

Position Paper for the "W3C Workshop on Web Payments: How do you want to pay?"<sup>1</sup> 24-25 March 2014, Paris, France

# Restricted vs Free Market Pricing in Web Payments

## Considerations in Accommodating Transparency and Freedom of Choice<sup>2</sup> in "Unit-of-Account", in "Medium-of-Exchange" and in "Value-in-Exchange Benchmarking" at the Inception of a Possible W3C Web Payments Specification

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Editable Wiki Version: [https://www.w3.org/community/webpayments/wiki/Choice\\_in\\_the\\_basic\\_attributes\\_of\\_pricing](https://www.w3.org/community/webpayments/wiki/Choice_in_the_basic_attributes_of_pricing)

### Joseph Potvin

Doctoral Candidate, Administration (Project Management) University of Québec  
MCPM (2012 Sprott Business School) , M.Phil. (1986 Cambridge; Inter-Discipl.) HonBA (1983 McGill; Econ)  
Participant, W3C Community Group on Web Payments  
Chair, Working Group on Management Education, The Open Source Initiative  
Operations Manager, The Opman Company | [jpotvin@opman.ca](mailto:jpotvin@opman.ca) Mobile: 819-593-5983

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### 1. Abstract

For any potential W3C specification on web payments, this paper outlines various options for associating the roles of buyers, sellers and payment intermediaries with the authority to determine basic attributes of price. Reasons and methods for each approach are provided, with some examples.

### 2. Definitions

Basic concepts like “market”, “value” and “price” seem common sense and are easily taken for granted. The International Valuation Standards Council (IVSC) defines a *market* as an “environment in which goods and services trade between buyers and sellers through a price mechanism ... without undue restriction on their activities”. *Market Value* is the value-in-exchange negotiated for a given date “between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties each acted knowledgeably, prudently and without compulsion”. And *price* “is the amount asked, offered or paid”, understanding that “price may differ from market value due to the relative financial capabilities, motivations or special interests of a given buyer or seller”.<sup>3</sup>

1 <http://www.w3.org/2013/10/payments/participate.html>

2 This subtitle implies a reference to works by Friedman and Hayek:

- Friedman, M. and R. Friedman. 1979. Free to Choose. Harcourt Books.
- Hayek, F. 1945. Choice in Currency. Institute of Economic Affairs. (Expanded in: Hayek, F. 1974. Denationalization of Money - The Argument Refined: An Analysis of the Theory and Practice of Concurrent Currencies. Institute of Economic Affairs.)

3 <http://www.ivsc.org/glossary>

### 3. Purpose

This paper encourages close and proactive attention to ensure that any potential W3C specification on web payments will be consistent with the precise concepts and definitions of the *International Valuation Standard*.<sup>4</sup> Particular attention is advised with regard to the IVSC's phrases “acted knowledgeably” and “without undue restriction”.

From its inception a W3C specification on web payments may adopt one the following positions with regard to the roles of buyers, sellers and payment intermediaries (systems or roles):

- (a) The specification may explicitly or implicitly leave out-of-scope the issue of whether or not payment intermediaries may constrain access to knowledge and choice amongst buyers and sellers in regard to the three basic attributes of price: “unit-of-account”, “medium-of-exchange” and “value-in-exchange benchmarking”;
- (b) The specification may explicitly identify the criteria, methods and processes by which payment intermediaries may legitimately constrain access to knowledge and choice amongst buyers and sellers in regard to the three basic attributes of price: “unit-of-account”, “medium-of-exchange” and “value-in-exchange benchmarking”; or,
- (c) The specification may explicitly identify the general and inalienable right of buyers and sellers to unencumbered knowledge and choice in regard to the three basic attributes of price: “unit-of-account”, “medium-of-exchange” and “value-in-exchange benchmarking”.

### 4. Context: Standards and Specifications

It is useful to briefly situate the roles of the W3C and the IVSC amidst three types of standardization:

- *International Standards* are voluntary sets of specifications approved through consensus by an accredited international standardizing body registered with, and operating in alignment with the WTO "*Code of Good Practice for the Preparation, Adoption and Application of Standards*".<sup>5</sup>
- *National Standards* are voluntary sets of specifications approved through consensus by any national body (governmental or non-governmental) that is registered with, and operating in alignment with the WTO's *Code of Good Practice*. National standards *must* conform with International Standards when applicable ones exists, except where they are an ineffective or inappropriate means to fulfil legitimate objectives of the national standard.
- *Industry Standards* are specifications voluntarily adopted by broadly-based industry consortia which may or may not be fully-accredited international or national standards bodies as defined under the WTO. These may include self-management and self-regulatory agreements based on working consensus, and may be supported with compliance assurance mechanisms.

W3C Standards are Industry Standards, expressed as technical specifications and guidelines. A semi-formal W3C Community Group may propose the accreditation of a formal Working Group to develop a W3C Specification. Upon full review by W3C Members, a Specification may be published as a W3C Recommendation, indicating consensus that it is appropriate for widespread use.

IVSC Standards are a type of Industry Standard developed and maintained by the Board of the private sector International Valuation Standards Council. The IVSC Board members are appointed by its Trustees, who are each elected by IVSC members at large, involving registered users, providers, professional bodies, educators and regulators of valuation services.

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<sup>4</sup> The author of this paper has no connection whatsoever with the International Valuation Standards Council (IVSC). The IVSC is cited here on account of its respected role as an independent, not-for-profit, private sector organization that develops and maintains technical and ethical standards for valuations, and supporting guidance. <http://www.ivsc.org/about>

<sup>5</sup> [http://www.wto.org/english/docs\\_e/legal\\_e/17-tbt\\_e.htm#annexIII](http://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm#annexIII)

## 5. The Three Attributes of Market Price

Every commercial transaction price invokes the three fundamental attributes of money:

1. "*Unit-of-Account*": This is an abstract quantitative unit that functions as a numeraire to document and communicate relative entitlements and obligations. Ideally a unit-of-account is a standard reference scalar with the technical properties of discernability (units can be recognized), divisibility (units can be separated), composability (units can be combined), and fungibility (all units are identical). ;
2. "*Medium-of-Exchange*": This is a system of functional methods and processes that, to the extent it is embraced by a community, can conditionally and by degrees bestow upon a Unit-of-Account the properties of liquidity (units can be accessed) and multilateral transferability (units can switch owners). It enables contracting parties to undertake the exchange of entitlements and obligations relating to goods, services and rights.;
3. "*Value-in-Exchange Benchmark*": This is a quantitative standard reference scalar that attaches semantic meaning to *one* Unit-of-Account. When relied upon by market participants as an agreed method of calibration, then by degrees of acceptance it bestows upon a Unit-of-Account the properties of magnitude, transparency, verifiability, integrity (freedom from manipulation), and reliability (freedom from errors), all of which help contracting parties to manage risk and uncertainty.<sup>6</sup>

## 6. Some Reasons and Methods to Restrict Market Pricing in Web Payments

Government and commercial payment intermediaries (roles or systems) may assert their authority to restrict one or more of the three basic attributes of market price, by legally and/or programatically requiring that:

### *Unit-of-Account Restrictions*

- (a) Prices shall be asked by sellers, offered by buyers, and recorded solely in specified units-of-account, as a matter of political jurisdiction or corporate culture.

### *Medium-of-Exchange Restrictions*

- (b) Commercial transactions shall be realized solely in the "legal tender" medium-of-exchange of a designated jurisdiction, in order to simplify data management and tax liability assessment, or to favour demand for the jurisdiction's medium-of-exchange;
- (c) Commercial transactions within a particular sector shall be realized solely in the medium-of-exchange of a designated jurisdiction, in order to favour that jurisdiction's trade interests or to favour demand for its medium-of-exchange.

### *Value-in-Exchange Benchmarking Restrictions*

- (d) A jurisdiction's central bank shall act as the sole arbiter of direct and indirect value-in-exchange benchmarking method for its official medium-of-exchange, in order to support a public policy of stabilizing trade or prices;
- (e) A commercial payment intermediary shall act as the sole arbiter of direct and indirect value-in-exchange benchmarking methods for authorized media-of-exchange, in

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<sup>6</sup> Buyers and sellers often engage third party financial instruments to hedge against *predictable* change to monetary value-in-exchange benchmarks such as the WM-Reuters Spot Rate. However:

- Such indices may lack integrity <http://www.bloomberg.com/news/2014-02-04/ten-banks-in-fx-trading-probe-have-handed-evidence-to-u-k-fca.html>;
- Some empirical studies demonstrate that firms in many scenarios are better off *not* hedging exchange rate risk. McCarthy, S. 2011. Hedging versus not hedging: strategies for managing foreign exchange transaction exposure. [http://eprints.qut.edu.au/315/1/WP\\_McCarthy\\_Hedging.pdf](http://eprints.qut.edu.au/315/1/WP_McCarthy_Hedging.pdf)

order to support the intermediary's own operational risk management or optimal shareholder value.

In this perspective, a W3C specification on web payments would describe the criteria, methods and processes by which payments intermediaries may legitimately constrain access to knowledge and choice amongst buyers and sellers in the three basic attributes of price. For example, the supplier of a standards-compliant web browser or web site would be permitted to determine the web payment solution, and the supplier of a standards-compliant web payment solution would be permitted to determine which “units-of-account”, “media-of-exchange” and “value-in-exchange benchmarks” are to be accommodated. Other suppliers of standards-compliant browsers, sites and web payments solutions may explicitly or implicitly, directly or indirectly, offer buyers and sellers the operational ability to negotiate attributes of price on their own.

## 7. Some Reasons and Methods to Free Market Pricing in Web Payments

Organizations and individuals using web payment systems to process transactions may assert their freedom to choose in regard to one or more of the three basic attributes of market price, by conducting their business only on solutions that enable:

### *Unit-of-Account Freedom of Choice*

- (a) Prices may be asked by sellers, offered by buyers, and recorded in any units-of-account that they prefer, as a matter of free market culture;

### *Medium-of-Exchange Freedom of Choice*

- (b) Commercial transactions may be realized in any medium-of-exchange agreed to by the direct parties to any contract, while respecting obligations (e.g. tax liability) in their respective jurisdictions;

### *Value-in-Exchange Benchmarking Freedom of Choice*

- (c) Buyers and sellers may identify and apply to their contracts any value-in-exchange benchmarking method they prefer in order to manage their own operational risk and/or to optimize their own value outcomes.

In this perspective, a W3C specification on web payments would explicitly identify the general and inalienable right of buyers and sellers to unencumbered knowledge and choice in the three basic attributes of price. For example, the choice of payment solution must never be bundled to the choice of web browser or web site, and the choice of value-in-exchange benchmark must never be bundled to the choice of payment solution. The standard would require that payment intermediaries guarantee operational freedom for buyers and sellers to autonomously negotiate all three attributes of price. Policy or programmatic influence or imposition upon any of the three attributes of price by a financial services intermediary upon the core parties to a transaction would violate the specification.

## 8. Value-in-Exchange Benchmarking Through Variable-Price Contracts

**Scenario: Stabilizing Patient Access to Medicines:** The sales manager for a global pharmaceuticals vendor takes steps to mitigate the problem faced by doctors and pharmacists when trying to maintain patients on recommended regular dosage levels in markets with extremely different income levels. The firm configures its e-commerce site to post prices in any currency selected by a registered clinic, and to automatically benchmark its prices to an international monthly index of the relative median household income in each clinic's own country. To set this up the sales manager selects this index from a drop-down list in the e-commerce application, and chooses monthly updates. On the first day of each month the software pulls in the latest benchmark value from the

UN Statistical Office web service, to compute and display prices, and to process transactions. Each digital record of sale includes sufficient detail that the benchmark adjustment can be validated for accuracy by both the buyer and seller.

**Scenario: Stabilizing Service Contract Fees Relative to Purchasing Power:** A company in Paris uses its e-procurement solution to contract a software developer in Florianopolis during six months. Expecting large fluctuations in exchange rates between the Euro and the Brazilian Real, the procurement officer in Paris suggests that instead of using expensive third-party currency hedging services, they could benchmark the developer's contract fee to the World Price Index (WPI).<sup>7</sup> This would insulate both parties in real terms from volatility in the currency markets by stabilizing the values paid and received in terms of tangible local purchasing power in Brazil and in France. To implement the agreement, the procurement officer selects the WPI from a list in their e-procurement form. Now when processing each bi-weekly invoice to issue direct peer-to-peer payments, the software automatically queries the WPI, applies that benchmark to the amounts, and reports the WPI adjustments in the record of transaction sent to each party.

**Scenario: Stabilizing Manufactured Goods Prices Against Material Input Costs:** A fabricator of tools places a monthly order of hardwood, metal, rubber and other raw materials with a local industrial commodities wholesaler, paying for these in their common national currency. The local wholesaler buys the commodities from an import/export business in another country, also paying in the national currency of the wholesaler. The import/export business buys commodities worldwide using a diversity of currencies, and sometimes barter arrangements. The tools manufacturer faces indirect exchange rate risk and global commodity markets risk even though all of their own transactions and those of their direct suppliers and customers are denominated a single currency and within one country. The tool maker manages cash flow risk from general raw materials price volatility by benchmarking their finished product prices to an index constructed as a moving average amongst a set of global primary exchange-traded commodity indicators. A manager selects the index from a list in their e-commerce application. Each Saturday at midnight the software automatically updates prices in their online catalogue of tools, applies the new benchmark to sales throughout the following week, and reports this in transaction receipts issued to customers.

## 9. Conclusion

The W3C community may determine that associating the roles of buyers, sellers and payment intermediaries with the authority to determine basic attributes of price is either out-of-scope or in-scope for a possible specification on web payments:

- A web payment specification that does not address this issue would accept that standard-compliant payments systems and intermediaries may restrict buyers and sellers in negotiating the three basic attributes of price. This option retains *status quo* arrangements.
- A web payment specification that does address this issue would be explicit in either:
  - Stating the conditions under which standard-compliant payments systems and intermediaries may restrict buyers and sellers in negotiating the three attributes of price. This option both formalizes and constrains the *status quo* arrangements.
  - Acknowledging buyer and seller freedom to negotiate all attributes of price. This option establishes a free market premise for web payments specifications.

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<sup>7</sup> <http://www.worldeconomics.com/WorldPriceIndex/WPI.efp>