NCCC-134
APPLIED COMMODITY PRICE ANALYSIS, FORECASTING AND MARKET RISK MANAGEMENT

The Feasibility of Rail Track Delivery as an Alternative Settlement Option for KCBT Wheat Futures Contracts

by

Daniel M. O'Brien and Jay O'Neil

Suggested citation format:

O'Brien, D. M., and J. O'Neil. 2011. "The Feasibility of Rail Track Delivery as an Alternative Settlement Option for KCBT Wheat Futures Contracts." Proceedings of the NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management. St. Louis, MO. [http://www.farmdoc.illinois.edu/nccc134].

The Feasibility of Rail Track Delivery as an Alternative Settlement Option for KCBT Wheat Futures Contracts

Daniel M. O'Brien

and

Jay O'Neil*

Paper presented at the NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management
St. Louis, Missouri, April 18-19, 2011

*Daniel M. O'Brien (dobrien@ksu.edu) is an Associate Professor - Extension Agricultural Economist in the Kansas State University Department of Agricultural Economics. Jay O'Neil (joneil@ksu.edu) is Senior Agricultural Economist in International Grains Program at Kansas State University. Any opinions, findings, conclusions or recommendations expressed in this publication are those of the authro's and not Kansas State University.

The Feasibility of Railcar Track Delivery as an Alternative Settlement Option for KCBT Wheat Futures Contracts

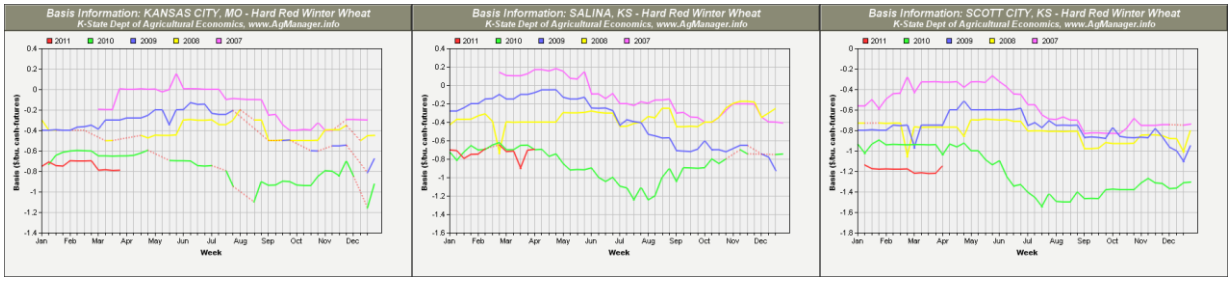
Railcar or "track" delivery is an alternative delivery mechanism considered by the Kansas City Board of Trade in 2010 to help bring about cash-futures convergence. Track delivery would provide an alternative way to physically deliver wheat via railroad cars without relying on the issuance of warehouse receipts from delivery point elevators. This study shows that during the May 2010 through February 2011 period profitable opportunities to deliver wheat on KCBT futures existed from selected Kansas, Oklahoma and Nebraska grain elevator locations where basis was wider than rail transportation and grain elevator handling costs. Barriers to adoption of track delivery include timely, seasonal delivery of railcars from country locations to delivery locations in Kansas City and availability of railcar-weighing scales for determination of weights and measures at country elevator locations. The niche for railcar track delivery is that it could provide an extreme punitive outer bound for wheat basis levels, defining an outer limit on hard red winter wheat cash-futures price differentials.

Keywords: wheat futures, basis, convergence, delivery.

Introduction

Sharply wider hard red winter (HRW) wheat basis levels in the Great Plains in 2010 raised questions about the causes and possible solutions for lack of convergence between local cash wheat and Kansas City Board of Trade (KCBT) wheat futures prices. Trends toward wider HRW wheat basis and associated lack of cash-futures convergence during contract delivery periods began in 2007, but were exacerbated in summer 2010. Hard red winter (HRW) wheat cash-futures differentials (i.e., basis levels) widened appreciably during July-August 2010 at Kansas City, MO, at Salina in central Kansas, and Scott City in west central, Kansas (see **Figure 1**).

Figure 1. Hard Red Winter Wheat Basis Differentials at Selected Locations: Jan. 2007 – Mar. 2011 (source: www.AgManager.info)



Some factors thought to have contributed to wider wheat basis levels in the summer of 2010 include a) increasing costs of managing grain price volatility on the part of local grain elevators, b) overburdening growth in local supplies of wheat relative to export, domestic mill and feed demand during the 2007-2010 period, and c) inefficiencies and/or blockages in grain futures delivery mechanisms intended to bring about cash-futures convergence. Regarding these inefficiencies or blockages in futures delivery mechanisms, variable storage rate (VSR) mechanisms have been developed in an effort to mitigate the incentive that the long (buy) position holders have to store

rather than sell the wheat that has been delivered to them when inter-month contract spreads approach levels equaling full carrying charges. These VSR mechanisms have already been adopted for CBOT wheat and were considered for KCBT wheat along with other actions intended to encourage cash-futures convergence.

Another inefficiency or blockage in the KCBT wheat futures delivery system is the general unavailability of warehouse receipts from delivery point elevator locations. Properly specified warehouse receipts from regular delivery elevators are required by short sellers to qualify them to be able to physically deliver wheat in fulfillment of their KCBT short (sell) futures positions. Without being granted warehouse receipts of the correct quantity and designation, short sellers currently have no means by which to physically deliver HRW wheat against KCBT wheat futures. Consequently, long position holders in the KCBT wheat futures market have little credible threat of actually receiving or taking physical delivery of wheat, and of being forced to participate in the process intended to bring about cash-futures convergence and subsequent narrowing of HRW wheat cash basis. Due to these problems with the physical delivery mechanism for KCBT wheat futures and the evidence of non-convergence between HRW cash and futures prices, it seems that the KCBT wheat futures contract is becoming dysfunctional.

Railcar or "track" delivery is one alternative delivery mechanism that could be considered to help bring about cash-futures convergence for KCBT wheat. A track delivery mechanism would provide an alternative way to physically deliver wheat via railroad cars without relying on the issuance of warehouse receipts from delivery point elevators. Regular grain elevator delivery point warehouses do not participate in track delivery processes – rather grain is delivered via railcar(s) on KCBT wheat futures contracts. Track delivery had been used in KCBT wheat contracts as recently as 1998, and if re-adopted could allow for greater access to delivery mechanisms by short sellers such as local grain elevators or possibly wheat producers. However, changes in railcar handling rules and procedures in the railroad industry since 1998 may affect the functional procedures involved in the process of track delivery of wheat to Kansas City.

In the fall of 2010 the KCBT ultimately adopted a regime of expanded seasonal storage rates and tighter wheat quality specifications on protein and vomitoxin to take effect with the September 2011 KCBT wheat futures contract to help bring about cash-futures convergence. Under these new contract specifications, seasonally expanded monthly storage rates on delivered wheat of 9 cents per bushel per month will be charged from July through November, with reduced storage rates of 6 cents per bushel per month on delivered wheat during the December through June period. The new rules specify 11 percent protein as the standard for deliverable wheat, with 10.5 percent protein wheat also being deliverable – but at a 10-cent discount. Any lower protein wheat would be undeliverable against the KCBT wheat futures contract. Although this combination of expanded seasonal delivery rates, higher protein and vomitoxin standards were adopted in November 2010 to begin with the September 2011 KCBT wheat futures contract, track delivery or some variation of the practice may be considered at a later time if cash-futures convergence problems persist.

Study Objectives

The objective of this research is <u>first</u> to provide a description of a possible track delivery procedure for KCBT wheat futures - from the initial steps taken in the delivery process by short position holders to the final iterative cash-futures arbitrage process involving those holding both long and short positions.

Second, available information on rail transportation rates, regulations, and railcar capacities relevant to track delivery will be examined. The question of how different types of railcars will be moved in either small or large groups of cars with varying availability and rate structures is a key to the procedural and economic viability of track delivery procedures. Rail transportation costs from selected primary western and central Kansas, Oklahoma and Nebraska railcar origination points will be examined.

Third, an analysis will be carried out on the performance of cash-futures convergence and also on the viability of profitable track delivery opportunities for KCBT wheat futures contracts. At the 2010 NCCC134 conference, information will be presented for the period beginning on May 19, 2010, monitoring basis behavior and cash-futures convergence with July 2010 KCBT wheat futures through the March 2011 KCBT wheat contract. This time period is of interest because it parallels the beginning of the use of the VSR mechanism for CBOT wheat. An extended analysis beginning with the July 1985 KCBT wheat futures is planned by the authors for later. Weekly Kansas City cash wheat bids (FOB track, USDA AMS report SJ-GR110) are compared with KCBT closing wheat futures to assess cash-futures convergence.

Fourth, results from steps 2 and 3 above will be combined to analyze the profitability of KCBT wheat track delivery procedures to Kansas City. The analysis will focus on track delivery originating from selected primary wheat producing areas in western and central Kansas along with selected Nebraska and Oklahoma locations - accounting for rail transportation costs to the Kansas City market, elevator handling margins, and basis differentials between these selected country grain elevators locations and railcar grain sales prices in the Kansas City grain market. This analysis does not extend to the consideration of the profitability of continuing to physically store wheat that has already been delivered against KCBT wheat futures.

From a broader perspective, competitive market forces are likely to limit the frequency of occurrence of periods of extremely wide basis levels and of profitable opportunities to deliver wheat against the KCBT wheat futures contract. This will likely be true for both the current delivery system through regular operator terminal grain elevators with soon to be expanded season storage rates and protein / vomitoxin standards as well as for potential track delivery procedures. That said, track delivery from western and central Kansas locations and surrounding states is likely to be profitable less frequently than terminal delivery after rail transportation costs and load out fees are accounted for if warehouse receipts are made available to allow for regular KCBT wheat contract delivery procedures to function.

This research will provide the KCBT and the HRW wheat industry with a better understanding of how a track delivery mechanism would function, of the impact of changing rail transportation costs and billing / railcar handling practices, and the potential effectiveness of a track delivery system in helping to improve cash-futures convergence in KCBT wheat futures.

Elimination of Track Delivery for KCBT Wheat Futures in 1999

Track delivery was available for use with KCBT futures through the May 1999 contract. An official letter from the KCBT on October 28, 1998 notified the Commodity Futures Trading Commission (CFTC) of the deletion of track delivery rules and procedures. As indicated by the KCBT at that time,

"Following a discussion of the viability of track deliveries and the history of their use, the Wheat Contract Committee, by an overwhelming majority, voted to recommend that the Board delete the track delivery rules, resolutions and interpretations from the KCBT rulebook. It was the feeling of the Committee that the track delivery provisions were outdated and did not reflect the many changes that have occurred in the industry and with the railroads that make track deliveries prohibitive. The fact that we have seen both market extremes in the past 10 years (large inverses and large carries) but have not had any track deliveries since 1981 adds support to this finding."

"….it was the determination of the (Rules) Committee that the track delivery rules were outdated and their elimination would not conflict with any other rules. …..the Committee voted unanimously to eliminate the rules and resolutions pertaining to track deliveries."

"…the Wheat Contract and Rules Committees feel that the track delivery provisions are outdated and impractical. The main cause of the ineffectiveness of the track delivery provisions has been the sweeping changes in the railroad industry in the last 15 years. Current railroad operating procedures and costs make our track delivery rules unworkable in the current atmosphere of railroad operations."

"Rules that are unworkable and undesirable create confusion in the market. It is desirable to have delivery procedures that are fair to all participants. Removing the track delivery provisions eliminates the potential uncertainties in the delivery process and ensures a level playing field between commercial and noncommercial interests."

Grain industry participants indicate that changes in railcar activity brought about by the **Staggers Act** lead to the discontinuation of track delivery for KCBT wheat futures. The Staggers Rail Act of 1980 deregulated the American railroad industry, replacing the regulatory structure that existed since the 1887 Interstate Commerce Act. The Staggers Act removed many regulatory restraints on the railroad industry, provided it with increased flexibility to adjust rates and tailor or design services to meet the needs of shippers and to meet their own revenue requirements. Prior to the Staggers act, billing for railcar services were made at the destination point of the rail shipment, i.e., at the point of inspection and disposition. Now, billing for railcar use is made at the point of origination of the rail shipment.

The Iterative Process of Cash-Futures Convergence Initiated by Delivery

At the threat or notification of being delivered on by track delivery or regular delivery processes, a long position holder in the lead KCBT wheat futures contract would typically enter into what could be described as "an iterative arbitrage process" leading to cash-futures convergence. This iterative process initially involves short position holders indicating to the KCBT Clearing House their intention to deliver on their KCBT wheat futures lead contract positions. Then KCBT wheat long position holders receive notice that they are being delivered on from the KCBT Clearing House.

Long position holders then decide either to a) offset their long futures positions by selling them back, or b) take actual physical delivery of the wheat. Typically, taking delivery of the physical commodity at the net adjusted cash price in a wide-basis market is inherently unprofitable. In a wide basis market scenario that would lead to delivery on short positions, the net adjusted cash price that long position holders being delivered upon would be paying at delivery to sellers through the

KCBT Clearing House would be inherently higher than the cash price these same long position holders would receive from immediately selling cash wheat in the local Kansas City wheat market or at other approved delivery grain terminal / elevator facilities in Salina-Abilene, Hutchinson and Wichita, all in Kansas. To avoid the financial loss that would occur should they be forced to pay more for cash wheat they would be receiving in delivery than they could sell it for in the local cash market, long position holders would immediately sell back or offset their long positions in the lead KCBT wheat futures contract, effectively getting out of or cancelling their long positions.

However, the KCBT Clearing Corporation then reassigns the new short track delivery position to another long position holder in a process termed "retendering". This process of offsetting the long position by selling it back and then having the track delivery position "retendered" to another buyer continues iteratively as long as the net adjusted price that short sellers receive from delivering grain is higher than the net price in the local cash wheat market. Over this repeated, iterative process the price of the lead futures contract being repeatedly sold is forced lower relative to underlying cash prices. Restated, lead contract KCBT wheat futures prices would be driven lower in relation to cash HRW wheat prices due to the repeated selling by long position holders as they seek to immediately offset or cancel their soon to be delivered upon KCBT wheat futures lead contract positions.

As stated in the 1998 KCBT letter to the CFTC, not much volume was ever actually involved in track delivery procedures. However, the potential threat of track delivery occurring up to that time served the function of a) tightening cash wheat basis as lead contract futures declined relative to cash prices, and b) putting the HRW wheat basis risk into the spread between the lead and first deferred contract month.

For example, consider the impact of the potential track deliveries on the spread or differential between July and September KCBT wheat futures (i.e., the July-Sep futures spread). At the threat of deliveries on the July KCBT wheat futures contract, longs sold their July positions – lowering the July contract price. In order to avoid being delivered upon, those traders who were formerly in "long" July positions, would offset to "get out" of their long positions by selling back their July futures contracts. Many of these traders would then buy the September KCBT futures contract, i.e., they would "roll" out of their long July KCBT wheat futures positions and into the following September KCBT wheat futures. In the process of a large number of traders all doing the same thing, as they sell July wheat and buy September wheat, July wheat would move lower and September would move higher.

As a result of these market processes, either of actual track delivery or of long position holders seeking to avoid the threat of railcar track delivery occurring to them, two results are likely to occur in the market. First, in the July – September wheat example, the spot market basis in July (i.e., the cash-futures difference) may narrow. Second, the spread between the lead and immediate deferred wheat contracts (i.e., July-Sept) is likely to widen.

Specifications Considered for KCBT Track Delivery in 2010

The key specifications for the track delivery process considered by the KCBT in 2010 are as follows:

1) **Freight Basing Point**: All track deliveries would be made in relation to the Kansas City, Missouri / Kansas switching district delivery location, which would serve as the Freight Basing Point.
   Comment: Railcar track deliveries were proposed only for Kansas City MO/KS, whereas under regular procedures for KCBT wheat, deliveries can now be made to Salina / Abilene, Hutchinson and Wichita regular approved grain elevator locations in addition to Kansas City MO/KS

2) **Eligible Origination Locations**: Track deliveries could be made by any KCBT member elevator located outside of the Kansas City, MO/KS switching district, and serviced by rail and capable of furnishing official weights and grades. Any cars loaded must allow movement to major market/gateway destinations, including the Gulf of Mexico, Chicago, IL, St. Louis, MO and Memphis, TN.
   Comment: The capability of grain elevator origination locations for track delivery to furnish official weights and grades is a critically important issue. Only a limited number of outstate Kansas, Oklahoma and Nebraska grain elevators actually have scales capable of weighing railcars.

3) **Intention Notice by Seller**: When track deliveries are to be made, the seller shall give written Track Delivery Intention (i.e., "TDI") notice to the Clearing Corporation before 4:00 p.m. on any business day beginning on the second business day preceding the first delivery day of the contract month and ending on the business day preceding the last trading day of the contract month. TDI notice must clearly indicate "Track Deliveries" and include the date, clearing member name and account number of the customer giving intentions to make Track Deliveries in satisfaction of futures contracts.

4) **Intention Notice Assignment to Buyer**: The Clearing Corporation, upon receipt of a TDI notice, shall immediately issue notice to the buyer to whom the TDI will be assigned. TDI assignment must be accepted by the identified buyer. Upon receipt, the buyer may (on any day up to and including the day prior to the last trading day of such contract month) establish a short futures position in the delivery month contract and retender the TDI notice to the Clearing Corporation to be reassigned to another buyer (i.e., another long delivery month contract position holder).
   Comment: The retendering process described above is the key component of the iterative process of cash-futures convergence described in the previous section. As the buyer establishes a short futures position in the delivery month contract, then the TDI notice is retendered to the KCBT Clearing Corporation to be reassigned to another buyer. Then the next buyer to whom the TDI notice is reassigned will likely repeat the process until the cost of taking delivery is driven out of the market, i.e., the net adjusted cash price paid by the long position holder to the short seller is equal to the local cash wheat price.

5) **Delivery Notice Dates and Time**. Notice to make Track Deliveries in satisfaction of an outstanding TDI shall be made to the Clearing Corporation by the seller not later than 4:00 P.M. on the business day preceding the date of delivery (Delivery Day). Delivery notices may be tendered to the Clearing Corporation beginning with the last trading day of the month preceding the contract month and ending on the business day preceding the last business day of the contract month. The Clearing Corporation shall notify holders of TDI notices of such deliveries as soon as possible that same day.

Comment: The time frame over which track delivery can occur begins with the last trading day of the month preceding the contract month and ending on the business day that precedes the last business day of the contract month.

6) **Seller Documents; Delivery Notice**. Notice of Track Deliveries shall be made by tender of documents to the Clearing Corporation based on the gross delivery quantity (10,000 bushels) and shall include:
   a. The name of the delivering party, the delivery origin, the delivering party's rail carrier and the rail carrier's single car tariff rate (inclusive of any fuel surcharges) to the Freight Basing Point;
   b. An Official Inspection Certificate at the origination location which shall be final except as to the right of federal appeal.
   c. An Official Weight Certificate at the origination location indicating the weight of each rail car.
   d. The Clearing Corporation, upon receipt of such Track Deliveries, shall immediately issue notice to the holder of a TDI (buyer) to whom the Track Deliveries will be assigned and tender the documents provided by seller. Track Delivery assignment must be accepted by the TDI holder.

   Comment: Track delivery would be made in amounts of 10,000 bushels, whereas regular KCBT wheat futures contract specifications are for 5,000 bushel lots. See item #9 below regarding number of railcars involved (3), etc. The Official Inspection Certificate and Office Weight Certificate are based on measures determined at the origination location of the grain shipment. In the earlier form of track delivery, the such measures were determined at the destination of the grain shipment.

7) **Settlement**. Settlement between buyer and seller in satisfaction of the open futures contracts being offset by the Track Deliveries shall be done through the Clearing Corporation on the Delivery Day based on contract grade of #2 HRW and based on the gross futures contract quantity (10,000 bushels) multiplied by the futures settlement price on the last trading day.
   a. Such amount shall be reduced by the single car freight tariff (inclusive of any fuel surcharges) from origin to the Freight Basing Point for each of the cars delivered, and shall be further adjusted by any delivery variation amounts (over or under) within the 10% tolerance level multiplied by the settling price determined and posted on the delivery day by the Cash Wheat Committee

   Comment: The contract grade of wheat would likely reflect all recently adopted protein, vomitoxin and any other quality standards that exist for the KCBT HRW wheat futures contract delivery (see item #8 below). Single railcar freight tariff rates with fuel surcharges are used to determine cost rail transportation for track deliveries of wheat.

8) **Quality Requirements; Inspection Certificate**. Track Deliveries shall conform to the grade and quality requirements (i.e., maximum moisture, IDK, and vomitoxin – *author's note: and now likely protein percentage*) for deliveries on futures contracts by warehouse receipts as set forth in KCBT rules & procedures. The Official Inspection Certificate shall bear a date not earlier than one business day prior to the date of delivery of the railroad cars on track.

9) **Minimum Delivery Quantity**. Track Deliveries must be made in increments of 10,000 bushels (two standard futures contracts) in order to closely approximate the capacity of 3 standard railroad cars.

a. However, a ten percent (10%) variation of the contract delivery amount, over or under, will be permitted on billed weight. A variation of more than 10% of the delivery contract amount would be deemed a default.

Comment: To fit the size of commonly used railcars, track deliveries would be made in increments of 10,000 bushels (2-5,000 bushel contracts) which would be transported in 3 railcars (each holding approximately 3,333 bushels of wheat per railcar).

10) **Settling Price; Delivery Variances**. Whenever notified by the Clearing Corporation that Track Deliveries have been made, the Cash Wheat Committee shall determine and cause to be posted each day at the close of the market, the price at which any delivery variation amounts (over or under) shall be settled. Such settling price shall reflect the value of contract grain on track in Kansas City.

Comment: The cash price used for settling any amount of grain over or under the 10,000 bushel track delivery amount is based on Kansas City rail or "on track" bids.

11) **Free on Board**. Track Deliveries shall be made in railroad cars "free on board" on the tracks of a rail carrier at the origination location, and shall thus be free of any charges to the buyer. Any such charges shall be paid or allowed by the party making delivery.

Comment: The seller or short position holder delivering the grain via track delivery would be responsible for any transportation and handling cost of grain up to the point where grain is placed on board the grain cars (i.e., "free on board"). The buyer or long position holder receiving the grain to be delivered would be responsible for railcar transportation cost to Kansas City MO/KS.

Railcar Wheat Transportation Issues, Regulations & Single Car Rates

The viability of railcar track delivery of KCBT wheat is dependent on the economic feasibility of moving small numbers of railcars containing wheat from country elevator locations in the central and southern plains to the Kansas City MO / KS grain market in a timely, reliable manner. There are a number of challenges to overcome in the railcar transportation system for grain should track delivery be serious considered in the future.

Limited Railcar Weighing Capability at Originating Country Elevators: A limited number of originating country elevators in hard red winter wheat production areas of the central and southern plains have access to scales designed to weigh railcars as would be required for track delivery under recently proposed regulations. As was discussed above in regards to the item #6 of the proposed KCBT track delivery rules and regulations, official weight and inspection certificates would have to be produced at the point of origination.

Grain industry participants disagree about whether the use of railcar destination weights or negotiated railcar weights could be used should track delivery be considered in the future. Those supportive of track delivery point out that destination weights are used for railcars shipping grain from Great Plains locations to the Gulf of Mexico. Those not supportive of track delivery point out that when cars are shipped from a country origination point to Kansas City for track delivery, the final destination of the railcar would not be known with surety until the iterative arbitrage process is complete. If then the grain is sold to a buyer at a location that does not have the requisite type or quality of railcar weighing facilities, it could cause difficulties in determining the railcar grain weights needed for track delivery settlement.

Modern Rail Industry Preference For Handling Larger Trains: The U.S. railroad industry has trended toward providing preferential service for larger 100 car plus shuttle trains for efficiency sake instead of single or limited numbers of railcars. Although single railcar rates are published by the Burlington Northern Santa Fe (BNSF) and the Union Pacific (UP) railroads (i.e., the two major class I railroads serving the major southern and central plains wheat producing areas), there is less certainty about either the availability of single railcars or the timely movement of single or three car groups into the Kansas City MO/KS market.

Railroads Involvement as a Necessary 3rd Party: Building on the previous point, if track delivery were used for KCBT wheat, the railroad companies would of necessity be an involved 3rd party, determining when railcars would be available, when they would be transported, the cost of transportation, etc. The physical realities of seasonally slow or delayed railcar movements that periodically occur in the U.S. may at times limit the viability of track delivery by not allowing for physical movement of wheat via railcar within a specific, limited time window to the Kansas City MO / KS rail grain market.

Track Delivery Opportunities: Even with good reasons to question how well track delivery of KCBT wheat would function in today's railroad system environment, if track delivery was available and presented profitable enough marketing opportunities for country grain elevators and other grain industry entities, there would likely be some market participant that would take advantage of the opportunity (should HRW wheat basis levels remain wide for a prolonged period of time – presenting profitable delivery opportunities). As long as public single car rail bids are available in a competitive grain market environment, market scenarios may present themselves from time to time where it would profitable for someone with the right set of capital resources and the ability to line up railcar transportation to profit should track delivery ever be available.

Calculating Wheat Transportation Costs by Rail for Track Delivery: Railcar transportation costs from selected grain elevator locations in Kansas, Oklahoma and Nebraska are determined using public railcar rate documents and online rate calculators for both the Union Pacific (UP) (http://www.uprr.com/customers/ag-prod/index.shtml) and Burlington Northern Santa Fe (BNSF) (http://www.bnsf.com/customers/prices-and-tools/agricultural/) railroads on a monthly basis for the 2010-2011 period. Fuel surcharges are calculated for both of these major Class I railroads using online mileage and rate resources for 2010-11.

A list of 27 grain elevator and railcar handling facilities selected for this study are given in **Table 1**. The elevator study number, state, crop reporting district, town, business name, major railcar service providers and miles to Kansas City MO are included.

A local grain elevator handling charge of $0.35 per bushel is added to the wheat transportation cost. This figure was obtained from industry representatives who indicated typical grain elevator handling costs in Kansas and the central plains region range from $0.25 to $0.35 per bushel or more.

Table 1. Selected Grain Elevators For 2011 Track Delivery Study in Kansas, Oklahoma and Nebraska

Elev. #	State	Crop Reporting District & *ID Code*	Town	Grain Elevator	Rail Service Provider	Miles to KC MO/KS
1	KS	Northwest *(KS-nw (371))*	Colby, KS	Cornerstone Ag, LLC	UP	371
2	KS	West Central *(KS-wc (387))*	Scott City, KS	Scott City Coop	K&O / BNSF, UP	387
3	KS	West Central *(KS-wc (403))*	Sharon Springs, KS	United Plains Ag, Div. of CHS, Inc.	UP	403
4	KS	Southwest *(KS-sw (385))*	Garden City, KS	WindRiver Grain, LLC	BNSF	385
5	KS	Southwest *(KS-sw (335))*	Dodge City, KS	Dodge City Coop Exchange	BNSF	335
6	KS	Southwest *(KS-sw (421))*	Hugoton, KS	United Prairie Ag	CVR / BNSF	421
7	KS	North Central *(KS-nc (284))*	Concordia, KS	AgMark, LLC	BNSF	284
8	KS	North Central *(KS-nc (230))*	Cawker City, KS	Farmway Coop Company	KYLE / UP	230
9	KS	Central *(KS-cent (252))*	Salina, KS	Cargill Ag Horizons	BNSF	252
10	KS	Central *(KS-cent (267))*	Great Bend, KS	Great Bend Coop Association	K&O / BNSF	267
11	KS	South Central *(KS-sc (215))*	Hutchinson, KS	ADM Grain Division – Elev I	BNSF	215
12	KS	South Central *(KS-sc (207))*	Wichita, KS	DeBruce Grain Inc.	BNSF, K&O, UP	207
13	KS	South Central *(KS-sc (269))*	Pratt, KS	Kanza Coop Association	K&O / UP	269
14	KS	Northeast *(KS-ne (92))*	Hiawatha, KS	Ag Partners Coop Inc.	UP	92
15	KS	Northeast / East Central *(KS-ne/ec (62))*	Topeka, KS	Cargill Ag Horizons	BNSF, SSW, UP, KCS	62
16	KS	Northeast / North Central *(KS-ne/nc (304))*	Courtland, KS	Hansen-Mueller Grain Company	BNSF	304
17	KS	East Central *(KS-ec (54))*	Ottawa, KS	Ottawa Coop Association	BNSF	54
18	KS	Southeast *(KS-se (151))*	Columbus, KS	Farmers Coop Association	BNSF	151
19	KS	Southeast *(KS-se (127))*	Girard, KS	Producers Coop Association	BNSF	127
20	KS	Southeast / South Central *(KS-se/sc (211))*	Coffeyville, KS	SEK Grain Incorporated	UP, SKO, SEK, BNSF	211
21	OK	Northwest (Panhandle) *(OK-nw (421))*	Hooker, OK	Hooker Equity Exchange	UP	421
22	OK	North Central *(OK-nc (322))*	Enid, OK	Johnston Terminal Elevator	BNSF	322
23	OK	North / Northwest Central *(OK-n/nc (310))*	Alva, OK	Wheeler Brothers Grain	BNSF	310
24	NE	Southeast *(NE-se (253))*	Beatrice, NE	Southeast Nebraska Coop	BNSF	253
25	NE	Southwest *(NE-sw (432))*	McCook, NE	Frenchman Valley Farmers Coop	BNSF	432
26	NE	Southwest *(NE-sw (493))*	Imperial, NE	Frenchman Valley Farmers Coop	BNSF	493
27	NE	West Central *(NE-wc (404))*	North Platte, NE	Ag Valley Cooperative, N/S	UP	404

The calculated costs of transporting wheat by rail in single cars from a) points of origin at each of the 27 selected Kansas, Oklahoma and Nebraska elevators, to b) their destination in the Kansas City MO/KS grain market for the May 2010 through April 2011 period are presented in **Figures 2 and 3**. **Figure 2** presents the more expensive grain elevator locations in terms of local origination to Kansas City, while **Figure 3** presents the less expensive elevator locations to ship wheat by rail to Kansas City from. Elevator locations were sorted into higher and lower cost wheat transportation groups based on April 2011 expenses.

Although longer distance tends to be associated with more expensive wheat transportation costs to Kansas City, it does not always hold true (**Figure 2**). One of the more moderate distances to haul wheat to Kansas City is from a location in north central Kansas (i.e., Cawker City KS, 230 miles to Kansas City by rail). However, the per bushel cost of transporting wheat from Norton to Kansas City of $1.39 per bushel in April 2011 is higher than some other locations that are a greater distance away, such as $1.37 per bushel cost of transporting wheat from a location in west central Kansas (Scott City KS, 387 miles to Kansas City by rail).

Figure 2. Most Expensive of Selected Grain Elevators wrt. Cost to Transport Wheat via Single Railcar from Country Locations in KS, OK & NE to Kansas City, MO (May 2010 – April 2011)

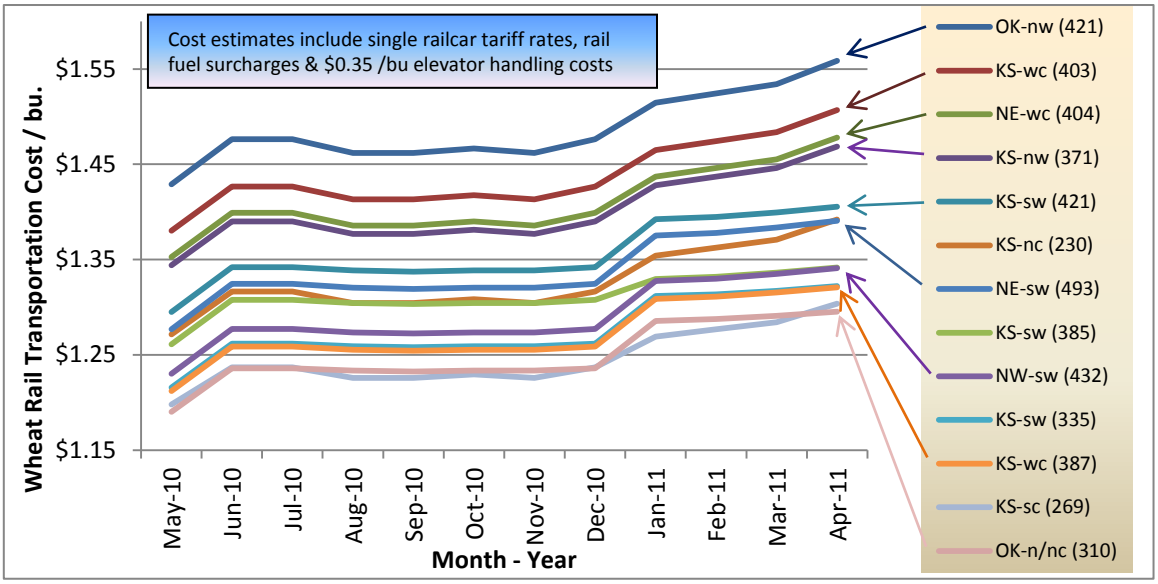
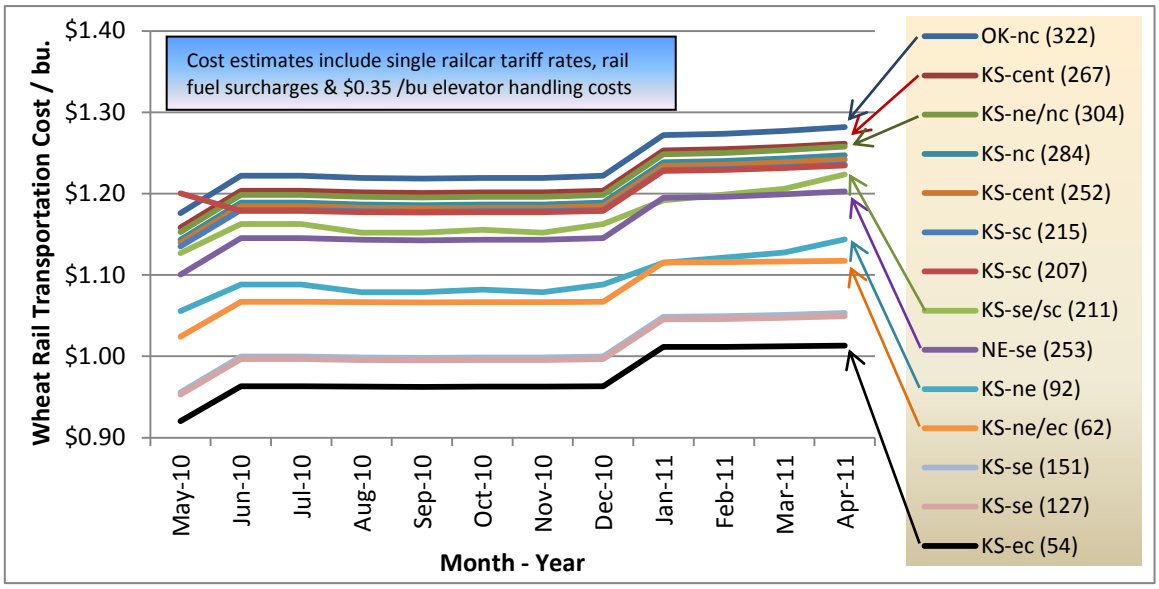


Figure 3 shows a strong correlation between shorter distances by rail from selected originating grain elevators to the Kansas City market and lower wheat transportation costs. Wheat transportation costs for the longest distance to Kansas City (i.e., $1.28 per bushel for transporting wheat 322 miles from Enid in northcentral Oklahoma) compares favorably with the shorter distance / lower cost rail routes in Figure 2. For example, the cost of transporting wheat 269 miles from Pratt in south central Kansas to Kansas City is estimated at $1.29 per bushel. The cost of transporting wheat 310 miles from Alva in north/north central Oklahoma to Kansas City is $1.30 per bushel. The cost of hauling wheat to Kansas City by rail from grain elevators less than 100 miles away is in the range of $1.01 to $1.14 per bushel depending on location. Both Figures 2 and 3 indicate at least moderate stepwise increases in wheat transportation costs by rail since May 2010.

Figure 3. Less Expensive of Selected Grain Elevators wrt. Cost to Transport Wheat via Single Railcar from Country Locations in KS, OK & NE to Kansas City, MO (May 2010 – April 2011)



Cash Wheat Prices in Kansas City and Country Elevators

Cash wheat prices and wheat basis levels have been extremely volatile during the time periods leading up to delivery for the July 2010 through March 2011 KCBT wheat futures contracts. **Figure 4** shows the average cash wheat basis for Kansas City rail grain bids (ordinary wheat, 12% and 13% protein), Kansas City truck grain bids, average central Kansas bids and average western Kansas bids.

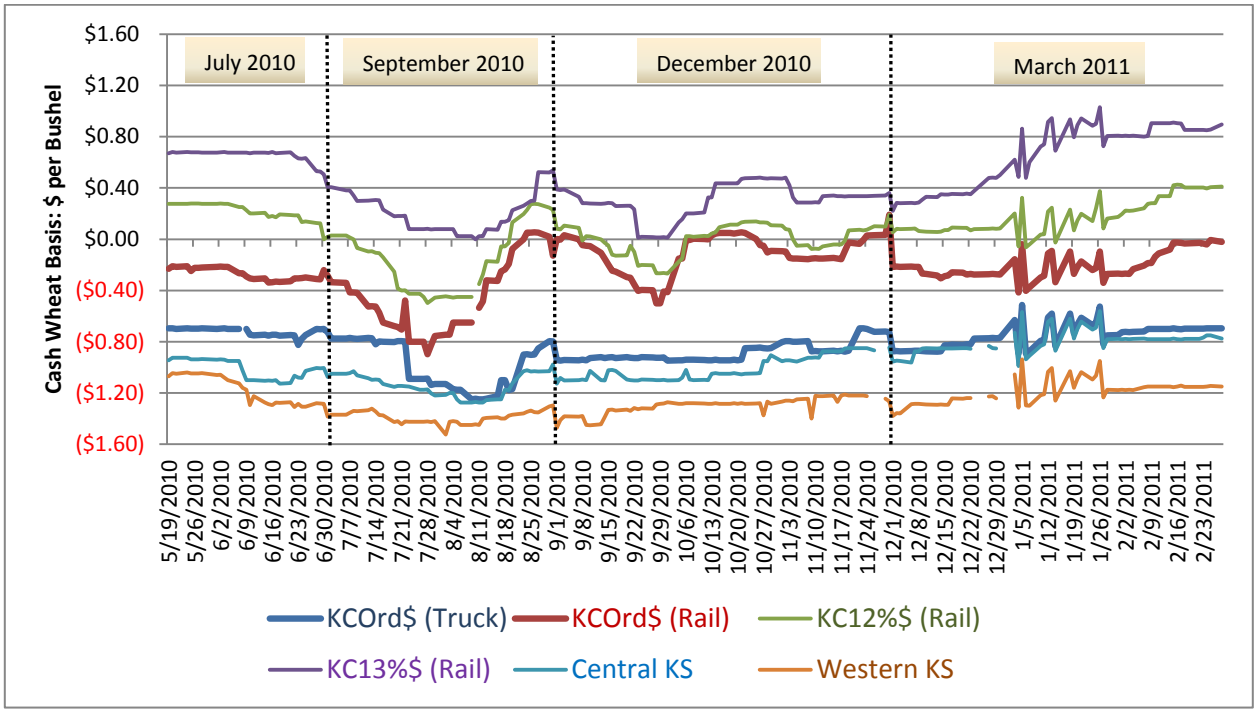
Except for the time period approaching delivery for July 2010 KCBT wheat, the KC rail wheat basis for ordinary wheat tended to converge to "par value" or zero basis (cash = futures) at the first delivery date for the September 2010, December 2010 and March 2011 KCBT wheat futures contracts. Average basis levels for these cash prices for this time period were as follows, arranged in order from most positive (over KCBT wheat futures) relative to KCBT cash wheat to most negative (under).

KC 13% protein Wheat – Rail bids →	$0.44 /bu. over KCBT wheat futures
KC 12% protein Wheat – Rail bids →	$0.05 /bu. over KCBT wheat futures
KC Ordinary Wheat – Rail bids →	$0.24 /bu. under KCBT wheat futures
KC Ordinary Wheat – Truck bids →	$0.84 /bu. under KCBT wheat futures
Central Kansas Wheat – Elevator/Terminal bids →	$0.98 /bu. under KCBT wheat futures
Western Kansas Wheat – Elevator bids →	$1.27 /bu. under KCBT wheat futures

On average, the cash wheat basis in Kansas City for ordinary wheat were $0.60 per bushel narrower ($0.24 under vs $0.84 under) for railcar bids than for truck bids, $0.74 narrower than central Kansas elevator / terminal bids ($0.24 under vs $0.98 under), and $1.03 narrower than western Kansas elevator bids ($0.24 under vs $0.98 under). Under the rules proposed in 2010 for track delivery of

KCBT wheat futures, Kansas City railcar grain price bids would be used in track delivery settlement calculations.

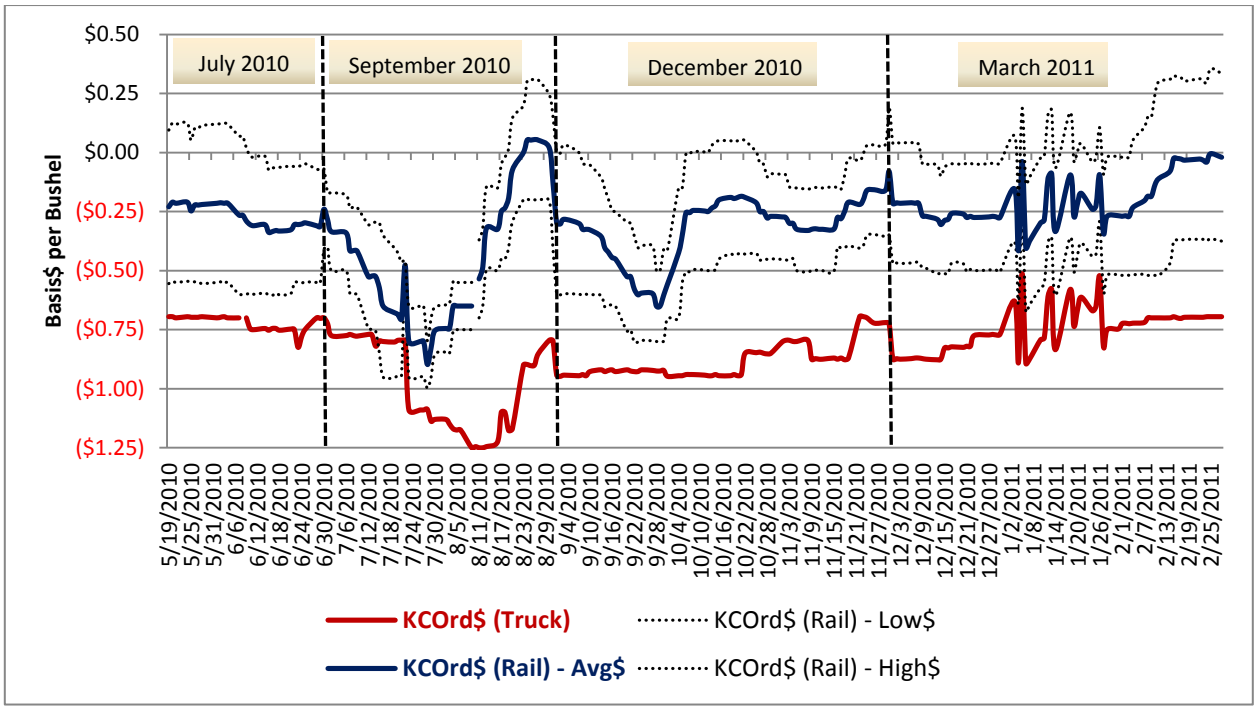
Figure 4. Cash Wheat Basis at Kansas City, Central-Western Kansas for the July 2010 through March 2011 KCBT Wheat Futures Contracts (May 19, 2010 through Feb. 28, 2011)



Whereas Figure 4 shows the average cash wheat basis for Kansas City rail grain bids for ordinary wheat, the USDA Agricultural Marketing Service (AMS) presents these prices as a range of values. **Figure 5** shows the high – low range of Kansas City wheat basis along with the average basis bid, with the basis for Kansas City truck grain bids included for comparison. The truck bids are typically presented as one average price, with no price range represented.

With the full range of Kansas City rail wheat bids for ordinary wheat being represented, Figure 5 presents additional information and a slightly different picture than when looking at the average Kansas City rail wheat basis alone. Wheat basis levels reached par value (i.e., cash = futures) for selected bids as delivery approached for the December 2010 contract. Even for the July 2010 contract which didn't appear to converge to par when considering the average basis bid, there were selected rail bids that came within $0.07 per bushel of doing so at delivery.

Figure 5. Cash Wheat Basis for Rail (Hi-Lo-Avg) and Truck (Avg) Bids at Kansas City the July 2010 through March 2011 KCBT Wheat Futures Contracts (May 19, 2010 through Feb. 28, 2011)



Profitability of Track Delivery for Selected Grain Elevators

Tables 2 through 5 present wheat basis information and track delivery profitability estimates for 27 grain elevator locations selected in Kansas, Oklahoma and Nebraska. Basis history and estimated track delivery profitability information is provided in separate tables for these geographically grouped grain elevators. The geographic groupings are as follows:

Western Kansas & Oklahoma Grain Elevators	– Tables 2a and 2b
Central Kansas & Oklahoma Grain Elevators	– Tables 3a and 3b
Eastern Kansas Grain Elevators	– Tables 4a and 4b
Nebraska Grain Elevators	– Tables 5a and 5b

Western Kansas and Oklahoma Wheat Basis: Analysis of wheat basis in the western parts of Kansas and Oklahoma for the May 19, 2010 through February 23, 2011 period coincides with the time frame when the July 2010, September 2010, December 2010, and March 2011 KCBT wheat futures contracts were successively positioned and referenced for local wheat basis determination. In **Table 2a**, the minimum and maximum wheat basis levels during this time period were $0.85 and $1.61 per bushel under, respectively. The average and median wheat basis levels were $1.27 and $1.28 per bushel under, respectively.

Table 2a. Weekly Cash Wheat Basis Levels for Selected Grain Elevators in Western Kansas & Oklahoma (May 19, 2010 through February 23, 2011) (cents per bushel under lead KCBT wheat futures)

	KS-nw (371)	KS-wc (387)	KS-wc (403)	KS-sw (335)	KS-sw (385)	KS-sw (421)	OK-nw (421)
Date	Colby KS	Scott City KS	Sharon Springs KS	Dodge City KS	Garden City KS	Hugoton KS	Hooker OK
5/19/2010	$1.15	$1.09	$1.16	$0.99	$0.99	$0.95	$0.90
5/26/2010	$1.15	$1.14	$1.21	$1.00	$1.00	$0.95	$0.95
6/2/2010	$1.17	$1.10		$1.00	$1.00	$0.98	$0.95
6/9/2010	$1.25	$1.25		$1.20	$1.20	$1.15	$1.05
6/16/2010	$1.30	$1.35	$1.51	$1.30	$1.30	$1.25	$1.16
6/23/2010	$1.42	$1.36	$1.50	$1.20	$1.25	$1.15	$1.21
6/30/2010	$1.40	$1.30	$1.30	$1.20	$1.25	$1.20	$1.17
7/7/2010	$1.42	$1.40	$1.40	$1.24	$1.34	$1.30	$1.17
7/14/2010	$1.44	$1.46	$1.51	$1.24	$1.34	$1.30	$1.17
7/21/2010	$1.59	$1.55	$1.61	$1.30	$1.50	$1.36	$1.20
7/28/2010	$1.42	$1.42	$1.48	$1.17	$1.36	$1.27	$1.20
8/4/2010	$1.55	$1.50	$1.61	$1.30	$1.44	$1.46	$1.30
8/11/2010	$1.60	$1.50	$1.46	$1.30	$1.45	$1.45	$1.15
8/18/2010	$1.35	$1.50	$1.45	$1.30	$1.45	$1.45	$1.30
8/25/2010	$1.60	$1.38	$1.40	$1.20		$1.26	$1.11
9/1/2010	$1.40	$1.47	$1.41	$1.40	$1.45	$1.49	$1.28
9/8/2010	$1.60	$1.46	$1.40	$1.29	$1.35	$1.46	$1.28
9/15/2010	$1.60	$1.47	$1.41	$1.20	$1.35	$1.35	$1.28
9/22/2010	$1.60	$1.38	$1.40	$1.20	$1.35	$1.35	$1.28
9/29/2010	$1.60	$1.38	$1.40	$1.20	$1.35	$1.37	$1.28
10/6/2010	$1.59	$1.38	$1.40	$1.19	$1.30	$1.36	$1.19
10/13/2010	$1.60	$1.38	$1.40	$1.20	$1.25	$1.30	$1.17
10/20/2010	$1.60	$1.38	$1.40	$1.20		$1.26	$1.11
10/27/2010	$1.60	$1.38	$1.40	$1.20	$1.25	$1.25	$1.10
11/3/2010	$1.35	$1.31	$1.41	$1.20	$1.25	$1.25	$1.10
11/10/2010	$1.35	$1.32	$1.41	$1.20	$1.25	$1.25	$1.10
11/17/2010	$1.30	$1.32	$1.40	$1.19	$1.24	$1.26	$1.03
11/24/2010	$1.30	$1.32	$1.40	$1.20	$1.25	$1.20	$1.05
12/1/2010	$1.28	$1.37	$1.50	$1.28	$1.33	$1.35	$1.21
12/8/2010	$1.34	$1.36	$1.36	$1.18	$1.32	$1.30	$1.20
12/15/2010	$1.30	$1.31	$1.35	$1.18	$1.25	$1.25	$1.16
12/22/2010	$1.29	$1.31	$1.35	$1.18	$1.25	$1.18	$1.10
12/29/2010	$1.30	$1.31	$1.36	$1.18	$1.20	$1.18	$1.11
1/5/2011	$1.30	$1.18	$1.35	$1.05	$1.12	$1.16	$0.99
1/12/2011	$1.26	$1.14	$1.31	$1.01	$1.08	$1.06	$0.85
1/19/2011	$1.28	$1.18	$1.35	$1.04	$1.12	$1.10	$0.99
1/26/2011	$1.25	$1.18	$1.35	$1.05	$1.12	$1.10	$1.00
2/2/2011	$1.25	$1.18	$1.36	$1.05	$1.12	$1.10	$1.00
2/9/2011	$1.28	$1.18	$1.35	$1.05	$1.12	$1.00	$1.00
2/16/2011	$1.28	$1.18	$1.35	$1.05	$1.12	$1.00	$1.01
2/23/2011	$1.25	$1.18	$1.36	$1.05	$1.12	$1.00	$1.01

Track Delivery Profitability for Wheat in Western Kansas and Oklahoma: In **Table 2b**, there were periods of time when some western Kansas and Oklahoma locations would have found it at least marginally profitable to use railcar track delivery procedures to deliver against KCBT wheat futures. Most notable are the Scott City and Colby, KS locations for July 2010 and especially September 2010 KCBT wheat, and for Scott City with the December 2010 contract. Closest attention needs to be focused on the last track delivery profitability estimate just prior to or on the first delivery date for each particular contract (i.e., 6/30/2010 for July 2010 KCBT wheat, 8/25/2010 for September 2010 wheat, 11/24/2010 for December 2010 wheat, and 2/13/2011 for March 2011 wheat.

Table 2b. Weekly Estimates of Track Delivery Profitability for Selected Grain Elevators in Western Kansas & Oklahoma (May 19, 2010 through February 23, 2011) (cents per bushel profit)

Date	KS-nw (371) Colby KS	KS-wc (387) Scott City KS	KS-wc (403) Sharon Springs KS	KS-sw (335) Dodge City KS	KS-sw (385) Garden City KS	KS-sw (421) Hugoton KS	OK-nw (421) Hooker OK
5/19/2010	($0.20)	($0.13)	($0.23)	($0.22)	($0.22)	($0.34)	($0.53)
5/26/2010	($0.20)	($0.07)	($0.17)	($0.22)	($0.22)	($0.35)	($0.48)
6/2/2010	($0.22)	($0.16)	($1.43)	($0.26)	($0.26)	($0.36)	($0.53)
6/9/2010	($0.14)	($0.01)	($1.43)	($0.06)	($0.06)	($0.19)	($0.43)
6/16/2010	($0.10)	$0.09	$0.08	$0.03	$0.03	($0.09)	($0.32)
6/23/2010	$0.03	$0.10	$0.07	($0.06)	($0.01)	($0.19)	($0.27)
6/30/2010	**$0.01**	**$0.04**	**($0.13)**	**($0.06)**	**($0.01)**	**($0.14)**	**($0.31)**
7/7/2010	$0.02	$0.15	($0.02)	($0.02)	$0.08	($0.04)	($0.31)
7/14/2010	$0.05	$0.20	$0.08	($0.02)	$0.08	($0.04)	($0.31)
7/21/2010	$0.20	$0.29	$0.18	$0.03	$0.23	$0.01	($0.28)
7/28/2010	$0.03	$0.16	$0.05	($0.09)	$0.10	($0.07)	($0.28)
8/4/2010	$0.17	$0.24	$0.19	$0.04	$0.19	$0.12	($0.17)
8/11/2010	$0.22	$0.24	$0.05	$0.04	$0.19	$0.11	($0.31)
8/18/2010	($0.03)	$0.24	$0.04	$0.04	$0.19	$0.11	($0.16)
8/25/2010	**$0.22**	**$0.12**	**($0.01)**	**($0.06)**		**($0.08)**	**($0.35)**
9/1/2010	$0.02	$0.21	($0.01)	$0.14	$0.19	$0.15	($0.18)
9/8/2010	$0.22	$0.21	($0.01)	$0.04	$0.09	$0.12	($0.19)
9/15/2010	$0.22	$0.21	($0.01)	($0.06)	$0.09	$0.01	($0.18)
9/22/2010	$0.23	$0.13	($0.01)	($0.06)	$0.09	$0.02	($0.18)
9/29/2010	$0.22	$0.13	($0.01)	($0.06)	$0.09	$0.03	($0.18)
10/6/2010	$0.21	$0.12	($0.01)	($0.06)	$0.04	$0.02	($0.28)
10/13/2010	$0.22	$0.12	($0.02)	($0.06)	($0.01)	($0.04)	($0.30)
10/20/2010	$0.22	$0.12	($0.02)	($0.06)		($0.08)	($0.36)
10/27/2010	$0.22	$0.12	($0.02)	($0.06)	($0.01)	($0.09)	($0.37)
11/3/2010	($0.03)	$0.06	($0.01)	($0.06)	($0.01)	($0.08)	($0.36)
11/10/2010	($0.03)	$0.06	($0.01)	($0.06)	($0.01)	($0.09)	($0.36)
11/17/2010	($0.08)	$0.06	($0.01)	($0.06)	($0.01)	($0.08)	($0.44)
11/24/2010	**($0.08)**	**$0.06**	**($0.01)**	**($0.06)**	**($0.01)**	**($0.14)**	**($0.41)**
12/1/2010	($0.06)	$0.16	$0.12	$0.06	$0.11	$0.06	($0.22)
12/8/2010	$0.00	$0.15	($0.03)	($0.04)	$0.11	$0.01	($0.22)
12/15/2010	($0.04)	$0.10	($0.03)	($0.03)	$0.04	($0.04)	($0.27)
12/22/2010	($0.05)	$0.09	($0.03)	($0.04)	$0.03	($0.11)	($0.32)
12/29/2010	($0.05)	$0.10	($0.02)	($0.04)	($0.02)	($0.12)	($0.32)
1/5/2011	($0.13)	($0.13)	($0.11)	($0.26)	($0.19)	($0.23)	($0.52)
1/12/2011	($0.17)	($0.17)	($0.15)	($0.30)	($0.23)	($0.33)	($0.66)
1/19/2011	($0.15)	($0.13)	($0.11)	($0.27)	($0.20)	($0.29)	($0.52)
1/26/2011	($0.18)	($0.13)	($0.11)	($0.26)	($0.19)	($0.29)	($0.51)
2/2/2011	($0.19)	($0.13)	($0.12)	($0.27)	($0.20)	($0.30)	($0.53)
2/9/2011	($0.16)	($0.13)	($0.12)	($0.26)	($0.19)	($0.39)	($0.52)
2/16/2011	($0.16)	($0.13)	($0.12)	($0.26)	($0.19)	($0.39)	($0.51)
2/23/2011	**($0.19)**	**($0.13)**	**($0.12)**	**($0.27)**	**($0.20)**	**($0.40)**	**($0.52)**

Central Kansas and Oklahoma Wheat Basis: In **Table 3a**, the minimum and maximum wheat basis levels during this time period were $0.57 and $2.09 per bushel under, respectively. The average and median wheat basis levels were $0.99 and $0.98 per bushel under, respectively.

Table 3a. Weekly Cash Wheat Basis Levels for Selected Grain Elevators in Central Kansas & Oklahoma (May 19, 2010 through February 23, 2011) (cents per bushel under lead KCBT wheat futures)

	KS-nc (284)	KS-nc (230)	KS-cent (252)	KS-cent (287)	KS-sc (215)	KS-sc (207)	KS-sc (259)	OK-nc (322)	OK-n/nc (310)
Date	Concordia KS	Cawker City KS	Salina KS	Great Bend KS	Hutchinson KS	Wichita KS	Pratt KS	Enid OK	Alva OK
5/19/2010	$0.99	$1.15	$0.90	$1.00	$0.86	$0.92	$0.99	$0.70	$0.99
5/26/2010	$1.00	$1.15	$0.91	$1.00	$0.85	$0.93	$1.00	$0.70	$1.05
6/2/2010	$1.00	$1.15	$0.91	$1.00	$0.85	$0.93	$1.00	$0.70	$1.10
6/9/2010	$1.03	$1.18	$0.90	$1.15	$0.95	$1.23	$1.30	$0.00	$1.22
6/16/2010	$1.10	$1.24	$1.00	$1.41	$1.01	$1.22	$1.30	$0.00	$1.26
6/23/2010	$1.10	$1.25	$1.00	$1.30	$0.90	$1.23	$1.15	$0.90	$1.21
6/30/2010	$1.10	$1.25	$1.00	$1.30	$0.90	$1.13	$1.15	$0.80	$1.21
7/7/2010	$1.17	$1.32	$1.11	$1.40	$0.99	$1.13	$1.19	$1.26	$1.16
7/14/2010	$1.17	$1.32	$1.11	$1.26	$0.98	$1.13	$1.19	$0.96	$1.16
7/21/2010	$1.30	$1.44	$1.21	$1.25	$1.06	$1.17	$1.25	$0.96	$1.19
7/28/2010	$1.19	$1.35	$1.08	$1.11	$1.00	$1.10	$1.11	$0.88	$1.11
8/4/2010	$1.32	$1.48	$1.21	$1.36	$0.98	$1.23	$2.09	$1.11	$1.40
8/11/2010	$1.37	$1.52	$1.15	$1.35	$1.07	$1.28	$1.30	$1.10	$1.35
8/18/2010	$1.15	$1.30	$1.00	$1.35	$0.92	$1.18	$1.30	$0.90	$1.15
8/25/2010	$0.95	$1.10	$0.85	$1.22	$0.75	$0.98	$1.10	$0.80	$1.00
9/1/2010	$1.16	$1.31	$1.06	$1.40	$1.06	$1.23	$1.29	$0.91	$1.10
9/8/2010	$1.04	$1.19	$0.90	$1.31	$0.86	$1.02	$1.19	$0.81	$1.00
9/15/2010	$1.05	$1.20	$0.91	$1.30	$0.85	$1.03	$1.15	$0.81	$1.00
9/22/2010	$1.05	$1.20	$0.90	$1.22	$0.87	$1.03	$1.15	$0.80	$1.00
9/29/2010	$1.05	$1.20	$0.90	$1.22	$0.85	$1.03	$1.10	$0.80	$1.00
10/6/2010	$1.05	$1.19	$0.90	$1.23	$0.86	$1.03	$1.09	$0.80	$0.99
10/13/2010	$1.05	$1.20	$0.90	$1.22	$0.90	$1.03	$1.10	$0.80	$1.00
10/20/2010	$0.95	$1.10	$0.85	$1.22	$0.75	$0.98	$1.10	$0.80	$1.00
10/27/2010	$0.90	$1.05	$0.80	$1.22	$0.80	$0.98	$1.05	$0.80	$1.00
11/3/2010	$0.89	$1.04	$0.81	$1.23	$0.81	$0.98	$1.04	$0.70	$0.95
11/10/2010	$0.85	$1.00	$0.76	$1.22	$0.80	$0.98	$1.00	$0.71	$0.95
11/17/2010	$0.84	$0.99	$0.76	$1.13	$0.76	$0.88	$0.99	$0.71	$0.94
11/24/2010	$0.80	$0.95	$0.70	$1.12	$0.70	$0.88	$0.95	$0.70	$0.95
12/1/2010	$0.95	$1.10	$0.86	$1.14	$0.86	$0.98	$1.08	$0.70	$0.95
12/8/2010	$0.91	$1.07	$0.82	$1.14	$0.81	$0.93	$1.05	$0.70	$0.95
12/15/2010	$0.85	$1.00	$0.75	$1.14	$0.70	$0.93	$0.95	$0.70	$0.95
12/22/2010	$0.81	$0.96	$0.71	$1.14	$0.71	$0.93	$0.95	$0.71	$0.95
12/29/2010	$0.80	$0.95	$0.71	$1.14	$0.70	$0.93	$0.90	$0.71	$0.95
1/5/2011	$0.80	$0.95	$0.70	$0.95	$0.65	$0.88	$0.90	$0.70	$0.95
1/12/2011	$0.79	$0.94	$0.71	$0.91	$0.67	$0.84	$0.86	$0.66	$0.95
1/19/2011	$0.85	$0.99	$0.81	$0.95	$0.72	$0.87	$0.89	$0.71	$0.95
1/26/2011	$0.82	$0.97	$0.74	$0.95	$0.83	$0.88	$0.85	$0.70	$0.95
2/2/2011	$0.78	$0.93	$0.71	$0.95	$0.61	$0.88	$0.85	$0.66	$0.90
2/9/2011	$0.78	$0.93	$0.69	$0.95	$0.61	$0.88	$0.85	$0.65	$0.90
2/16/2011	$0.74	$0.89	$0.65	$0.95	$0.60	$0.88	$0.85	$0.65	$0.90
2/23/2011	$0.72	$0.87	$0.64	$0.95	$0.57	$0.88	$0.85	$0.66	$0.90

Track Delivery Profitability for Wheat in Central Kansas and Oklahoma: In **Table 3b**, there were few periods of time when track delivery would have appeared to be profitable, and those mainly for the Great Bend, Kansas grain elevator location for the July 2010 and September 2010 contracts.

Table 3b. Weekly Estimates of Track Delivery Profitability for Selected Grain Elevators in Central Kansas & Oklahoma (May 19, 2010 through February 23, 2011) (cents per bushel profit)

Date	KS-nc (284) Concordia KS	KS-nc (230) Cawker City KS	KS-cent (252) Salina KS	KS-cent (287) Great Bend KS	KS-sc (215) Hutchinson KS	KS-sc (207) Wichita KS	KS-sc (259) Pratt KS	OK-nc (322) Enid OK	OK-n/nc (310) Alva OK
5/19/2010	($0.15)	($0.13)	($0.23)	($0.15)	($0.28)	($0.28)	($0.20)	($0.48)	($0.20)
5/26/2010	($0.15)	($0.12)	($0.23)	($0.16)	($0.29)	($0.27)	($0.20)	($0.48)	($0.14)
6/2/2010	($0.19)	($0.17)	($0.28)	($0.21)	($0.33)	($0.25)	($0.24)	($0.52)	($0.14)
6/9/2010	($0.16)	($0.14)	($0.28)	($0.05)	($0.23)	$0.05	$0.06	($1.22)	($0.02)
6/16/2010	($0.09)	($0.07)	($0.18)	$0.20	($0.17)	$0.05	$0.06	($1.22)	$0.03
6/23/2010	($0.09)	($0.07)	($0.18)	$0.10	($0.28)	$0.05	($0.09)	($0.32)	($0.03)
6/30/2010	**($0.09)**	**($0.07)**	**($0.18)**	**$0.10**	**($0.28)**	**($0.05)**	**($0.09)**	**($0.42)**	**($0.03)**
7/7/2010	($0.02)	($0.00)	($0.07)	$0.20	($0.19)	($0.05)	($0.04)	$0.03	($0.08)
7/14/2010	($0.02)	($0.00)	($0.08)	$0.05	($0.19)	($0.05)	($0.04)	($0.27)	($0.08)
7/21/2010	$0.11	$0.13	$0.02	$0.05	($0.12)	($0.00)	$0.01	($0.27)	($0.04)
7/28/2010	($0.00)	$0.03	($0.11)	($0.10)	($0.18)	($0.08)	($0.13)	($0.34)	($0.13)
8/4/2010	$0.14	$0.17	$0.02	$0.15	($0.19)	$0.05	$0.87	($0.11)	$0.16
8/11/2010	$0.18	$0.22	($0.03)	$0.15	($0.11)	$0.10	$0.07	($0.12)	$0.12
8/18/2010	($0.04)	($0.00)	($0.18)	$0.15	($0.26)	$0.00	$0.07	($0.32)	($0.08)
8/25/2010	**($0.24)**	**($0.20)**	**($0.33)**	**$0.02**	**($0.43)**	**($0.20)**	**($0.13)**	**($0.42)**	**($0.23)**
9/1/2010	($0.03)	$0.00	($0.12)	$0.20	($0.12)	$0.05	$0.06	($0.31)	($0.13)
9/8/2010	($0.14)	($0.11)	($0.28)	$0.10	($0.32)	($0.15)	($0.03)	($0.41)	($0.24)
9/15/2010	($0.14)	($0.11)	($0.27)	$0.10	($0.33)	($0.15)	($0.08)	($0.41)	($0.23)
9/22/2010	($0.13)	($0.10)	($0.28)	$0.02	($0.31)	($0.14)	($0.07)	($0.42)	($0.23)
9/29/2010	($0.14)	($0.10)	($0.28)	$0.02	($0.33)	($0.15)	($0.13)	($0.42)	($0.23)
10/6/2010	($0.14)	($0.11)	($0.28)	$0.02	($0.32)	($0.15)	($0.13)	($0.41)	($0.24)
10/13/2010	($0.14)	($0.11)	($0.28)	$0.02	($0.28)	($0.15)	($0.13)	($0.42)	($0.23)
10/20/2010	($0.24)	($0.21)	($0.33)	$0.02	($0.43)	($0.20)	($0.13)	($0.42)	($0.23)
10/27/2010	($0.29)	($0.26)	($0.38)	$0.02	($0.38)	($0.20)	($0.18)	($0.42)	($0.23)
11/3/2010	($0.29)	($0.26)	($0.38)	$0.02	($0.37)	($0.20)	($0.18)	($0.51)	($0.29)
11/10/2010	($0.34)	($0.31)	($0.43)	$0.02	($0.38)	($0.20)	($0.23)	($0.51)	($0.29)
11/17/2010	($0.34)	($0.31)	($0.43)	($0.08)	($0.42)	($0.30)	($0.23)	($0.51)	($0.29)
11/24/2010	**($0.39)**	**($0.35)**	**($0.48)**	**($0.08)**	**($0.48)**	**($0.30)**	**($0.28)**	**($0.52)**	**($0.28)**
12/1/2010	($0.19)	($0.17)	($0.28)	($0.02)	($0.28)	($0.22)	($0.12)	($0.48)	($0.24)
12/8/2010	($0.23)	($0.21)	($0.31)	($0.01)	($0.33)	($0.28)	($0.15)	($0.47)	($0.25)
12/15/2010	($0.29)	($0.27)	($0.39)	($0.02)	($0.43)	($0.27)	($0.25)	($0.47)	($0.24)
12/22/2010	($0.33)	($0.31)	($0.43)	($0.01)	($0.43)	($0.28)	($0.25)	($0.47)	($0.25)
12/29/2010	($0.35)	($0.32)	($0.43)	($0.02)	($0.44)	($0.27)	($0.30)	($0.47)	($0.24)
1/5/2011	($0.44)	($0.40)	($0.53)	($0.30)	($0.58)	($0.35)	($0.37)	($0.57)	($0.33)
1/12/2011	($0.45)	($0.41)	($0.52)	($0.34)	($0.56)	($0.39)	($0.41)	($0.61)	($0.34)
1/19/2011	($0.39)	($0.36)	($0.43)	($0.30)	($0.51)	($0.35)	($0.37)	($0.57)	($0.34)
1/26/2011	($0.42)	($0.38)	($0.49)	($0.30)	($0.40)	($0.35)	($0.42)	($0.57)	($0.34)
2/2/2011	($0.46)	($0.44)	($0.53)	($0.31)	($0.62)	($0.35)	($0.43)	($0.62)	($0.39)
2/9/2011	($0.46)	($0.43)	($0.55)	($0.30)	($0.62)	($0.35)	($0.43)	($0.62)	($0.39)
2/16/2011	($0.50)	($0.47)	($0.59)	($0.30)	($0.63)	($0.35)	($0.43)	($0.62)	($0.39)
2/23/2011	**($0.52)**	**($0.50)**	**($0.60)**	**($0.31)**	**($0.66)**	**($0.35)**	**($0.43)**	**($0.62)**	**($0.39)**

Eastern Kansas Wheat Basis: In **Table 4a**, the minimum and maximum wheat basis levels during this time period were $0.70 and $1.66 per bushel under, respectively. The average and median wheat basis levels were both $1.10 per bushel under.

Table 4a. Weekly Cash Wheat Basis Levels for Selected Grain Elevators in Eastern Kansas
(May 19, 2010 through February 23, 2011) (cents per bushel under lead KCBT wheat futures)

	KS-se (151)	KS-se (127)	KS-ec (54)	KS-ne (92)	KS-se/sc (211)	KS-ne/nc (304)	KS-ne/ec (62)
Date	Columbus KS	Girard KS	Ottawa KS	Hiawatha KS	Coffeyville KS	Courtland KS	Topeka KS
5/19/2010	$1.11	$1.14	$0.99	$1.25	$1.06	$0.93	$0.90
5/26/2010	$1.11	$1.13	$1.00	$1.25	$1.05	$0.90	$0.90
6/2/2010	$1.11	$1.11	$1.00	$1.15	$1.05	$0.90	$0.85
6/9/2010	$1.20	$1.15	$1.00	$1.15	$1.20	$0.95	$0.85
6/16/2010	$1.20	$1.25	$1.05	$1.16	$1.20	$0.94	$0.85
6/23/2010	$1.08	$1.20	$1.00	$1.15	$1.21	$0.95	$0.90
6/30/2010	$1.03	$1.16	$0.95	$1.15	$1.12	$0.95	$0.80
7/7/2010	$1.06	$1.21	$1.05	$1.15	$1.05	$1.05	$0.86
7/14/2010	$1.07	$1.26	$1.05	$1.23	$1.05	$1.09	$0.96
7/21/2010	$1.07	$1.30	$1.15	$1.40	$1.05	$1.19	$1.11
7/28/2010	$0.91	$1.18	$1.06	$1.27	$0.97	$1.06	$1.06
8/4/2010	$1.06	$1.40	$1.30	$1.55	$1.11	$1.30	$1.30
8/11/2010	$1.08	$1.28	$1.35	$1.60	$1.10	$1.40	$1.30
8/18/2010	$1.08	$1.20	$1.35	$1.50	$1.10	$1.40	$1.10
8/25/2010	$1.05	$1.13	$1.20	$1.30	$1.10	$1.05	$0.95
9/1/2010	$1.09	$1.03	$1.25	$1.30	$1.25	$1.25	$0.95
9/8/2010	$1.04	$1.04	$1.19	$1.31	$1.10	$1.15	$0.90
9/15/2010	$1.04	$1.05	$1.20	$1.30	$1.10	$1.09	$0.95
9/22/2010	$1.03	$1.05	$1.20	$1.30	$1.10	$1.21	$0.95
9/29/2010	$1.03	$1.15	$1.20	$1.30	$1.10	$1.15	$0.95
10/6/2010	$1.03	$1.13	$1.19	$1.30	$1.09	$1.15	$0.94
10/13/2010	$1.05	$1.13	$1.20	$1.30	$1.10	$1.07	$0.95
10/20/2010	$1.05	$1.13	$1.20	$1.30	$1.10	$1.05	$0.95
10/27/2010	$1.05	$1.13	$1.20	$1.30	$1.10	$1.05	$0.80
11/3/2010	$1.04	$1.14	$1.20	$1.16	$1.10	$1.04	$0.81
11/10/2010	$1.06	$1.13	$1.15	$1.15	$1.10	$1.00	$0.86
11/17/2010	$1.05	$1.13	$1.09	$1.15	$1.05	$1.01	$0.86
11/24/2010	$1.05	$1.13	$1.10	$1.15	$1.05	$1.00	
12/1/2010		$1.28	$1.23	$1.30	$1.20	$1.66	$0.80
12/8/2010		$1.20	$1.22	$1.16	$1.09	$1.14	$0.80
12/15/2010		$1.20	$1.20	$1.15	$1.10	$1.05	$0.75
12/22/2010		$1.21	$1.20	$1.16	$1.10	$1.04	$0.75
12/29/2010		$1.21	$1.20	$1.15	$1.10	$1.05	$1.34
1/5/2011		$1.20	$1.20	$1.15	$1.10	$1.05	$0.75
1/12/2011		$1.11	$1.16	$1.11	$1.06	$1.01	$0.71
1/19/2011		$1.16	$1.20	$1.16	$1.10	$0.99	$0.75
1/26/2011		$1.15	$1.20	$1.15	$1.10	$1.00	$0.75
2/2/2011		$1.16	$1.20	$1.15	$1.10	$0.97	$0.71
2/9/2011		$1.15	$1.10	$1.15	$1.10	$1.13	$0.70
2/16/2011		$1.15	$1.05	$1.15	$1.10	$0.97	$0.70
2/23/2011		$1.15	$1.05	$1.15	$1.04	$0.89	$0.70

Track Delivery Profitability for Wheat in Eastern Kansas: In Table 4b, results indicate that if track delivery were available then a number of the selected grain elevators would have found it consistently profitable throughout the time period to have used the procedure to deliver against KCBT wheat futures contracts. The Hiawatha and Girard grain elevators would have made positive returns for each of the four futures contracts traded over this time period, while Ottawa would have profited for the September 2010, December 2010 and March 2011 contracts. Columbus would have profited for each of the first three KCBT wheat contracts (no price data was available for March 2011). Conversely, the Coffeyville, Courtland and Topeka locations would not have found track delivery to be profitable for any of the contract months.

Table 4b. Weekly Estimates of Track Delivery Profitability for Selected Grain Elevators in Eastern Kansas (May 19, 2010 through February 23, 2011) (cents per bushel profit)

	KS-se (151)	KS-se (127)	KS-ec (54)	KS-ne (92)	KS-se/sc (211)	KS-ne/nc (304)	KS-ne/ec (62)
Date	Columbus KS	Girard KS	Ottawa KS	Hiawatha KS	Coffeyville KS	Courtland KS	Topeka KS
5/19/2010	$0.15	$0.18	$0.07	$0.20	($0.07)	($0.22)	($0.13)
5/26/2010	$0.15	$0.17	$0.08	$0.19	($0.08)	($0.26)	($0.13)
6/2/2010	$0.11	$0.11	$0.03	$0.06	($0.11)	($0.30)	($0.22)
6/9/2010	$0.20	$0.15	$0.04	$0.06	$0.04	($0.25)	($0.22)
6/16/2010	$0.21	$0.26	$0.08	$0.07	$0.04	($0.25)	($0.22)
6/23/2010	$0.08	$0.20	$0.04	$0.06	$0.05	($0.25)	($0.17)
6/30/2010	**$0.03**	**$0.16**	**($0.01)**	**$0.06**	**($0.04)**	**($0.25)**	**($0.27)**
7/7/2010	$0.06	$0.21	$0.08	$0.07	($0.11)	($0.15)	($0.20)
7/14/2010	$0.08	$0.26	$0.08	$0.14	($0.12)	($0.10)	($0.10)
7/21/2010	$0.08	$0.31	$0.18	$0.32	($0.12)	($0.00)	$0.05
7/28/2010	($0.09)	$0.18	$0.09	$0.18	($0.19)	($0.14)	($0.01)
8/4/2010	$0.06	$0.41	$0.33	$0.48	($0.05)	$0.10	$0.23
8/11/2010	$0.08	$0.28	$0.39	$0.52	($0.05)	$0.20	$0.23
8/18/2010	$0.08	$0.20	$0.39	$0.42	($0.05)	$0.20	$0.03
8/25/2010	**$0.05**	**$0.13**	**$0.24**	**$0.22**	**($0.05)**	**($0.15)**	**($0.12)**
9/1/2010	$0.09	$0.03	$0.28	$0.22	$0.10	$0.05	($0.12)
9/8/2010	$0.04	$0.04	$0.23	$0.23	($0.06)	($0.05)	($0.17)
9/15/2010	$0.04	$0.05	$0.23	$0.22	($0.05)	($0.11)	($0.12)
9/22/2010	$0.03	$0.06	$0.24	$0.22	($0.05)	$0.02	($0.11)
9/29/2010	$0.03	$0.15	$0.24	$0.22	($0.05)	($0.05)	($0.12)
10/6/2010	$0.04	$0.14	$0.23	$0.22	($0.06)	($0.05)	($0.12)
10/13/2010	$0.05	$0.13	$0.24	$0.22	($0.06)	($0.13)	($0.12)
10/20/2010	$0.05	$0.13	$0.24	$0.22	($0.06)	($0.15)	($0.12)
10/27/2010	$0.05	$0.13	$0.24	$0.22	($0.06)	($0.15)	($0.27)
11/3/2010	$0.05	$0.14	$0.23	$0.08	($0.06)	($0.15)	($0.26)
11/10/2010	$0.06	$0.13	$0.18	$0.07	($0.05)	($0.20)	($0.21)
11/17/2010	$0.06	$0.14	$0.13	$0.08	($0.11)	($0.19)	($0.21)
11/24/2010	**$0.05**	**$0.13**	**$0.14**	**$0.07**	**($0.10)**	**($0.20)**	
12/1/2010		$0.33	$0.31	$0.24	$0.07	$0.51	($0.22)
12/8/2010		$0.25	$0.30	$0.10	($0.03)	($0.02)	($0.22)
12/15/2010		$0.25	$0.28	$0.10	($0.02)	($0.10)	($0.27)
12/22/2010		$0.25	$0.27	$0.10	($0.02)	($0.11)	($0.27)
12/29/2010		$0.25	$0.28	$0.09	($0.03)	($0.11)	$0.31
1/5/2011		$0.16	$0.19	$0.04	($0.09)	($0.20)	($0.36)
1/12/2011		$0.06	$0.15	($0.00)	($0.13)	($0.24)	($0.41)
1/19/2011		$0.11	$0.18	$0.04	($0.10)	($0.25)	($0.36)
1/26/2011		$0.10	$0.19	$0.04	($0.09)	($0.25)	($0.37)
2/2/2011		$0.11	$0.19	$0.03	($0.10)	($0.28)	($0.41)
2/9/2011		$0.10	$0.09	$0.03	($0.10)	($0.12)	($0.42)
2/16/2011		$0.10	$0.04	$0.03	($0.10)	($0.28)	($0.42)
2/23/2011		**$0.10**	**$0.04**	**$0.03**	**($0.16)**	**($0.36)**	**($0.42)**

Nebraska Wheat Basis: In **Table 5a**, the minimum and maximum wheat basis levels during this time period wer $0.90 and $1.80 per bushel under, respectively. The average and median wheat basis levels were $1.42 and $1.47 per bushel under, respectively.

Table 5a. Weekly Cash Wheat Basis Levels for Selected Grain Elevators in Nebraska
(May 19, 2010 through February 23, 2011) (cents per bushel under lead KCBT wheat futures)

	NE-se (253)	NE-wc (404)	NE-sw (493)	NE-sw (432)
Date	Beatrice NE	North Platte NE	Imperial NE	McCook NE
5/19/2010	$0.99	$1.15	$1.30	$1.30
5/26/2010	$1.05	$1.15	$1.32	$1.32
6/2/2010	$1.05	$1.26	$1.35	$1.35
6/9/2010	$1.10	$1.28	$1.40	$1.40
6/16/2010	$1.19	$1.32	$1.45	$1.45
6/23/2010	$1.25	$1.36	$1.45	$1.45
6/30/2010	$1.25	$1.37	$1.46	$1.46
7/7/2010	$1.26	$1.36	$1.56	$1.56
7/14/2010	$1.28	$1.36	$1.57	$1.57
7/21/2010	$1.34	$1.61	$1.65	$1.65
7/28/2010	$1.31	$1.48	$1.61	$1.61
8/4/2010	$1.40	$1.65	$1.75	$1.75
8/11/2010	$1.45	$1.70	$1.80	$1.80
8/18/2010	$1.40	$1.70	$1.80	$1.80
8/25/2010	$1.10	$1.50	$1.69	$1.69
9/1/2010	$1.20	$1.77	$1.73	$1.73
9/8/2010	$1.15	$1.69	$1.73	$1.73
9/15/2010	$1.10	$1.58	$1.73	$1.73
9/22/2010	$1.10	$1.52	$1.69	$1.69
9/29/2010	$1.10	$1.50	$1.69	$1.69
10/6/2010	$1.09	$1.51	$1.69	$1.69
10/13/2010	$1.10	$1.55	$1.69	$1.69
10/20/2010	$1.10	$1.50	$1.69	$1.69
10/27/2010	$1.00	$1.47	$1.69	$1.69
11/3/2010	$0.95	$1.48	$1.70	$1.70
11/10/2010	$0.95	$1.48	$1.69	$1.69
11/17/2010	$0.94	$1.40	$1.67	$1.67
11/24/2010	$0.90	$1.30	$1.59	$1.55
12/1/2010	$1.05	$1.42	$1.67	$1.63
12/8/2010	$1.05	$1.28	$1.64	$1.61
12/15/2010	$0.97	$1.24	$1.61	$1.57
12/22/2010	$0.96	$1.21	$1.60	$1.56
12/29/2010	$0.97	$1.22	$1.59	$1.55
1/5/2011	$0.97	$1.21	$1.59	$1.55
1/12/2011	$0.93	$1.17	$1.55	$1.51
1/19/2011	$0.97	$1.24	$1.60	$1.56
1/26/2011	$0.97	$1.24	$1.59	$1.55
2/2/2011	$0.95	$1.21	$1.56	$1.52
2/9/2011	$0.95	$1.15	$1.53	$1.49
2/16/2011	$0.95	$1.15	$1.50	$1.46
2/23/2011	$0.95	$1.10	$1.50	$1.46

Track Delivery Profitability for Wheat in Nebraska: In Table 5b, results indicate that if track delivery were available then selected grain elevators in the southwest part of Nebraska (Imperial and McCook) would have found it consistently profitable throughout the time period to have used the procedure to deliver against KCBT wheat futures contracts. The Beatrice location could have profitably delivered on the July 2010 contract, and the North Platte location could have delivered on the September 2010 contract.

Table 5b. Weekly Estimates of Track Delivery Profitability for Selected Grain Elevators in Nebraska (May 19, 2010 through February 23, 2011) (cents per bushel profit)

Date	NE-se (253) Beatrice NE	NE-wc (404) North Platte NE	NE-sw (493) Imperial NE	NE-sw (432) McCook NE
5/19/2010	($0.11)	($0.21)	$0.02	$0.06
5/26/2010	($0.05)	($0.21)	$0.04	$0.09
6/2/2010	($0.10)	($0.14)	$0.02	$0.07
6/9/2010	($0.05)	($0.12)	$0.08	$0.12
6/16/2010	$0.05	($0.08)	$0.13	$0.18
6/23/2010	$0.10	($0.04)	$0.13	$0.17
6/30/2010	**$0.10**	**($0.03)**	**$0.14**	**$0.18**
7/7/2010	$0.11	($0.04)	$0.24	$0.29
7/14/2010	$0.13	($0.04)	$0.24	$0.29
7/21/2010	$0.20	$0.21	$0.33	$0.38
7/28/2010	$0.16	$0.08	$0.28	$0.33
8/4/2010	$0.25	$0.27	$0.43	$0.48
8/11/2010	$0.31	$0.31	$0.48	$0.53
8/18/2010	$0.26	$0.31	$0.48	$0.53
8/25/2010	**($0.04)**	**$0.11**	**$0.37**	**$0.42**
9/1/2010	$0.05	$0.38	$0.41	$0.46
9/8/2010	$0.00	$0.30	$0.42	$0.46
9/15/2010	($0.05)	$0.19	$0.41	$0.46
9/22/2010	($0.04)	$0.14	$0.37	$0.42
9/29/2010	($0.04)	$0.11	$0.37	$0.42
10/6/2010	($0.05)	$0.11	$0.37	$0.42
10/13/2010	($0.04)	$0.16	$0.37	$0.42
10/20/2010	($0.04)	$0.11	$0.37	$0.42
10/27/2010	($0.14)	$0.08	$0.37	$0.42
11/3/2010	($0.20)	$0.09	$0.37	$0.42
11/10/2010	($0.20)	$0.09	$0.37	$0.41
11/17/2010	($0.20)	$0.02	$0.34	$0.39
11/24/2010	**($0.24)**	**($0.09)**	**$0.27**	**$0.28**
12/1/2010	($0.05)	$0.07	$0.39	$0.40
12/8/2010	($0.06)	($0.08)	$0.37	$0.37
12/15/2010	($0.13)	($0.11)	$0.34	$0.34
12/22/2010	($0.14)	($0.14)	$0.32	$0.32
12/29/2010	($0.13)	($0.14)	$0.31	$0.32
1/5/2011	($0.22)	($0.22)	$0.22	$0.22
1/12/2011	($0.26)	($0.27)	$0.17	$0.18
1/19/2011	($0.23)	($0.19)	$0.22	$0.23
1/26/2011	($0.22)	($0.20)	$0.21	$0.22
2/2/2011	($0.25)	($0.24)	$0.18	$0.19
2/9/2011	($0.25)	($0.30)	$0.15	$0.16
2/16/2011	($0.25)	($0.30)	$0.12	$0.13
2/23/2011	**($0.25)**	**($0.35)**	**$0.12**	**$0.13**

Discussion of Results

Given the factors under consideration in this analysis of potential track delivery profitability for KCBT wheat it is possible to determine what causes the practice to be profitable or not. There are three main economic elements to consider in this analysis, setting aside temporarily the problematic issues identified in the beginning sections of this paper (i.e., origination weights and certifications, single railcar availability and service, etc., etc.). These three economic factors are 1) the cost of railcar transportation from the originating country elevator to the Kansas City grain market, 2) grain

elevator operating / handling costs, and 3) wheat basis levels at origination point elevators as the delivery period for a KCBT wheat futures contract approaches. Whether track delivery is potentially profitable or not from the perspective of a grain elevator origination point depends on whether local wheat basis is wider than the cost of railcar transportation and grain elevator handling fees.

Whereas in central and western Kansas and Oklahoma there were few elevator locations that consistently could have profited from track delivery if it were available, such examples did exist in eastern Kansas and southwest Nebraska, but likely for different reasons.

In the central Kansas and Oklahoma grain elevators examined in this study, it appears that over the last 11 months there were few if any opportunities to have benefited from track delivery of KCBT wheat had the procedure been available. This region is critically important to the central plains grain industry, with a number of competitive grain terminals and other elevators as well as an extensive railcar transportation system geared to shuttle / unit train handling. The competitive basis in the central Kansas and Oklahoma region is narrow enough relative to railcar transportation costs that track delivery offered no advantages for the time period under examination.

In western Kansas and Oklahoma there were a limited number of opportunities available in the past 11 months to profit from track delivery for the selected elevators in this study, and those opportunities were limited to primarily 1 or 2 locations. Even though this region typically has a wider wheat basis than central Kansas and Oklahoma, railcar transportation costs are enough greater that only a limited number of opportunities were available where track delivery could have offered these elevators a benefit.

For the eastern Kansas grain elevator locations examined, there were some locations with low enough rail transportation costs relative to their basis levels that they would have consistently profited throughout the period from track delivery were it available to them. Low rail transportation costs were most likely at factor in projected profits for these selected eastern Kansas grain elevator locations. In balance, there were other eastern Kansas locations that did not show any projected profits during the time period.

For the Nebraska grain elevator locations examined, there were some locations in southwest Nebraska with wide enough wheat basis differentials with Kansas City that they would have consistently benefited from track delivery even though they were paying relatively high wheat transportation costs.

Taken together, these results were mixed but not unexpected. In the most intensively competitive wheat industry / market regions (such as in central Kansas and Oklahoma with its extensive system of grain terminal, wheat mills, and large scale rail transportation), over the last 11 months there were few situations in which track delivery would have been profitable if it were available. In areas further west (western Kansas and Oklahoma), railcar transportation costs increased to a such a degree that in most (but not all) cases the increased basis differentials relative to Kansas City would not have merited using track delivery of wheat. However, some situations did exist in western Kansas and southwest Nebraska during the last 11 months (and could exist sometime again) where local country wheat basis differences relative to the Kansas City market would make track delivery consistently profitable, overcoming the higher cost of rail transportation and grain elevator handling costs.

It should be noted that by assuming that each of these selected grain elevator locations have identical rain handling costs of $0.35 per bushel we are isolating or limiting the possibility of more efficiently operated grain elevators being able to profitably use track delivery while their less efficient, higher cost competitors could not. In a number of cases in Tables 2b, 3b, 4b and 5b the net losses from track delivery were relatively low (i.e., less than $0.05-$0.10 per bushel). If a more efficiently operated elevator had operating costs of, say, $0.25 to $0.30 per bushel instead of $0.35 as assumed here for all grain elevators, then a larger number cases could have existed where track delivery was profitable. A dime lower total cost per bushel would have markedly improved the track delivery profitability estimates for several western Kansas grain elevator locations, including Sharon Springs, Dodge City and Garden City for the July 2010, September 2010 and December 2010 wheat contracts, and for Colby with the July 2010 and December 2010 wheat futures contracts.

Other Perspectives to Consider re: Track Delivery

There are some additional viewpoints that merit consideration regarding the viability of track delivery of KCBT wheat. One has to do with track delivery being available to set an "extreme punitive outer bound" in terms of wheat basis differentials. Another idea has to do with track delivery being a tool to use to allow for delivery and cash-futures convergence to occur in circumstances when local supplies of HRW wheat are large enough that they overwhelm available storage space.

First, if track delivery were available for KCBT wheat, it would most likely serve the function of providing an "**extreme punitive outer bound**" on wheat market cash – futures market relationships – providing a threat of delivery in extreme cash-futures market differentials. Track deliveries would likely be expensive to execute and a choice of last resort for those delivering grain against KCBT wheat futures. If track delivery were available to serve as a credible threat of being executed against long position holders, then in order to avoid being forced to take delivery, in most if not all situations long futures position holders would first buy back futures & get out of their contract positions.

Restated, track delivery would be used in the extreme case where local basis was so uncommonly wide that short position holders (likely short hedged grain elevator operators, etc.) would deliver against the futures to protect their net cash selling price from an extremely wide basis level.

Second, **track delivery was originally designed to address oversupply situations** in the KCBT wheat futures market. When too much grain was available for local country elevators to store, the use of track delivery brought about market pressure to value or price grain at levels that would allow some deliveries to come into the market (via rail, i.e., track delivery)
In the worst case scenario where there was an extremely large crop and no storage space was available in grain elevators, track delivery could still allow for wheat to be loaded on railcars and delivered against KCBT wheat futures.

Third, **track delivery differs from "forced loadout"** in that track delivery will essentially only handle the overflow of grain that cant find storage space elsewhere in the system (see the point above). However, forced loadout has the potential to be unlimited in quantity. It is the opinion of some market participants that if forced loadout were adopted for KCBT wheat futures it would give

too much leverage to short hedgers. Short hedges could potentially deliver large quantities of wheat against the KCBT wheat contract, causing the HRW wheat grain elevator handling and transportation system to be "jammed full" of wheat that they would likely not be able to move through market channels in a timely manner in an over-supplied market situation.

Fourth, there are concerns by some market participants that the adoption of track delivery would have **a negative effect on back deferred futures contract months**. This would also be the case for regular delivery, forced loadout or other mechanisms that would force delivery of wheat to occur against KCBT futures. In other words, traders fear that adoption of track delivery and the imposition of a credible threat of delivery against long wheat futures position holders will convert wide cash basis levels into large futures carrying charges (i.e., wide spreads) between the lead and first deferred HRW wheat futures contract prices. Consequently, if adoption of track delivery brought about large front month spreads, then trade in the back month spreads could be negatively affected. At issue is the relationship of trade and market dynamics between cash versus futures markets, where convergence of cash and futures is associated with spread risk in the futures market for lead as well as deferred futures contracts.

Conclusions

The primary goal of this paper is to carry out an objective analysis of how track delivery would function for Kansas City wheat futures. When track delivery of KCBT wheat was being seriously considered in 2010 there was limited understanding about the processes and procedures involved and how likely it would be for market conditions to favor its use. Market participants, university economists and regulatory agencies have the responsibility of performing due diligence in analyzing the costs and benefits of either track delivery or other potential changes to KCBT wheat or other agricultural futures contracts.

If track delivery had been in use during since May of 2010 for KCBT wheat, the results of this study indicate that in most cases there would have been little economic motivation on the part of grain elevators in the Kansas, Oklahoma and Nebraska region to make use of it. However, there were situations where either because of relatively low rail transportation costs of wheat to Kansas City (in eastern Kansas) or because of extremely wide local basis levels (in parts of western Kansas and southwest Nebraska) that track delivery would have offered at least marginally profitable wheat marketing opportunities. Yet it is likely that if track delivery were operative during this time that market arbitrage forces would work to limit opportunities for profit from the practice, primarily through long position holders being more aggressive in liquidating their positions in the lead contract months to avoid the threat of delivery – driving cash and futures prices together with the result of narrower basis levels.

Another result of track delivery becoming operative for KCBT wheat would be the strong influence of railcar rates upon the profitability of delivery opportunities. In a fully and flexibly arbitraged market, the railcar transportation rate for moving grain would likely have at least as much if not more influence on local grain elevator basis levels as it already has at this time (without track delivery being available).

There are a number of practical problems involved with track delivery of KCBT wheat that would have to be dealt with before the delivery method could be effectively adopted. The fact that accurate certification of weights and specifications would have to be done at the origination point (i.e., at

country elevator locations) would be a significant barrier to widespread adoption. For this reason, many grain elevators that already have railcar access would likely need to make additional investments in adequate scales, accompanying track, etc. for them to become an origination point from which track deliveries could occur. However, if the potential profits from track delivery were large enough for individual grain elevators, such financial investments would not be insurmountable.

A number of issues are associated with the adoption of track delivery for KCBT wheat are also important considerations for the future of efficiently functioning agricultural cash and futures markets. A key issue to consider is what the long term ramifications are of not assuring that there is a credible threat of delivery against long position holders in grain futures markets such as KCBT wheat. The primary negative initial impact of not having a credible threat of delivery is that convergence of cash and futures prices suffers, and consequently wheat basis levels become wider. On the other hand, without a credible threat of delivery long position holders in KCBT wheat futures have less risk of being delivered upon, and as a result feel that much more secure in participating in agricultural futures. This lack of a delivery threat in turn attracts more market volume and liquidity to KCBT wheat and other futures contracts – which has positive effects on the viability and market efficiency of wheat futures contracts, etc.

It is important to consider the long term impacts of a KCBT wheat futures contract if futures price levels have become increasingly dissociated with the underlying cash market. Without a credible threat of delivery on KCBT wheat, eventually wheat cash market prices and supply-demand factors may have diminishing relevance to KCBT wheat futures prices. Eventually the price discovery and price risk management functions of the KCBT wheat futures market could suffer if there the convergence of HRW wheat cash and futures prices becomes an exception or near coincidence rather than a rule of market function.

Version dated May 20, 2011