

Online Appendix for “Exports and Invoicing: Evidence from the 2015 Swiss Franc Appreciation” (Auer, Burstein, Erhardt, Lein)

	A: All products				B: Concorded sample			
	2013	2014	2015	Q4/2014	2013	2014	2015	Q4/2014
Total	2,060	2,307	2,372	2,512	1,708	1,898	1,949	2,060
CHF invoiced	59.3	59.6	58.5	59.6	60.8	61.1	59.6	60.9
EUR invoiced	35.7	35.2	35.7	35.2	35.0	34.3	34.9	34.4
USD invoiced	3.9	3.8	4.0	3.9	3.1	3.1	3.6	3.3
ROW invoiced	1.2	1.4	1.8	1.4	1.1	1.5	1.8	1.5

Table A1: Export price observations by currency of invoicing

Per quarter average number of border export price observations and share by currency of invoicing for all products in our export price sample (Panel A) and for NOGA products that are concorded to our HS8 export data (Panel B). The share of CHF invoiced products falls slightly in 2015, mainly because those products that exit the sample are CHF invoiced. Only 6 products switch invoicing currency from CHF to non-CHF.

NOGA description	HS description
Aluminium production	Plates, sheets & strip, of aluminium alloy, of a thickness of > 0,2 mm
Casting of iron	Steering wheels, steering columns & steering boxes, & parts thereof
Cold drawing of bars	Bars & rods, of non-alloy free-cutting steel
Copper production	Manufacturing waste, of copper
Cutting, shaping & finishing of stone	Granite, crude or roughly trimmed
Distilling, rectifying & blending of spirits	Liqueurs & cordials
Machining	Tubes, pipes & hollow profiles, welded, of circular cross-section, of iron or non-alloy steel, of an internal diameter ≤ 100 mm
Manu. of assembled parquet floors	Flooring panels, multilayer, assembled, of wood
Manu. of basic iron & steel & of ferro-alloys	Bars & rods, hot-rolled, in irregularly wound coils, of non-alloy free-cutting steel
Manu. of basic pharmaceutical products	Medicaments for therapeutic or prophylactic uses, put up in measured doses
Manu. of bearings, gears, gearing & driving elements	Electric motors of an output ≤ 37.5 W
Manu. of beer	Beer made from malt
Manu. of bread; manufacture of fresh pastry goods & cakes	Wheat or meslin flour
Manu. of brooms & brushes	Tooth brushes, incl. dental-plate brushes
Manu. of builder' ware of plastic	Structures & parts of structures, of aluminium
Manu. of carpets & rugs	Carpets & other floor coverings
Manu. of central heating radiators & boilers	Central heating boilers, non-electric, weighing ≤ 500 kg each
Manu. of cocoa, chocolate & sugar confectionery	Cheewing-gum & sweets, tablets, pastilles & the like
Manu. of concrete products for construction purposes	Prefabricated structural components for building or civil engineering of cement, concrete or artificial stone
Manu. of condiments & seasonings	Chocolate & other food preparations containing cocoa
Manu. of corrugated paper(board) & of containers of paper(board)	Fluting paper, uncoated, in rolls of a width > 36 cm
Manu. of cutlery	Secateurs & similar one-handed pruners & shears, incl. poultry shears, with working parts of base metal
Manu. of doors & windows of metal	Structures & parts of structures, of aluminium
Manu. of dyes & pigments	Pigments, incl. metallic powders & flakes, dispersed in non-aqueous media, in liquid or paste form
Manu. of electricity distribution & control apparatus	Parts suitable for use solely or principally with the apparatus of heading 8535, 8536 or 8537
Manu. of electric domestic appliances	Electro-thermic coffee or tea makers, for domestic purposes
Manu. of electric motors, generators & transformers	Air pumps, air or other gas compressors & ventilating or recycling hoods incorporating a fan
Manu. of electronic components	Boards, panels, consoles, desks, cabinets, incl. numerical control apparatus
Manu. of engines & turbines, except aircraft, vehicle & cycle engines	Compression-ignition internal combustion piston engine "diesel or semi-diesel engine"
Manu. of essential oils	Mixtures of odoriferous substances & mixtures on the basis of one or more of these substances
Manu. of explosives	Propellent powders
Manu. of fasteners & screw machine products	Helical springs, of iron or steel, surface-treated, weighing each ≤ 0.5 kg
Manu. of fertilisers & nitrogen compounds	Phosphoric acid; polyphosphoric acids
Manu. of fibre cement	Sheets, panels, paving, tiles & similar articles, of asbestos-cement, cellulose fibre-cement or the like, not containing asbestos
Manu. of fibre optic cables	Parts of transmission apparatus for radio-telephony or radio-telegraphy, without reception apparatus
Manu. of fluid power equipment	Valves for oleohydraulic or pneumatic transmission, of iron, of steel other than stainless steel, or of lead
Manu. of fruit & vegetable juice	Mucilages & thickeners
Manu. of glass fibres	Webs, mattresses, boards & similar nonwoven products, of glass fibres
Manu. of glues	Adhesives based on polymers of headings 3901 to 3913
Manu. of grain mill products	Mixes & doughs for the preparation of bakers' wares of heading 1905
Manu. of hollow glass	Microtomes
Manu. of homogenised food preparations & dietetic food	Roasted coffee, not decaffeinated
Manu. of household & sanitary goods & of toilet requisites	Sanitary towels (pads) & tampons, napkins & napkin liners for babies & similar articles
Manu. of ice cream	Furniture for storage & display, incorporating refrigerating or freezing equipment
Manu. of industrial gases	Nitrogen
Manu. of instruments & appliances for measuring, testing & navigation	Instruments & apparatus for physical or chemical analysis
Manu. of kitchen furniture	Metal furniture
Manu. of knitted & crocheted hosiery	Full-length or knee-length hosiery
Manu. of light metal packaging	Casks, drums, cans, boxes & similar containers, incl. rigid tubular containers, of aluminium, for any material of a capacity of ≤ 300 l

Manu. of lifting & handling equipment	Parts of lifts or skip hoists
Manu. of loaded electronic boards	Printed circuits, weighing ≤ 0.3 kg each
Manu. of luggage, handbags & the like, saddlery & harness	Travelling-bags, insulated food or beverage bags, toilet bags, rucksacks etc.
Manu. of macaroni, noodles, couscous & similar farinaceous products	Pasta, cooked or otherwise prepared
Manu. of machinery for food, beverage & tobacco processing	Machinery used in the milling industry or for the working of cereals or dried leguminous vegetables
Manu. of machinery for mining, quarrying & construction	Tools for drilling, interchangeable weighing ≤ 0.5 kg each
Manu. of machinery for textile, apparel & leather production	Parts & accessories of weaving machines "looms" & their auxiliary machinery
Manu. of made-up textile articles, except apparel	Articles of bedding & similar furnishing
Manu. of margarine & similar edible fats	Edible mixtures or preparations of animal or vegetable fats or oils
Manu. of mattresses	Mattresses of cellular rubber or plastics, whether or not covered
Manu. of medical & dental instruments & supplies	Orthopaedic or fracture appliances
Manu. of metal structures & parts of structures	Parts of machinery for the industrial preparation or manufacture of food or drink
Manu. of mortars	Non-refractory surfacing preparations for facades, inside walls, floors, ceilings & the like
Manu. of non-domestic cooling & ventilation equipment	Machinery & apparatus for filtering or purifying gases, weighing $> 5,000$ kg each
Manu. of office machinery & equipment	Machines for sorting or folding mail or for inserting mail in envelopes or bands, machines for opening, closing or sealing mail
Manu. of office & shop furniture	Parts of other furniture than seats, of iron or steel other than stainless steel
Manu. of oils & fats	Protein concentrates & textured protein substances, containing milkfat, other fat or sugar
Manu. of other articles of paper & paperboard	Paper or paperboard labels of all kinds, printed
Manu. of other ceramic products	Injection or compression-type moulds for rubber or plastics
Manu. of other chemical products n.e.c.	Derivatives, organic, of hydrazine or of hydroxylamine
Manu. of other electronic & electric wires & cables	Electric conductors, for a voltage $\leq 1,000$ V
Manu. of other fabricated metal products n.e.c.	Sinks & washbasins, of stainless steel, surface-treated
Manu. of other food products n.e.c.	Food preparations for infant use
Manu. of other furniture	Wooden furniture for bedrooms
Manu. of other general-purpose machinery n.e.c.	Packing or wrapping machinery, incl. heat-shrink wrapping machinery
Manu. of other inorganic basic chemicals	Carboxylic acids, saturated acyclic monocarboxylic & their derivatives
Manu. of other knitted & crocheted apparel	T-shirts, singlets & other vests of textile materials
Manu. of other non-metallic mineral products n.e.c.	Articles of copper, not surface-treated
Manu. of other organic basic chemicals	Preparations of a kind used in animal feeding
Manu. of other outerwear	Men's or boys' suits of wool or fine animal hair
Manu. of other plastic products	Parts & accessories of bodies for motor cars & other motor vehicles designed for the transport of persons
Manu. of other pumps & compressors	Safety or relief valves
Manu. of other rubber products	Compounded rubber, unvulcanised, with carbon black or silica
Manu. of other special-purpose machinery n.e.c.	Parts & accessories of printing machinery used for printing by means of plates, cylinders & other printing components of heading 8442
Manu. of other tanks, reservoirs & containers of metal	Tanks, casks, drums, cans, boxes & similar containers, of iron or steel, for any material, of a capacity of ≥ 50 l but ≤ 300 l
Manu. of other taps & valves	Appliances for pipes, boiler shells, tanks, vats or the like
Manu. of other wearing apparel & accessories	Gimped elastomeric yarn
Manu. of paper & paperboard	Newsprint, in rolls of a width > 36 cm
Manu. of paper stationery	Self-adhesive plates, sheets, film, foil, tape, strip
Manu. of perfumes & toilet preparations	Mixtures of odoriferous substances & mixtures based on one or more of these substances
Manu. of pesticides & other agrochemical products	Surface-active preparations, washing preparations, auxiliary washing preparations
Manu. of pharmaceutical preparations	Medicaments for therapeutic or prophylactic uses, put up in measured doses
Manu. of plaster products for construction purposes	Non-refractory surfacing preparations for facades, inside walls, floors, ceilings & the like
Manu. of plastics in primary forms	Plates, sheets, film, foil & strip
Manu. of plastic packing goods	Articles for the conveyance or packaging of goods, of plastics
Manu. of plastic plates, sheets, tubes & profiles	Plates, sheets, film, foil & strip, of plastics, reinforced, laminated, supported or similarly combined with other materials
Manu. of power-driven hand tools	Tool holders, incl. tool holders for any type of tool for working in the h&h, & self-opening dieheads, for machine tools
Manu. of prepared feeds for farm animals	Preparations of a kind used in animal feeding
Manu. of prepared meals & dishes	Jams, jellies, marmalades, purees or pastes of fruit or nuts
Manu. of ready-mixed concrete	Articles of cement, concrete or artificial stone
Manu. of rubber tyres & tubes; retreading & rebuilding of rubber tyres	Instruments & apparatus for measuring or checking pressure of liquids or gases
Manu. of rusks & biscuits; manufacture of preserved pastry goods & cakes	Bread, pastry, cakes, biscuits & other bakers' wares
Manu. of soap & detergents, cleaning & polishing preparations	Surface-active preparations, washing preparations, auxiliary washing preparations
Manu. of soft drinks	Machinery for filling, closing, sealing or labelling bottles
Manu. of starches & starch products	Food preparations containing $> 10\%$ but $\leq 25\%$ by weight of a fat other than milkfat
Manu. of steel drums & similar containers	Tanks, casks, drums, cans, boxes & similar containers, of iron or steel, for any material, of a capacity of ≥ 50 l but ≤ 300 l
Manu. of synthetic rubber in primary forms	Articles of vulcanised rubber
Manu. of tubes, pipes, hollow profiles & related fittings, of steel	Flexible tubes, pipes & hoses, of plastics, reinforced or otherwise combined with other materials
Manu. of underwear	Woven fabrics of cotton, unbleached
Manu. of watches & clocks	Wrist-watches, whether or not incorporating a stop-watch facility
Manu. of wine from grape	Natural white wine, incl. fortified wines, & grape must
Manu. of wire products, chain & springs	Electric conductors, for a voltage $\leq 1,000$ V
Manu. of wiring devices	Plugs & sockets for a voltage $\leq 1,000$ V
Manu. of wooden containers	Flat pallets, box pallets & other load-bearing boards, of wood
Manu. of workwear	Men's or boys' tracksuits & other garments of cotton
Operation of dairies & cheese making	Hard cheese
Other printing	Trade advertising material, commercial catalogues & the like
Other processing & preserving of fruit & vegetables	Olives, prepared or preserved
Pre-press & pre-media services	Photographic plates & film, exposed & developed, for offset reproduction
Preparation & spinning of textile fibres	Textile flock & dust & mill neps
Processing & preserving of meat	Animal or vegetable fats & oils & their fractions
Processing & preserving of poultry meat	Parts of machinery for the industrial preparation of food or drink
Processing of tea & coffee	Roasted coffee, not decaffeinated
Production of abrasive products	Natural or artificial abrasive powder or grain, on a base of materials other than woven textile fabric only or paper or paperboard only
Sawmilling & planing of wood	Spruce & pine, sawn lengthwise, of a thickness > 6 mm
Shaping & processing of flat glass	Laminated safety glass, of size & shape suitable for incorporation in motor vehicles, aircraft, spacecraft, vessels & other vehicles
Tanning & dressing of leather; dressing & dyeing of fur	Grain splits leather of the whole hides & skins of bovine or equine animals
Treatment & coating of metals	Plates, sheets & strip, of aluminium alloy, of a thickness of > 0.2 mm

Table A2: Concordance NOGA industries and HS products

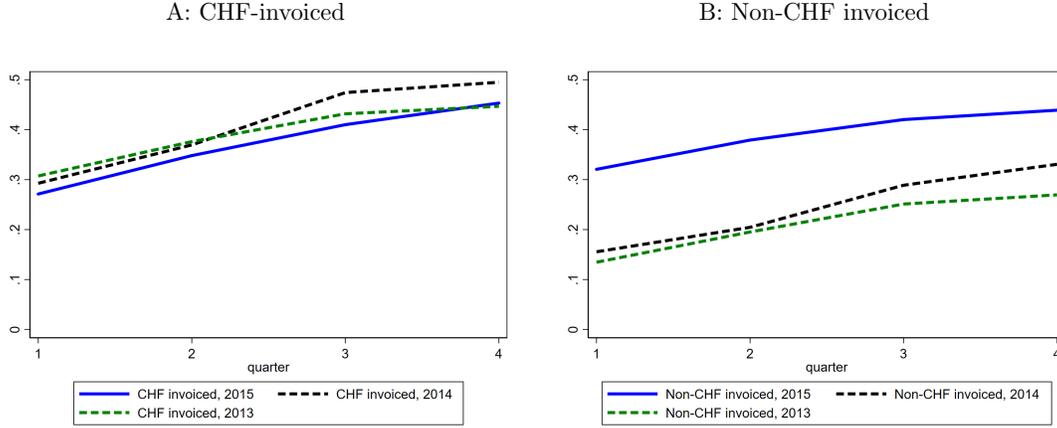


Figure A1: Fraction of price changes relative to fourth quarter of previous year

For each quarter $q = 1, \dots, 4$ in years 2013, 2014, and 2015, this figure displays the fraction of products that recorded a price different from the price in quarter $q = 4$ of the previous year. For example, a value of 0.4 in $q = 3$ of 2015 means that only 40% of prices (in the currency of invoicing) changed in the third quarter of 2015 relative to the fourth quarter of 2014.

A: Swiss relative to German exports					B: Relative to average 2013 and 2014				
	Quarter					Quarter			
	1	2	3	4	1	2	3	4	
CHF invoiced	-0.011 (0.111)	0.132 (0.089)	-0.094 (0.043)	-0.325 (0.143)	0.065 (0.051)	-0.017 (0.037)	-0.114 (0.036)	-0.245 (0.095)	
Constant	0.073 (0.051)	-0.053 (0.044)	0.072 (0.024)	0.270 (0.085)	-0.065 (0.021)	-0.003 (0.019)	0.082 (0.018)	0.234 (0.043)	
Observations	99	101	106	102	127	120	117	116	
R^2	0.000	0.055	0.046	0.250	0.035	0.003	0.129	0.190	

C: Not excluding outliers					D: Unweighted				
	Quarter					Quarter			
	1	2	3	4	1	2	3	4	
CHF invoiced	0.065 (0.051)	-0.032 (0.035)	-0.062 (0.026)	-0.195 (0.083)	0.127 (0.059)	0.020 (0.055)	-0.052 (0.052)	-0.167 (0.078)	
Constant	-0.065 (0.021)	0.008 (0.017)	0.005 (0.012)	0.164 (0.042)	-0.098 (0.032)	-0.027 (0.035)	0.007 (0.032)	0.126 (0.064)	
Observations	127	127	127	127	118	120	120	119	
R^2	0.035	0.007	0.025	0.116	0.068	0.002	0.016	0.078	

Table A3: Export changes and currency of invoicing: Robustness

This table presents sensitivity of our estimates of α_q and β_q in equation (1) to alternative definitions of export growth and to alternative treatment of outliers and weighting. Panel A normalizes Swiss exports growth by German exports growth in the same industry. Panel B uses the average of 2013 and 2014 quarterly exports as the baseline year. Panel C does not exclude products with absolute changes in export values larger than 50%. Panel D does not weight products by export values in the regression. Robust standard errors in parentheses.