

Comcast Cost Trend Development

CostQuest Associates
Jim Stegeman
TFI Conference, January 2014

February 2014

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Introduction

- The following presentation is based on
 - CostQuest developed the RCN for Comcast
 - CostQuest was retained by 5 of the largest cable companies to look at equipment and labor pricing trends
 - CostQuest conducts RCNs for network companies and has access to historical cost information
 - Federal government and Industry data
- The data shows that the application of some state trends overstates the value of the Comcast network



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The 50,000 Foot View

From June 2003 Paper
by Mark Doms of the
Federal Reserve Bank

Communications Equipment: What Has Happened to Costs?

Basic tenet of paper is
that the BLS producer
Cost index for
Communication gear
between 1991 and 2000
underestimated the real
change

Table 16: Price Indexes For Communications Equipment-Aggressive Assumptions
(all price indexes=1.00 in 1994, all spending figures in \$billions)

Price indexes used instead of the PPI	1994	1995	1996	1997	1998	1999	2000	AAGR (%)
1. Central office switching and transmission equipment	1.00	0.94	0.70	0.50	0.50	0.42	0.35	-16.1
2. Fiber optic equipment	1.00	0.94	0.89	0.81	0.74	0.64	0.53	-10.1
3. Cellular phone infrastructure	1.00	0.90	0.81	0.73	0.66	0.59	0.53	-10.0
4. LAN equipment	1.00	0.94	0.77	0.64	0.46	0.38	0.33	-17.4
5. Modems	1.00	0.83	0.72	0.51	0.41	0.29	0.20	-23.3
6. Other data communication	1.00	0.88	0.83	0.72	0.57	0.49	0.44	-12.7
7. Private branch exchange (PBX)/Key telephone system (KTS)	1.00	1.01	0.92	0.85	0.79	0.71	0.66	-6.8
8. Voice processing equipment (call centers, voice mail, ...)	1.00	1.01	0.92	0.85	0.79	0.71	0.66	-6.8
9. Cellular phones	1.00	0.85	0.72	0.61	0.52	0.44	0.38	-15.8
10. Cable TV equipment	1.00	0.95	0.90	0.86	0.81	0.77	0.74	-5.0

Table 15: Price Indexes For Communications Equipment-Moderate Assumptions
(all price indexes=1.00 in 1994, all spending figures in \$billions)

Price indexes used instead of the PPI	1994	1995	1996	1997	1998	1999	2000	AAGR (%)
Items from conservative assumptions page with adjustment for PPI prices falling an additional 1 percent per year	1.00	0.88	0.79	0.67	0.56	0.47	0.40	-14.2
2. Other data communication	1.00	0.88	0.83	0.72	0.57	0.49	0.44	-12.7
3. Voice processing equipment (call centers, voice mail, ...)	1.00	1.03	0.96	0.90	0.86	0.79	0.75	-4.8
4. Cellular phone infrastructure	1.00	0.93	0.86	0.79	0.73	0.68	0.63	-7.5
5. Cable TV equipment	1.00	0.95	0.90	0.86	0.81	0.77	0.74	-5.0

Table 14: Price Indexes For Communications Equipment-Conservative Assumptions
(all price indexes=1.00 in 1994, all spending figures in \$billions)

Price indexes used instead of the PPI	1994	1995	1996	1997	1998	1999	2000	AAGR (%)
1. Central office switching and transmission equipment	1.00	0.84	0.70	0.59	0.50	0.42	0.35	-16.1
2. Fiber optic equipment	1.00	0.94	0.89	0.81	0.74	0.64	0.53	-10.1
3. LAN equipment	1.00	0.94	0.77	0.64	0.46	0.38	0.33	-17.6
4. Modems	1.00	0.83	0.72	0.51	0.41	0.29	0.20	-23.3
5. Private branch exchange (PBX)/Key telephone system (KTS)	1.00	1.03	0.96	0.90	0.86	0.79	0.75	-4.8
6. Wireless handsets (cell phones)	1.00	0.85	0.72	0.61	0.52	0.44	0.38	-15.8

Table 17: Summary of price indexes for communications equipment
(all price indexes=1.00 in 1994)

	1994	1995	1996	1997	1998	1999	2000	AAGR (%)
Conservative percent change	1.00	0.98	0.92	0.87	0.80	0.74	0.67	-8.4
Moderate percent change	1.00	0.94	0.88	0.81	0.73	0.66	0.60	-8.3
Aggressive percent change	1.00	0.92	0.85	0.76	0.66	0.58	0.51	-10.6
BEA communications equipment percent change	1.00	0.96	0.94	0.93	0.89	0.86	0.83	-3.0
BEA computers percent change	1.00	0.84	0.64	0.49	0.36	0.28	0.24	-21.20

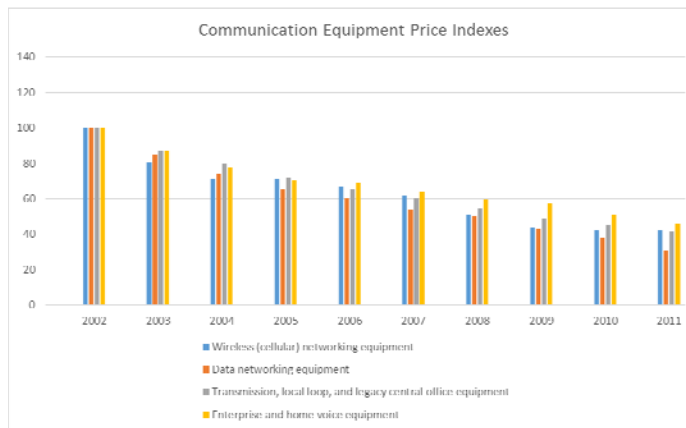


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The 50,000 Foot View



Source: http://www.federalreserve.gov/releases/g17/commequip_Cost_indexes.htm



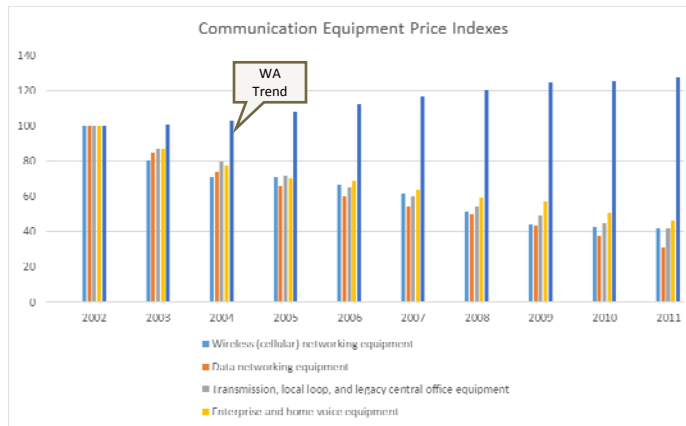
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The 50,000 Foot View

Washington State trend assumptions appears inconsistent with industry experience



Source: http://www.federalreserve.gov/releases/g17/commequip_Cost_indexes.htm



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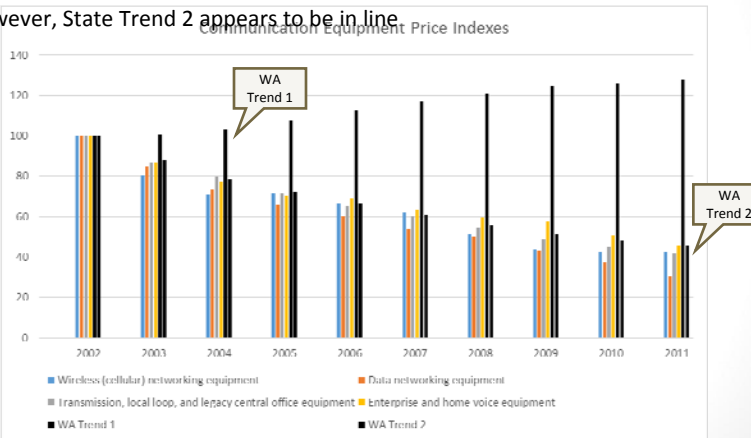
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The 50,000 Foot View

Washington State Trend 1 assumptions appears inconsistent with industry experience

However, State Trend 2 appears to be in line



Source: http://www.federalreserve.gov/releases/g17/commequip_Cost_indexes.htm



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The Detailed View

In the next slides we will walk through the RCN of the Comcast WA network and the cost and/or functionality trends of the components of the cable network

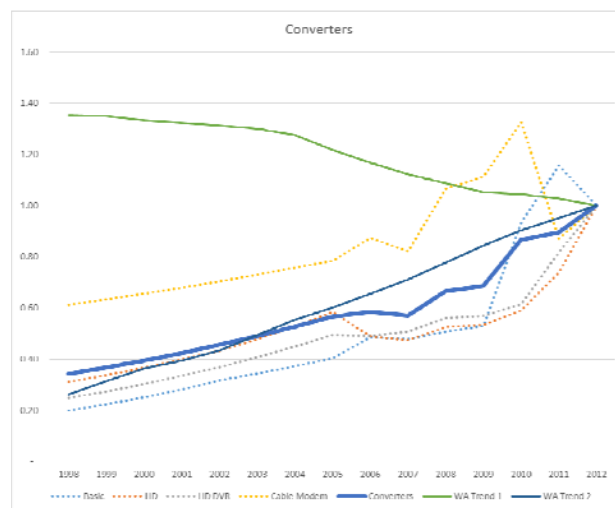


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Customer Premise Cost Trend



Source: Cable Industry Cost Trend Survey



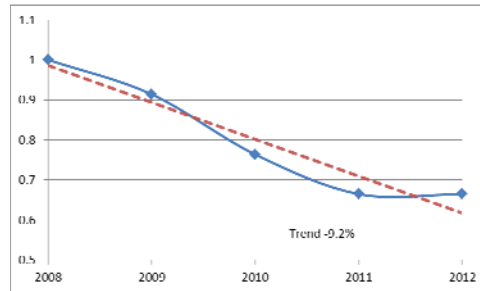
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Electronics Cost Trend

Router Cost trends:



Source: CostQuest

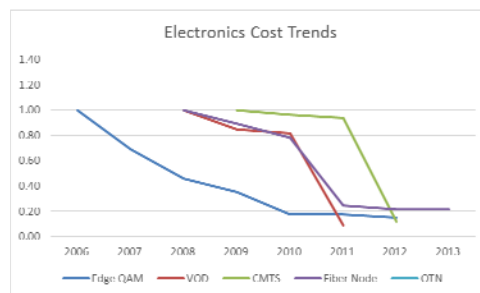


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Electronics Cost Trend



Index year = 2006, or first year data observed

Source: Cable Industry Cost Trend Survey

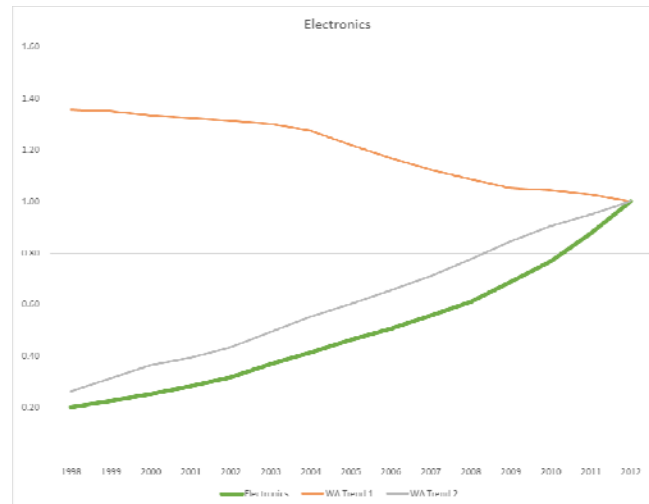


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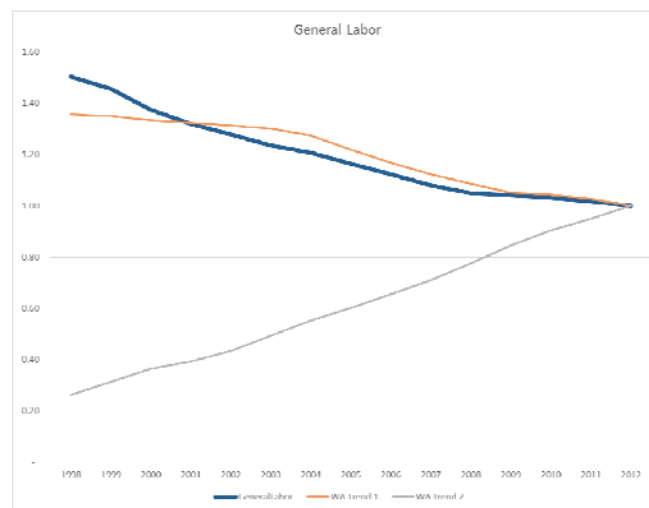
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Electronics Cost Trend



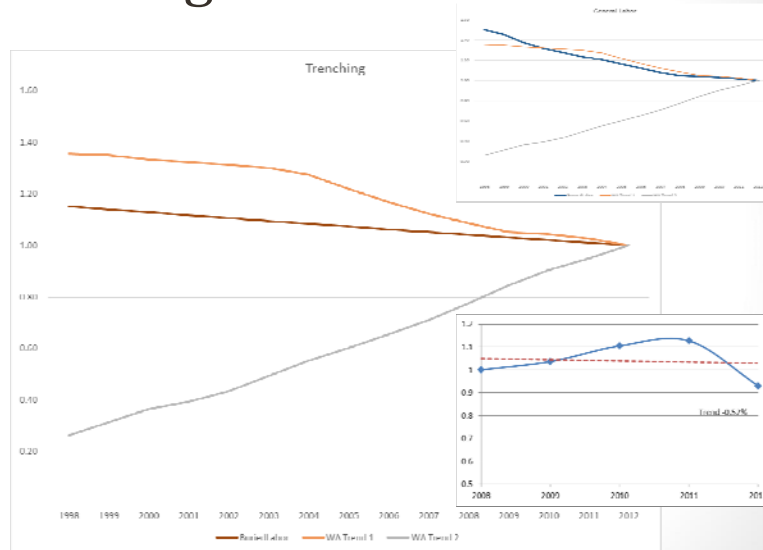
Source: http://www.federalreserve.gov/releases/g17/commequip_Cost_indexes.htm

Labor Cost Trend



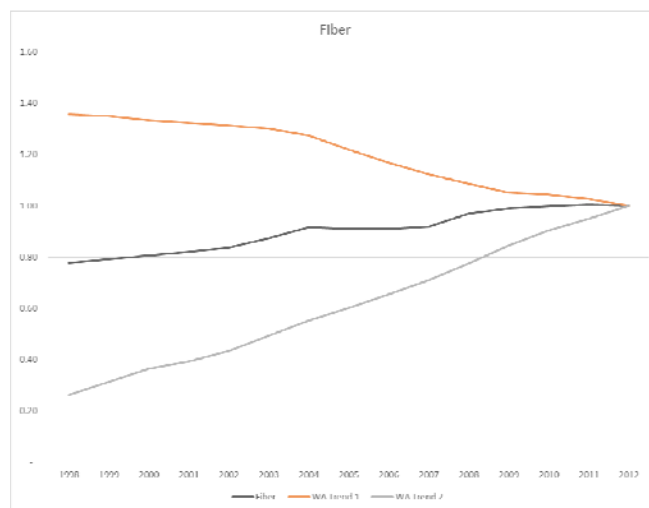
Source: <ftp://ftp.bls.gov/pub/suppl/eci.ecicois.txt>
Employment Cost Index, Historical Listing -- Volume V, Nov-13

Trenching Cost Trend



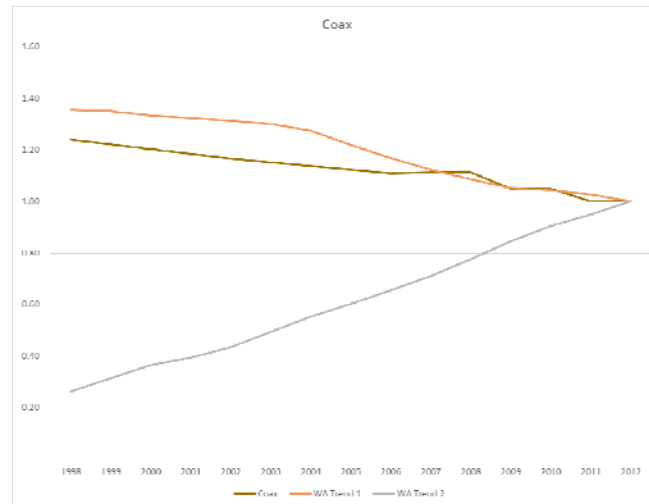
Source: CostQuest 1% annual increase

Fiber Cost Trend



Source: <http://data.bls.gov/cgi-bin/dsdrv>

Coax Cost Trend



Source: Cable Industry Cost Trend Survey

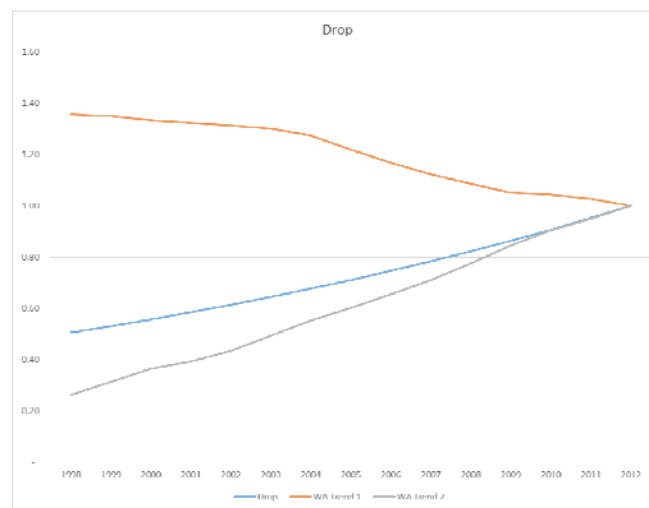


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Drop Cost Trend



Source: Cable Industry Cost Trend Survey – 5% annual decline

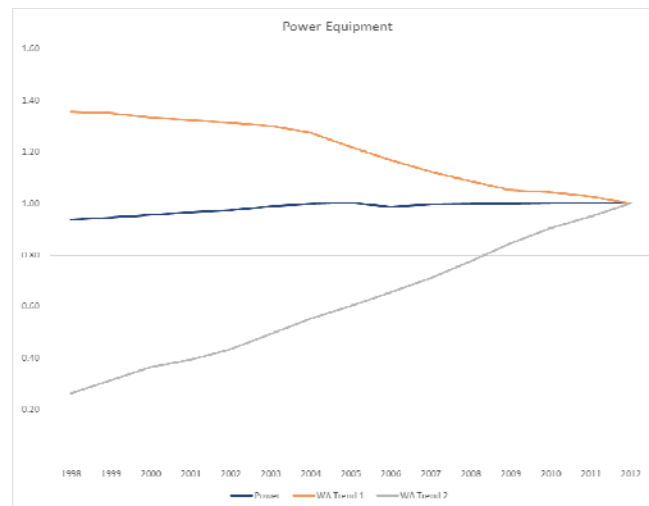


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Power Equipment Cost Trend



Source: <http://data.bls.gov/cgi-bin/dsrv>

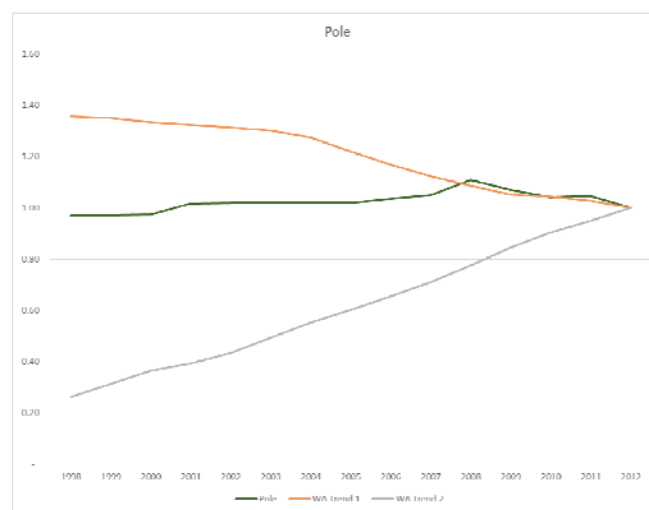


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Pole Attachment Cost Trend



Source: <http://data.bls.gov/cgi-bin/dsrv>



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Comcast Trend Development

Using the RCN as the basis to develop a weighted average RCN:

- The RCN was split between Labor and Material
- The appropriate trend for each RCN category was identified
- The Trends were applied to develop over 15 years and weighted together based on the RCN investment

WA RCN	Material	Labor	Material Trend to Apply	Labor Trend to Apply
Converters	1	1	Converter	
DTAs	1	1	Converter	
Modems	1	1	Converter	
EMT/AS	1	1	Converter	
Gateways	1	1	Converter	
Routers	1	1	Converter	
Cables	1	1	Converter	
Remotes	1	1	Converter	
Installation	1	1	Converter	
Cust Item	1	1	Converter	
Head-End/Idls	1	1	Electronics	General Labor
Access	1	1	Electronics	General Labor
Other	1	1	Electronics	Full
Poles	1	1	Pole	General Labor
Tower	1	1	Pole	General Labor
Aerial Coax	1	1	Cable	General Labor
Aerial Fiber	1	1	Fiber	General Labor
Buried Coax	1	1	Cable	Buried Labor
Buried Fiber	1	1	Fiber	Buried Labor
Submarine	1	1	Fiber	Buried Labor
Cable	1	1	Cable	Deep
Drop-MD	1	1	Drop	Deep



Comcast WA Trend

