



**Pacific Gas and Electric Company Securitization**

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**TURN HEARING EXHIBIT**

**TURN-27**

**Excerpts from *Valuation - Measuring and Managing the Value of Companies***

***(6<sup>th</sup> Edition)***

THE #1 BESTSELLING GUIDE TO  
CORPORATE VALUATION

# VALUATION

SIXTH **6** EDITION

UNIVERSITY EDITION

*Measuring and Managing the  
Value of Companies*

TIM KOLLER • MARC GOEDHART • DAVID WESSELS

McKINSEY & COMPANY

# VALUATION

## MEASURING AND MANAGING THE VALUE OF COMPANIES

SIXTH EDITION

**McKinsey & Company**

**Tim Koller**

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**WILEY**

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## EXHIBIT 8.10 UPS: Continuing Value

\$ million

**Key inputs<sup>1</sup>**

Projected NOPLAT in 2024	9,700
NOPLAT growth rate in perpetuity ( $g$ )	3.0%
Return on new invested capital (RONIC)	22.4%
Weighted average cost of capital (WACC)	8.0%

$$\begin{aligned} \text{Continuing value}_t &= \frac{\text{NOPLAT}_{t+1} \left(1 - \frac{g}{\text{RONIC}}\right)}{\text{WACC} - g} \\ &= 168,231 \end{aligned}$$

<sup>1</sup> Rounded inputs calculate to \$168,018 million, whereas this model uses unrounded data.

UPS's operating value. (Exhibit 8.4 discounts continuing value in 2023 back to 2014.)

Alternative methods and additional details for estimating continuing value are provided in Chapter 12.

**Discounting free cash flow at the weighted average cost of capital** To determine the present value of operations, discount each year's forecast of free cash flow for time and risk. When discounting any set of cash flows, make sure to define the cash flows and discount factor consistently. In an enterprise valuation, free cash flows are available to all investors. Consequently, the discount factor for free cash flow must represent the risk faced by all investors. The weighted average cost of capital (WACC) blends the rates of return required by debt holders ( $k_d$ ) and equity holders ( $k_e$ ). For a company financed solely with debt and equity, the WACC is defined as follows:

$$\text{WACC} = \frac{D}{D + E} k_d (1 - T_m) + \frac{E}{D + E} k_e$$

where debt ( $D$ ) and equity ( $E$ ) are measured using market values. Note how the cost of debt has been reduced by the marginal tax rate ( $T_m$ ). The reason for doing this is that the tax shield attributable to interest has been excluded from free cash flow. Since the interest tax shield (ITS) has value, it must be incorporated in the valuation. Enterprise DCF values the tax shield by reducing the weighted average cost of capital.

Why move interest tax shields from free cash flow to the cost of capital? By calculating free cash flow as if the company were financed entirely with equity, one can compare operating performance across companies and over time without regard to capital structure. By focusing solely on operations, it is possible to develop a clearer picture of historical performance, and this leads to better performance measurement and forecasting.

Although applying the weighted average cost of capital is intuitive and relatively straightforward, it has some drawbacks. If you discount all future cash flows with a constant cost of capital, as most analysts do, you are implicitly assuming the company keeps its capital structure constant at a target ratio of

EXHIBIT 8.11 UPS: Weighted Average Cost of Capital

%					
Source of capital	Proportion of total capital	Cost of capital	Marginal tax rate	After-tax cost of capital	Contribution to weighted average
Debt	15.0	4.9	37.1	3.1	0.5
Equity	85.0	8.9		8.9	7.5
WACC	100.0				8.0

debt to equity. But if a company plans, say, to increase its debt-to-value ratio, the current cost of capital will understate the expected tax shields. The WACC can be adjusted to accommodate a changing capital structure. However, the process is complicated, and in these situations, we recommend an alternative method such as adjusted present value (APV).

The weighted average cost of capital for UPS is presented in Exhibit 8.11. UPS's 8.0 percent WACC is based on a cost of equity of 8.9 percent, pretax cost of debt of 4.9 percent, and a 15 percent/85 percent split between debt and equity.

### Identifying and Valuing Nonoperating Assets

Many companies own assets that have value but whose cash flows are not part of the operations of the business and are not included in accounting revenue or operating profit. As a result, the cash generated by these assets is not part of free cash flow and must be valued separately.

For example, consider equity investments, known outside the United States as nonconsolidated subsidiaries. When a company owns a small minority stake in another company, it will not record the company's revenue or costs as part of its own. Instead, the company will record only its proportion of the other company's net income as a separate line item.<sup>8</sup> Including net income from nonconsolidated subsidiaries as part of the parent's operating profit will distort margins, since only the subsidiaries' profit is recognized and not the corresponding revenues. Consequently, nonconsolidated subsidiaries are best analyzed and valued separately. Other nonoperating assets include excess cash, tradable securities, and customer-financing business units. A detailed process for identifying and valuing nonoperating assets appears in Chapter 14.

<sup>8</sup>For stakes between 20 percent and 50 percent, the parent company will recognize its proportion of the subsidiary's income. A parent that owns less than a 20 percent stake in another company records only dividends paid as part of its own income. This makes valuation of stakes less than 20 percent extremely challenging.