

# FOOD AID AND AGRICULTURAL CARGO PREFERENCE

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# FOOD AID AND AGRICULTURAL CARGO PREFERENCE

**Abstract:** This paper uses an unprecedentedly rich data set to estimate the cost of agricultural cargo preference (ACP) restrictions on United States food aid programs and to document some of the competitiveness and national security impacts. ACP cost US taxpayers \$140 million in 2006, 46 percent above competitive freight costs. The unreimbursed cost of ACP to food aid agencies roughly equals USAID's non-emergency food aid to Africa. Furthermore, 70 percent of ACP vessels did not satisfy criteria to be deemed militarily useful and vessels ultimately owned by foreign corporations carried a large share of ACP food aid shipments.

**JEL codes:** Q1, O2

## INTRODUCTION

For at least half a century, food aid has been a key resource for responding to food crises ranging from chronic food insecurity associated with endemic poverty to acute humanitarian emergencies following natural or manmade disasters. The past decade or so has brought considerable reforms in food aid policies, as donors have largely moved to distribute cash or vouchers in lieu of food, or if they are distributing food, to purchase commodities in developing countries rather than in the donor country. Notably, the last and slowest donor to reform its food aid policies has been the United States (US), which has accounted for more than half of global food aid every year for decades.

Why has the United States been slow to change its food aid policies? The sheer size and history of US food aid programs obviously create inertia that differentiates it from most donors. But in political economy terms, arguably the most distinctive feature of US food aid programs is the intimate involvement of ocean carriers, who benefit from little-known agricultural cargo preference (ACP) requirements absent in other donor countries. While food aid policy reforms have had to overcome resistance from agribusiness and some nongovernmental organization (NGO) interests in every donor nation, the “iron triangle” of interests formed by agribusiness, some NGOs and ocean carriers has been a uniquely effective lobby for the status quo in US food aid policy (Barrett and Maxwell 2005).

Although ocean carriers are a unique and powerful player in the political economy of US food aid policy, and ACP seems to matter to the performance of the world’s largest food aid program, very little is known empirically about the cost and effects of ACP. This paper helps to fill that evidence gap, exploiting an unprecedentedly rich data set, covering every United States Agency for International Development (USAID) food aid shipment in fiscal year 2006, to estimate the cost of ACP restrictions and to document some of the competitiveness and national security impacts of ACP. Many experts have argued that cargo

preference laws have proven ineffective in maintaining the viability of the US maritime industry and divert valuable resources away from food aid and development assistance programming (Barrett and Maxwell, 2005; Murphy and McAfee 2005; GAO, 2007). A recent simulation-based analysis suggests that elimination of ACP would be the donor policy reform with the greatest potential to increase the well being of food insecure households globally (Lentz and Barrett 2008).

This paper adds more precise and comprehensive empirical support to those arguments. We find that the ACP program operates at a substantial financial cost to taxpayers and to government agencies shipping agricultural cargoes and at a potentially significant humanitarian cost to underserved eligible beneficiary populations. We estimate that in fiscal year 2006, ACP compliance by USAID and the United States Department of Agriculture (USDA) cost US taxpayers \$140 million, a 46 percent markup over competitive freight costs. There is no specific appropriation by Congress to compensate USAID and USDA for ACP costs, though several inter-agency reimbursement mechanisms exist (discussed in detail below). The unreimbursed cost of ACP to food aid agencies is nearly equivalent to the value of USAID's entire Title II non-emergency food aid to Africa, which serves 1.2 million beneficiaries and is widely deemed important to preventing food emergencies.<sup>2</sup> Additionally, 70 percent of US-flag vessels eligible to carry food aid in 2006 failed to meet the Department of Defense (DoD)'s definition of militarily useful vessels, calling into question the effectiveness of ACP vessels in supporting national security. Furthermore, vessels ultimately owned by foreign corporations carry a considerable share of food aid shipments under cargo preference.

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<sup>2</sup> See Appendix 6 of USAID IFAR (2006).

## BACKGROUND INFORMATION

Several government agencies cooperate to deliver US food aid. USAID administers Titles II and III of the Food for Peace Act. Title III was unfunded in FY06 and remains so today, while Title II and the Bill Emerson Humanitarian Trust cumulatively accounted for 74 percent of total 2002-2006 US food aid funding (GAO, 2007). The USDA's Foreign Agricultural Service administers Title I (which, although historically the largest US food aid program, has gone unfunded since FY07), as well as Food for Progress, the McGovern-Dole International Food for Education and Child Nutrition program, Section 416(b) donations of commodity stockpiles held by the Commodity Credit Corporation (CCC) and the Local and Regional Procurement pilot projects authorized under the 2008 Farm Bill. USDA's Farm Service Agency (FSA) serves as the buying agent for all US food aid programs. FSA extends invitations for bids (IFBs) to prospective sellers of food commodities and providers of freight services for commodity delivery to overseas ports. The Kansas City Commodity Office (KCCO) of the FSA is responsible for price discovery and purchase of commodities. Freight contracts are awarded by NGOs to ocean carriers based on KCCO's lowest landed cost price analysis.

Maritime interests have always played a major role in food aid policy and ACP has long been one of the most controversial of the many regulations imposed upon the US government food aid agencies, USAID and the United States Department of Agriculture (USDA). US law requires that a minimum share of US food aid be shipped on US-flag vessels, in accordance with the Cargo Preference Act of 1954 and Section 901 of the Merchant Marine Act, 1936, each as amended several times subsequently, and the Cargo Preference Act, enacted in 1954 alongside Public Law 480, the key law governing US food aid programs. There are several stated policy objectives of cargo preference. As described by the Department of Transportation's Maritime Administration (MARAD), cargo preference laws are intended to provide essential sealift capability in wartime, and to maintain skilled jobs for American seafarers and the

financial viability of US-flag vessel operating companies, thereby ensuring that vessels, trained crews and vessel service industries continue to exist in order to protect US ocean commerce from foreign domination (MARAD n.d.).

From 1954 until 1985, cargo preference restrictions required that at least half of the gross tonnage of US food aid commodities be shipped on privately owned, registered US-flag commercial vessels. The 1985 Farm Bill increased that proportion from 50 to 75 percent, despite opposition by USDA and USAID. Based on calculations submitted to them by USDA and USAID, MARAD is responsible for reimbursing the excess ocean freight costs associated with the increased use of US-flagged commercial vessels. This increase applied only to food aid and did not apply to other government-directed shipments. Congress did mandate that MARAD reimburse USAID and USDA any extra costs associated with this change, although the reimbursement system has been the subject of considerable inter-agency dispute over the years and, at one point, hundreds of millions of dollars in MARAD reimbursements in arrears (USAID 2001, Barrett and Maxwell 2005). MARAD's Office of Cargo Preference and Domestic Trade is responsible for identifying whether food aid carriers qualify for ACP, and therefore plays a central role in monitoring ACP compliance.

### **Vessel Eligibility**

MARAD's determination of US-flag status requires that a vessel be a privately owned, US-flag commercial vessel registered in and operated under the laws and regulations of the United States (USAID 2007).<sup>3</sup> US-flag registry is costly due to taxes, safety, health and environmental regulations, as well as the higher labor costs typically associated with hiring US citizen mariners. In order to be a US-flag

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<sup>3</sup> Foreign-built vessels re-registered in the US that wish to participate in the ACP program must also wait at least three years after re-flagging before being eligible to carry ACP cargo. For vessels participating in both the Maritime Security Program (described below) and ACP, the three year wait provision is waived (Bloom, 2008).

vessel, at least 75 percent of crewmembers must be US citizens while the remaining 25 percent can be resident aliens (as reported in GAO 2004, MARAD 2006a). A vessel must be US-flagged for three years in order to be eligible for the agricultural cargo preference program, which limits the flexibility of the US-flag shipping industry to meet short-term changes in demand for US-flag shipments.

Under ACP policy adopted by MARAD, food aid freight contracts are awarded based on a priority system. MARAD Priority 1 (P1) bids offer direct US-flag vessel service, or US-flag vessel service with transshipment to another US-flag vessel, or intermodal services to the final destination utilizing only US-flag vessels for any waterborne segments. P1 bids tend to be carried on bulkers, breakbulk carriers or tankers rather than container ships or other vessels providing liner service. As the most modern and efficient vessels for carrying containerized cargo, those providing liner service use hub and spoke operations to dominate the commercial ocean freight industry today. MARAD Priority 2 (P2) bids include US-flag to foreign-flag transshipment with the exception of transfers to foreign-flag vessels within the territorial waters of the receiving country (Bloom 2008). P2 shipments may be the most viable in many developing countries where ports are often too small to accommodate large, transoceanic container ships. P2 bids tend to be awarded to vessels providing liner service, though priority policy may induce more container lines to offer transshipment service using only US flag vessels. By doing so, container lines increase their status on the priority scale, at the cost of the efficiency of US- to foreign-flag transshipment. MARAD Priority 3 (P3) bids are direct service using a foreign-flag vessel or foreign-flag to foreign-flag transshipments.

In the bid selection process used to ensure compliance with ACP laws, P1 bids always take precedence. Price-based competition occurs only among Priority 1 bids, regardless of whether P2 or P3 bids have lower costs. P2 bids are only accepted in cases where P1 bids are not available and P3 bids are only

accepted in cases where P1 and P2 bids are not available. USAID tracks P1 and P2 classifications by coding each accepted bid according to its priority status.<sup>4</sup>

### **Ocean Freight Differential and Inter-Agency Reimbursement**

The ocean freight differential (OFD) is the difference between the winning US-flag vessel's ocean freight rate and that of a competing foreign-flag carrier. OFD does not cover non-ocean costs associated with the award of freight contracts to US-flag vessels under ACP, such as overland transport and fumigation. Partial reimbursement for OFD incurred due to cargo preference regulations is provided under a July 18, 1987 Memorandum of Understanding (MOU) between MARAD, USAID and the Commodity Credit Corporation (CCC). Under the MOU, the OFD eligible for reimbursement is based on the average OFD paid for shipping on US-flag vessels that are under 25 years old or vessels rebuilt within the last five years that received competing foreign-flag bids. For each food aid agency, this average is then multiplied by the total US-flag tonnage with a competing foreign-flag bid. This is computed separately for bagged and bulk cargo. MARAD is required to reimburse agencies for one third of OFD costs to compensate for the additional 25 percentage point increase in cargo preference coverage on food aid shipments from 50 percent to 75 percent under the Food Security Act of 1985. OFD reimbursement does not include the additional costs incurred for using a vessel over 25 years of age, nor does reimbursement include bids for which there was no competing foreign-flag bid. As we demonstrate below, these are significant omissions, especially because parallel legislative restrictions on food aid shipments – the Great Lakes Set Aside discussed below – effectively discourage foreign-flag vessels from bidding on ocean freight service outside the Great Lakes, thereby increasing the unreimbursed share of ACP costs incurred by food aid agencies.

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<sup>4</sup> USAID's original flagging status sometimes differs from the final flagging classification by MARAD.



### **Twenty Percent Excess Freight**

An additional reimbursement known as the “Twenty Percent Excess Freight” (TPEF) provision allows for additional payments by MARAD to food aid agencies to offset costs incurred through adherence to cargo preference regulations in years when global shipping prices are unusually high. The TPEF reimbursement is calculated according to the 1987 Memorandum of Understanding between USAID, CCC and MARAD, which states:

...if in any fiscal year the total cost of ocean freight and ocean freight differential incurred by CCC on the export of commodities and products thereof under export activities specified in section 901b exceeds 20 percent of the total of the value of such commodities and products and the costs of such ocean freight and the ocean freight differential incurred by CCC during such fiscal year, the Secretary of Transportation shall reimburse the CCC for the amount of such excess.

This reimbursement can be quite significant during years when shipment costs are high and commodity costs are low. TPEF payments affect the inter-agency distribution of ACP costs, but neither add to nor reduce the aggregate costs of ACP to the federal government. However, every dollar reimbursed to food aid agencies increases the amount spent on food aid programming.

### **Great Lakes Set Aside**

Prior to 1985, most food aid that passed through the Great Lakes region was carried by foreign-flag ships due to their size and ease of navigation of Great Lakes waterways. By increasing cargo preference requirements from 50 to 75 percent, the passage of the Food Security Act of 1985 was expected to harm the Great Lakes ports, given the dominance of foreign-flag ships in that region. As a political solution to ease the transition to the newly expanded US-flag-based shipping system, the Act mandated the

preservation of the “percentage or tonnage of specified commodities exported from the Great Lakes ports.” Known as the “Great Lakes Set Aside”, in effect this provision exempted Great Lakes ports from cargo preference requirements for up to 25 percent of total bagged or packaged government agricultural cargo shipped from all US ports from 1986 to 1989.<sup>5</sup> The tonnage set-aside provision expired in 1990, at which point Great Lakes ports had to compete for the 25 percent of food aid cargoes permitted to be “flag-blind”. As a result, virtually no food aid was shipped from Great Lakes ports for several years.

In 1996, in light of the decline of Great Lakes ports, a new, compromise variant of the Great Lakes Set Aside was reinstated as Section 17 of the Maritime Security Act of 1996 (MSA-17). MSA-17 requires that 25 percent of bagged food aid cargo be “handled” in the Great Lakes port range and requires that this 25 percent of tonnage be awarded based on lowest landed cost without regard to flagging and the prioritization system described earlier. This has important effects. Because the MSA-17 requirement is only for handling, not lifting, cargoes are now often containerized at Great Lakes port facilities and then carried by rail to a coastal port for lifting. US-flag liner vessels often have a competitive advantage over foreign breakbulk vessels in these intermodal operations. But MARAD does not count cargo transported intermodally on US-flag vessels as in compliance with ACP requirements. As a result, virtually no freight contracts from Great Lakes ports meet the US-flag requirement. The secondary effect of this legislation, following directly from the first, is that the remaining 75 percent of bagged food aid shipped from outside the Great Lakes port range effectively must be carried entirely on US-flag vessels in order to comply with cargo preference regulations (Bloom 2008, p. 295).

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<sup>5</sup> Note that the Great Lakes Set Aside and MSA-17 do not apply to bulk cargo. This exemption of bulk food aid has limited effect, however, since the 1985 Farm Bill also established that at least 75 percent of non-emergency US food aid must be bagged.

## Maritime Security Program

ACP is not the only means used by the US government to support the merchant marine. The Maritime Security Program (MSP), also administered by MARAD, was established in 1996 to help the US merchant marine fleet meet the higher costs of maintaining US citizen crews and meeting DoD standards for military readiness.

The MSP maintains a modern US-flag fleet providing military access to vessels and vessel capacity, as well as a total global, intermodal transportation network. This network includes not only vessels, but logistics management services, infrastructure, terminals facilities and US citizen merchant mariners to crew the government owned/controlled and commercial fleets (MARAD 2009).

Thus the objectives of MSP are effectively identical to those of ACP. In late 2003, MSP was renewed through fiscal year 2015. In 2007, MSP enrolled 60 vessels, 47 of which also qualified for ACP shipments. In 2009, MSP enrolled 59 vessels, 39 of which were eligible for ACP shipments.<sup>6</sup>

Vessels participating in the MSP are required to be “militarily useful,” defined as being less than 15 years old, US-flagged and providing primarily liner service.<sup>7</sup> MSP vessels also must be available for call-up to meet national security needs and DoD shipping needs. In 2009, each vessel in the Maritime Security

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<sup>6</sup> See [http://www.marad.dot.gov/documents/MSP\\_Fleet.pdf](http://www.marad.dot.gov/documents/MSP_Fleet.pdf) for a listing of vessels enrolled in the Maritime Security Fleet as of July 2009. See [http://www.marad.dot.gov/documents/MAR730-MasterVesselListforCargoPreference\\_06\\_sept\\_06\(2\).pdf](http://www.marad.dot.gov/documents/MAR730-MasterVesselListforCargoPreference_06_sept_06(2).pdf) for a June 2009 listing of the ACP fleet. A 2006 list of MSP eligible vessels was not available. Throughout this paper, we therefore use the 2007 vessel list to identify likely MSP vessels in 2006. Comparison of the 2007 list with that of 2008 indicates a difference of 11 vessels, only 4 of which participated in 2006. Given the minor year-on-year change in MSP and ACP vessel listings, any error introduced by using the 2007 listing is surely small. .

<sup>7</sup> This generally limits MSP to containerships rather than bulk, breakbulk or tanker vessels (GAO 2004, pp. 6-10). Additionally, “roll-on/roll-off” vessels that specialize in carrying vehicles are considered militarily useful under the MSP, but are less useful for shipment of food aid. ACP vessels cannot “double dip” by also receiving MSP payments on days when they carry more than 7500 metric tons of bulk (not bagged) food aid (Barrett and Maxwell, 2005). Given how few bulkers participate, this seems a phantom restriction.

Fleet (MSF) received a subsidy of \$2.9 million (increased from \$2.6 million in 2008) to compensate for the added costs of maintaining US-flag status (GAO 2004, p.13, MARAD 2006b). These subsidies are essentially call options that give DoD the legal right to use ships and crews for military operations when necessary. DoD has employed MSP vessels, for example, during conflicts in the Persian Gulf, Bosnia, Kosovo, Somalia and Iraq (Econometrica 2009).

MARAD estimates that the MSP payments cover, on average, 13 percent of vessels' operating costs (GAO 2004).<sup>8</sup> Yet according to MARAD, ACP premia, not MSP payments, provide the primary government support for MSP vessels, thereby justifying continuation of ACP. As we show below, our estimates call this claim into question.

Unlike MSP, "military usefulness" is not an explicit requirement for ACP eligibility. While 47 vessels qualify for both ACP and MSP programs, of the remaining 95 vessels that participate in ACP, a vast majority (84/95) do not meet the military usefulness criteria. These vessels are either more than 15 years old or do not appear to offer liner service. Therefore, over 88 percent of the non-MSP vessels eligible for ACP trade are not militarily useful vessels by the standards used by MARAD.<sup>9</sup> Further, 31 of the 42 militarily useful vessels eligible for ACP are already enrolled in the MSP program. In 2006, only 15 militarily useful vessels actually participated in ACP shipments of US food aid.

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<sup>8</sup> This estimate was based on the then-\$2.1 million subsidy. The subsidy for MSP vessels increased to \$2.6 million for fiscal years 2006 to 2008, \$2.9 million for fiscal years 2009 to 2011 and \$3.1 million for fiscal years 2012 to 2015 (GAO 2004, p.14).

<sup>9</sup> Some MSP vessels are over fifteen years old. We assume that most of these vessels met the militarily useful criteria when they entered MSP and have since aged. However, it appears that some older MSP vessels had age requirements waived when entering MSP. Such waivers are given "based on a finding that such an action is in the national interest" (Econometrica 2009, p.14). For example, two MSP vessels are listed as 31 years old in 2006. Given that the MSP program began in 1996, using just the age-limit criterion, these vessels could not have qualified for MSP without a waiver.

## DATA AND ANALYTICAL METHODS

In order to more precisely estimate the costs associated with ACP and its effectiveness in advancing national security objectives, we analyze transactions-level data on all USAID bulk and bagged food aid shipments, 1,741 in total, for fiscal year 2006 (October 1, 2005-September 30, 2006).<sup>10</sup> These data include information on individual shipment tonnage, vessels, flag status, carriers, load/discharge ports, priority status, ocean freight costs, total shipping costs and alternate bids, if any were received. Data on foreign-flag bids used to compute the ocean freight differential were provided when a losing competing foreign-flag bid was also made. Data on participating vessels were obtained from MARAD's website, including vessel type, age, ownership and eligibility for ACP and MSP. MARAD ownership data were complemented with internet-based research on the corporate parentage of companies carrying ACP shipments.

Using this information, we estimated differential costs between US-flag vessels and their foreign competitors as well as between older and younger vessels, disaggregating the analysis between bagged and bulk food aid shipments. We should note as well that USDA (CCC), USAID, and MARAD disagree on how to compute ocean freight costs. The 1987 inter-agency MOU that specifies administration, computation and distribution of ocean freight costs among these agencies is widely considered outdated and unclear (Simmons 2009, GAO 2009). In discussing our results, we note where limited data or unclear guidance on computational methods may affect our estimates; in such cases we chose the more conservative estimation method in order to avoid overstating our findings.

We are restricted to analyzing FY2006 due to data availability. But this year appears reasonably representative, as average open market freight rates in 2006 were comparable to those prevailing in the

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<sup>10</sup> Data includes shipment for Title II programs and the Bill Emerson Humanitarian Trust.

first half of 2010 and to historical averages 2003-2010, according to grain vessel rates reported by the USDA Agricultural Marketing Service in its weekly *Grain Transportation Report*.<sup>11</sup>

### **ESTIMATED CARGO PREFERENCE COSTS**

USAID procured and delivered about 2.5 million metric tons of food aid in FY2006, for which the ocean freight costs were \$332 million. Of this, we estimate ACP requirements for USAID generated at least \$104 million in extra costs to taxpayers, a 46 percent mark-up over competitive freight costs. Of these excess ACP-related expenses, we estimate \$50 million was borne ultimately by USAID, directly reducing resources available to attend to the food security objectives of the PL 480 Title II food aid program. Including approximate ACP costs borne by USDA food aid programs, as well as MARAD reimbursements to the food aid agencies, the estimated total cost to US taxpayers increases to \$140 million. The remainder of this section explains how we arrive at these estimates.

#### **Under-representation of the ocean freight differential**

As previously noted, MARAD requires a competing foreign-flag bid if a shipment is to be eligible for OFD reimbursement to a food aid agency (USAID or USDA). Shipments without a foreign-flag bid are omitted from OFD calculations and are ineligible for reimbursement even though ACP and, importantly, MSA-17 restrictions induce foreign-flag carriers to rationally opt out of bidding on (especially bagged) food aid shipments and limit price-based competition even among US-flag carriers with different priority status. The GAO (2007, p.30) reports that in 2005, 14 percent of all food aid shipments received no foreign-flag bid. FY2006 USAID data indicate that 27 percent of all US-flag shipments received no foreign-flag bid,

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<sup>11</sup> Archived copies are available online at <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateV&navID=AgriculturalTransportation&leftNav=AgriculturalTransportation&page=ATGTRArchive&description=GTR%20Archive&acct=graintransport>.

representing 30 percent of total US-flag tonnage and costing USAID almost \$27 million in excess freight charges.<sup>12,13</sup>

**Table 1: FY2006 Ocean Freight Differential Costs and Reimbursements to USAID (\$ millions)**

	Total shipment costs <sup>14</sup>	Total OFD incurred <sup>15</sup>	“Reimbursable” OFD <sup>16</sup>	OFD amount reimbursed by MARAD <sup>17</sup>	OFD amount absorbed by USAID <sup>18</sup>
Bagged	152.5	23.7	20.0	6.6	17.1
Bulk	179.2	53.4	38.5	12.8	40.6
<b>Total</b>	<b>331.8</b>	<b>77.1</b>	<b>58.5</b>	<b>19.5</b>	<b>57.6</b>

### USAID absorption of ocean freight differential costs

In 2006, OFD on US-flag vessels that had a competing foreign-flag bid represented \$77 million of the \$332 million USAID spent on food aid shipments costs (Tables 1 and 2). The reimbursable portion of OFD, however, is based on the 1987 inter-agency MOU, which uses only average OFD on vessels under 25 years old shipping market – e.g., due to poor fuel efficiency, slow travel, greater labor requirements,

<sup>12</sup> The details of these and subsequent calculations can be found.<sup>12</sup> However, average OFD per ton paid for shipments on older vessels is significantly higher than on younger, militarily useful vessels (Table 3). Ocean carriers can move older vessels that may no longer be competitive in the commercial in a supporting data and calculations spreadsheet available from the authors by request.

<sup>13</sup> Costs are estimated using average OFD per ton for vessels 24 years old and under. We do not have data on which vessels have been rebuilt in the past five years, so we treat all vessels at least 25 years old as being ineligible for inclusion in the average OFD reimbursement rate computations. We also exclude the small number of vessels for which we lack age data. The average eligible OFD is calculated separately for bagged and bulk vessels. These averages are then multiplied by the total tonnage for US-flag bids on that type of commodity that received no alternate bid in order to arrive at the total reimbursable OFD.

<sup>14</sup> This total includes both ocean freight costs and non-ocean costs such as fumigation and overland transport, but it excludes the value of commodities shipped.

<sup>15</sup> Calculated on a per shipment basis by multiplying the OFD rate per ton as reported by USAID by the tonnage shipped. This does not account for reimbursements received, shipments receiving no alternative bids, nor additional non-OFD costs of cargo preference.

<sup>16</sup> To receive OFD reimbursements, a shipment must be on a US-flag vessel and have an alternate bid with which to calculate OFD. The additional cost of shipment on older vessels is deducted from the OFD incurred by applying the average OFD per ton to all tonnage eligible to receive OFD reimbursement.

<sup>17</sup> OFD amount reimbursable by MARAD is one-third of reimbursable OFD, which does not include the additional costs of older vessels.

<sup>18</sup> OFD costs absorbed by USAID are the difference between the total OFD incurred and the estimated amount reimbursed by MARAD. This figure includes additional costs of older vessels but does not take into account the costs of missing alternate bids and the TPEF payment.

greater risk of cargo loss, or other reasons – into the US-flag fleet where they remain profitable at the expense of taxpayers and government food aid agencies.

**Table 2: FY2006 All ACP-Related Costs and Payments to USAID (\$ millions)**

	Costs accrued to USAID	Costs accrued to MARAD	Costs to Taxpayers
Total OFD incurred due to ACP <sup>19</sup>	57.6	19.5	77.1
Total costs due to missing alternative bids <sup>20</sup>	26.8		26.8
MARAD TPEF payment to USAID <sup>21</sup>	(34.8)	34.8	
<b>Total Payments</b>	<b>49.6</b>	<b>54.4</b>	<b>103.9</b>

**Table 3: Average OFD Per Ton for Vessels Carrying Food Aid**

Vessel Age	Bulk	Bagged
<b>0-24</b>	\$45.44	\$51.09
<b>25+</b>	\$74.59	\$75.66

This accounting technicality matters because more than 30 percent (44/144) of the ACP vessels eligible for ACP shipments in 2006 were 25 years old or older and these vessels carried approximately 23 percent of USAID food aid tonnage.<sup>22</sup> In 2006, we estimate the per-ton shipment costs on vessels 25 years or older were 64 and 48 percent higher for bulk and bagged cargo, respectively, than the cost of shipments on younger vessels (Table 3). This cost differential for vessels over 25 years of age both increases the cost of ACP to taxpayers and reduces the reimbursable portion of the OFD food aid

<sup>19</sup> See Table 1.

<sup>20</sup> This is a conservative estimate using the average OFD per ton for vessels age 0-24 multiplied by the total tonnage with no alternate bid.

<sup>21</sup> BEHT shipment costs are included in TPEF calculations, as indicated by the 1987 Memorandum of Understanding, sections V.C. 1 and VIII. B.

<sup>22</sup> Based on MARAD, "Active U.S. flag vessels eligible for Agricultural Preference Trade," September 6, 2006. This list was originally retrieved online, but it is no longer available on the MARAD website.



agencies incur. The cost to USAID associated with shipment on older vessels totaled an estimated \$16.5 million, none of which is compensated for by the reimbursement guidelines set forth in the 1987 MOU.<sup>23</sup>

In FY2006, we thus estimate that ACP added 46 percent (\$104 million) to the government's USAID food aid cargo costs, compared to the competitive foreign-flag rates without ACP.<sup>24</sup> USAID incurred 48 percent of these costs, totaling \$50 million (Table 2). This is equivalent to 3.3 percent of USAID's total food aid commodity expenditures in FY2006 and nearly equivalent to the value of USAID's entire Title II non-emergency food aid to Africa, which served 1.2 million beneficiaries.<sup>25</sup>

Adjusted for USAID's (74 percent) share of total US food aid, we get a crude estimate of \$140 million in total ACP costs to the US government in 2006. This estimate is a bit lower than GAO estimates from 15-20 years ago. The GAO (1994, p.2) estimated that "an average of about \$200 million per year in government funds has been used to pay the added cost of shipping US food aid to foreign countries on US-flag ships rather than on lower-cost foreign-flag ships," and estimated \$150 million annually in ACP costs (1990). ACP costs vary on an annual basis due to international and domestic demand for shipping, fuel prices, etc. Therefore, some variation across years is expected.

### **ACP Carrier Competitiveness**

The preceding analysis makes clear that ACP is costly because US-flag carriers are rarely the lowest-cost freight service providers for food aid agencies. We find that US-flag vessels carrying bagged food aid

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<sup>23</sup> This figure represents the difference between average OFD of shipment on vessels 25 years and older and vessels under 25 years old, multiplied by the total tonnage shipped on older vessels. A few vessels without age data were excluded from the rate estimates. This results in a slight discrepancy between the reimbursable OFD reported in Table 1, which is based on the actual OFD incurred, and the product of total tonnage and rate estimates based on an incomplete vessel roster.

<sup>24</sup> These estimates ignore the significant costs of USAID, USDA and MARAD staff and facilities devoted to managing compliance with cargo preference restrictions.

<sup>25</sup> Based on \$1.48 billion in Title II commodity expenditures, as reported in appendices 5 and 6 of USAID (2006).

(primarily containerhips providing liner service) are more able to compete with their foreign-flag counterparts than can US-flag bulk, tanker or breakbulk vessels. The additional cost of US-flag vessels that carry bulk commodities appear to be due in large measure to their age and outdatedness, rather than the costs associated with US-flag status. US-flag vessels carrying bagged food aid use different, more modern liners, which allow them to compete more effectively.

**Table 4: FY2006 USAID Food Aid Tonnage Allocated to U.S. and Foreign-Flagged Vessels**

		BAGGED		BULK	
		MT	Percent	MT	Percent
Foreign-flag	Percent foreign-flag winning bids	MSA-17: 204,786 <sup>26</sup>	24.4%	362,520	22%
		Non-MSA-17: 3,360	0.4%		
U.S.-flag	Competitive ocean rate	80,510	9.6%	3,150	0.2%
	Non-competitive ocean rate	391,383	46.6%	848,020	52%
	Missing foreign-flag bid	MSA-17: 1,851	0.2%	409,840	25%
Non-MSA-17: 158,370		18.8%			
<b>Total</b>		<b>1,068,080</b>	<b>100%</b>	<b>1,623,530</b>	<b>100%</b>

For bagged tonnage that received both foreign and US-flag bids, US-flag carriers had lower ocean freight bids than their foreign-flag competitors in 21 percent (180/850) of shipments (or 17 percent of cargo tonnage). This was the case in less than 1 percent (1/79) of bulk food aid shipments.<sup>27</sup> Overall, US-flag carriers' bids were competitive for just 3.4 percent of USAID food aid tonnage, 17 percent of bagged commodities, but less than 0.2 percent of bulk (Table 4). Foreign-flag vessels win virtually all of the MSA-

<sup>26</sup> Bagged cargo does not need to be loaded onto a ship from a Great Lakes port in order to satisfy the requirements of MSA-17. Cargo that is bagged or containerized at a facility contiguous to a Great Lakes port can then be shipped overland to a coastal port and still be considered a Great Lakes shipment, regardless of the flag of the vessel on which it is ultimately shipped.

<sup>27</sup> These comparisons consider only ocean rate costs and exclude additional non-ocean costs. Bids for which there was no foreign-flag competitor reported are excluded from the calculation.

17 reservation of 25 percent of bagged food aid shipments for Great Lakes ports. Because foreign flag vessels cannot carry more than 25 percent of total food aid shipments, few foreign flagged vessels are awarded bids outside of the Great Lakes. Thus, the greater competitiveness of US-flag carriers in bagged food aid shipments is in spite of the fact that they effectively face no foreign-flag competition beyond the Great Lakes region.

### **CARGO PREFERENCE AND NATIONAL SECURITY**

The statutory objective of ACP is to advance the national security objective of maintaining essential sealift capacity – both vessels and skilled mariners – in times of war. If it effectively promotes such objectives, then the costs of ACP might be desirable, although there may still be less costly ways to organize support for US shipping interests while fulfilling the same national security objectives.

But the efficacy of and need for ACP to advance these objectives has been repeatedly questioned. For example, the GAO (1994, p.3) concluded that: “The application of cargo preference to food aid programs does not contribute to meeting the intended objectives of helping to maintain US-flag ships as a naval and military auxiliary in time of war or national emergency or for the purposes of domestic or foreign commerce.” Indeed, over the past quarter century, informal DoD support for ACP has wavered.<sup>28</sup> Concerns about the efficacy of ACP for promoting national security interests with respect to sealift capacity were one reason for the creation of the Maritime Security Program (MSP) in 1996, which, unlike ACP, imposes explicit restrictions on eligibility based on “military usefulness.”

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<sup>28</sup> In 1994, Department of Defense wrote, “There would be no significant impact to DoD in the loss of bulk ships used to transport food aid” in Appendix V (GAO 1994, p. 106).

According to MARAD (2006, p.21), the \$2.1 million annual payment per vessel under MSP “provides limited direct assistance”, while “the primary form of assistance to 118 U.S.-flagged vessels is provided through the cargo preference laws.”<sup>29</sup> There are multiple reasons to doubt this assertion.

First, MSP enrolls more modern ships mostly offering liner service, in which cargo is placed on a vessel with a predetermined route rather than on a vessel chartered specifically to the desired destination. Liner service increases the likelihood that food cargo will be transshipped, i.e., transferred to a foreign-flag vessel en route. Because the priority system used to award bids under ACP favors carriers offering charter service rather than trans-shipped liner service, MSP vessels operate at a disadvantage when competing with non-MSP ACP vessels (GAO 2004, p.22). As presently operationalized, ACP directly disadvantages the most militarily useful US-flag vessels, those that are MSP eligible.

Second, relatively few cargo preference vessels are militarily useful. Using the best available listings we could obtain for each program, we find that of the 142 ACP-eligible vessels in 2006, 100 were not considered militarily useful under MSP criteria due to their vessel type, age, or both. Therefore 70 percent of ACP vessels do not meet the most current militarily useful criteria enforced under the MSP. As a rule, bulker vessels are not considered militarily useful due to DoD preference for container and roll-on/roll-off capability. For food aid shipments, however, bulk and breakbulk vessels are necessary to carry bulk grains. This creates an inherent conflict when vessels that ship food aid are also expected to contribute to national security.

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<sup>29</sup> Note that the MSP payment has now increased to \$2.9 million per year per vessel. A list of ACP eligible vessels for 2006 was obtained from MARAD that reports 144 eligible vessels, contradicting the MARAD (2006b)) annual Report figure of 118. The reason for this reporting discrepancy remains unclear.

The FY2006 USAID food aid shipment data allow us to explore the extent to which ACP in fact supplements MSP payments. Only 25 of the 47 MSP vessels eligible for ACP shipments were awarded USAID food aid shipments in FY2006. By our calculations, following the methods described above, the average total OFD premium received in FY2006 by these MSP vessels was about \$271,000, putting the total cost of ACP support to these 25 vessels at \$6.8 million. In contrast, the total cost of ACP for all vessels was \$140.4 million. In other words, less than 7 percent of cargo preference expenditures on USAID food aid shipments actually support vessels selected by DoD for inclusion in the Maritime Security Fleet. Further, the magnitude of this support was just over 10 percent of the MSP payments received by those same vessels. Therefore, ACP hardly seems to be “the primary form of assistance” for the militarily useful vessels DoD most wants to support within the merchant marine fleet.

Beyond supporting vessels and their owners, ACP and MSP support the employment of US citizen and legally resident merchant mariners. Non-militarily useful vessels are still useful in so far as they cultivate and maintain a pool of well-trained sailors available for call-up in times of heightened national security measures. Definitive information on the employment effects of ACP has proven elusive.<sup>30</sup> The GAO (2007, p.13) reports that “5,000 U.S. citizen mariners...have carried U.S. food aid cargoes in the past several years...” on 100 vessels. A 2009 study commissioned by MARAD states that the Maritime Security Program provides employment for approximately 2,400 US mariners (Econometrica 2009). Our rough estimates, based on vessel-specific crew estimates, are that 1,414 crew members participated in ACP shipments in 2006.<sup>31</sup> Given our earlier estimate of \$140 million in total ACP costs to taxpayers on

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<sup>30</sup> Using 1992 data, Nathan Associates (1995) estimated that direct, indirect, and induced employment from all cargo preference requirements (including military, agricultural, and EXIM preferences) and OFD reimbursement was 71,000. The authors did not disaggregate the employment effects by cargo preference requirement.

<sup>31</sup> Averages are drawn from foreign flag crewing practices reported by MARAD (2006a). Crewing information in ILO (2004) is consistent with the MARAD data. To the best of our knowledge, estimates for US vessels were not publicly available. Therefore, we applied average crews by vessel type for foreign vessels to US vessels of similar

US food aid shipments, this amounts to a minimum annual subsidy per mariner of \$99,342. Moreover, in the more than half century since enactment of the 1954 Cargo Preference Act, there has been no documented call-up of civilian mariners from ACP vessels for national security purposes. This seems a rather generous price to pay for call-up options that have never been exercised over a 56-year period that spans seven major US military operations.<sup>32</sup>

### **CARGO PREFERENCE AND FOREIGN-OWNED VESSELS**

In addition to the national security objectives of ACP, cargo preference restrictions are designed to nurture the American shipping industry. However, according to the American Maritime Congress, in 2005, cargo preference accounted for only 5-15 percent of US-flag ships' total containerized cargoes.<sup>33</sup> Thus, while food aid shipments are lucrative for US-flag carriers that get the business, the volumes involved are small at industry scale.

Title 46, Subtitle V, Part A, Chapter 501, Sec. 50101 describes the characteristics of a US merchant marine to include vessels that are "owned and operated as vessels of the United States by citizens of the United States." Therefore one of the criteria for classification as a US-flag vessel is that it must be owned by an American company. "American" companies can be subsidiaries of foreign corporations, however.<sup>34</sup> It is therefore important to ascertain the ultimate ownership of ACP vessels, and thus the ultimate recipients of the estimated \$140 million in excess government freight payments due to ACP.

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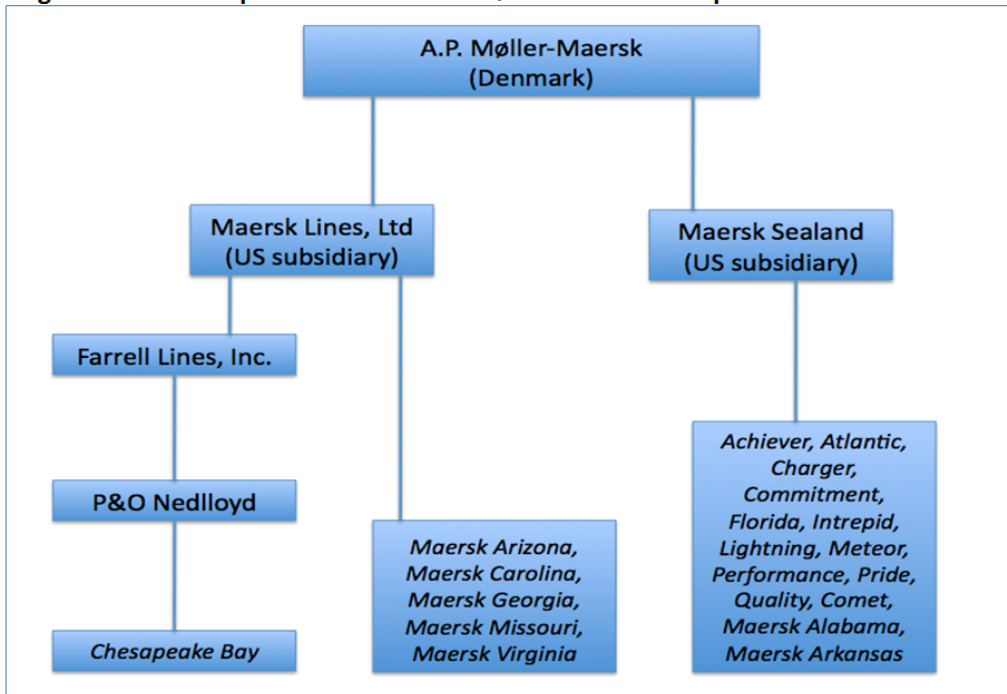
age and size. US employment regulations tend to be more stringent than other foreign labor laws, and thus we may somewhat overestimate the employment effects.

<sup>32</sup> The Vietnam War (1960-75), Grenada (1983), Panama (1989), Persian Gulf (1990-91), Bosnia and Herzegovina (1995-96), Afghanistan (2001-present) and Iraq (2003-present).

<sup>33</sup> American Maritime Congress website: <http://www.americanmaritime.org/> Visited July 2009.

<sup>34</sup> Such companies are known as "Documentation Citizen" companies. See Econometrica (2009) and 46 CFR 296.10 for details.

**Figure 1: Ownership Structure for A.P. Møller-Maersk Group-owned ACP Vessels**



The ownership structures of ACP-eligible US-flag vessels are difficult to trace conclusively, as many of the holding companies are privately held and do not report sufficient data to establish ownership structures definitively. Research using publicly available data on the ownership structures of US-flag vessels enabled us to establish the ownership structure for only a portion of the ACP vessels, accounting for only 43 percent of FY2006 USAID food aid tonnage. But from that sample, we conclude that while all US-flag vessels are indeed owned by American companies, many of those companies are merely subsidiaries of foreign companies. Figure 1 offers one example, showing how the world’s largest maritime container carrier, A.P. Møller-Maersk Group, headquartered in Denmark, is the ultimate owner of at least 21 of the 144 vessels in the ACP fleet. Almost 40 percent of the tonnage we can definitively link to ultimate owners was hauled on vessels whose companies are owned by foreign corporations. Since these are limited liability companies incorporated in the US, the business risk remains in the US, including with US mariners, while the profits move offshore to the corporate parent. These profits are

then reinvested in the corporate parent's entire fleet. Thus, ACP indirectly supports vessels that compete directly with US-flag vessels.

## **CONCLUSIONS**

Although many observers have argued that the political economy of US food aid policy is heavily influenced by the interests of ocean carriers and associated labor interests, the empirical evidence on how these constituencies benefit from agricultural cargo preference restrictions on US food aid shipments has been remarkably thin.

In this paper, we used an unprecedentedly detailed and comprehensive transactions-level data set to estimate the total costs of ACP and explore its consequences. We find that meeting ACP requirements for USDA and USAID programs cost US taxpayers roughly \$140 million per year in FY2006 and that roughly half of those costs were borne by food aid agencies rather than by the Maritime Administration. ACP costs USAID a significant portion of its food aid programming resources under Title II of Public Law 480, nearly equivalent to the value of USAID's entire Title II non-emergency food aid to Africa. Contrary to its national security and "buy American" objectives, ACP depends heavily on vessels not deemed militarily useful, provides minimal supplementary support to militarily useful vessels – in particular, those in the Maritime Security Program – and a considerable share of food aid shipments under cargo preference are carried by vessels ultimately owned by foreign corporations. ACP functions as a subsidy of the shipping industry under the guise of humanitarian assistance.

It would seem that more efficient and effective ways could be found to fulfill the multiple objectives of cargo preference policy; appropriate reforms will depend on which objectives are prioritized. Perhaps the most effective means of achieving national security objectives associated with agricultural cargo



preference would be to directly subsidize the Maritime Security Program, decoupling such support from food aid shipments. Indeed, the \$140 million cost of ACP could instead be used to support an additional 40 MSP vessels at the FY2006 MSP subsidy level. Alternatively, eligibility for ACP could be restricted to only those vessels that are clearly militarily useful, thus eliminating the substantial, costly support to older, more expensive vessels, although by further restricting competition this could increase costs and benefit foreign-owned carriers with newer US-flag vessels operated by their US subsidiaries.<sup>35</sup> This might, however, help induce investment by US companies in vessels that are militarily useful. Savings generated by this restriction could be used as a direct subsidy to the Maritime Security Program, to expand popular food aid programs such as McGovern-Dole, or for deficit reduction.<sup>36</sup>

Several reforms could increase competition and efficiency in shipment of American food aid. Most importantly, the Great Lakes Set Aside requirements under MSA-17 represent the single most anti-competitive influence on the US-flag shipping market. Relaxing or entirely eliminating MSA-17 will allow for greater price-based competition among ocean carriers. Additionally, the three-year waiting period for entry into the ACP program can be eliminated in order to allow the US-flag shipping industry to meet short-term changes in demand for US-flag services. Prioritization rules for awarding bids might also be updated in order to be more compatible with modern commercial practices in liner services. In order to better support American ownership of ocean carriers, more stringent guidelines regarding corporate parentage of eligible carriers could increase the benefits afforded to American carriers, American merchant mariners and other employees.

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<sup>35</sup> An exception may need to be granted to include vessels suitable for bulk cargoes, given that bulker vessels are not considered militarily useful by the DoD definition. US food aid programs will continue to need access to appropriate vessels for bulk commodity cargo.

<sup>36</sup> Investment in the Ready Reserve Force, a MARAD/DoD program aimed at increasing maritime surge capabilities in national emergencies, may also be an option. Strengths and weaknesses of this program and its role in maritime security are outlined in Econometrica (2009).

The most salient problem with the current formulation of the agricultural cargo preference program is the difficulty inherent to pursuing multiple policy objectives through a single policy instrument.

Untangling the multiple policy objectives outlined above is an important step toward increased efficiency and improved performance for all U.S. agencies involved. Furthermore, it will reduce the necessary extent of coordination between agencies, allowing USAID and USDA to channel their efforts into providing food for those who need it most and freeing MARAD to focus more specifically on maritime and related national security interests.

While the complex “iron triangle” political economy of US food aid continues to make reforms more difficult than in other food aid donor nations, with clearer evidence now as to the costs and efficacy of agricultural cargo preference restrictions in advancing their stated goals, it may be time to revisit the role of agricultural cargo preference as it applies to humanitarian international food assistance. Present ACP policy effectively promotes shipping subsidies under the guise of humanitarian assistance and national security.

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