



Financial products Markup Language

FpML - Asset Component Definitions

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1 Global Complex Types

1.1 ActualPrice

1.1.1 Description:

1.1.2 Contents:

currency (zero or one occurrence; of the type Currency) Specifies the currency associated with the net price. This element is not present if the price is expressed in percentage terms (as specified through the priceExpression element).

amount (exactly one occurrence; of the type xsd:decimal) Specifies the net price amount. In the case of a fixed income security or a convertible bond, this price includes the accrued interests.

priceExpression (exactly one occurrence; of the type PriceExpressionEnum) Specifies whether the price is expressed in absolute or relative terms.

1.1.3 Used by:

- Complex type: Price

1.1.4 Derived Types:

1.1.5 Figure:

1.1.6 Schema Fragment:

```
<xsd:complexType name="ActualPrice">
  <xsd:sequence>
    <xsd:element name="currency" type="Currency" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the currency associated with the net price. This
          element is not present if the price is expressed in
          percentage terms (as specified through the priceExpression
          element).
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="amount" type="xsd:decimal">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the net price amount. In the case of a fixed income
          security or a convertible bond, this price includes the
          accrued interests.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="priceExpression" type="PriceExpressionEnum">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies whether the price is expressed in absolute or
          relative terms.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

1.2 AnyAssetReference

1.2.1 Description:

A reference to an asset, e.g. a portfolio, trade, or reference instrument..

1.2.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Reference)

- The abstract base class for all types which define intra-document pointers.

1.2.3 Used by:

- Complex type: PricingMethod
- Complex type: ScheduledDate
- Complex type: Valuation
- Complex type: VolatilityRepresentation

1.2.4 Derived Types:

1.2.5 Figure:

1.2.6 Schema Fragment:

```
<xsd:complexType name="AnyAssetReference">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A reference to an asset, e.g. a portfolio, trade, or reference
      instrument..
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Reference">
      <xsd:attribute name="href" type="xsd:IDREF" use="required"/>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.3 Asset

1.3.1 Description:

Abstract base class for all underlying assets.

1.3.2 Contents:

1.3.3 Used by:

- Element: underlyingAsset
- Complex type: Basket
- Complex type: IdentifiedAsset

1.3.4 Derived Types:

- Complex type: Basket
- Complex type: IdentifiedAsset

1.3.5 Figure:

1.3.6 Schema Fragment:

```
<xsd:complexType name="Asset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Abstract base class for all underlying assets.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
```


1.4 AssetMeasureType

1.4.1 Description:

A scheme identifying the types of measures that can be used to describe an asset.

1.4.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.4.3 Used by:

1.4.4 Derived Types:

1.4.5 Figure:

1.4.6 Schema Fragment:

```
<xsd:complexType name="AssetMeasureType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A scheme identifying the types of measures that can be used to
      describe an asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="assetMeasureScheme" default="http://www.fpml.org/coding-scheme/asset" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.5 AssetPool

1.5.1 Description:

Characterise the asset pool behind an asset backed bond.

1.5.2 Contents:

version (exactly one occurrence; of the type xsd:nonNegativeInteger) The version number

effectiveDate (zero or one occurrence; of the type IdentifiedDate) Optionally it is possible to specify a version effective date when a versionId is supplied.

initialFactor (exactly one occurrence; of the type xsd:decimal) The part of the mortgage that is outstanding on trade inception, i.e. has not been repaid yet as principal. It is expressed as a multiplier factor to the mortgage: 1 means that the whole mortgage amount is outstanding, 0.8 means that 20% has been repaid.

currentFactor (zero or one occurrence; of the type xsd:decimal) The part of the mortgage that is currently outstanding. It is expressed similarly to the initial factor, as factor multiplier to the mortgage. This term is formally defined as part of the "ISDA Standard Terms Supplement for use with credit derivatives transactions on mortgage-backed security with pas-as-you-go or physical settlement".

1.5.3 Used by:

- Complex type: Mortgage

1.5.4 Derived Types:

1.5.5 Figure:

1.5.6 Schema Fragment:

```
<xsd:complexType name="AssetPool">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Characterise the asset pool behind an asset backed bond.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="VersionHistory.model" minOccurs="0"/>
    <xsd:element name="initialFactor" type="xsd:decimal">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The part of the mortgage that is outstanding on trade
          inception, i.e. has not been repaid yet as principal. It is
          expressed as a multiplier factor to the mortgage: 1 means that
          the whole mortgage amount is outstanding, 0.8 means that 20%
          has been repaid.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="currentFactor" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The part of the mortgage that is currently outstanding. It is
          expressed similarly to the initial factor, as factor
          multiplier to the mortgage. This term is formally defined as
          part of the "ISDA Standard Terms Supplement for use with
          credit derivatives transactions on mortgage-backed security
          with pas-as-you-go or physical settlement".
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

1.6 AssetReference

1.6.1 Description:

Reference to an underlying asset.

1.6.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Reference)

- The abstract base class for all types which define intra-document pointers.

1.6.3 Used by:

- Complex type: DividendPeriod
- Complex type: ForwardRateCurve
- Complex type: PassThroughItem
- Complex type: TermPoint

1.6.4 Derived Types:

1.6.5 Figure:

1.6.6 Schema Fragment:

```
<xsd:complexType name="AssetReference">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Reference to an underlying asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Reference">
      <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="Asset"/>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.7 BasicQuotation

1.7.1 Description:

Some kind of numerical measure about an asset, eg. its NPV, together with characteristics of that measure.

1.7.2 Contents:

value (zero or one occurrence; of the type xsd:decimal) The value of the the quotation.

1.7.3 Used by:

- Complex type: BasicAssetValuation
- Complex type: CashflowObservation

1.7.4 Derived Types:

1.7.5 Figure:

1.7.6 Schema Fragment:

```
<xsd:complexType name="BasicQuotation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Some kind of numerical measure about an asset, eg. its NPV,
      together with characteristics of that measure.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="Quotation.model"/>
  </xsd:sequence>
</xsd:complexType>
```

1.8 Basket

1.8.1 Description:

A type describing the underlying features of a basket swap. Each of the basket constituents are described through an embedded component, the basketConstituentsType.

1.8.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Asset)

- Abstract base class for all underlying assets.

openUnits (zero or one occurrence; of the type xsd:decimal) The number of units (index or securities) that constitute the underlying of the swap. In the case of a basket swap, this element is used to reference both the number of basket units, and the number of each asset components of the basket when these are expressed in absolute terms.

basketConstituent (one or more occurrences; of the type BasketConstituent) Describes each of the components of the basket.

basketDivisor (zero or one occurrence; of the type xsd:decimal) Specifies the basket divisor amount. This value is normally used to adjust the constituent weight for pricing or to adjust for dividends, or other corporate actions.

basketCurrency (zero or one occurrence; of the type Currency) Specifies the currency for this basket.

1.8.3 Used by:

- Element: basket
- Complex type: Underlyer

1.8.4 Derived Types:

1.8.5 Figure:

1.8.6 Schema Fragment:

```
<xsd:complexType name="Basket">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the underlying features of a basket swap. Each
      of the basket constituents are described through an embedded
      component, the basketConstituentsType.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Asset">
      <xsd:sequence>
        <xsd:element name="openUnits" type="xsd:decimal" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The number of units (index or securities) that constitute
              the underlying of the swap. In the case of a basket swap,
              this element is used to reference both the number of
              basket units, and the number of each asset components of
              the basket when these are expressed in absolute terms.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="basketConstituent" type="BasketConstituent" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Describes each of the components of the basket.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="basketDivisor" type="xsd:decimal" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the basket divisor amount. This value is
              normally used to adjust the constituent weight for
              pricing or to adjust for dividends, or other corporate
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

```

        actions.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:group ref="BasketIdentifier.model" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Reuses the group that specifies a name and an identifier
            for a given basket.
        </xsd:documentation>
    </xsd:annotation>
</xsd:group>
<xsd:element name="basketCurrency" type="Currency" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Specifies the currency for this basket.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>

```

1.9 BasketConstituent

1.9.1 Description:

A type describing each of the constituents of a basket.

1.9.2 Contents:

underlyingAsset (exactly one occurrence; of the type Asset) Define the underlying asset when it is a listed security.

constituentWeight (zero or one occurrence; of the type ConstituentWeight) Specifies the weight of each of the underlyer constituent within the basket, either in absolute or relative terms. This is an optional component, as certain swaps do not specify a specific weight for each of their basket constituents.

dividendPayout (zero or one occurrence; of the type DividendPayout) Specifies the dividend payout ratio associated with an equity underlyer. A basket swap can have different payout ratios across the various underlying constituents. In certain cases the actual ratio is not known on trade inception, and only general conditions are then specified. Users should note that FpML makes a distinction between the derivative contract and the underlyer of the contract. It would be better if the agreed dividend payout on a derivative contract was modelled at the level of the derivative contract, an approach which may be adopted in the next major version of FpML.

underlyerPrice (zero or one occurrence; of the type Price) Specifies the price that is associated with each of the basket constituents. This component is optional, as it is not absolutely required to accurately describe the economics of the trade, considering the price that characterizes the equity swap is associated to the leg of the trade.

underlyerNotional (zero or one occurrence; of the type Money) Specifies the notional (i.e. price * quantity) that is associated with each of the basket constituents. This component is optional, as it is not absolutely required to accurately describe the economics of the trade, considering the notional that characterizes the equity swap is associated to the leg of the trade.

underlyerSpread (zero or one occurrence; of the type SpreadScheduleReference) Provides a link to the spread schedule used for this underlyer.

couponPayment (zero or one occurrence; of the type PendingPayment) The next upcoming coupon payment.

1.9.3 Used by:

- Complex type: Basket

1.9.4 Derived Types:

1.9.5 Figure:

1.9.6 Schema Fragment:

```
<xsd:complexType name="BasketConstituent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing each of the constituents of a basket.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="underlyingAsset"/>
    <xsd:element name="constituentWeight" type="ConstituentWeight" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the weight of each of the underlyer constituent
          within the basket, either in absolute or relative terms. This
          is an optional component, as certain swaps do not specify a
          specific weight for each of their basket constituents.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="dividendPayout" type="DividendPayout" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the dividend payout ratio associated with an equity
          underlyer. A basket swap can have different payout ratios
          across the various underlying constituents. In certain cases

```

```

        the actual ratio is not known on trade inception, and only
        general conditions are then specified. Users should note that
        FpML makes a distinction between the derivative contract and
        the underlying of the contract. It would be better if the
        agreed dividend payout on a derivative contract was modelled
        at the level of the derivative contract, an approach which
        may be adopted in the next major version of FpML.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="underlyerPrice" type="Price" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Specifies the price that is associated with each of the
            basket constituents. This component is optional, as it is not
            absolutely required to accurately describe the economics of
            the trade, considering the price that characterizes the
            equity swap is associated to the leg of the trade.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="underlyerNotional" type="Money" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Specifies the notional (i.e. price * quantity) that is
            associated with each of the basket constituents. This
            component is optional, as it is not absolutely required to
            accurately describe the economics of the trade, considering
            the notional that characterizes the equity swap is associated
            to the leg of the trade.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="underlyerSpread" type="SpreadScheduleReference" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Provides a link to the spread schedule used for this
            underlyer.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="couponPayment" type="PendingPayment" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The next upcoming coupon payment.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID" use="optional"/>
</xsd:complexType>

```


1.10 BasketId

1.10.1 Description:

1.10.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.10.3 Used by:

1.10.4 Derived Types:

1.10.5 Figure:

1.10.6 Schema Fragment:

```
<xsd:complexType name="BasketId">
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="basketIdScheme" type="xsd:anyURI" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.11 BasketName

1.11.1 Description:

1.11.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.11.3 Used by:

1.11.4 Derived Types:

1.11.5 Figure:

1.11.6 Schema Fragment:

```
<xsd:complexType name="BasketName">
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="basketNameScheme" type="xsd:anyURI" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.12 Bond

1.12.1 Description:

An exchange traded bond.

1.12.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTraded)

- An abstract base class for all exchange traded financial products.

Either

issuerName (exactly one occurrence; of the type xsd:string)

Or

issuerPartyReference (exactly one occurrence; of the type PartyReference)

seniority (zero or one occurrence; of the type CreditSeniority) The repayment precedence of a debt instrument.

couponType (zero or one occurrence; of the type CouponType) Specifies if the bond has a variable coupon, step-up/down coupon or a zero-coupon.

couponRate (zero or one occurrence; of the type xsd:decimal) Specifies the coupon rate (expressed in percentage) of a fixed income security or convertible bond.

maturity (zero or one occurrence; of the type xsd:date) The date when the principal amount of a security becomes due and payable.

parValue (zero or one occurrence; of the type xsd:decimal) Specifies the nominal amount of a fixed income security or convertible bond.

faceAmount (zero or one occurrence; of the type xsd:decimal) Specifies the total amount of the issue. Corresponds to the par value multiplied by the number of issued security.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the bond pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the bond.

1.12.3 Used by:

- Element: bond
- Complex type: ConvertibleBond

1.12.4 Derived Types:

- Complex type: ConvertibleBond

1.12.5 Figure:

1.12.6 Schema Fragment:

```
<xsd:complexType name="Bond">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded bond.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:group ref="BondContent.model"/>
        <xsd:element name="parValue" type="xsd:decimal" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the nominal amount of a fixed income security
              or convertible bond.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

```
<xsd:element name="faceAmount" type="xsd:decimal" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Specifies the total amount of the issue. Corresponds to
      the par value multiplied by the number of issued
      security.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:group ref="BondCalculation.model"/>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
```

1.13 Cash

1.13.1 Description:

1.13.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type IdentifiedAsset)

- A generic type describing an identified asset.

currency (exactly one occurrence; of the type Currency) The currency in which an amount is denominated.

1.13.3 Used by:

- Element: cash

1.13.4 Derived Types:

1.13.5 Figure:

1.13.6 Schema Fragment:

```
<xsd:complexType name="Cash">
  <xsd:complexContent>
    <xsd:extension base="IdentifiedAsset">
      <xsd:sequence>
        <xsd:element name="currency" type="Currency">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The currency in which an amount is denominated.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.14 Commission

1.14.1 Description:

A type describing the commission that will be charged for each of the hedge transactions.

1.14.2 Contents:

commissionDenomination (exactly one occurrence; of the type CommissionDenominationEnum) The type of units used to express a commission.

commissionAmount (exactly one occurrence; of the type xsd:decimal) The commission amount, expressed in the way indicated by the commissionType element.

currency (zero or one occurrence; of the type Currency) The currency in which an amount is denominated.

commissionPerTrade (zero or one occurrence; of the type xsd:decimal) The total commission per trade.

fxRate (zero or more occurrences; of the type FxRate) FX Rates that have been used to convert commissions to a single currency.

1.14.3 Used by:

- Complex type: Price

1.14.4 Derived Types:

1.14.5 Figure:

1.14.6 Schema Fragment:

```
<xsd:complexType name="Commission">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the commission that will be charged for each of
      the hedge transactions.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="commissionDenomination" type="CommissionDenominationEnum">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The type of units used to express a commission.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="commissionAmount" type="xsd:decimal">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The commission amount, expressed in the way indicated by the
          commissionType element.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="currency" type="Currency" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The currency in which an amount is denominated.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="commissionPerTrade" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The total commission per trade.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="fxRate" type="FxRate" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          FX Rates that have been used to convert commissions to a
          single currency.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

```
</xsd:sequence>  
</xsd:complexType>
```

1.15 ConstituentWeight

1.15.1 Description:

A type describing the weight of each of the underlyer constituent within the basket, either in absolute or relative terms.

1.15.2 Contents:

Either

openUnits (exactly one occurrence; of the type xsd:decimal) The number of units (index or securities) that constitute the underlyer of the swap. In the case of a basket swap, this element is used to reference both the number of basket units, and the number of each asset components of the basket when these are expressed in absolute terms.

Or

basketPercentage (exactly one occurrence; of the type RestrictedPercentage) The relative weight of each respective basket constituent, expressed in percentage. A basket percentage of 5% would be represented as 0.05.

Or

basketAmount (exactly one occurrence; of the type Money) The relative weight of each respective basket constituent, expressed as a monetary amount.

1.15.3 Used by:

- Complex type: BasketConstituent
- Complex type: ReferencePoolItem

1.15.4 Derived Types:

1.15.5 Figure:

1.15.6 Schema Fragment:

```
<xsd:complexType name="ConstituentWeight">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the weight of each of the underlyer constituent
      within the basket, either in absolute or relative terms.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="openUnits" type="xsd:decimal">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The number of units (index or securities) that constitute the
          underlyer of the swap. In the case of a basket swap, this
          element is used to reference both the number of basket units,
          and the number of each asset components of the basket when
          these are expressed in absolute terms.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basketPercentage" type="RestrictedPercentage">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The relative weight of each respective basket constituent,
          expressed in percentage. A basket percentage of 5% would be
          represented as 0.05.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basketAmount" type="Money">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The relative weight of each respective basket constituent,
          expressed as a monetary amount.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
```



```
</xsd:choice>  
</xsd:complexType>
```

1.16 ConvertibleBond

1.16.1 Description:

1.16.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Bond)

- An exchange traded bond.

underlyingEquity (zero or one occurrence; of the type EquityAsset) Specifies the equity in which the convertible bond can be converted.

redemptionDate (zero or one occurrence; of the type xsd:date) Earlier date between the convertible bond put dates and its maturity date.

1.16.3 Used by:

- Element: convertibleBond

1.16.4 Derived Types:

1.16.5 Figure:

1.16.6 Schema Fragment:

```
<xsd:complexType name="ConvertibleBond">
  <xsd:complexContent>
    <xsd:extension base="Bond">
      <xsd:sequence>
        <xsd:element name="underlyingEquity" type="EquityAsset" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the equity in which the convertible bond can be
              converted.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="redemptionDate" type="xsd:date" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Earlier date between the convertible bond put dates and
              its maturity date.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.17 CouponType

1.17.1 Description:

Defines a scheme of values for specifying if the bond has a variable coupon, step-up/down coupon or a zero-coupon.

1.17.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.17.3 Used by:

1.17.4 Derived Types:

1.17.5 Figure:

1.17.6 Schema Fragment:

```
<xsd:complexType name="CouponType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a scheme of values for specifying if the bond has a
      variable coupon, step-up/down coupon or a zero-coupon.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="couponTypeScheme" type="xsd:anyURI" default="http://www.fpml.org/coo
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.18 Deposit

1.18.1 Description:

1.18.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

term (exactly one occurrence; of the type Interval) Specifies the term of the deposit, e.g. 5Y.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the deposit pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the deposit.

1.18.3 Used by:

- Element: deposit

1.18.4 Derived Types:

1.18.5 Figure:

1.18.6 Schema Fragment:

```
<xsd:complexType name="Deposit">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the deposit, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the deposit pays, e.g.
              6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the deposit.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.19 DividendPayout

1.19.1 Description:

A type describing the dividend payout ratio associated with an equity underlyer. In certain cases the actual ratio is not known on trade inception, and only general conditions are then specified.

1.19.2 Contents:

Either

dividendPayoutRatio (exactly one occurrence; of the type xsd:decimal) Specifies the actual dividend payout ratio associated with the equity underlyer.

Or

dividendPayoutConditions (exactly one occurrence; of the type xsd:string) Specifies the dividend payout conditions that will be applied in the case where the actual ratio is not known, typically because of regulatory or legal uncertainties.

dividendPayment (zero or more occurrences; of the type PendingPayment) The next upcoming dividend payment or payments.

1.19.3 Used by:

- Complex type: BasketConstituent
- Complex type: SingleUnderlyer

1.19.4 Derived Types:

1.19.5 Figure:

1.19.6 Schema Fragment:

```
<xsd:complexType name="DividendPayout">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the dividend payout ratio associated with an
      equity underlyer. In certain cases the actual ratio is not known
      on trade inception, and only general conditions are then
      specified.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:choice>
      <xsd:element name="dividendPayoutRatio" type="xsd:decimal">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the actual dividend payout ratio associated with
            the equity underlyer.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="dividendPayoutConditions" type="xsd:string">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the dividend payout conditions that will be
            applied in the case where the actual ratio is not known,
            typically because of regulatory or legal uncertainties.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:choice>
    <xsd:element name="dividendPayment" type="PendingPayment" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The next upcoming dividend payment or payments.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

1.20 EquityAsset

1.20.1 Description:

An exchange traded equity asset.

1.20.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTraded)

- An abstract base class for all exchange traded financial products.

1.20.3 Used by:

- Element: equity
- Complex type: ConvertibleBond

1.20.4 Derived Types:

1.20.5 Figure:

1.20.6 Schema Fragment:

```
<xsd:complexType name="EquityAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded equity asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded" />
  </xsd:complexContent>
</xsd:complexType>
```

1.21 ExchangeTraded

1.21.1 Description:

An abstract base class for all exchange traded financial products.

1.21.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

relatedExchangeld (zero or more occurrences; of the type Exchangeld) A short form unique identifier for a related exchange. If the element is not present then the exchange shall be the primary exchange on which listed futures and options on the underlying are listed. The term "Exchange" is assumed to have the meaning as defined in the ISDA 2002 Equity Derivatives Definitions.

optionsExchangeld (zero or more occurrences; of the type Exchangeld) A short form unique identifier for an exchange on which the reference option contract is listed. This is to address the case where the reference exchange for the future is different than the one for the option. The options Exchange is referenced on share options when Merger Elections are selected as Options Exchange Adjustment.

1.21.3 Used by:

- Complex type: Bond
- Complex type: EquityAsset
- Complex type: ExchangeTradedCalculatedPrice
- Complex type: ExchangeTradedContract
- Complex type: Future

1.21.4 Derived Types:

- Complex type: Bond
- Complex type: EquityAsset
- Complex type: ExchangeTradedCalculatedPrice
- Complex type: ExchangeTradedContract
- Complex type: Future

1.21.5 Figure:

1.21.6 Schema Fragment:

```
<xsd:complexType name="ExchangeTraded" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An abstract base class for all exchange traded financial
      products.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:group ref="ExchangeIdentifier.model"/>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.22 ExchangeTradedCalculatedPrice

1.22.1 Description:

Abstract base class for all exchange traded financial products with a price which is calculated from exchange traded constituents.

1.22.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTraded)

- An abstract base class for all exchange traded financial products.

constituentExchangeId (zero or more occurrences; of the type ExchangeId) Identification of all the exchanges where constituents are traded. The term "Exchange" is assumed to have the meaning as defined in the ISDA 2002 Equity Derivatives Definitions.

1.22.3 Used by:

- Complex type: ExchangeTradedFund
- Complex type: Index

1.22.4 Derived Types:

- Complex type: ExchangeTradedFund
- Complex type: Index

1.22.5 Figure:

1.22.6 Schema Fragment:

```
<xsd:complexType name="ExchangeTradedCalculatedPrice" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Abstract base class for all exchange traded financial products
      with a price which is calculated from exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="constituentExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Identification of all the exchanges where constituents
              are traded. The term "Exchange" is assumed to have the
              meaning as defined in the ISDA 2002 Equity Derivatives
              Definitions.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```


1.23 ExchangeTradedContract

1.23.1 Description:

An exchange traded derivative contract.

1.23.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTraded)

- An abstract base class for all exchange traded financial products.

multiplier (zero or one occurrence; of the type xsd:positiveInteger) Specifies the contract multiplier that can be associated with the number of units.

contractReference (zero or one occurrence; of the type xsd:string) Specifies the contract that can be referenced, besides the undelyer type.

expirationDate (zero or one occurrence; of the type AdjustableOrRelativeDate) The date when the contract expires.

1.23.3 Used by:

- Complex type: DeprecatedVariance
- Complex type: ReturnLegValuation
- Complex type: Variance

1.23.4 Derived Types:

1.23.5 Figure:

1.23.6 Schema Fragment:

```
<xsd:complexType name="ExchangeTradedContract">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded derivative contract.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="multiplier" type="xsd:positiveInteger" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the contract multiplier that can be associated
              with the number of units.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="contractReference" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the contract that can be referenced, besides
              the undelyer type.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="expirationDate" type="AdjustableOrRelativeDate" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The date when the contract expires.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.24 ExchangeTradedFund

1.24.1 Description:

An exchange traded fund whose price depends on exchange traded constituents.

1.24.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTradedCalculatedPrice)

- Abstract base class for all exchange traded financial products with a price which is calculated from exchange traded constituents.

fundManager (zero or one occurrence; of the type xsd:string) Specifies the fund manager that is in charge of the fund.

1.24.3 Used by:

- Element: exchangeTradedFund

1.24.4 Derived Types:

1.24.5 Figure:

1.24.6 Schema Fragment:

```
<xsd:complexType name="ExchangeTradedFund">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded fund whose price depends on exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTradedCalculatedPrice">
      <xsd:sequence>
        <xsd:element name="fundManager" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the fund manager that is in charge of the fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.25 FacilityType

1.25.1 Description:

A type describing the type of loan facility.

1.25.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:token)

•

1.25.3 Used by:

- Complex type: Loan

1.25.4 Derived Types:

1.25.5 Figure:

1.25.6 Schema Fragment:

```
<xsd:complexType name="FacilityType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the type of loan facility.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:token">
      <xsd:attribute name="facilityTypeScheme" type="xsd:anyURI" default="http://www.fpml.org/c
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.26 Future

1.26.1 Description:

An exchange traded future contract.

1.26.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTraded)

- An abstract base class for all exchange traded financial products.

multiplier (zero or one occurrence; of the type xsd:positiveInteger) Specifies the contract multiplier that can be associated with the number of units.

futureContractReference (zero or one occurrence; of the type xsd:string) Specifies the future contract that can be referenced, besides the equity or index reference defined as part of the UnderlyerAsset type.

maturity (zero or one occurrence; of the type xsd:date) The date when the future contract expires.

1.26.3 Used by:

- Element: future

1.26.4 Derived Types:

1.26.5 Figure:

1.26.6 Schema Fragment:

```
<xsd:complexType name="Future">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded future contract.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="multiplier" type="xsd:positiveInteger" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the contract multiplier that can be associated
              with the number of units.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="futureContractReference" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the future contract that can be referenced,
              besides the equity or index reference defined as part of
              the UnderlyerAsset type.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="maturity" type="xsd:date" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The date when the future contract expires.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.27 FutureId

1.27.1 Description:

A type defining a short form unique identifier for a future contract.

1.27.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type `xsd:normalizedString`)

•

1.27.3 Used by:

- Complex type: Index

1.27.4 Derived Types:

1.27.5 Figure:

1.27.6 Schema Fragment:

```
<xsd:complexType name="FutureId">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type defining a short form unique identifier for a future
      contract.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="futureIdScheme" type="xsd:anyURI" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.28 FxConversion

1.28.1 Description:

1.28.2 Contents:

Either

amountRelativeTo (exactly one occurrence; of the type AmountReference)

Or

fxRate (one or more occurrences; of the type FxRate) Specifies a currency conversion rate.

1.28.3 Used by:

- Complex type: Price

1.28.4 Derived Types:

1.28.5 Figure:

1.28.6 Schema Fragment:

```
<xsd:complexType name="FxConversion">
  <xsd:choice>
    <xsd:element name="amountRelativeTo" type="AmountReference"/>
    <xsd:element name="fxRate" type="FxRate" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies a currency conversion rate.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
```

1.29 FxRateAsset

1.29.1 Description:

1.29.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

quotedCurrencyPair (exactly one occurrence; of the type QuotedCurrencyPair) Defines the two currencies for an FX trade and the quotation relationship between the two currencies.

rateSource (zero or one occurrence; of the type FxSpotRateSource) Defines the source of the FX rate.

1.29.3 Used by:

- Element: fxRate

1.29.4 Derived Types:

1.29.5 Figure:

1.29.6 Schema Fragment:

```
<xsd:complexType name="FxRateAsset">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="quotedCurrencyPair" type="QuotedCurrencyPair">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Defines the two currencies for an FX trade and the
              quotation relationship between the two currencies.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="rateSource" type="FxSpotRateSource" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Defines the source of the FX rate.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.30 IdentifiedAsset

1.30.1 Description:

A generic type describing an identified asset.

1.30.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Asset)

- Abstract base class for all underlying assets.

instrumentId (one or more occurrences; of the type InstrumentId) Identification of the underlying asset, using public and/or private identifiers.

description (zero or one occurrence; of the type xsd:string) Long name of the underlying asset.

1.30.3 Used by:

- Complex type: Cash
- Complex type: UnderlyingAsset

1.30.4 Derived Types:

- Complex type: Cash
- Complex type: UnderlyingAsset

1.30.5 Figure:

1.30.6 Schema Fragment:

```
<xsd:complexType name="IdentifiedAsset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A generic type describing an identified asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Asset">
      <xsd:sequence>
        <xsd:element name="instrumentId" type="InstrumentId" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Identification of the underlying asset, using public
              and/or private identifiers.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="description" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Long name of the underlying asset.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```


1.31 Index

1.31.1 Description:

A published index whose price depends on exchange traded constituents.

1.31.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type ExchangeTradedCalculatedPrice)

- Abstract base class for all exchange traded financial products with a price which is calculated from exchange traded constituents.

futureId (zero or one occurrence; of the type FutureId) A short form unique identifier for the reference future contract in the case of an index underlyer.

1.31.3 Used by:

- Element: index

1.31.4 Derived Types:

1.31.5 Figure:

1.31.6 Schema Fragment:

```
<xsd:complexType name="Index">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A published index whose price depends on exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTradedCalculatedPrice">
      <xsd:sequence>
        <xsd:element name="futureId" type="FutureId" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              A short form unique identifier for the reference future
              contract in the case of an index underlyer.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.32 Lien

1.32.1 Description:

A type describing the liens associated with a loan facility.

1.32.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type `xsd:normalizedString`)

•

1.32.3 Used by:

- Complex type: Loan
- Complex type: Obligations

1.32.4 Derived Types:

1.32.5 Figure:

1.32.6 Schema Fragment:

```
<xsd:complexType name="Lien">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the liens associated with a loan facility.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="lienScheme" type="xsd:anyURI" default="http://www.fpml.org/coding-scheme" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.33 Loan

1.33.1 Description:

A type describing a loan underlying asset.

1.33.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

Either

borrower (exactly one occurrence; of the type LegalEntity)

Or

borrowerReference (exactly one occurrence; of the type LegalEntityReference)

lien (zero or one occurrence; of the type Lien) Specifies the seniority level of the lien.

facilityType (zero or one occurrence; of the type FacilityType) The type of loan facility (letter of credit, revolving, ...).

maturity (zero or one occurrence; of the type xsd:date) The date when the principal amount of the loan becomes due and payable.

creditAgreementDate (zero or one occurrence; of the type xsd:date) The credit agreement date is the closing date (the date where the agreement has been signed) for the loans in the credit agreement. Funding of the facilities occurs on (or sometimes a little after) the Credit Agreement date. This underlyer attribute is used to help identify which of the company's outstanding loans are being referenced by knowing to which credit agreement it belongs. ISDA Standards Terms Supplement term: Date of Original Credit Agreement.

tranche (zero or one occurrence; of the type UnderlyingAssetTranche) The loan tranche that is subject to the derivative transaction. It will typically be referenced as the Bloomberg tranche number. ISDA Standards Terms Supplement term: Bloomberg Tranche Number.

1.33.3 Used by:

- Element: loan

1.33.4 Derived Types:

1.33.5 Figure:

1.33.6 Schema Fragment:

```
<xsd:complexType name="Loan">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing a loan underlying asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the borrower. There can be more than one
              borrower. It is meant to be used in the event that there
              is no Bloomberg Id or the Secured List isn't applicable.
            </xsd:documentation>
          </xsd:annotation>
          <xsd:element name="borrower" type="LegalEntity"/>
          <xsd:element name="borrowerReference" type="LegalEntityReference"/>
        </xsd:choice>
        <xsd:element name="lien" type="Lien" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the seniority level of the lien.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

```

</xsd:element>
<xsd:element name="facilityType" type="FacilityType" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The type of loan facility (letter of credit, revolving,
      ...).
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="maturity" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The date when the principal amount of the loan becomes
      due and payable.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="creditAgreementDate" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The credit agreement date is the closing date (the date
      where the agreement has been signed) for the loans in the
      credit agreement. Funding of the facilities occurs on (or
      sometimes a little after) the Credit Agreement date. This
      underlyer attribute is used to help identify which of the
      company's outstanding loans are being referenced by
      knowing to which credit agreement it belongs. ISDA
      Standards Terms Supplement term: Date of Original Credit
      Agreement.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="tranche" type="UnderlyingAssetTranche" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The loan tranche that is subject to the derivative
      transaction. It will typically be referenced as the
      Bloomberg tranche number. ISDA Standards Terms Supplement
      term: Bloomberg Tranche Number.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>

```

1.34 Mortgage

1.34.1 Description:

A type describing a mortgage asset.

1.34.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

Either

insurer (exactly one occurrence; of the type LegalEntity)

Or

insurerReference (exactly one occurrence; of the type LegalEntityReference)

Either

issuerName (exactly one occurrence; of the type xsd:string)

Or

issuerPartyReference (exactly one occurrence; of the type PartyReference)

seniority (zero or one occurrence; of the type CreditSeniority) The repayment precedence of a debt instrument.

couponType (zero or one occurrence; of the type CouponType) Specifies if the bond has a variable coupon, step-up/down coupon or a zero-coupon.

couponRate (zero or one occurrence; of the type xsd:decimal) Specifies the coupon rate (expressed in percentage) of a fixed income security or convertible bond.

maturity (zero or one occurrence; of the type xsd:date) The date when the principal amount of a security becomes due and payable.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the bond pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the bond.

originalPrincipalAmount (zero or one occurrence; of the type xsd:decimal) The initial issued amount of the mortgage obligation.

pool (zero or one occurrence; of the type AssetPool) The mortgage pool that is underneath the mortgage obligation.

sector (zero or one occurrence; of the type MortgageSector) The sector classification of the mortgage obligation.

tranche (zero or one occurrence; of the type xsd:token) The mortgage obligation tranche that is subject to the derivative transaction.

1.34.3 Used by:

- Element: mortgage

1.34.4 Derived Types:

1.34.5 Figure:

1.34.6 Schema Fragment:

```
<xsd:complexType name="Mortgage">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing a mortgage asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
```

```

<xsd:extension base="UnderlyingAsset">
  <xsd:sequence>
    <xsd:choice minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>
          Applicable to the case of default swaps on MBS terms. For
          specifying the insurer name, when applicable (when the
          element is not present, it signifies that the insurer is
          Not Applicable)
        </xsd:documentation>
      </xsd:annotation>
      <xsd:element name="insurer" type="LegalEntity"/>
      <xsd:element name="insurerReference" type="LegalEntityReference"/>
    </xsd:choice>
    <xsd:group ref="BondContent.model"/>
    <xsd:group ref="BondCalculation.model"/>
    <xsd:element name="originalPrincipalAmount" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The initial issued amount of the mortgage obligation.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="pool" type="AssetPool" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The mortgage pool that is underneath the mortgage
          obligation.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="sector" type="MortgageSector" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The sector classification of the mortgage obligation.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="tranche" type="xsd:token" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The mortgage obligation tranche that is subject to the
          derivative transaction.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:extension>
</xsd:complexType>

```

1.35 MortgageSector

1.35.1 Description:

A type describing the typology of mortgage obligations.

1.35.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.35.3 Used by:

- Complex type: Mortgage

1.35.4 Derived Types:

1.35.5 Figure:

1.35.6 Schema Fragment:

```
<xsd:complexType name="MortgageSector">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the typology of mortgage obligations.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="mortgageSectorScheme" type="xsd:anyURI" default="http://www.fpml.org" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.36 MutualFund

1.36.1 Description:

1.36.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

openEndedFund (zero or one occurrence; of the type xsd:boolean) Boolean indicator to specify whether the mutual fund is an open-ended mutual fund.

fundManager (zero or one occurrence; of the type xsd:string) Specifies the fund manager that is in charge of the fund.

1.36.3 Used by:

- Element: mutualFund

1.36.4 Derived Types:

1.36.5 Figure:

1.36.6 Schema Fragment:

```
<xsd:complexType name="MutualFund">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="openEndedFund" type="xsd:boolean" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Boolean indicator to specify whether the mutual fund is
              an open-ended mutual fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="fundManager" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the fund manager that is in charge of the fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```


1.37 PendingPayment

1.37.1 Description:

1.37.2 Contents:

paymentDate (exactly one occurrence; of the type xsd:date) The date that the dividend or coupon is due.

amount (exactly one occurrence; of the type Money) The amount of the dividend or coupon payment. Value of dividends or coupon between ex and pay date. Stock: if we are between ex-date and pay-date and the dividend is payable under the swap, then this should be the ex-div amount * # of securities. Bond: regardless of where we are vis-a-vis resets: (coupon % * face of bonds on swap * (bond day count fraction using days last coupon pay date of the bond through today).

accruedInterest (zero or one occurrence; of the type Money) Accrued interest on the dividend or coupon payment. When the TRS is structured to pay a dividend or coupon on reset after payable date, you may earn interest on these amounts. This field indicates the interest accrued on dividend/coupon from pay date to statement date. This will only apply to a handful of agreements where dividendss are held to the next reset AND you receive/pay interest on unpaid amounts.

1.37.3 Used by:

- Complex type: BasketConstituent
- Complex type: DividendPayout
- Complex type: SingleUnderlyer

1.37.4 Derived Types:

1.37.5 Figure:

1.37.6 Schema Fragment:

```
<xsd:complexType name="PendingPayment">
  <xsd:annotation>
    <xsd:documentation>
      A structure representing a pending dividend or coupon payment.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="paymentDate" type="xsd:date">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The date that the dividend or coupon is due.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="amount" type="Money">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The amount of the dividend or coupon payment. Value of
          dividends or coupon between ex and pay date. Stock: if we are
          between ex-date and pay-date and the dividend is payable
          under the swap, then this should be the ex-div amount * # of
          securities. Bond: regardless of where we are vis-a-vis
          resets: (coupon % * face of bonds on swap * (bond day count
          fraction using days last coupon pay date of the bond through
          today).
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="accruedInterest" type="Money" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Accrued interest on the dividend or coupon payment. When the
          TRS is structured to pay a dividend or coupon on reset after
          payable date, you may earn interest on these amounts. This
          field indicates the interest accrued on dividend/coupon from
          pay date to statement date. This will only apply to a handful
          of agreements where dividendss are held to the next reset AND
          you receive/pay interest on unpaid amounts.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

```
</xsd:sequence>  
</xsd:complexType>
```

1.38 Price

1.38.1 Description:

A type describing the strike price.

1.38.2 Contents:

commission (zero or one occurrence; of the type Commission) This optional component specifies the commission to be charged for executing the hedge transactions.

Either

determinationMethod (exactly one occurrence; of the type DeterminationMethod) Specifies the method according to which an amount or a date is determined.

Or

amountRelativeTo (exactly one occurrence; of the type AmountReference) The href attribute value will be a pointer style reference to the element or component elsewhere in the document where the anchor amount is defined.

cleanNetPrice (zero or one occurrence; of the type xsd:decimal) The net price excluding accrued interest. The "Dirty Price" for bonds is put in the "netPrice" element, which includes accrued interest. Thus $\text{netPrice} - \text{cleanNetPrice} = \text{accruedInterest}$. The currency and price expression for this field are the same as those for the (dirty) netPrice.

quotationCharacteristics (zero or one occurrence; of the type QuotationCharacteristics)

1.38.3 Used by:

- Complex type: DeprecatedEquityLegValuationPrice
- Complex type: ReturnLegValuationPrice
- Complex type: BasketConstituent

1.38.4 Derived Types:

- Complex type: DeprecatedEquityLegValuationPrice
- Complex type: ReturnLegValuationPrice

1.38.5 Figure:

1.38.6 Schema Fragment:

```
<xsd:complexType name="Price">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the strike price.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="commission" type="Commission" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          This optional component specifies the commission to be
          charged for executing the hedge transactions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:choice>
      <xsd:element name="determinationMethod" type="DeterminationMethod">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the method according to which an amount or a date
            is determined.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="amountRelativeTo" type="AmountReference">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The href attribute value will be a pointer style reference
            to the element or component elsewhere in the document where
```

```

        the anchor amount is defined.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:sequence>
    <xsd:element name="grossPrice" type="ActualPrice" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">
                Specifies the price of the underlyer, before commissions.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="netPrice" type="ActualPrice">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">
                Specifies the price of the underlyer, net of commissions.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="accruedInterestPrice" type="xsd:decimal" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">
                Specifies the accrued interest that are part of the dirty
                price in the case of a fixed income security or a
                convertible bond. Expressed in percentage of the
                notional.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="fxConversion" type="FxConversion" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation xml:lang="en">
                Specifies the currency conversion rate that applies to an
                amount. This rate can either be defined elsewhere in the
                document (case of a quanto swap), or explicitly described
                through this component.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:choice>
<xsd:element name="cleanNetPrice" type="xsd:decimal" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The net price excluding accrued interest. The "Dirty Price"
            for bonds is put in the "netPrice" element, which includes
            accrued interest. Thus netPrice - cleanNetPrice =
            accruedInterest. The currency and price expression for this
            field are the same as those for the (dirty) netPrice.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="quotationCharacteristics" type="QuotationCharacteristics" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>
            Allows information about how the price was quoted to be
            provided.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:complexType>

```

1.39 PriceQuoteUnits

1.39.1 Description:

The units in which a price is quoted.

1.39.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.39.3 Used by:

- Complex type: ParametricAdjustment
- Complex type: PricingParameterShift

1.39.4 Derived Types:

1.39.5 Figure:

1.39.6 Schema Fragment:

```
<xsd:complexType name="PriceQuoteUnits">
  <xsd:annotation>
    <xsd:documentation source="http://www.FpML.org" xml:lang="en">
      The units in which a price is quoted.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="priceQuoteUnitsScheme" type="xsd:anyURI" default="http://www.fpml.org" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.40 QuotationCharacteristics

1.40.1 Description:

A type representing a set of characteristics that describe a quotation.

1.40.2 Contents:

measureType (zero or one occurrence; of the type AssetMeasureType) The type of the value that is measured. This could be an NPV, a cash flow, a clean price, etc.

quoteUnits (zero or one occurrence; of the type PriceQuoteUnits) The optional units that the measure is expressed in. If not supplied, this is assumed to be a price/value in currency units.

side (zero or one occurrence; of the type QuotationSideEnum) The side (bid/mid/ask) of the measure.

currency (zero or one occurrence; of the type Currency) The optional currency that the measure is expressed in. If not supplied, this is defaulted from the reportingCurrency in the valuationScenarioDefinition.

timing (zero or one occurrence; of the type QuoteTiming) When during a day the quote is for. Typically, if this element is supplied, the QuoteLocation needs also to be supplied.

informationSource (zero or more occurrences; of the type InformationSource) The information source where a published or displayed market rate will be obtained, e.g. Telerate Page 3750.

time (zero or one occurrence; of the type xsd:dateTime) When the quote was observed or derived.

valuationDate (zero or one occurrence; of the type xsd:date) When the quote was computed.

expiryTime (zero or one occurrence; of the type xsd:dateTime) When does the quote cease to be valid.

cashFlowType (zero or one occurrence; of the type CashflowType) For cash flows, the type of the cash flows. Examples include: Coupon payment, Premium Fee, Settlement Fee, Brokerage Fee, etc.

1.40.3 Used by:

- Complex type: PositionReport
- Complex type: Price
- Complex type: SensitivitySetDefinition
- Complex type: ValuationSet

1.40.4 Derived Types:

1.40.5 Figure:

1.40.6 Schema Fragment:

```
<xsd:complexType name="QuotationCharacteristics">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type representing a set of characteristics that describe a
      quotation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="QuotationCharacteristics.model"/>
  </xsd:sequence>
</xsd:complexType>
```

1.41 QuoteTiming

1.41.1 Description:

The type of the time of the quote.

1.41.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

1.41.3 Used by:

1.41.4 Derived Types:

1.41.5 Figure:

1.41.6 Schema Fragment:

```
<xsd:complexType name="QuoteTiming">
  <xsd:annotation>
    <xsd:documentation source="http://www.FpML.org" xml:lang="en">
      The type of the time of the quote.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="quoteTimingScheme" type="xsd:anyURI" default="http://www.fpml.org/co
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

1.42 RateIndex

1.42.1 Description:

1.42.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

floatingRateIndex (exactly one occurrence; of the type FloatingRateIndex)

term (exactly one occurrence; of the type Interval) Specifies the term of the simple swap, e.g. 5Y.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the index pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the index.

1.42.3 Used by:

- Element: rateIndex

1.42.4 Derived Types:

1.42.5 Figure:

1.42.6 Schema Fragment:

```
<xsd:complexType name="RateIndex">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="floatingRateIndex" type="FloatingRateIndex"/>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the simple swap, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the index pays, e.g. 6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the index.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```


1.43 SimpleCreditDefaultSwap

1.43.1 Description:

1.43.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

Either

referenceEntity (exactly one occurrence; of the type LegalEntity) The entity for which this is defined.

Or

creditEntityReference (exactly one occurrence; of the type LegalEntityReference) An XML reference a credit entity defined elsewhere in the document.

term (exactly one occurrence; of the type Interval) Specifies the term of the simple CD swap, e.g. 5Y.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the swap pays, e.g. 6M.

1.43.3 Used by:

- Element: simpleCreditDefaultSwap

1.43.4 Derived Types:

1.43.5 Figure:

1.43.6 Schema Fragment:

```
<xsd:complexType name="SimpleCreditDefaultSwap">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:group ref="CreditEntity.model">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The reference entity, index, etc. upon which the CDS is
              based.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:group>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the simple CD swap, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the swap pays, e.g. 6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.44 SimpleFra

1.44.1 Description:

1.44.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

startTerm (exactly one occurrence; of the type Interval) Specifies the start term of the simple fra, e.g. 3M.

endTerm (exactly one occurrence; of the type Interval) Specifies the end term of the simple fra, e.g. 9M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the FRA.

1.44.3 Used by:

- Element: simpleFra

1.44.4 Derived Types:

1.44.5 Figure:

1.44.6 Schema Fragment:

```
<xsd:complexType name="SimpleFra">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="startTerm" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the start term of the simple fra, e.g. 3M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="endTerm" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the end term of the simple fra, e.g. 9M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the FRA.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.45 SimpleIRSwap

1.45.1 Description:

1.45.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type UnderlyingAsset)

- Abstract base class for all underlying assets.

term (exactly one occurrence; of the type Interval) Specifies the term of the simple swap, e.g. 5Y.

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the swap pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the swap.

1.45.3 Used by:

- Element: simpleIrSwap

1.45.4 Derived Types:

1.45.5 Figure:

1.45.6 Schema Fragment:

```
<xsd:complexType name="SimpleIRSwap">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the simple swap, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the swap pays, e.g. 6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the swap.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

1.46 SingleUnderlyer

1.46.1 Description:

A type describing a single underlyer

1.46.2 Contents:

underlyingAsset (exactly one occurrence; of the type Asset) Define the underlying asset when it is a listed security.

openUnits (zero or one occurrence; of the type xsd:decimal) The number of units (index or securities) that constitute the underlyer of the swap. In the case of a basket swap, this element is used to reference both the number of basket units, and the number of each asset components of the basket when these are expressed in absolute terms.

dividendPayout (zero or one occurrence; of the type DividendPayout) Specifies the dividend payout ratio associated with an equity underlyer. A basket swap can have different payout ratios across the various underlying constituents. In certain cases the actual ratio is not known on trade inception, and only general conditions are then specified. Users should note that FpML makes a distinction between the derivative contract and the underlyer of the contract. It would be better if the agreed dividend payout on a derivative contract was modelled at the level of the derivative contract, an approach which may be adopted in the next major version of FpML.

couponPayment (zero or one occurrence; of the type PendingPayment) The next upcoming coupon payment.

1.46.3 Used by:

- Complex type: Underlyer

1.46.4 Derived Types:

1.46.5 Figure:

1.46.6 Schema Fragment:

```
<xsd:complexType name="SingleUnderlyer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing a single underlyer
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element ref="underlyingAsset"/>
    <xsd:element name="openUnits" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The number of units (index or securities) that constitute the
          underlyer of the swap. In the case of a basket swap, this
          element is used to reference both the number of basket units,
          and the number of each asset components of the basket when
          these are expressed in absolute terms.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="dividendPayout" type="DividendPayout" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the dividend payout ratio associated with an equity
          underlyer. A basket swap can have different payout ratios
          across the various underlying constituents. In certain cases
          the actual ratio is not known on trade inception, and only
          general conditions are then specified. Users should note that
          FpML makes a distinction between the derivative contract and
          the underlyer of the contract. It would be better if the
          agreed dividend payout on a derivative contract was modelled
          at the level of the derivative contract, an approach which
          may be adopted in the next major version of FpML.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="couponPayment" type="PendingPayment" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
```

```
        The next upcoming coupon payment.  
    </xsd:documentation>  
  </xsd:annotation>  
</xsd:element>  
</xsd:sequence>  
</xsd:complexType>
```

1.47 Underlyer

1.47.1 Description:

A type describing the whole set of possible underlyers: single underlyers or multiple underlyers, each of these having either security or index components.

1.47.2 Contents:

Either

singleUnderlyer (exactly one occurrence; of the type SingleUnderlyer) Describes the swap's underlyer when it has only one asset component.

Or

basket (exactly one occurrence; of the type Basket) Describes the swap's underlyer when it has multiple asset components.

1.47.3 Used by:

- Complex type: DeprecatedEquityLeg
- Complex type: DeprecatedVarianceLeg
- Complex type: DirectionalLegUnderlyer
- Complex type: EquityDerivativeBase
- Complex type: ReturnSwapLegUnderlyer

1.47.4 Derived Types:

1.47.5 Figure:

1.47.6 Schema Fragment:

```
<xsd:complexType name="Underlyer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the whole set of possible underlyers: single
      underlyers or multiple underlyers, each of these having either
      security or index components.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="singleUnderlyer" type="SingleUnderlyer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Describes the swap's underlyer when it has only one asset
          component.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basket" type="Basket">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Describes the swap's underlyer when it has multiple asset
          components.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
```

1.48 UnderlyingAsset

1.48.1 Description:

Abstract base class for all underlying assets.

1.48.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type IdentifiedAsset)

- A generic type describing an identified asset.

currency (zero or one occurrence; of the type Currency) Currency in which the underlying asset is denominated.

exchangeld (zero or one occurrence; of the type Exchangeld) Identification of the exchange on which this asset is transacted for the purposes of calculating a contractual payoff. The term "Exchange" is assumed to have the meaning as defined in the ISDA 2002 Equity Derivatives Definitions.

clearanceSystem (zero or one occurrence; of the type ClearanceSystem) Identification of the clearance system associated with the transaction exchange.

definition (zero or one occurrence; of the type ProductReference) An optional reference to a full FpML product that defines the simple product in greater detail. In case of inconsistency between the terms of the simple product and those of the detailed definition, the values in the simple product override those in the detailed definition.

1.48.3 Used by:

- Complex type: Deposit
- Complex type: ExchangeTraded
- Complex type: FxRateAsset
- Complex type: Loan
- Complex type: Mortgage
- Complex type: MutualFund
- Complex type: RateIndex
- Complex type: SimpleCreditDefaultSwap
- Complex type: SimpleFra
- Complex type: SimpleIRSwap

1.48.4 Derived Types:

- Complex type: Deposit
- Complex type: ExchangeTraded
- Complex type: FxRateAsset
- Complex type: Loan
- Complex type: Mortgage
- Complex type: MutualFund
- Complex type: RateIndex
- Complex type: SimpleCreditDefaultSwap
- Complex type: SimpleFra
- Complex type: SimpleIRSwap

1.48.5 Figure:

1.48.6 Schema Fragment:

```
<xsd:complexType name="UnderlyingAsset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Abstract base class for all underlying assets.
    </xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
```

```

    </xsd:documentation>
</xsd:annotation>
<xsd:complexContent>
  <xsd:extension base="IdentifiedAsset">
    <xsd:sequence>
      <xsd:element name="currency" type="Currency" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Currency in which the underlying asset is denominated.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="exchangeId" type="ExchangeId" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Identification of the exchange on which this asset is
            transacted for the purposes of calculating a contractual
            payoff. The term "Exchange" is assumed to have the
            meaning as defined in the ISDA 2002 Equity Derivatives
            Definitions.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="clearanceSystem" type="ClearanceSystem" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Identification of the clearance system associated with
            the transaction exchange.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="definition" type="ProductReference" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            An optional reference to a full FpML product that defines
            the simple product in greater detail. In case of
            inconsistency between the terms of the simple product and
            those of the detailed definition, the values in the
            simple product override those in the detailed definition.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:extension>
</xsd:complexContent>
</xsd:complexType>

```


1.49 UnderlyingAssetTranche

1.49.1 Description:

1.49.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:token)

-

1.49.3 Used by:

- Complex type: Loan

1.49.4 Derived Types:

1.49.5 Figure:

1.49.6 Schema Fragment:

```
<xsd:complexType name="UnderlyingAssetTranche">
  <xsd:simpleContent>
    <xsd:extension base="xsd:token">
      <xsd:attribute name="loanTrancheScheme" type="xsd:anyURI" default="http://www.fpml.org/co
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

2 Global Elements

2.1 basket

2.1.1 Description:

Defines the underlying asset when it is a basket.

2.1.2 Contents:

Element basket is defined by the complex type Basket

2.1.3 Used by:

2.1.4 Substituted by:

2.1.5 Figure:

2.1.6 Schema Fragment:

```
<xsd:element name="basket" type="Basket" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a basket.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.2 bond

2.2.1 Description:

Defines the underlying asset when it is a bond.

2.2.2 Contents:

Element bond is defined by the complex type Bond

2.2.3 Used by:

- Complex type: BondReference
- Complex type: ReferenceObligation

2.2.4 Substituted by:

2.2.5 Figure:

2.2.6 Schema Fragment:

```
<xsd:element name="bond" type="Bond" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a bond.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.3 cash

2.3.1 Description:

Defines a simple underlying asset type that is a cash payment. Used for specifying discounting factors for future cash flows in the pricing and risk model.

2.3.2 Contents:

Element cash is defined by the complex type Cash

2.3.3 Used by:

2.3.4 Substituted by:

2.3.5 Figure:

2.3.6 Schema Fragment:

```
<xsd:element name="cash" type="Cash" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset type that is a cash payment.
      Used for specifying discounting factors for future cash flows in
      the pricing and risk model.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.4 convertibleBond

2.4.1 Description:

Defines the underlying asset when it is a convertible bond.

2.4.2 Contents:

Element convertibleBond is defined by the complex type ConvertibleBond

2.4.3 Used by:

- Complex type: ReferenceObligation

2.4.4 Substituted by:

2.4.5 Figure:

2.4.6 Schema Fragment:

```
<xsd:element name="convertibleBond" type="ConvertibleBond" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a convertible bond.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.5 deposit

2.5.1 Description:

Defines a simple underlying asset that is a term deposit.

2.5.2 Contents:

Element deposit is defined by the complex type Deposit

2.5.3 Used by:

2.5.4 Substituted by:

2.5.5 Figure:

2.5.6 Schema Fragment:

```
<xsd:element name="deposit" type="Deposit" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is a term deposit.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.6 equity

2.6.1 Description:

Defines the underlying asset when it is a listed equity.

2.6.2 Contents:

Element equity is defined by the complex type EquityAsset

2.6.3 Used by:

2.6.4 Substituted by:

2.6.5 Figure:

2.6.6 Schema Fragment:

```
<xsd:element name="equity" type="EquityAsset" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a listed equity.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```


2.7 exchangeTradedFund

2.7.1 Description:

Defines the underlying asset when it is an exchange-traded fund.

2.7.2 Contents:

Element exchangeTradedFund is defined by the complex type ExchangeTradedFund

2.7.3 Used by:

2.7.4 Substituted by:

2.7.5 Figure:

2.7.6 Schema Fragment:

```
<xsd:element name="exchangeTradedFund" type="ExchangeTradedFund" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is an exchange-traded fund.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.8 future

2.8.1 Description:

Defines the underlying asset when it is a listed future contract.

2.8.2 Contents:

Element future is defined by the complex type Future

2.8.3 Used by:

2.8.4 Substituted by:

2.8.5 Figure:

2.8.6 Schema Fragment:

```
<xsd:element name="future" type="Future" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a listed future contract.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.9 fxRate

2.9.1 Description:

Defines a simple underlying asset type that is an FX rate. Used for specifying FX rates in the pricing and risk model.

2.9.2 Contents:

Element fxRate is defined by the complex type FxRateAsset

2.9.3 Used by:

2.9.4 Substituted by:

2.9.5 Figure:

2.9.6 Schema Fragment:

```
<xsd:element name="fxRate" type="FxRateAsset" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset type that is an FX rate. Used
      for specifying FX rates in the pricing and risk model.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.10 index

2.10.1 Description:

Defines the underlying asset when it is a financial index.

2.10.2 Contents:

Element index is defined by the complex type Index

2.10.3 Used by:

2.10.4 Substituted by:

2.10.5 Figure:

2.10.6 Schema Fragment:

```
<xsd:element name="index" type="Index" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a financial index.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.11 loan

2.11.1 Description:

Defines a simple underlying asset that is a loan.

2.11.2 Contents:

Element loan is defined by the complex type Loan

2.11.3 Used by:

- Complex type: ReferenceObligation

2.11.4 Substituted by:

2.11.5 Figure:

2.11.6 Schema Fragment:

```
<xsd:element name="loan" type="Loan" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is a loan.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.12 mortgage

2.12.1 Description:

Defines an underlying asset that is a mortgage.

2.12.2 Contents:

Element mortgage is defined by the complex type Mortgage

2.12.3 Used by:

- Complex type: ReferenceObligation

2.12.4 Substituted by:

2.12.5 Figure:

2.12.6 Schema Fragment:

```
<xsd:element name="mortgage" type="Mortgage" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines an underlying asset that is a mortgage.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.13 mutualFund

2.13.1 Description:

Defines the underlying asset when it is a mutual fund.

2.13.2 Contents:

Element mutualFund is defined by the complex type MutualFund

2.13.3 Used by:

2.13.4 Substituted by:

2.13.5 Figure:

2.13.6 Schema Fragment:

```
<xsd:element name="mutualFund" type="MutualFund" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines the underlying asset when it is a mutual fund.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.14 rateIndex

2.14.1 Description:

Defines a simple underlying asset that is an interest rate index. Used for specifying benchmark assets in the market environment in the pricing and risk model.

2.14.2 Contents:

Element rateIndex is defined by the complex type RateIndex

2.14.3 Used by:

2.14.4 Substituted by:

2.14.5 Figure:

2.14.6 Schema Fragment:

```
<xsd:element name="rateIndex" type="RateIndex" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is an interest rate index.
      Used for specifying benchmark assets in the market environment in
      the pricing and risk model.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```


2.15 simpleCreditDefaultSwap

2.15.1 Description:

Defines a simple underlying asset that is a credit default swap.

2.15.2 Contents:

Element simpleCreditDefaultSwap is defined by the complex type SimpleCreditDefaultSwap

2.15.3 Used by:

2.15.4 Substituted by:

2.15.5 Figure:

2.15.6 Schema Fragment:

```
<xsd:element name="simpleCreditDefaultSwap" type="SimpleCreditDefaultSwap" substitutionGroup="u"
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is a credit default swap.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.16 simpleFra

2.16.1 Description:

Defines a simple underlying asset that is a forward rate agreement.

2.16.2 Contents:

Element simpleFra is defined by the complex type SimpleFra

2.16.3 Used by:

2.16.4 Substituted by:

2.16.5 Figure:

2.16.6 Schema Fragment:

```
<xsd:element name="simpleFra" type="SimpleFra" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is a forward rate
      agreement.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.17 simpleIrSwap

2.17.1 Description:

Defines a simple underlying asset that is a swap.

2.17.2 Contents:

Element simpleIrSwap is defined by the complex type SimpleIRSwap

2.17.3 Used by:

2.17.4 Substituted by:

2.17.5 Figure:

2.17.6 Schema Fragment:

```
<xsd:element name="simpleIrSwap" type="SimpleIRSwap" substitutionGroup="underlyingAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a simple underlying asset that is a swap.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

2.18 underlyingAsset

2.18.1 Description:

Define the underlying asset when it is a listed security.

2.18.2 Contents:

Element underlyingAsset is defined by the complex type Asset

2.18.3 Used by:

- Complex type: BasketConstituent
- Complex type: CashflowObservation
- Complex type: InstrumentSet
- Complex type: SingleUnderlyer
- Complex type: TradeUnderlyer

2.18.4 Substituted by:

- Element: basket
- Element: bond
- Element: cash
- Element: convertibleBond
- Element: deposit
- Element: equity
- Element: exchangeTradedFund
- Element: future
- Element: fxRate
- Element: index
- Element: loan
- Element: mortgage
- Element: mutualFund
- Element: rateIndex
- Element: simpleCreditDefaultSwap
- Element: simpleFra
- Element: simpleIrrSwap

2.18.5 Figure:

2.18.6 Schema Fragment:

```
<xsd:element name="underlyingAsset" type="Asset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Define the underlying asset when it is a listed security.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

3 Groups

3.1 BasketIdentifier.model

3.1.1 Description:

A group that specifies a name and an identifier for a given basket.

3.1.2 Contents:

3.1.3 Used by:

- Complex type: Basket
- Complex type: BasketReferenceInformation

3.1.4 Figure:

3.1.5 Schema Fragment:

```
<xsd:group name="BasketIdentifier.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group that specifies a name and an identifier for a given
      basket.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:sequence>
      <xsd:element name="basketName" type="BasketName">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The name of the basket expressed as a free format string.
            FpML does not define usage rules for this element.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="basketId" type="BasketId" minOccurs="0" maxOccurs="unbounded">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A CDS basket identifier
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
    <xsd:sequence>
      <xsd:element name="basketId" type="BasketId" maxOccurs="unbounded">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A CDS basket identifier
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:choice>
</xsd:group>
```

3.2 BondCalculation.model

3.2.1 Description:

A group that specifies Bond Calculation elements

3.2.2 Contents:

paymentFrequency (zero or one occurrence; of the type Interval) Specifies the frequency at which the bond pays, e.g. 6M.

dayCountFraction (zero or one occurrence; of the type DayCountFraction) The day count basis for the bond.

3.2.3 Used by:

- Complex type: Bond
- Complex type: Mortgage

3.2.4 Figure:

3.2.5 Schema Fragment:

```
<xsd:group name="BondCalculation.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group that specifies Bond Calculation elements
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the frequency at which the bond pays, e.g. 6M.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The day count basis for the bond.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
```

3.3 BondChoice.model

3.3.1 Description:

A model group which provides choices between all bond underlyers.

3.3.2 Contents:

Either

bond (exactly one occurrence; of the type Bond) Defines the underlying asset when it is a bond.

Or

convertibleBond (exactly one occurrence; of the type ConvertibleBond) Defines the underlying asset when it is a convertible bond.

3.3.3 Used by:

- Complex type: BondOption

3.3.4 Figure:

3.3.5 Schema Fragment:

```
<xsd:group name="BondChoice.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A model group which provides choices between all bond underlyers.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element ref="bond">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A bond instrument referenced by a contract
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element ref="convertibleBond">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A convertible bond instrument referenced by a contract.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:group>
```


3.4 BondContent.model

3.4.1 Description:

A group that specifies Bond Content elements

3.4.2 Contents:

Either

issuerName (exactly one occurrence; of the type xsd:string)

Or

issuerPartyReference (exactly one occurrence; of the type PartyReference)

seniority (zero or one occurrence; of the type CreditSeniority) The repayment precedence of a debt instrument.

couponType (zero or one occurrence; of the type CouponType) Specifies if the bond has a variable coupon, step-up/down coupon or a zero-coupon.

couponRate (zero or one occurrence; of the type xsd:decimal) Specifies the coupon rate (expressed in percentage) of a fixed income security or convertible bond.

maturity (zero or one occurrence; of the type xsd:date) The date when the principal amount of a security becomes due and payable.

3.4.3 Used by:

- Complex type: Bond
- Complex type: Mortgage

3.4.4 Figure:

3.4.5 Schema Fragment:

```
<xsd:group name="BondContent.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group that specifies Bond Content elements
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:choice minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the issuer name of a fixed income security or
          convertible bond. This name can either be explicitly stated,
          or specified as an href into another element of the document,
          such as the obligor
        </xsd:documentation>
      </xsd:annotation>
      <xsd:element name="issuerName" type="xsd:string"/>
      <xsd:element name="issuerPartyReference" type="PartyReference"/>
    </xsd:choice>
    <xsd:element name="seniority" type="CreditSeniority" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The repayment precedence of a debt instrument.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="couponType" type="CouponType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies if the bond has a variable coupon, step-up/down
          coupon or a zero-coupon.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="couponRate" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the coupon rate (expressed in percentage) of a
          fixed income security or convertible bond.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
```

```
</xsd:annotation>
</xsd:element>
<xsd:element name="maturity" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The date when the principal amount of a security becomes due
      and payable.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:group>
```

3.5 CreditEntity.model

3.5.1 Description:

An item which has credit characteristics that can be modeled, e.g. a firm, index, or region.

3.5.2 Contents:

Either

referenceEntity (exactly one occurrence; of the type LegalEntity) The entity for which this is defined.

Or

creditEntityReference (exactly one occurrence; of the type LegalEntityReference) An XML reference a credit entity defined elsewhere in the document.

3.5.3 Used by:

- Complex type: SimpleCreditDefaultSwap

3.5.4 Figure:

3.5.5 Schema Fragment:

```
<xsd:group name="CreditEntity.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An item which has credit characteristics that can be modeled,
      e.g. a firm, index, or region.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="referenceEntity" type="LegalEntity">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The entity for which this is defined.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="creditEntityReference" type="LegalEntityReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          An XML reference a credit entity defined elsewhere in the
          document.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:group>
```

3.6 ExchangeIdentifier.model

3.6.1 Description:

3.6.2 Contents:

relatedExchangeId (zero or more occurrences; of the type ExchangeId) A short form unique identifier for a related exchange. If the element is not present then the exchange shall be the primary exchange on which listed futures and options on the underlying are listed. The term "Exchange" is assumed to have the meaning as defined in the ISDA 2002 Equity Derivatives Definitions.

optionsExchangeId (zero or more occurrences; of the type ExchangeId) A short form unique identifier for an exchange on which the reference option contract is listed. This is to address the case where the reference exchange for the future is different than the one for the option. The options Exchange is referenced on share options when Merger Elections are selected as Options Exchange Adjustment.

3.6.3 Used by:

- Complex type: ExchangeTraded

3.6.4 Figure:

3.6.5 Schema Fragment:

```
<xsd:group name="ExchangeIdentifier.model">
  <xsd:sequence>
    <xsd:element name="relatedExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A short form unique identifier for a related exchange. If the
          element is not present then the exchange shall be the primary
          exchange on which listed futures and options on the
          underlying are listed. The term "Exchange" is assumed to have
          the meaning as defined in the ISDA 2002 Equity Derivatives
          Definitions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="optionsExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A short form unique identifier for an exchange on which the
          reference option contract is listed. This is to address the
          case where the reference exchange for the future is different
          than the one for the option. The options Exchange is
          referenced on share options when Merger Elections are
          selected as Options Exchange Adjustment.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
```

3.7 Quotation.model

3.7.1 Description:

Some kind of numerical measure about an asset, eg. its price or NPV, together with characteristics of that measure.

3.7.2 Contents:

value (zero or one occurrence; of the type xsd:decimal) The value of the the quotation.

measureType (zero or one occurrence; of the type AssetMeasureType) The type of the value that is measured. This could be an NPV, a cash flow, a clean price, etc.

quoteUnits (zero or one occurrence; of the type PriceQuoteUnits) The optional units that the measure is expressed in. If not supplied, this is assumed to be a price/value in currency units.

side (zero or one occurrence; of the type QuotationSideEnum) The side (bid/mid/ask) of the measure.

currency (zero or one occurrence; of the type Currency) The optional currency that the measure is expressed in. If not supplied, this is defaulted from the reportingCurrency in the valuationScenarioDefinition.

timing (zero or one occurrence; of the type QuoteTiming) When during a day the quote is for. Typically, if this element is supplied, the QuoteLocation needs also to be supplied.

informationSource (zero or more occurrences; of the type InformationSource) The information source where a published or displayed market rate will be obtained, e.g. Telerate Page 3750.

time (zero or one occurrence; of the type xsd:dateTime) When the quote was observed or derived.

valuationDate (zero or one occurrence; of the type xsd:date) When the quote was computed.

expiryTime (zero or one occurrence; of the type xsd:dateTime) When does the quote cease to be valid.

cashFlowType (zero or one occurrence; of the type CashflowType) For cash flows, the type of the cash flows. Examples include: Coupon payment, Premium Fee, Settlement Fee, Brokerage Fee, etc.

3.7.3 Used by:

- Complex type: BasicQuotation
- Complex type: PricingStructurePoint
- Complex type: Quotation

3.7.4 Figure:

3.7.5 Schema Fragment:

```
<xsd:group name="Quotation.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Some kind of numerical measure about an asset, eg. its price or
      NPV, together with characteristics of that measure.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="value" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The value of the the quotation.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:group ref="QuotationCharacteristics.model">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The characteristics of the quotation.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:group>
  </xsd:sequence>
</xsd:group>
```

3.8 QuotationCharacteristics.model

3.8.1 Description:

A group collecting a set of characteristics that can be used to describe a quotation.

3.8.2 Contents:

measureType (zero or one occurrence; of the type AssetMeasureType) The type of the value that is measured. This could be an NPV, a cash flow, a clean price, etc.

quoteUnits (zero or one occurrence; of the type PriceQuoteUnits) The optional units that the measure is expressed in. If not supplied, this is assumed to be a price/value in currency units.

side (zero or one occurrence; of the type QuotationSideEnum) The side (bid/mid/ask) of the measure.

currency (zero or one occurrence; of the type Currency) The optional currency that the measure is expressed in. If not supplied, this is defaulted from the reportingCurrency in the valuationScenarioDefinition.

timing (zero or one occurrence; of the type QuoteTiming) When during a day the quote is for. Typically, if this element is supplied, the QuoteLocation needs also to be supplied.

Either

businessCenter (exactly one occurrence; of the type BusinessCenter) A city or other business center.

Or

exchangeld (exactly one occurrence; of the type Exchangeld) The exchange (e.g. stock or futures exchange) from which the quote is obtained.

informationSource (zero or more occurrences; of the type InformationSource) The information source where a published or displayed market rate will be obtained, e.g. Telerate Page 3750.

time (zero or one occurrence; of the type xsd:dateTime) When the quote was observed or derived.

valuationDate (zero or one occurrence; of the type xsd:date) When the quote was computed.

expiryTime (zero or one occurrence; of the type xsd:dateTime) When does the quote cease to be valid.

cashFlowType (zero or one occurrence; of the type CashflowType) For cash flows, the type of the cash flows. Examples include: Coupon payment, Premium Fee, Settlement Fee, Brokerage Fee, etc.

3.8.3 Used by:

- Complex type: MultiDimensionalPricingData
- Complex type: QuotationCharacteristics

3.8.4 Figure:

3.8.5 Schema Fragment:

```
<xsd:group name="QuotationCharacteristics.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group collecting a set of characteristics that can be used to
      describe a quotation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="measureType" type="AssetMeasureType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The type of the value that is measured. This could be an NPV,
          a cash flow, a clean price, etc.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="quoteUnits" type="PriceQuoteUnits" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The optional units that the measure is expressed in. If not
          supplied, this is assumed to be a price/value in currency
          units.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
```

```

<xsd:element name="side" type="QuotationSideEnum" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The side (bid/mid/ask) of the measure.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="currency" type="Currency" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The optional currency that the measure is expressed in. If
      not supplied, this is defaulted from the reportingCurrency in
      the valuationScenarioDefinition.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="timing" type="QuoteTiming" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When during a day the quote is for. Typically, if this
      element is supplied, the QuoteLocation needs also to be
      supplied.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:group ref="QuoteLocation.model" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Where the quote is from.
    </xsd:documentation>
  </xsd:annotation>
</xsd:group>
<xsd:element name="informationSource" type="InformationSource" minOccurs="0" maxOccurs="unbounded">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The information source where a published or displayed market
      rate will be obtained, e.g. Telerate Page 3750.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="time" type="xsd:dateTime" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When the quote was observed or derived.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="valuationDate" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When the quote was computed.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="expiryTime" type="xsd:dateTime" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When does the quote cease to be valid.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="cashFlowType" type="CashflowType" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      For cash flows, the type of the cash flows. Examples include:
      Coupon payment, Premium Fee, Settlement Fee, Brokerage Fee,
      etc.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:group>

```

3.9 QuoteLocation.model

3.9.1 Description:

A group describing where a quote was or will be obtained, e.g. observed or calculated.

3.9.2 Contents:

Either

businessCenter (exactly one occurrence; of the type BusinessCenter) A city or other business center.

Or

exchangeId (exactly one occurrence; of the type ExchangeId) The exchange (e.g. stock or futures exchange) from which the quote is obtained.

3.9.3 Used by:

3.9.4 Figure:

3.9.5 Schema Fragment:

```
<xsd:group name="QuoteLocation.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group describing where a quote was or will be obtained, e.g.
      observed or calculated.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="businessCenter" type="BusinessCenter">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A city or other business center.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="exchangeId" type="ExchangeId">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The exchange (e.g. stock or futures exchange) from which the
          quote is obtained.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:group>
```


4 Schema listing

```
<xsd:schema ecore:nsPrefix="fpml" ecore:package="org.fpml" ecore:documentRoot="FpML" targetNameSpace="http://www.fpml.org/coding-scheme/asset-pool">
  <xsd:include schemaLocation="fpml-shared-4-4.xsd"/>
  <xsd:complexType name="ActualPrice">
    <xsd:sequence>
      <xsd:element name="currency" type="Currency" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the currency associated with the net price. This
            element is not present if the price is expressed in
            percentage terms (as specified through the priceExpression
            element).
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="amount" type="xsd:decimal">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the net price amount. In the case of a fixed
            income security or a convertible bond, this price includes
            the accrued interests.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="priceExpression" type="PriceExpressionEnum">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies whether the price is expressed in absolute or
            relative terms.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="AnyAssetReference">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A reference to an asset, e.g. a portfolio, trade, or reference
        instrument..
      </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
      <xsd:extension base="Reference">
        <xsd:attribute name="href" type="xsd:IDREF" use="required"/>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <xsd:complexType name="Asset" abstract="true">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Abstract base class for all underlying assets.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:attribute name="id" type="xsd:ID"/>
  </xsd:complexType>
  <xsd:complexType name="AssetMeasureType">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A scheme identifying the types of measures that can be used to
        describe an asset.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
      <xsd:extension base="xsd:normalizedString">
        <xsd:attribute name="assetMeasureScheme" default="http://www.fpml.org/coding-scheme/asset-pool/asset-measure-scheme"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:complexType name="AssetPool">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Characterise the asset pool behind an asset backed bond.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:group ref="VersionHistory.model" minOccurs="0"/>
      <xsd:element name="initialFactor" type="xsd:decimal">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The part of the mortgage that is outstanding on trade
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:schema>
```

```

        inception, i.e. has not been repaid yet as principal. It is
        expressed as a multiplier factor to the mortgage: 1 means
        that the whole mortgage amount is outstanding, 0.8 means
        that 20% has been repaid.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="currentFactor" type="xsd:decimal" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The part of the mortgage that is currently outstanding. It
            is expressed similarly to the initial factor, as factor
            multiplier to the mortgage. This term is formally defined
            as part of the "ISDA Standard Terms Supplement for use with
            credit derivatives transactions on mortgage-backed security
            with pas-as-you-go or physical settlement".
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="AssetReference">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Reference to an underlying asset.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="Reference">
            <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="Asset"/>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="BasicQuotation">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Some kind of numerical measure about an asset, eg. its NPV,
            together with characteristics of that measure.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:group ref="Quotation.model"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Basket">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A type describing the underlyer features of a basket swap. Each
            of the basket constituents are described through an embedded
            component, the basketConstituentsType.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="Asset">
            <xsd:sequence>
                <xsd:element name="openUnits" type="xsd:decimal" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The number of units (index or securities) that
                            constitute the underlyer of the swap. In the case of a
                            basket swap, this element is used to reference both the
                            number of basket units, and the number of each asset
                            components of the basket when these are expressed in
                            absolute terms.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="basketConstituent" type="BasketConstituent" maxOccurs="unbounded">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Describes each of the components of the basket.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="basketDivisor" type="xsd:decimal" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Specifies the basket divisor amount. This value is
                            normally used to adjust the constituent weight for
                            pricing or to adjust for dividends, or other corporate
                            actions.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>

```

```

</xsd:element>
<xsd:group ref="BasketIdentifier.model" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Reuses the group that specifies a name and an
      identifier for a given basket.
    </xsd:documentation>
  </xsd:annotation>
</xsd:group>
<xsd:element name="basketCurrency" type="Currency" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Specifies the currency for this basket.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="BasketConstituent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing each of the constituents of a basket.
    </xsd:documentation>
  </xsd:annotation>
</xsd:complexType>
<xsd:sequence>
  <xsd:element ref="underlyingAsset"/>
  <xsd:element name="constituentWeight" type="ConstituentWeight" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the weight of each of the underlyer constituent
        within the basket, either in absolute or relative terms.
        This is an optional component, as certain swaps do not
        specify a specific weight for each of their basket
        constituents.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="dividendPayout" type="DividendPayout" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the dividend payout ratio associated with an
        equity underlyer. A basket swap can have different payout
        ratios across the various underlying constituents. In
        certain cases the actual ratio is not known on trade
        inception, and only general conditions are then specified.
        Users should note that FpML makes a distinction between the
        derivative contract and the underlyer of the contract. It
        would be better if the agreed dividend payout on a
        derivative contract was modelled at the level of the
        derivative contract, an approach which may be adopted in
        the next major version of FpML.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="underlyerPrice" type="Price" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the price that is associated with each of the
        basket constituents. This component is optional, as it is
        not absolutely required to accurately describe the
        economics of the trade, considering the price that
        characterizes the equity swap is associated to the leg of
        the trade.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="underlyerNotional" type="Money" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the notional (i.e. price * quantity) that is
        associated with each of the basket constituents. This
        component is optional, as it is not absolutely required to
        accurately describe the economics of the trade, considering
        the notional that characterizes the equity swap is
        associated to the leg of the trade.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="underlyerSpread" type="SpreadScheduleReference" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">

```

```

        Provides a link to the spread schedule used for this
        underlyer.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="couponPayment" type="PendingPayment" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The next upcoming coupon payment.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID" use="optional"/>
</xsd:complexType>
<xsd:complexType name="BasketId">
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="basketIdScheme" type="xsd:anyURI"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="BasketName">
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="basketNameScheme" type="xsd:anyURI"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="Bond">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            An exchange traded bond.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="ExchangeTraded">
            <xsd:sequence>
                <xsd:group ref="BondContent.model"/>
                <xsd:element name="parValue" type="xsd:decimal" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Specifies the nominal amount of a fixed income security
                            or convertible bond.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="faceAmount" type="xsd:decimal" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Specifies the total amount of the issue. Corresponds to
                            the par value multiplied by the number of issued
                            security.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:group ref="BondCalculation.model"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Cash">
    <xsd:complexContent>
        <xsd:extension base="IdentifiedAsset">
            <xsd:sequence>
                <xsd:element name="currency" type="Currency">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The currency in which an amount is denominated.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Commission">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A type describing the commission that will be charged for each
            of the hedge transactions.
        </xsd:documentation>
    </xsd:annotation>

```

```

<xsd:sequence>
  <xsd:element name="commissionDenomination" type="CommissionDenominationEnum">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The type of units used to express a commission.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="commissionAmount" type="xsd:decimal">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The commission amount, expressed in the way indicated by
        the commissionType element.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="currency" type="Currency" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The currency in which an amount is denominated.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="commissionPerTrade" type="xsd:decimal" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The total commission per trade.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="fxRate" type="FxRate" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        FX Rates that have been used to convert commissions to a
        single currency.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ConstituentWeight">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the weight of each of the underlyer
      constituent within the basket, either in absolute or relative
      terms.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="openUnits" type="xsd:decimal">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The number of units (index or securities) that constitute
          the underlyer of the swap. In the case of a basket swap,
          this element is used to reference both the number of basket
          units, and the number of each asset components of the
          basket when these are expressed in absolute terms.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basketPercentage" type="RestrictedPercentage">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The relative weight of each respective basket constituent,
          expressed in percentage. A basket percentage of 5% would be
          represented as 0.05.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basketAmount" type="Money">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The relative weight of each respective basket constituent,
          expressed as a monetary amount.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="ConvertibleBond">
  <xsd:complexContent>
    <xsd:extension base="Bond">
      <xsd:sequence>

```

```

<xsd:element name="underlyingEquity" type="EquityAsset" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Specifies the equity in which the convertible bond can
      be converted.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="redemptionDate" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Earlier date between the convertible bond put dates and
      its maturity date.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="CouponType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Defines a scheme of values for specifying if the bond has a
      variable coupon, step-up/down coupon or a zero-coupon.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="couponTypeScheme" type="xsd:anyURI" default="http://www.fpml.org/c
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="Deposit">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the deposit, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the deposit pays, e.g.
              6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the deposit.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="DividendPayout">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the dividend payout ratio associated with an
      equity underlyer. In certain cases the actual ratio is not
      known on trade inception, and only general conditions are then
      specified.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:choice>
      <xsd:element name="dividendPayoutRatio" type="xsd:decimal">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the actual dividend payout ratio associated
            with the equity underlyer.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="dividendPayoutConditions" type="xsd:string">

```

```

        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            Specifies the dividend payout conditions that will be
            applied in the case where the actual ratio is not known,
            typically because of regulatory or legal uncertainties.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:choice>
    <xsd:element name="dividendPayment" type="PendingPayment" minOccurs="0" maxOccurs="unbound">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The next upcoming dividend payment or payments.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="EquityAsset">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded equity asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded"/>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="ExchangeTraded" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An abstract base class for all exchange traded financial
      products.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:group ref="ExchangeIdentifier.model"/>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="ExchangeTradedCalculatedPrice" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Abstract base class for all exchange traded financial products
      with a price which is calculated from exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="constituentExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbound">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Identification of all the exchanges where constituents
              are traded. The term "Exchange" is assumed to have the
              meaning as defined in the ISDA 2002 Equity Derivatives
              Definitions.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="ExchangeTradedContract">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded derivative contract.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="multiplier" type="xsd:positiveInteger" minOccurs="0" maxOccurs="unbound">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the contract multiplier that can be
              associated with the number of units.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>

```

```

    </xsd:annotation>
  </xsd:element>
  <xsd:element name="contractReference" type="xsd:string" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the contract that can be referenced, besides
        the undelyer type.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="expirationDate" type="AdjustableOrRelativeDate" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The date when the contract expires.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="ExchangeTradedFund">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded fund whose price depends on exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTradedCalculatedPrice">
      <xsd:sequence>
        <xsd:element name="fundManager" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the fund manager that is in charge of the
              fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="FacilityType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the type of loan facility.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:token">
      <xsd:attribute name="facilityTypeScheme" type="xsd:anyURI" default="http://www.fpml.org">
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
<xsd:complexType name="Future">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An exchange traded future contract.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTraded">
      <xsd:sequence>
        <xsd:element name="multiplier" type="xsd:positiveInteger" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the contract multiplier that can be
              associated with the number of units.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="futureContractReference" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the future contract that can be referenced,
              besides the equity or index reference defined as part
              of the UnderlyerAsset type.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="maturity" type="xsd:date" minOccurs="0">
          <xsd:annotation>

```



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        <xsd:documentation xml:lang="en">
            The date when the future contract expires.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="FutureId">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A type defining a short form unique identifier for a future
            contract.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="futureIdScheme" type="xsd:anyURI"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="FxConversion">
    <xsd:choice>
        <xsd:element name="amountRelativeTo" type="AmountReference"/>
        <xsd:element name="fxRate" type="FxRate" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Specifies a currency conversion rate.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:choice>
</xsd:complexType>
<xsd:complexType name="FxRateAsset">
    <xsd:complexContent>
        <xsd:extension base="UnderlyingAsset">
            <xsd:sequence>
                <xsd:element name="quotedCurrencyPair" type="QuotedCurrencyPair">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Defines the two currencies for an FX trade and the
                            quotation relationship between the two currencies.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="rateSource" type="FxSpotRateSource" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Defines the source of the FX rate.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="IdentifiedAsset" abstract="true">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A generic type describing an identified asset.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="Asset">
            <xsd:sequence>
                <xsd:element name="instrumentId" type="InstrumentId" maxOccurs="unbounded">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Identification of the underlying asset, using public
                            and/or private identifiers.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="description" type="xsd:string" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Long name of the underlying asset.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>

```

```

</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Index">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A published index whose price depends on exchange traded
      constituents.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="ExchangeTradedCalculatedPrice">
      <xsd:sequence>
        <xsd:element name="futureId" type="FutureId" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              A short form unique identifier for the reference future
              contract in the case of an index underlyer.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Lien">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the liens associated with a loan facility.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="lienScheme" type="xsd:anyURI" default="http://www.fpml.org/coding-
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="Loan">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing a loan underlying asset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:choice minOccurs="0" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the borrower. There can be more than one
              borrower. It is meant to be used in the event that
              there is no Bloomberg Id or the Secured List isn't
              applicable.
            </xsd:documentation>
          </xsd:annotation>
          <xsd:element name="borrower" type="LegalEntity"/>
          <xsd:element name="borrowerReference" type="LegalEntityReference"/>
        </xsd:choice>
        <xsd:element name="lien" type="Lien" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the seniority level of the lien.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="facilityType" type="FacilityType" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The type of loan facility (letter of credit, revolving,
              ...).
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="maturity" type="xsd:date" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The date when the principal amount of the loan becomes
              due and payable.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="creditAgreementDate" type="xsd:date" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">

```

```

        The credit agreement date is the closing date (the date
        where the agreement has been signed) for the loans in
        the credit agreement. Funding of the facilities occurs
        on (or sometimes a little after) the Credit Agreement
        date. This underlyer attribute is used to help identify
        which of the company's outstanding loans are being
        referenced by knowing to which credit agreement it
        belongs. ISDA Standards Terms Supplement term: Date of
        Original Credit Agreement.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="tranche" type="UnderlyingAssetTranche" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The loan tranche that is subject to the derivative
            transaction. It will typically be referenced as the
            Bloomberg tranche number. ISDA Standards Terms
            Supplement term: Bloomberg Tranche Number.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Mortgage">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A type describing a mortgage asset.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="UnderlyingAsset">
            <xsd:sequence>
                <xsd:choice minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>
                            Applicable to the case of default swaps on MBS terms.
                            For specifying the insurer name, when applicable (when
                            the element is not present, it signifies that the
                            insurer is Not Applicable)
                        </xsd:documentation>
                    </xsd:annotation>
                    <xsd:element name="insurer" type="LegalEntity"/>
                    <xsd:element name="insurerReference" type="LegalEntityReference"/>
                </xsd:choice>
                <xsd:group ref="BondContent.model"/>
                <xsd:group ref="BondCalculation.model"/>
                <xsd:element name="originalPrincipalAmount" type="xsd:decimal" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The initial issued amount of the mortgage obligation.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="pool" type="AssetPool" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The mortgage pool that is underneath the mortgage
                            obligation.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="sector" type="MortgageSector" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The sector classification of the mortgage obligation.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="tranche" type="xsd:token" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The mortgage obligation tranche that is subject to the
                            derivative transaction.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

```

```

<xsd:complexType name="MortgageSector">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the typology of mortgage obligations.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="mortgageSectorScheme" type="xsd:anyURI" default="http://www.fpml.com">
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="MutualFund">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="openEndedFund" type="xsd:boolean" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Boolean indicator to specify whether the mutual fund is
              an open-ended mutual fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="fundManager" type="xsd:string" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the fund manager that is in charge of the
              fund.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="PendingPayment">
  <xsd:annotation>
    <xsd:documentation>
      A structure representing a pending dividend or coupon payment.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="paymentDate" type="xsd:date">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The date that the dividend or coupon is due.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="amount" type="Money">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The amount of the dividend or coupon payment. Value of
          dividends or coupon between ex and pay date. Stock: if we
          are between ex-date and pay-date and the dividend is
          payable under the swap, then this should be the ex-div
          amount * # of securities. Bond: regardless of where we are
          vis-a-vis resets: (coupon % * face of bonds on swap * (bond
          day count fraction using days last coupon pay date of the
          bond through today).
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="accruedInterest" type="Money" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Accrued interest on the dividend or coupon payment. When
          the TRS is structured to pay a dividend or coupon on reset
          after payable date, you may earn interest on these amounts.
          This field indicates the interest accrued on
          dividend/coupon from pay date to statement date. This will
          only apply to a handful of agreements where dividendss are
          held to the next reset AND you receive/pay interest on
          unpaid amounts.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Price">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">

```

```

    A type describing the strike price.
  </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
  <xsd:element name="commission" type="Commission" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        This optional component specifies the commission to be
        charged for executing the hedge transactions.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:choice>
    <xsd:element name="determinationMethod" type="DeterminationMethod">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the method according to which an amount or a
          date is determined.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="amountRelativeTo" type="AmountReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The href attribute value will be a pointer style
          reference to the element or component elsewhere in the
          document where the anchor amount is defined.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
  <xsd:sequence>
    <xsd:element name="grossPrice" type="ActualPrice" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the price of the underlying, before
          commissions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="netPrice" type="ActualPrice">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the price of the underlying, net of
          commissions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="accruedInterestPrice" type="xsd:decimal" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the accrued interest that are part of the
          dirty price in the case of a fixed income security or a
          convertible bond. Expressed in percentage of the
          notional.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="fxConversion" type="FxConversion" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the currency conversion rate that applies to
          an amount. This rate can either be defined elsewhere in
          the document (case of a quanto swap), or explicitly
          described through this component.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:choice>
<xsd:element name="cleanNetPrice" type="xsd:decimal" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The net price excluding accrued interest. The "Dirty Price"
      for bonds is put in the "netPrice" element, which includes
      accrued interest. Thus netPrice - cleanNetPrice =
      accruedInterest. The currency and price expression for this
      field are the same as those for the (dirty) netPrice.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="quotationCharacteristics" type="QuotationCharacteristics" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation>

```

```

        Allows information about how the price was quoted to be
        provided.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="PriceQuoteUnits">
    <xsd:annotation>
        <xsd:documentation source="http://www.FpML.org" xml:lang="en">
            The units in which a price is quoted.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="priceQuoteUnitsScheme" type="xsd:anyURI" default="http://www.fpml.org/priceQuoteUnitsScheme"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="QuotationCharacteristics">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A type representing a set of characteristics that describe a
            quotation.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:group ref="QuotationCharacteristics.model"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="QuoteTiming">
    <xsd:annotation>
        <xsd:documentation source="http://www.FpML.org" xml:lang="en">
            The type of the time of the quote.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="quoteTimingScheme" type="xsd:anyURI" default="http://www.fpml.org/quoteTimingScheme"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="RateIndex">
    <xsd:complexContent>
        <xsd:extension base="UnderlyingAsset">
            <xsd:sequence>
                <xsd:element name="floatingRateIndex" type="FloatingRateIndex"/>
                <xsd:element name="term" type="Interval">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Specifies the term of the simple swap, e.g. 5Y.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            Specifies the frequency at which the index pays, e.g.
                            6M.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The day count basis for the index.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="SimpleCreditDefaultSwap">
    <xsd:complexContent>
        <xsd:extension base="UnderlyingAsset">
            <xsd:sequence>
                <xsd:group ref="CreditEntity.model">
                    <xsd:annotation>
                        <xsd:documentation xml:lang="en">
                            The reference entity, index, etc. upon which the CDS is
                            based.
                        </xsd:documentation>
                    </xsd:annotation>
                </xsd:group>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

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```

    </xsd:annotation>
  </xsd:group>
  <xsd:element name="term" type="Interval">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the term of the simple CD swap, e.g. 5Y.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Specifies the frequency at which the swap pays, e.g.
        6M.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="SimpleFra">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="startTerm" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the start term of the simple fra, e.g. 3M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="endTerm" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the end term of the simple fra, e.g. 9M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the FRA.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="SimpleIRSwap">
  <xsd:complexContent>
    <xsd:extension base="UnderlyingAsset">
      <xsd:sequence>
        <xsd:element name="term" type="Interval">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the term of the simple swap, e.g. 5Y.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Specifies the frequency at which the swap pays, e.g.
              6M.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              The day count basis for the swap.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="SingleUnderlyer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">

```

```

    A type describing a single underlyer
  </xsd:documentation>
</xsd:annotation>
</xsd:sequence>
<xsd:element ref="underlyingAsset"/>
<xsd:element name="openUnits" type="xsd:decimal" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The number of units (index or securities) that constitute
      the underlyer of the swap. In the case of a basket swap,
      this element is used to reference both the number of basket
      units, and the number of each asset components of the
      basket when these are expressed in absolute terms.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="dividendPayout" type="DividendPayout" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Specifies the dividend payout ratio associated with an
      equity underlyer. A basket swap can have different payout
      ratios across the various underlying constituents. In
      certain cases the actual ratio is not known on trade
      inception, and only general conditions are then specified.
      Users should note that FpML makes a distinction between the
      derivative contract and the underlyer of the contract. It
      would be better if the agreed dividend payout on a
      derivative contract was modelled at the level of the
      derivative contract, an approach which may be adopted in
      the next major version of FpML.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="couponPayment" type="PendingPayment" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The next upcoming coupon payment.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Underlyer">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A type describing the whole set of possible underlyers: single
      underlyers or multiple underlyers, each of these having either
      security or index components.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="singleUnderlyer" type="SingleUnderlyer">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Describes the swap's underlyer when it has only one asset
          component.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="basket" type="Basket">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Describes the swap's underlyer when it has multiple asset
          components.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="UnderlyingAsset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Abstract base class for all underlying assets.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="IdentifiedAsset">
      <xsd:sequence>
        <xsd:element name="currency" type="Currency" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Currency in which the underlying asset is denominated.
            </xsd:documentation>
          </xsd:annotation>

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    </xsd:annotation>
  </xsd:element>
  <xsd:element name="exchangeId" type="ExchangeId" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Identification of the exchange on which this asset is
        transacted for the purposes of calculating a
        contractual payoff. The term "Exchange" is assumed to
        have the meaning as defined in the ISDA 2002 Equity
        Derivatives Definitions.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="clearanceSystem" type="ClearanceSystem" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Identification of the clearance system associated with
        the transaction exchange.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="definition" type="ProductReference" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        An optional reference to a full FpML product that
        defines the simple product in greater detail. In case
        of inconsistency between the terms of the simple
        product and those of the detailed definition, the
        values in the simple product override those in the
        detailed definition.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="UnderlyingAssetTranche">
  <xsd:simpleContent>
    <xsd:extension base="xsd:token">
      <xsd:attribute name="loanTrancheScheme" type="xsd:anyURI" default="http://www.fpml.org/
    </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
  <xsd:element name="basket" type="Basket" substitutionGroup="underlyingAsset">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Defines the underlying asset when it is a basket.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="bond" type="Bond" substitutionGroup="underlyingAsset">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Defines the underlying asset when it is a bond.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="cash" type="Cash" substitutionGroup="underlyingAsset">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Defines a simple underlying asset type that is a cash payment.
        Used for specifying discounting factors for future cash flows
        in the pricing and risk model.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="convertibleBond" type="ConvertibleBond" substitutionGroup="underlyingAsset">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Defines the underlying asset when it is a convertible bond.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="deposit" type="Deposit" substitutionGroup="underlyingAsset">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Defines a simple underlying asset that is a term deposit.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="equity" type="EquityAsset" substitutionGroup="underlyingAsset">
    <xsd:annotation>

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        <xsd:documentation xml:lang="en">
            Defines the underlying asset when it is a listed equity.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="exchangeTradedFund" type="ExchangeTradedFund" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines the underlying asset when it is an exchange-traded
            fund.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="future" type="Future" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines the underlying asset when it is a listed future
            contract.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="fxRate" type="FxRateAsset" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines a simple underlying asset type that is an FX rate. Used
            for specifying FX rates in the pricing and risk model.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="index" type="Index" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines the underlying asset when it is a financial index.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="loan" type="Loan" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines a simple underlying asset that is a loan.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="mortgage" type="Mortgage" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines an underlying asset that is a mortgage.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="mutualFund" type="MutualFund" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines the underlying asset when it is a mutual fund.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="rateIndex" type="RateIndex" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines a simple underlying asset that is an interest rate
            index. Used for specifying benchmark assets in the market
            environment in the pricing and risk model.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="simpleCreditDefaultSwap" type="SimpleCreditDefaultSwap" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines a simple underlying asset that is a credit default
            swap.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="simpleFra" type="SimpleFra" substitutionGroup="underlyingAsset">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Defines a simple underlying asset that is a forward rate
            agreement.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="simpleIrSwap" type="SimpleIRSwap" substitutionGroup="underlyingAsset">

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<xsd:annotation>
  <xsd:documentation xml:lang="en">
    Defines a simple underlying asset that is a swap.
  </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="underlyingAsset" type="Asset" abstract="true">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Define the underlying asset when it is a listed security.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:group name="BasketIdentifier.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group that specifies a name and an identifier for a given
      basket.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:sequence>
      <xsd:element name="basketName" type="BasketName">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The name of the basket expressed as a free format string.
            FpML does not define usage rules for this element.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="basketId" type="BasketId" minOccurs="0" maxOccurs="unbounded">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A CDS basket identifier
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
    <xsd:sequence>
      <xsd:element name="basketId" type="BasketId" maxOccurs="unbounded">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A CDS basket identifier
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:choice>
</xsd:group>
<xsd:group name="BondCalculation.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group that specifies Bond Calculation elements
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="paymentFrequency" type="Interval" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Specifies the frequency at which the bond pays, e.g. 6M.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="dayCountFraction" type="DayCountFraction" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The day count basis for the bond.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
<xsd:group name="BondChoice.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A model group which provides choices between all bond
      underlyers.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element ref="bond">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">

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```

        A bond instrument referenced by a contract
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element ref="convertibleBond">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A convertible bond instrument referenced by a contract.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:choice>
</xsd:group>
<xsd:group name="BondContent.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A group that specifies Bond Content elements
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:choice minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Specifies the issuer name of a fixed income security or
                    convertible bond. This name can either be explicitly
                    stated, or specified as an href into another element of the
                    document, such as the obligor
                </xsd:documentation>
            </xsd:annotation>
            <xsd:element name="issuerName" type="xsd:string"/>
            <xsd:element name="issuerPartyReference" type="PartyReference"/>
        </xsd:choice>
        <xsd:element name="seniority" type="CreditSeniority" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The repayment precedence of a debt instrument.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="couponType" type="CouponType" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Specifies if the bond has a variable coupon, step-up/down
                    coupon or a zero-coupon.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="couponRate" type="xsd:decimal" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Specifies the coupon rate (expressed in percentage) of a
                    fixed income security or convertible bond.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="maturity" type="xsd:date" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The date when the principal amount of a security becomes
                    due and payable.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:group>
<xsd:group name="CreditEntity.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            An item which has credit characteristics that can be modeled,
            e.g. a firm, index, or region.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:choice>
        <xsd:element name="referenceEntity" type="LegalEntity">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The entity for which this is defined.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="creditEntityReference" type="LegalEntityReference">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">

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        An XML reference a credit entity defined elsewhere in the
        document.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:choice>
</xsd:group>
<xsd:group name="ExchangeIdentifier.model">
    <xsd:sequence>
        <xsd:element name="relatedExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A short form unique identifier for a related exchange. If
                    the element is not present then the exchange shall be the
                    primary exchange on which listed futures and options on the
                    underlying are listed. The term "Exchange" is assumed to
                    have the meaning as defined in the ISDA 2002 Equity
                    Derivatives Definitions.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="optionsExchangeId" type="ExchangeId" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A short form unique identifier for an exchange on which the
                    reference option contract is listed. This is to address the
                    case where the reference exchange for the future is
                    different than the one for the option. The options Exchange
                    is referenced on share options when Merger Elections are
                    selected as Options Exchange Adjustment.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:group>
<xsd:group name="Quotation.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Some kind of numerical measure about an asset, eg. its price or
            NPV, together with characteristics of that measure.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="value" type="xsd:decimal" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The value of the the quotation.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:group ref="QuotationCharacteristics.model">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The characteristics of the quotation.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:group>
    </xsd:sequence>
</xsd:group>
<xsd:group name="QuotationCharacteristics.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A group collecting a set of characteristics that can be used to
            describe a quotation.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="measureType" type="AssetMeasureType" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The type of the value that is measured. This could be an
                    NPV, a cash flow, a clean price, etc.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="quoteUnits" type="PriceQuoteUnits" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The optional units that the measure is expressed in. If not
                    supplied, this is assumed to be a price/value in currency
                    units.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:group>

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```

</xsd:element>
<xsd:element name="side" type="QuotationSideEnum" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The side (bid/mid/ask) of the measure.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="currency" type="Currency" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The optional currency that the measure is expressed in. If
      not supplied, this is defaulted from the reportingCurrency
      in the valuationScenarioDefinition.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="timing" type="QuoteTiming" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When during a day the quote is for. Typically, if this
      element is supplied, the QuoteLocation needs also to be
      supplied.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:group ref="QuoteLocation.model" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Where the quote is from.
    </xsd:documentation>
  </xsd:annotation>
</xsd:group>
<xsd:element name="informationSource" type="InformationSource" minOccurs="0" maxOccurs="1">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The information source where a published or displayed
      market rate will be obtained, e.g. Telerate Page 3750.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="time" type="xsd:dateTime" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When the quote was observed or derived.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="valuationDate" type="xsd:date" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When the quote was computed.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="expiryTime" type="xsd:dateTime" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      When does the quote cease to be valid.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="cashFlowType" type="CashflowType" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      For cash flows, the type of the cash flows. Examples
      include: Coupon payment, Premium Fee, Settlement Fee,
      Brokerage Fee, etc.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:group>
<xsd:group name="QuoteLocation.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A group describing where a quote was or will be obtained, e.g.
      observed or calculated.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="businessCenter" type="BusinessCenter">
      <xsd:annotation>

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```
        <xsd:documentation xml:lang="en">
            A city or other business center.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="exchangeId" type="ExchangeId">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The exchange (e.g. stock or futures exchange) from which
            the quote is obtained.
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:choice>
</xsd:group>
</xsd:schema>
```