain competitive going forward. Moreover, in order to advance its platform the company needs to invest in R&D, which in turn could hamper profitability. If the company cannot expand capacity fast enough to meet anticipated demand, then the business could suffer. The attractiveness of the genomics outsourcing market has lured a number of new entities to begin offering similar services, and if one or more of these players price their offerings below Complete Genomics, it could be difficult for the company to either compete or reach profitability. Declines or delays in government funding to academic laboratories, as well as slowdowns in R&D spending by pharmaceutical and biotechnology companies, could negatively impact Complete Genomics' business. As an unprofitable genomics company, Complete Genomics' share price is likely to experience significant volatility, especially if, in the future, the company needs to raise additional capital. As such, we view GNOM shares as better suited for sophisticated investors with a high tolerance for risk as part of a broadly diversified investment portfolio.

# **■** Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

### Required Disclosures

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

#### **UBS Investment Research: Global Equity Rating Allocations**

UBS 12-Month Rating	Rating Category	Coverage <sup>1</sup>	IB Services <sup>2</sup>
Buy	Buy	59%	35%
Neutral	Hold/Neutral	35%	33%
Sell	Sell	6%	14%
UBS Short-Term Rating	Rating Category	Coverage <sup>3</sup>	IB Services <sup>4</sup>
Buy	Buy	less than 1%	0%
Sell	Sell	less than 1%	20%

<sup>1:</sup>Percentage of companies under coverage globally within the 12-month rating category.

Source: UBS. Rating allocations are as of 30 September 2011.

### **UBS Investment Research: Global Equity Rating Definitions**

Definition
FSR is > 6% above the MRA.
FSR is between -6% and 6% of the MRA.
FSR is > 6% below the MRA.
Definition
Buy: Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.
Sell: Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.

<sup>2:</sup>Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

<sup>3:</sup>Percentage of companies under coverage globally within the Short-Term rating category.

<sup>4:</sup>Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

#### **KEY DEFINITIONS**

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

**Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium).

**Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case.

**Equity Price Targets** have an investment horizon of 12 months.

#### **EXCEPTIONS AND SPECIAL CASES**

**UK and European Investment Fund ratings and definitions are:** Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Sell: Negative on factors such as structure, management, performance record, discount.

Core Banding Exceptions (CBE): Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities LLC: Daniel Arias; Uy Ear.

#### **Company Disclosures**

Company Name	Reuters	12-mo rating	Short-term rating	Price	Price date
Complete Genomics Inc <sup>2, 4, 6, 16</sup>	GNOM.O	Neutral	N/A	US\$5.87	30 Sep 2011

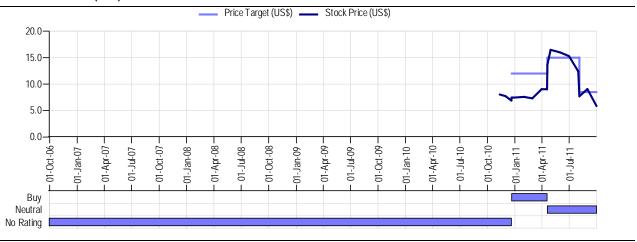
Source: UBS. All prices as of local market close.

Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

- 2. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
- 4. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity.
- 6. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.
- 16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

# Complete Genomics Inc (US\$)



Source: UBS; as of 30 Sep 2011

#### **Global Disclaimer**

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS. In certain countries, UBS AG is referred to as UBS SA.

This report is for distribution only under such circumstances as may be permitted by applicable law. Nothing in this report constitutes a representation that any investment strategy or recommendation contained herein is suitable or appropriate to a recipient's individual circumstances or otherwise constitutes a personal recommendation. It is published solely for information purposes, it does not constitute an advertisement and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments in any jurisdiction. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein, except with respect to information concerning UBS AG, its subsidiaries and affiliates, nor is it intended to be a complete statement or summary of the securities, markets or developments referred to in the report. UBS does not undertake that investors will obtain profits, nor will it share with investors any investment or summary of the securities, markets or developments referred to in the report. UBS does not undertake that investors will obtain profits, nor will it share with investors any investment or summary of the securities, markets or developments referred to in the report. UBS does not undertake that investors will obtain profits, nor will it share with investors should not be regarded by recipients as a substitute for the exercise of their own judgement. Past performance is not necessarily a guide to future performance. The value of any investment or income may go down as well as up and you may not get back the full amount invested. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS as a result of using different assumptions and criteria. Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates and other market conditions. Past performance is not necessarily indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Neither UBS nor any of its affiliates, nor any of UBS' or any of its affiliates, directors, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this report. For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC and/or UBS Capital Markets LP) acts as a market maker or iliquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this research report. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein.

Any prices stated in this report are for information purposes only and do not represent valuations for individual securities or other instruments. There is no representation that any transaction can or could have been effected at those prices and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions, by UBS or any other source, may yield substantially different results.

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is communicated by UBS Limited, a subsidiary of UBS AG, to persons who are eligible counterparties or professional clients and is only available to such persons. The information contained herein does not apply to, and should not be relied upon by, retail clients. UBS Limited and regulated by the Financial Services Authority (FSA). UBS research complies with all the FSA requirements and laws concerning disclosures and these are inclicated on the research where applicable. France: Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France SA. as regulated by the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt fur Finanzdienstelistungsaufsicht (BaFin). Spain: Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France SA. As contributed to this report, the report is also deemed by UBS Limited and distributed by UBS Securities France SA. As contributed by UBS Careful and distributed by UBS Careful and UBS Securities Sepana SV. SA. UBS Securities Sepana SV. SA UBS is regulated by the Comisión Nacional del Mercado de Valores (CNMV). Turkey: Prepared by UBS Menkul Degerler AS on behalf of and distributed by UBS Limited and UBS Italia Sim S.p.A. Is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB). Where an analyst of UBS Italia Sim S.p.A. as contributed to this report, the report is also deemed to have been prepared by UBS Italia Sim S.p.A. as contributed to this report, the report is also deemed to have been prepared by UBS Italia Sim S.p.A. as contributed by UBS reported to the securities mention of the UBS Careful Signators of UBS AG and a services Provider. Details of its postal and physical address and a list of its directors are available o

The disclosures contained in research reports produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this material in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements which are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2011. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

