

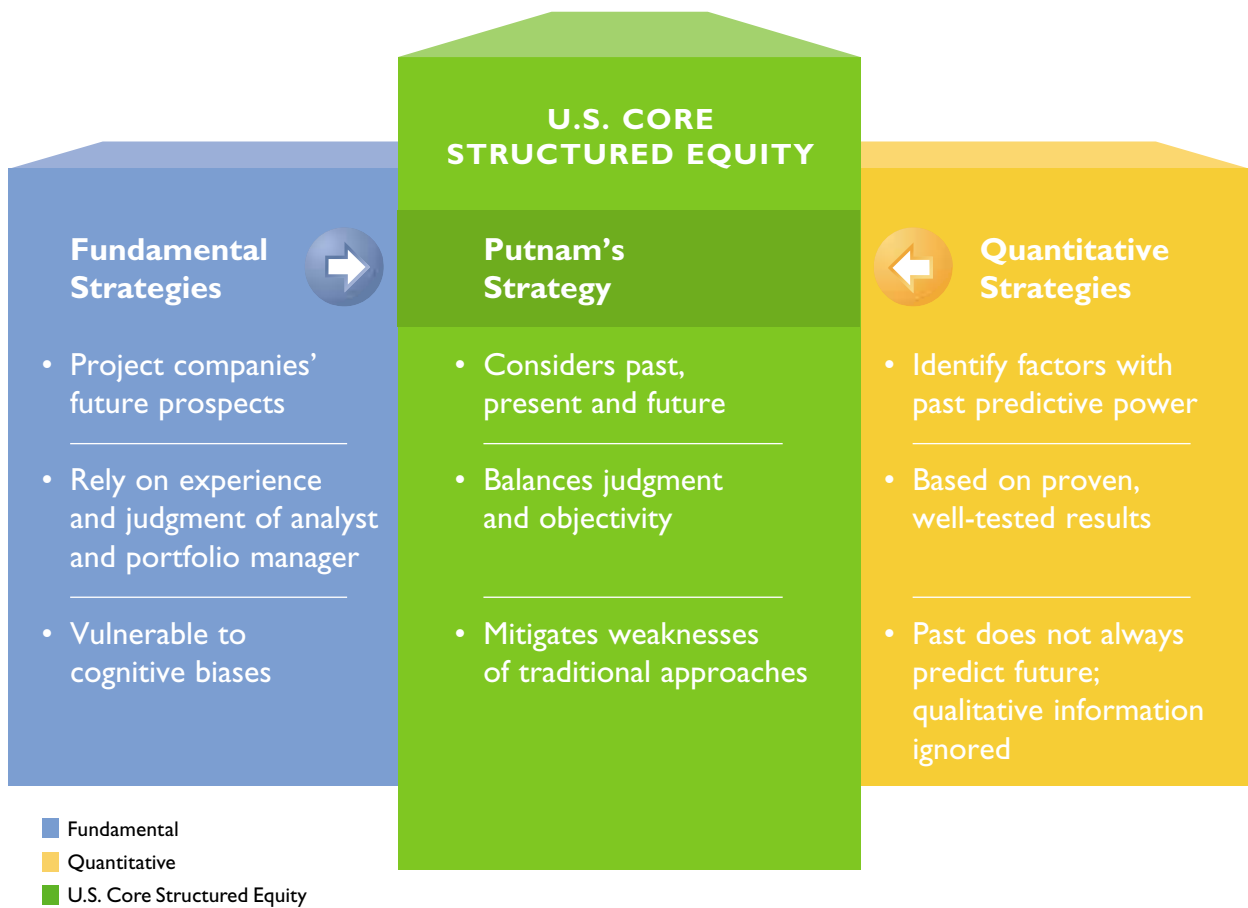
U.S. CORE STRUCTURED EQUITY

Putnam
Institutional
Management



SEAMLESS INTEGRATION OF FUNDAMENTAL AND QUANTITATIVE STRATEGIES

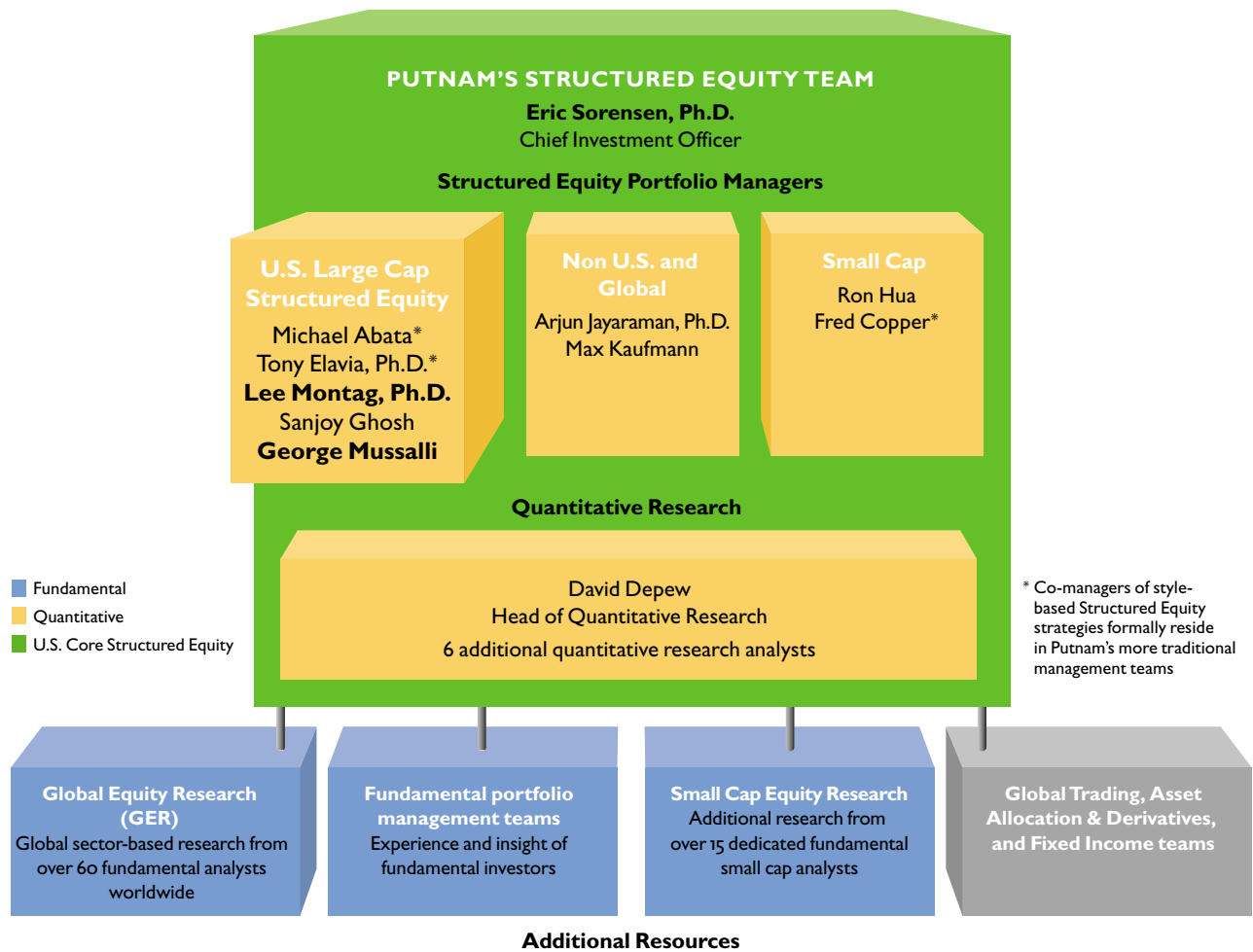
- ▶ Striking the right balance between objectivity and judgment to generate better investment insights





SENIOR QUANTITATIVE PROFESSIONALS LEVERAGING FUNDAMENTAL INSIGHTS

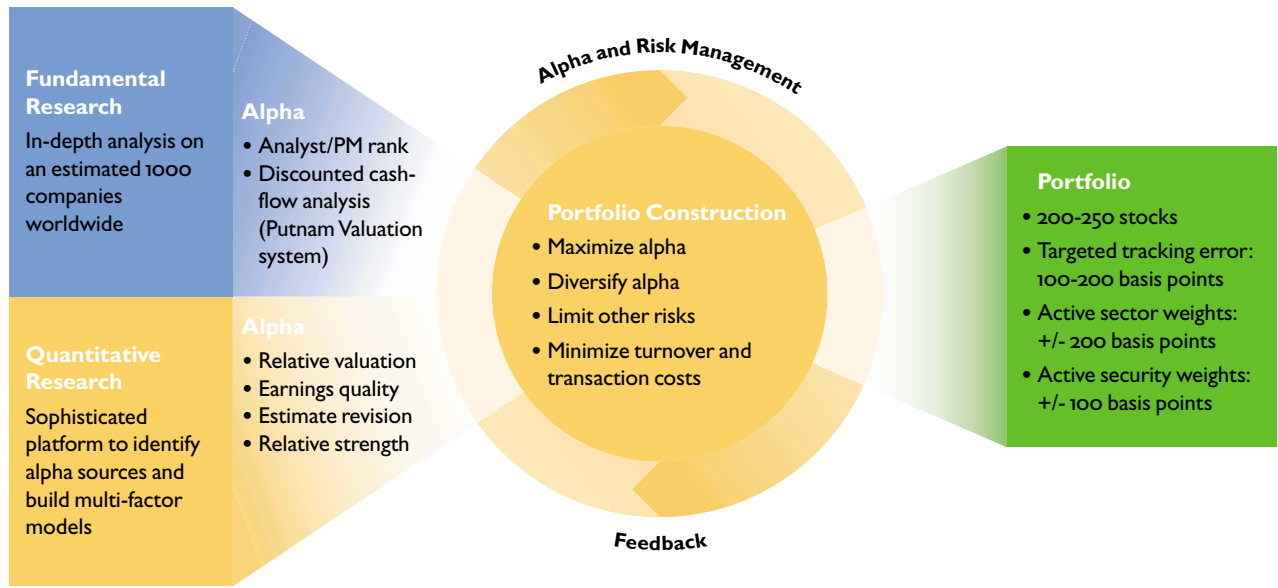
- ▶ Structured Equity team members are quantitative specialists embedded in traditional, style-based teams
- ▶ Ideally positioned to glean insights from experienced fundamental investors
- ▶ Supported by deeply resourced fundamental and quantitative research





A CONTINUOUS, NON-LINEAR PROCESS TO MAXIMIZE RISK-ADJUSTED RETURNS

- ▶ Intuition and judgment are combined with rigorous analysis and backtesting to identify the optimal combination of quantitative and fundamental alphas
- ▶ Rigorous portfolio construction to maximize expected risk-adjusted returns
- ▶ Efficient trading to minimize transaction costs and preserve alpha



- Fundamental
- Quantitative
- U.S. Core Structured Equity



DISCIPLINED INTEGRATION OF MULTIPLE ALPHA SOURCES

- ▶ Security rankings of Putnam Valuation System (forward-looking, fundamental valuation from Global Equity Research)
- ▶ Insights of sector specialists (fundamental, comprehensive)
- ▶ Signals from proprietary multifactor quantitative model

EXAMPLE OF ALPHA GENERATION FOR TWO STOCKS (Z-SCORES*)		
	ELECTRONIC ARTS	BOEING
FUNDAMENTAL ALPHA		
Putnam Valuation System	-0.59	1.22
Putnam Analyst Recommendation	1.83	-1.10
QUANTITATIVE ALPHA		
Relative Value	-0.32	0.38
Earnings Quality	2.71	-0.50
Estimate Revision	0.85	-1.23
Relative Strength	0.41	-0.47
U.S. CORE STRUCTURE EQUITY ALPHA	1.70	-0.48

* Z-scores are a standard statistical technique used to standardize security rankings. In this context, positive Z-scores indicate positive expected excess return.



SOPHISTICATED PORTFOLIO CONSTRUCTION

- 1 Maximize exposure to the Structured Equity composite alpha
- 2 Diversify exposure across multiple fundamental and quantitative alphas

U.S. CORE STRUCTURED COMPOSITE ALPHA AS OF 9/30/03 (Z-SCORES*)			
	PORTFOLIO	S&P 500†	ACTIVE EXPOSURE
FUNDAMENTAL ALPHA			
Putnam Valuation System	0.46	0.18	0.28
Putnam Sector Portfolios	0.65	0.04	0.61
QUANTITATIVE ALPHA			
Relative Value	0.32	0.03	0.29
Earnings Quality	0.60	0.36	0.24
Estimate Revision	0.14	0.06	0.08
Relative Strength	-0.18	-0.23	0.05
U.S. CORE STRUCTURED EQUITY ALPHA	0.99	0.27	0.72

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* Z-scores are a standard statistical technique used to standardize security rankings. In this context, positive Z-scores indicate positive expected excess return.

† Benchmark may exhibit modest alpha exposure due to its capitalization-based security weighting.



SOPHISTICATED PORTFOLIO CONSTRUCTION

3 Limit exposure to other risk factors

EXAMPLE: RISK DECOMPOSITION AS OF 9/30/03			
	PORTFOLIO	S&P 500	ACTIVE EXPOSURES
MARKET RISK FACTORS (BARRA)			
Volatility	-0.05	-0.08	0.03
Momentum	-0.02	-0.11	0.08
Size	0.37	0.41	-0.04
Growth	0.05	-0.05	0.10
Value	-0.06	-0.06	0.00
Leverage	-0.08	-0.10	0.02
MACRO ECONOMIC RISK FACTORS (RAM)			
Credit Quality	0.00	0.02	-0.02
Dollar	0.07	0.06	0.01
Economic Growth	-0.06	0.02	-0.08
Inflation Shock	0.04	0.00	0.04
Long Rate	0.00	0.01	-0.01
Market Effect	0.05	0.06	-0.01

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EXAMPLE OF SEAMLESS INTEGRATION

- ▶ Portfolio construction is not just managing exposures, it is also ensuring that we own the best names
- ▶ Fundamental and quantitative investment professionals monitor consistency of active weights with investment insights
- ▶ Discrepancies are reconciled and appropriate action is taken within context of Structured Equity process

ALPHAS (EXPRESSED IN Z-SCORES* AS OF 9/30/03)										
	Weight	Active Weight	Marg Contrib to Risk	FUNDAMENTAL APHA		QUANTITATIVE ALPHA				Composite Structured Alpha
				PVS	GER/ Recom.	RV	EQ	ER	RS	
TOP FIVE OVERWEIGHTS										
ELECTRONIC ARTS	0.62	0.47	0.14	-0.59	1.83	-0.32	2.71	0.85	0.41	1.70
CAP ONE FINL	0.93	0.79	0.12	1.27	3.44	1.56	0.72	0.62	1.25	3.87
KING PHARMACEUTICAL	0.52	0.48	0.11	2.47	-0.30	2.48	1.68	-0.92	-1.13	2.61
LEXMARK INTL INC	0.52	0.43	0.11	0.85	1.24	1.53	2.33	-1.32	-0.36	2.45
FOREST LABS	0.78	0.58	0.10	0.85	3.08	0.02	-0.19	-0.18	-1.00	1.64
TOP FIVE UNDERWEIGHTS										
GENERAL ELECTRIC CO	2.59	-0.66	-0.02	-1.10	-1.67	-0.49	-0.28	-0.98	-0.65	-1.85
UNITED PARCEL -B	0.34	-0.44	-0.02	-0.72	-1.11	0.33	1.47	0.59	-0.89	-0.25
DU PONT (EI)	0.00	-0.43	-0.02	0.45	-1.30	-0.94	-1.34	-2.35	-0.32	-2.17
CHEVRONTXACO CORP	0.48	-0.35	-0.02	-0.67	-2.18	1.92	1.07	0.94	-0.81	0.28
BOEING CO	0.00	-0.31	-0.02	1.22	-1.10	0.38	-0.50	-1.23	-0.47	-0.48

■ Not consistent with active position