

Chief economist's comment

Who pays the trade protection tax?

Chief Investment Office WM I 21 February 2017
Paul Donovan, Global Chief Economist WM, paul.donovan@ubs.com

- Trade protection is a tax on consumption. If the US applies a tariff
 or border tax, or otherwise imposes trade restrictions, the lowest
 income groups will generally be hit hardest. Only if trade protection
 is applied to new vehicles are higher income groups more adversely
 affected.
- Trade protection against China would hurt US consumers more than if it were imposed on Europe, and such protection levied on Europe would hurt them more than if it were adopted against Mexico.
- The effect of a trade protection tax may give rise to some disinflation in Europe if supply destined for the US is redirected.

Trade tariffs, border taxes, and trade protection are a tax on consumers. Protectionism may help some people by sparing jobs in less-efficient domestic industries. But consumers subsidize these jobs via the tax, which forces them either to pay higher import prices or purchase more expensive domestic goods and services. Like all taxes, trade protection taxes have the potential to redistribute income among different groups in the economy.

There is an obvious presentation issue with protectionism, whose benefit is narrow but deep — "1,000 new jobs have been created" — and whose cost is broad but shallow. Everyone pays a little more for the goods and services they buy. Economically, the costs of protectionism exceed the benefits, but bragging about "1,000 jobs created" has a greater impact on Twitter than "0.2% added to your weekly shopping bill."

As concerns about inequality rise, it is important to consider where the burden of a trade protection tax would fall. Sales taxes are rarely distributed evenly. Since different people buy different goods and services, they are affected unequally. If the US government chooses to engage in protectionism, which groups in society will pay most for it?

It is possible to use two data sets to get a sense of who will bear what share of the burden. The OECD's Trade in Value-Added database tells us how much domestic spending goes to goods and services imported from overseas. The survey of consumer spending breaks down the buying patterns of different groups in society, enabling us to create a relative index of who pays for tariffs. A higher reading on the index means a greater chance that protectionism will cause the cost of living for that income group to increase.

Fig. 1 illustrates the effect of trade protection on different consumption patterns. Applying a tax to new-car imports hits high-income earners far more than low-income ones. Levying it on food imports is far more serious for lower-income earners. These figures only take into account first-round effects, so the impact of rising new-car prices on used-car prices is not considered. A trade protection tax on cars would therefore be progressive (affecting higher-income groups more than lower-income ones). Applying it to food would hurt lower-income consumers more and would thus constitute what economists call a regressive tax.

The role of cars is crucial. Only by applying a tax on cars could trade protectionism be progressive. Otherwise, it hurts low-income people far more markedly than higher-income ones. Fig. 2 shows the effect of a tax imposed on all foreign trade, excluding autos.

Does a border tax, if applied, change this? A border tax effectively taxes imports but can lower domestic production costs by funding a reduced domestic corporate tax rate, so such savings could be partly passed on to consumers via lower prices.

However, if there is insufficient domestic industrial capacity to replace imports of a specific product (clothing, for instance), a border tax will merely raise its price. If that product is disproportionately important to lower-income groups, they will pay the taxes that fund the lower corporate taxes.

What if the border-taxed imports remain cheaper than the domestic goods (perhaps because the lower corporate tax is passed on to shareholders rather than consumers)? Imports will then still be consumed by lower-income groups, who again will pay a de facto sales tax that finances reduced corporate taxes.

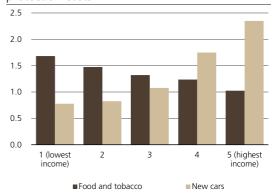
In Fig. 3, we can see how a universal tariff affects a country. In all cases, low-income groups suffer a greater loss in living standards than middle-income groups. This is not surprising since middle-income groups tend to spend a higher proportion of their income on services, which have less foreign input.

A universal tariff against China would do more damage to US living standards than one levied against Mexico or Europe. Again, this is unsurprising because Mexican exports to the US tend to have much higher US content than the goods the US imports from China do. Targeting Chinese content in goods (China exports few services) would damage the US consumer more than the US worker.

Excluding the auto sector from the country-based analysis makes the regressive nature of a trade protection tax clearer (see Fig. 4). Consumers, even US consumers, do not buy a new car every month. Consumer inflation perceptions are affected by the price of things purchased frequently. So

Fig. 1: Impact of a trade protection tax applied to autos and food, by US income group

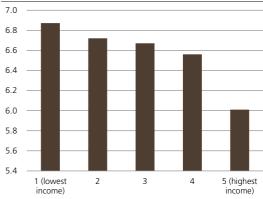
Values on left-hand side indicate index of trade protection costs



Source: OECD, BLS, UBS calculations

Fig. 2: Impact of a trade protection tax by US income group, all goods and services exautos

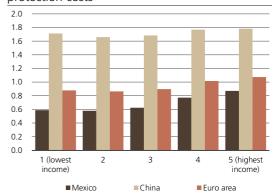
Values on left-hand side indicate index of trade protection costs



Source: OECD, BLS, UBS calculations

Fig. 3: Impact of a trade protection tax by US income group, all goods by country

Values on left-hand side indicate index of trade protection costs



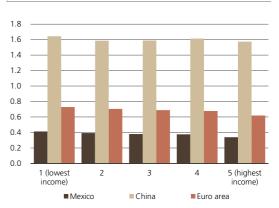
Source: OECD, BLS, UBS calculations

perceptions of real living standards tend to be influenced by high-frequency purchases. If a trade protection tax appears mildly progressive only when new autos are being purchased, most people will believe that it is actually regressive. This "alternative fact" may weigh on confidence.

Europe does not escape the consequences of US protectionism. But the impact of whatever form the measures might take is likely to lower Eurozone inflation. In this sense, protectionism is a bit like trade sanctions in reverse. If a tax succeeds in altering demand for imports in the US, goods previously sold there will be diverted elsewhere. Europe is likely to receive a disproportionate share of any diverted goods because it has similar consumption patterns to the US.

Ultimately, international production could decline, but at least initially Europe should enjoy cheaper imports (and possibly cheaper domestic products). Something similar happened to food prices in the wake of escalating sanctions against Russia, as previously exported agricultural product found its way onto the domestic market.

Fig. 4: Impact of a trade protection tax by US income group, all goods ex-autos by country Values on left-hand side indicate index of trade protection costs



Source: OECD, BLS, UBS calculations

Appendix

Generic financial research – Risk information: UBS Chief Investment Office WM's investment views are prepared and published by Wealth Management and Personal & Corporate Banking or Wealth Management Americas, Business Divisions of UBS AG (regulated by FINMA in Switzerland), its subsidiary or affiliate ("UBS"). In certain countries UBS AG is referred to as UBS SA. This material is for your information only and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this material were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any prices indicated are current as of the date of this report, and are subject to change without notice. The market prices provided in performance charts and tables are closing prices on the respective principal stock exchange. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and Options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein. This material may not be reproduced or copies circulated without prior authority of UBS. UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. In developing the Chief Investment Office (CIO) economic forecasts, CIO economists worked in collaboration with economists employed by UBS Investment Research. Forecasts and estimates are current only as of the date of this publication and may change without notice. For information on the ways in which UBS CIO WM manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research. Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties. **Australia:**This notice is issued by UBS AG ABN 47 088 129 613 (Holder of Australian Financial Services Licence No 231087): This Document is issued and distributed by UBS AG. This is the case despite anything to the contrary in the Document. The Document is intended for use only by "Wholesale Clients" as defined in section 761G ("Wholesale Clients") of the Corporations Act 2001 (Cth) ("Corporations Act"). In no circumstances may the Document be made available by UBS AG to a "Retail Client" as defined in section 761G of the Corporations Act. UBS AG's research services are only available to Wholesale Clients. The Document is general information only and does not take into account any person's investment objectives, financial and taxation situation or particular needs. **Austria:** This publication is not intended to constitute a public offer under Austrian law, but might be made available for information purposes to clients of UBS Europe SE, Niederlassung Österreich, with place of business at Wächtergasse 1, A-1010 Wien. UBS Europe SE, Niederlassung Österreich is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), and is subject to the joint supervision of BaFin, the central bank of Germany (Deutsche Bundesbank), as well as of the Austrian supervisory authority (Finanzmarktaufsicht, FMA), to which this publication has not been submitted for approval. **Bahamas:** This publication is distributed to private clients of UBS (Bahamas) Ltd and is not intended for distribution to persons designated as a Bahamian citizen or resident under the Bahamas Exchange Control Regulations. **Bahrain**: UBS is a Swiss bank not licensed, supervised or regulated in Bahrain by the Central Bank of Bahrain and does not undertake banking or investment business activities in Bahrain. Therefore, Clients have no protection under local banking and investment services laws and regulations. **Brazil**: Prepared by UBS Brasil Administradora de Valores Mobiliários Ltda, entity regulated by Comissão de Valores Mobiliários ("CVM"). **Canada:** In Canada, this publication is distributed to clients of UBS Wealth Management Canada by UBS Investment Management Canada Inc.. Czech Republic: UBS is not a licensed bank in Czech Republic and thus is not allowed to provide regulated banking or investment services in Czech Republic. This material is distributed for marketing purposes. **Denmark:** This publication is not intended to constitute a public offer under Danish law, but might be distributed by UBS Europe SE, Denmark Branch, filial af UBS Europe SE, with place of business at Sankt Annae Plads 13, 1250 Copenhagen, Denmark, registered with the Danish Commerce and Companies Agency, under the No. 38 17 24 33. UBS Europe SE, Denmark Branch, filial af UBS Europe SE is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). UBS Europe SE, Denmark Branch, filial af UBS Europe SE is subject to the joint supervision of the BaFin, the central bank of Germany (Deutsche Bundesbank) and the Danish Financial Supervisory Authority (DFSA) (Finanstilsynet), to which this document has not been submitted for approval. France: This publication is distributed by UBS (France) S.A., French "société anonyme" with share capital of € 125.726.944, 69, boulevard Haussmann F-75008 Paris, R.C.S. Paris B 421 255 670, to its clients and prospects. UBS (France) S.A. is a provider of investment services duly authorized according to the terms of the "Code Monétaire et Financier", regulated by French banking and financial authorities as the "Autorité de Contrôle Prudentiel et de Résolution". **Germany:** The issuer under German Law is UBS Europe SE, Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Europe SE is authorized and regulated by the "Bundesanstalt für Finanzdienstleistungsaufsicht". **Hong Kong:** This publication is distributed to clients of UBS AG Hong Kong Branch by UBS AG Hong Kong Branch, a licensed bank under the Hong Kong Banking Ordinance and a registered institution under the Securities and Futures Ordinance. India: Distributed by UBS Securities India Private Ltd. 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437. Indonesia: This research or publication is not intended and not prepared for purposes of public offering of securities under the Indonesian Capital Market Law and its implementing regulations. Securities mentioned in this material have not been, and will not be, registered under the Indonesian Capital Market Law and Regulations. Israel: UBS Switzerland AG is registered as a Foreign Dealer in cooperation with UBS Wealth Management Israel Ltd, a wholly owned UBS subsidiary. UBS Wealth Management Israel Ltd is a licensed Portfolio Manager which engages also in Investment Marketing and is regulated by the Israel Securities Authority. This publication shall not replace any investment advice and/or investment marketing provided by a relevant licensee which is adjusted to your personal needs. Italy: This publication is distributed to the clients of UBS Europe SE, Succursale Italia, Via del Vecchio Politecnico, 3 20121 Milano, the branch of a German bank duly authorized by the "Bundesanstalt für Finanzdienstleistungsaufsicht" to the provision of financial services and supervised by "Consob". Jersey: UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission for the conduct of banking, funds and investment business. Where services are provided from outside Jersey, they will not be covered by the Jersey regulatory regime. UBS AG, Jersey Branch is a branch of UBS AG a public company limited by shares, incorporated in Switzerland whose registered offices are at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH 8001 Zurich. UBS AG, Jersey Branch's principal place business is P.O. Box 350, 24 Union Street, St Helier, Jersey JE4 8UJ. **Luxembourg:** This publication is not intended to constitute a public offer under Luxembourg law, but might be made available for information purposes to clients of UBS Europe SE, Luxembourg Branch, with place of business at 33A, Avenue J. F. Kennedy, L-1855 Luxembourg. UBS Europe SE, Luxembourg Branch is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), and is subject to the joint supervision of BaFin, the central bank of Germany (Deutsche Bundesbank), as well as of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (the "CSSF"), to which this publication has not been submitted for approval. Mexico: This document has been distributed by UBS Asesores México, S.A. de C.V., a company which is not part of UBS Grupo Financiero, has not been submitted for approval. **Mexico**: Inis document has been distributed by UBS Asesores Mexico, S.A. de C.V., a company which is not part of UBS Grupo Financiero, S.A. de C.V. or of any other Mexican financial group and whose obligations are not guaranteed by any third party. UBS Asesores México, S.A. de C.V. does not guarantee any yield whatsoever. **Netherlands**: This publication is not intended to constitute a public offering or a comparable solicitation under Dutch law, but might be made available for information purposes to clients of UBS Europe SE, Netherlands branch, a branch of a German bank duly authorized by the "Bundesanstalt für Finanzdienstleistungsaufsicht" for the provision of financial services and supervised by "Autoriteit Financiële Markten" (AFM) in the Netherlands, to which this publication has not been submitted for approval. **New Zealand:** This notice is distributed to clients of UBS Wealth Management Australia Limited ABN 50 005 311 937 (Holder of Australian Financial Services Licence No. 231127), Chiffey Tower, 2 Chiffley Square, Sydney, New South Wales, NSW 2000, by UBS Wealth Management Australia Ltd. You are being provided with this UBS publication or material because you have indicated to UBS that you are a client certified as a wholesale investor and/or an eligible investor ("Certified Client") located in New Zealand. This publication or material is a publication or material is considered for clients who are not certified Clients. And the publication or material is a publication or material in the publication of the publication or material is a publication or material in the publication of the publication or material is a publicatio not intended for clients who are not Certified Clients ("Non-Certified Clients"), and if you are a Non-Certified Client you must not rely on this publication or material. If despite this warning you nevertheless rely on this publication or material, you hereby (i) acknowledge that you may not rely on the content of this publication or material and that any recommendations or opinions in this publication or material are not made or provided to you, and (ii) to the maximum extent permitted by law (a) indemnify UBS and its associates or related entities (and their respective directors, officers, agents and advisers (each a "Relevant Person") for any loss, damage, liability or claim any of them may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material and (b) waive any rights or remedies you may have against any Relevant Person for (or in respect of) any loss, damage, liability or claim you may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material.

Saudi Arabia: This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi Arabia closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority of Saudi Arabia. **Singapore:** Please contact UBS AG Singapore branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or report. **Spain:** This publication is distributed to its clients by UBS Europe SE, Sucursal en España, with registered office at Calle María de Molina 4, C.P. 28006, Madrid, entity supervised by Banco de España and the Bundesanstalt für Finanzdienstleistungsaufsicht. UBS Europe SE, Sucursal en España

Appendix

is a branch of UBS Europe SE, a credit institution constituted in the form of a Societas Europaea authorized and regulated by the Bundesanstalt für Finanzdienstleistungsaufsich. Sweden: This publication is not intended to constitute a public offer under Swedish law, but might be distributed by UBS Europe SE, Sweden Bankfillal with place of business at Regeringsgatan 38, 11153 Stockholm, Sweden, registered with the Swedish Companies Registration Office under the Reg. No 516406-1011. UBS Europe SE, Sweden Bankfillal is a branch of UBS Europe SE, a credit institution constituted under German Law in the form of a Societas Europaea, duly authorized by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin). UBS Europe SE, Sweden Bankfillal is subject to the joint supervision of the BaFin, the central bank of Germany (Deutsche Bundesbank) and the Swedish financial supervisory authority (Finansinspektionen), to which this document has not been submitted for approval. Taiwan: This material is provided by UBS AG, Taipei Branch in accordance with laws of Taiwan, in agreement with or at the request of clients/prospects. UAE: This research report is not intended to constitute an offer, sale or delivery of shares or other securities under the laws of the United Arab Emirates (UAE). The contents of this report have not been and will not be approved by any authority in the United Arab Emirates including the UAE Central Bank or Dubai Financial Authorities, the Emirates Securities and Commodities Authority, the Dubai Financial Market, the Abu Dhabi Securities market or any other UAE exchange. This material is intended for professional clients only. UBS AG Dubai Branch is regulated by the DFSA in the DIFC. UBS AG/UBS Switzerland AG is not licensed to provide banking services in the UAE by the Central Bank of the UAE nor is it licensed by the UAE Securities and Commodities Authority. The UBS AG Representative Office in Abu Dhabi is licensed by the Central Bank of the UAE to oper

©UBS 2017.The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.